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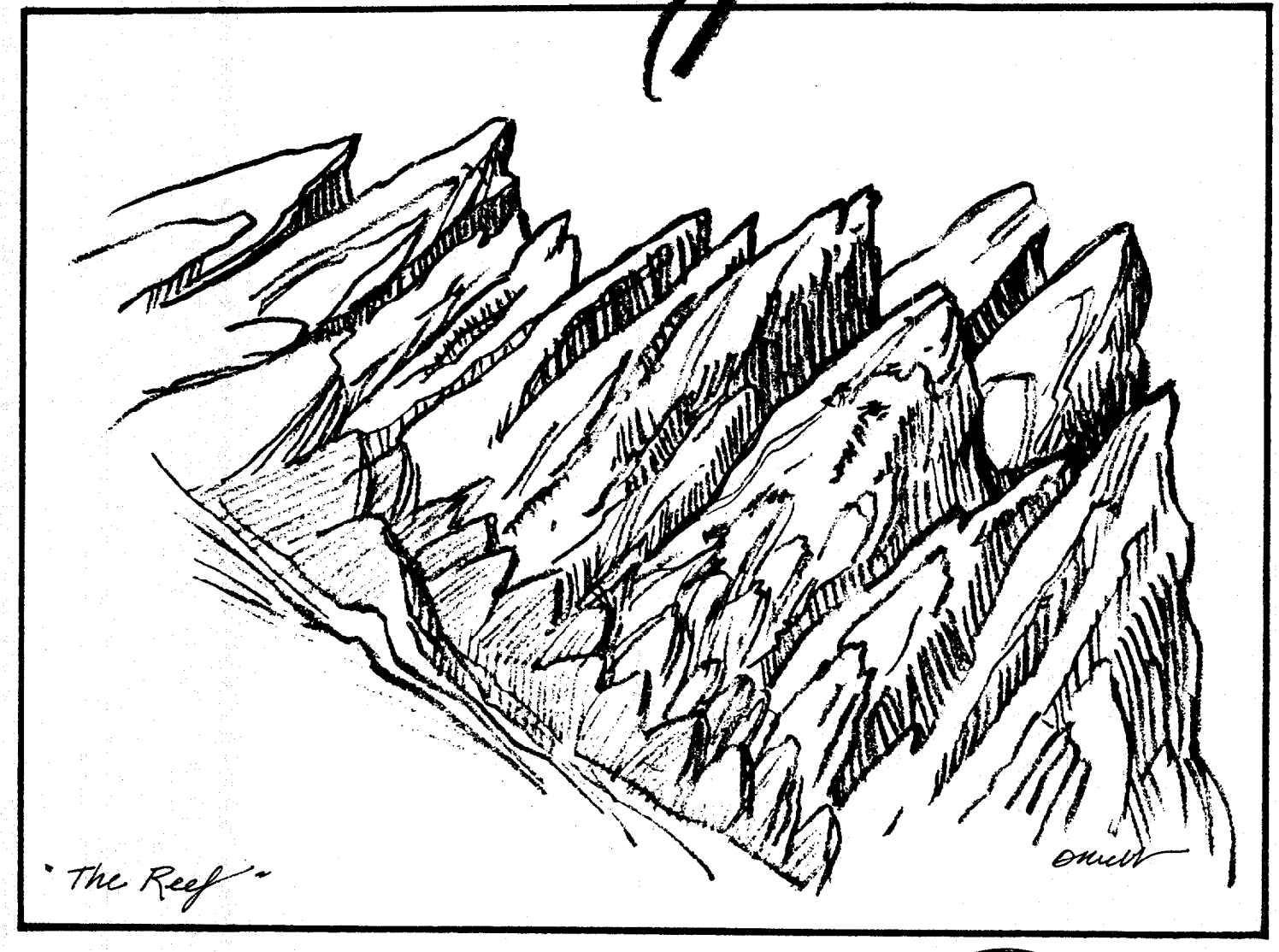

Proposed Resource Management Plan/ Final Environmental Impact Statement

U.S. Department of the Interior

Bureau of Land Management

Utah State Office

Moab District

San Rafael Resource Area

Volume One

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

PREFACE

The proposed action has been developed as a result of the RMP team's review and public input on the draft SRRMP/EIS.

The proposed plan is similar to alternative F of the final environmental impact statement (EIS). However, changes have been made in the recreation, wildlife, and minerals programs which alter management levels in certain areas. Among the changes, portions of two additional areas of critical environmental concern would be proposed for withdrawal/segregation; oil and gas category boundaries have been modified; new management prescriptions have been added for desert bighorn sheep and riparian/aquatic habitat; and off-road vehicle use areas and restrictions have been modified. Also, several changes from the draft have been made in grazing and soils to clarify the intent of management proposals. As a result of these changes, new acreage figures and analyses have been added to the EIS for the proposed RMP.

Please refer to the pocket maps of the proposed RMP, bound in the back of this volume.

All statements referring to the plan, plan decisions, plan implementation, plan monitoring, etc., are proposals only. They are not to be construed as being in effect prior to adoption of the final RMP.

United States Department of the Interior

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(U-060)

BUREAU OF LAND MANAGEMENT
Moab District
P. O. Box 970
Moab, Utah 84532

Dear Reader:

This two-volume set presents both the proposed resource management plan (RMP) and the final environmental impact statement (EIS) for the San Rafael Resource Area (SRRA) within the Moab District in southeastern Utah. The proposed RMP states how BLM believes 1.5 million acres of public land should be managed to attain a balance between protection and production of natural resources within the framework of multiple use.

The draft EIS was distributed for public and other-agency review in December 1988. BLM received over 530 letters in response, of which 102 have been printed in this book. The remainder either were procedural requests or are represented by one or two letters sharing common content and/or concern. BLM appreciates the amount of time readers devoted to this review, as well as the thought that went into the letters received. Most of the letters addressed off-road vehicle use and areas of critical environmental concern. These concerns were accommodated where possible.

BLM believes the proposed RMP incorporates the best ideas from the draft and the comment letters, and that as a result, stewardship of public lands and resources will benefit.

Again, thank you for your interest and involvement in BLM's planning process.

Sincerely,

District Manager

SAN RAFAEL PROPOSED RESOURCE MANAGEMENT PLAN

and

FINAL ENVIRONMENTAL IMPACT STATEMENT

Prepared by

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management
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July 1989

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SAN RAFAEL PROPOSED RESOURCE MANAGEMENT PLAN

and

FINAL ENVIRONMENTAL IMPACT STATEMENT

VOLUME 1

Introduction to the Proposed Plan

Resource Management Program Decisions

Special Management Conditions

Implementation and Monitoring

Standard Operating Procedures

Appendixes

SAN RAFAEL PROPOSED RESOURCE MANAGEMENT PLAN

and

FINAL ENVIRONMENTAL IMPACT STATEMENT

( ) Draft (X) Final

Lead Agency

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

Type of Action

(X) Adminstrative ( ) Legislative

Abstract

This proposed resource management plan and environmental impact statement addresses management of approximately 1.5 million acres of public land administered by the Bureau of Land Management, San Rafael Resource Area, Moab District, in Emery County, Utah, the Forest Planning Unit, Sevier River Resource Area, Richfield District, in Sevier County, Utah, and certain grazing management decisions in the Henry Mountain Resource Area, Richfield District, in Wayne County, Utah.

The document describes and analyzes the environmental consequences that would be expected to result from implementing the proposed plan and six alternatives. Each alternative has a different management emphasis and contains different land-use prescriptions.

When the resource management plan is adopted, it will provide comprehensive multiple-use guidance for allocating and managing public resources throughout the San Rafael Resource Area and the Forest Planning Unit of the Sevier River Resource Area.

Protest

The proposed plan is subject to protest from any adversely affected party under the provisions of Title 43 of the Code of Federal Regulations, Subpart 1610.5-2. Protests must be received by the Director of the BLM within 30 days after publication of this document. Address protests to:

Director, Bureau of Land Management
18th and C Streets, N.W.
Washington, D.C. 20240

FOREWORD

PUBLIC LAND USE

American citizens, through the Federal Government, own about one-third of the land in the United States. This land is managed by various government agencies, one of which is the Bureau of Land Management (BLM). Land managed by BLM is called "public land."

In the West, BLM is administered in state organizations; the public lands in each state are divided into districts and then into smaller resource areas. Public lands are managed for multiple use, for the various public needs and interests. Individuals, companies, or other government agencies may want to:

- use the land surface: build a road, put in a pipeline, buy land to expand local communities;
- use what the land has: drill for oil or water, cut firewood, graze cattle, look for agate;
- study the land and its resources: measure water quality, test geologic structures, excavate archaeological ruins, examine rare cactus;
- or simply enjoy the land: drive across the desert, climb the jagged cliffs, or watch wild horses gallop through the grasslands.

BLM managers need to know where these uses would conflict. Sometimes they must choose among conflicting uses or decide which resources should be produced or protected. In other cases, different uses can occur side-by-side without special rules or designations.

This proposed resource management plan and final environmental impact statement (RMP/EIS) describes resources and opportunities present in the San Rafael Resource Area in Emery County, Utah and in the Forest Planning Unit of the Sevier River Resource Area in Sevier County, Utah. It also discusses grazing management in part of the Henry Mountain Resource Area in Wayne County, Utah.

HOW TO USE THIS DOCUMENT

Volume 1 contains the proposed RMP with appendixes and maps. The proposed plan, which would be implemented over approximately a 10-year period, includes an implementation schedule and monitoring plan. The pocket maps of proposed land-use allocations are part of the proposed RMP.

The proposed RMP presents decisions arranged in the numerical order of the programs BLM uses to organize funding and personnel. For each program, the

management objective, general guidance, and specific management prescriptions are given. Prescriptions include land-use allocations, special management designations, and special conditions for use of public lands and resources.

Volume 2 is divided into two main sections: (1) the revised draft RMP/EIS (referred to as the final EIS) and (2) public comment letters on the draft with BLM's responses. Revisions or changes have been made to reflect comments from the public or other agencies, to incorporate corrections or clarifications identified by the EIS team, or because of changes in management direction and policy. The impact analysis for the proposed plan appears in chapter 4 of the final EIS, Volume 2. While Volume 2 contains a general discussion of the proposed RMP, the reader must refer to Volume 1 for a detailed description of the proposed plan.

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SUMMARY

OVERVIEW

The following table is an abbreviated summary comparing alternative A (the existing situation), alternative F (the draft preferred alternative), and the proposed resource management plan (RMP) as presented in this document.

The table is arranged by management program (indicator) and acres, plans, animal unit months (AUMs), etc. (units) and level of management. This arrangement will allow the reader to make a quick comparison of the levels of management between these two alternatives and the proposed plan.

Changes in level of management between alternative F and the proposed RMP were based primarily on comments received during the public comment period.

SUMMARY

TABLE S-1

Abbreviated Summary Comparison of the Proposed Plan with Alternatives A and F
(By the Year 2000)

Indicator	Unit	Alternative A	Alternative F	Proposed Plan
OIL AND GAS MANAGEMENT				
Oil and Gas Category Area				
1 (standard conditions)	acres	1,182,050	761,770	747,660
2 (special conditions)	acres	61,400	526,640	496,600
3 (no surface occupancy)	acres	174,630	245,810	228,050
4 (no leasing)	acres	121,110	4,970	66,880
Oil Production	barrels/year	13,200	13,200	13,200
Gas Production	MCF/year	754,000	754,000	754,000
Seismic line	miles/year	100	100	100
COAL MANAGEMENT				
Coal Exploration Area				
Standard Conditions	acres	58,150	36,190	31,100
Special Conditions	acres	160	22,120	28,320
No Surface Disturbance	acres	3,980	3,980	2,860
Total	acres	62,290	62,290	62,280
Coal Lease Area	acres			
Standard Conditions	acres	54,210	32,080	27,000
Special Conditions	acres	0	22,120	28,320
No Surface Disturbance	acres	3,980	3,980	2,860
Total	acres	58,190	58,180	58,180
Coal Production	tons/year	150,000	150,000	150,000
MINERAL MATERIAL MANAGEMENT				
Mineral Materials Disposal Area				
Standard conditions	acres	1,421,250	761,770	747,660
Special conditions	acres	117,940	526,640	496,600
Total	acres	1,539,190	1,288,410	1,244,260
No Mineral Material Disposal	acres	0	250,780	294,930
Mineral Materials Production	cubic yards/year	320,000	320,000	320,000

(Continued)

TABLE S-1 (Continued)

Indicator	Unit	Alternative A	Alternative F	Proposed Plan
MINING LAW ADMINISTRATION				
Area Open to Mineral Entry				
Standard conditions	acres	1,487,960	1,263,240	1,208,550
Special conditions	acres	49,450	269,200	261,980
Total	acres	1,537,410	1,532,440	1,470,530
Area Not Open to Entry	acres	1,780	6,750	68,660
SOIL, WATER, AND AIR MANAGEMENT				
Vegetation Disturbance	acres	54,544	39,824	29,744
Soil Loss	average tons/year	34,324,020	30,841,040	30,723,810
Sediment Yield	average tons/year	13,729,605	12,336,415	12,289,520
Salt Yield	average tons/year	230,194	206,254	206,254
Total Dissolved Solids	mg/l	unquantified	unquantified	unquantified
WILD HORSE AND BURRO MANAGEMENT				
Wild Horse and Burro Habitat	acres	475,680	475,680	475,680
	plans	0	4	4
Wild Horse and Burro Population	horses	200-235	75-125	75-125
	burros	70-100	30-70	30-70
HABITAT MANAGEMENT (WILDLIFE)				
Bighorn Sheep Crucial Habitat	acres	150,000	174,590	180,000
Bighorn Sheep Population	sheep	500	800	840
Antelope Habitat	acres	507,000	506,660	506,660
Antelope Population	antelope	700	900	900
Mule Deer Crucial Habitat	acres	35,510	36,760	36,760
Mule Deer Population	deer	6,620	8,320	8,320
Elk Crucial Habitat	acres	18,200	18,960	18,960
Elk Population	elk	600	730	730
Riparian Habitat	acres	14,780	14,930	14,940

(Continued)

TABLE S-1 (Continued)

Indicator	Unit	Alternative A	Alternative F	Proposed Plan
GRAZING MANAGEMENT				
Livestock Grazing Area	acres	1,612,120	1,606,320	1,606,320
Average Licensed Use	AUMs	56,161	55,751	56,207
Active Grazing Preference	AUMs	87,542	86,198	86,654
Suspended Nonuse	AUMs	112,928	111,584	111,584
Exclude Livestock	acres	4,110	8,580	8,580
	allotments	2	2	2
Prohibit Change to Sheep	acres	0	0	29
	allotments	0	0	939,150
Special Management Designations	acres	0	4,470	4,470
	ACECs[a]	0	2	2

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CHAPTER 1, INTRODUCTION TO THE PROPOSED RESOURCE MANAGEMENT PLAN

OVERVIEW

This proposed resource management plan (RMP) sets forth the land-use decisions, terms, and conditions that, if the RMP is adopted, would guide and control future management actions in the Moab District's San Rafael Resource Area (SRRA) and the Richfield District's Forest Planning Unit (FPU), which is in the Sevier River Resource Area. When the RMP is final, all uses and activities in the planning area must conform with the plan (except, of course, for valid existing rights, which take precedence over actions in the plan.

The plan describes how the planning area would be managed, including

- mitigation measures that would be taken to avoid or minimize environmental harm;
- the sequence and priorities for implementing decisions;
- subsequent resource-specific activity planning that may be necessary; and
- how the plan would be monitored.

The proposed RMP does not present information on the existing environment or the environmental consequences of the decisions. That information is discussed in the environmental impact statement (EIS) in volume 2.

PURPOSE AND NEED

The purpose of the RMP is to guide management of the public lands and resources in SRRA and FPU (map RMP-1). Section 202 of the Federal Land Policy and Management Act of 1976 (FLPMA) directs the Secretary of the Interior to develop, maintain, and revise land-use plans for management of the public lands and their resources. Accordingly, the Bureau of Land Management (BLM) is required to develop and implement an RMP for each resource area.

The RMP will replace the existing management framework plans (MFPs) for SRRA [BLM, 1979a] and FPU [BLM, 1977a]. It will be reviewed at 5-year intervals and revised or amended as necessary.

This RMP/EIS will also fill the needs of the court-ordered grazing EIS [U.S. District Court, District of Columbia, Natural Resources Defense Council, Inc. v. Morton, 388 F.Supp. 829 (1974), Natural Resources Defense Council Inc. v. Andrus, 488 F.Supp. 802 (D.D.C. 1978)]. It reviews and, where necessary, revises management of grazing uses on public lands in the grazing area. Livestock management is identified as a required issue for alternative formulation.

FLPMA and the National Environmental Policy Act (NEPA) require BLM to seek public involvement at several steps in development of the RMP/EIS. This RMP/EIS affords the public an opportunity to review the thinking and rationale behind the many decisions leading to the RMP.

GEOGRAPHIC SETTING

The San Rafael RMP/EIS covers both SRRA and FPU of the Sevier River Resource Area. For grazing purposes it extends into the Henry Mountain Resource Area, Richfield District.

THE PLANNING AREA

SRRA, within the Moab District, is responsible for management of public lands and resources in the southwestern two-thirds of Emery County in central Utah (map RMP-2). The resource area is bordered by the Emery County line on the west and south, the Green River on the east, and an

irregular line on the northeast which extends roughly northwest from just south of the town of Green River, across the San Rafael Swell just north of the San Rafael River, to the Manti-LaSal National Forest (NF) northwest of the town of Huntington. Interstate Highway I-70 cuts across the center of SRRA, and State Highways U-10 and U-24 also cross the resource area. Several small communities lie along Highway U-10 within the boundaries of SRRA. These include Castle Dale (the Emery County seat), Huntington, Clawson, Ferron, Emery, and Orangeville. The towns of Green River, Cleveland, and Elmo are located just outside the SRRA boundary.

Sevier River Resource Area, within the Richfield District, is responsible for management of public lands and resources in FPU (in the eastern portion of Sevier County (map RMP-2)). FPU is bounded on the south and east by the Sevier County line and on the north and west by the Fishlake and Manti-LaSal NFs; some isolated public land inholdings within the NF boundaries are also included. Interstate Highway I-70 cuts across the center of FPU, and State Highway U-10 crosses FPU, but no communities are found within the unit.

The public lands in the eastern part of FPU are in blocked ownership interspersed with regular state sections and small tracts of private land (map RMP-3). Public lands in the western part of FPU are small, isolated tracts of 40 to 160 acres. They are interspersed with private land within the boundaries of Fishlake NF.

BLM is also responsible for management of some resources on lands administered by other federal agencies. BLM manages mineral uses, where allowed, on lands administered by National Park Service (NPS) and manages some aspects of federal mineral uses on lands administered by the U.S. Forest Service (USFS). BLM also manages grazing in the Glen Canyon National Recreation Area (NRA).

Moab District and SRRA administer underground operations of coal mines on both Manti-LaSal and Fishlake NFs. SRRA administers certain aspects of mining claims on the portion of Manti-LaSal NF in Emery County. Sevier River Resource Area administers certain aspects of mining claims on the portions of Manti-LaSal and Fishlake NFs in Sevier County.

Management of recreation use on the Green River, from the town of Green River to the north boundary of Canyonlands National Park (NP), is shared between SRRA and the Utah Division of Parks and Recreation. SRRA administers recreation use on both banks of the river, including some area in the Grand Resource Area of Moab District.

Management responsibilities for recreation are shown in table RMP-1. Land surface administration within the planning area is shown in table RMP-2 (see also map RMP-2 and the pocket map of land ownership). Table 3 shows mineral management responsibility compared to surface administration and gives the extent of split-estate lands within the planning area.

TABLE RMP-1

Management of Recreation Resources

Public Resource	Acres Administered by SRRA
Public lands	1,538,620
Green River (in Grand Resource Area)	9,300
TOTAL	1,547,920

NOTE: Recreation use of the Green River from Green River State Park to Canyonlands NP is managed jointly with Utah Division of Parks and Recreation.

Source: BLM records.

THE GRAZING AREA

SRRA administers grazing on the northern portion of FPU and on certain public lands in Henry Mountain Resource Area, in the northeast corner of Wayne County, east of Highway U-24. Sevier River Resource Area administers grazing on the remainder of FPU and on the southwestern corner of SRRA. The RMP/EIS addresses grazing concerns on all of this area.

TABLE RMP-2

Land Surface Administration

Jurisdictional Unit	San Rafael Resource Area (acres)	Forest Planning Unit (acres)	Planning Area Total (acres)
Federal Ownership			
BLM-administered public lands	1,463,840	75,350	1,539,190
National Park Service	2,150	4,180	6,330
U.S. Forest Service	155,840	59,090	214,930
SUBTOTAL	1,621,830	138,620	1,760,450
State Ownership			
State Lands Commission	196,240	10,920	207,160
State Parks and Recreation	2,240		2,240
SUBTOTAL	198,480	10,920	209,400
Private Ownership	152,220	43,500	195,720
TOTAL	1,972,530	193,040	2,165,570

Source: BLM Records.

TABLE RMP-3

Management of Mineral Resources

ADMINISTRATION OF SURFACE ESTATE		ADMINISTRATION OF MINERALS ESTATE (acres)			
Managing Agency or Surface Owner	Acres Total Surface	Federal Minerals by BLM	Federal Minerals by Other Federal Agency	State Minerals by State	Private Minerals by Owner
San Rafael Resource Area					
BLM (Public Lands)	1,463,840				
Federal Minerals		1,463,840			
NPS (Capitol Reef NP)	2,150				
Federal Minerals			1,510		
State Minerals				640	
USFS (Manti-LaSal NF)	155,840				
Federal Minerals		[a]155,840			
State Ownership	198,480				
State Lands Commission	(196,240)			195,660	
Federal Minerals		480			
Federal Oil & Gas		80			
Federal Oil, Gas, & Coal		20			
State Parks (Goblin Valley SP)	(2,240)				
Federal Minerals		2,240			
Private Ownership	152,220				
Federal Minerals		7,630			
Federal Oil & Gas		1,090			
Federal Oil, Gas, & Coal		1,630			
State Minerals				7,890	
Private Minerals					133,980
SRRA TOTALS	1,972,530	1,632,850	1,510	204,190	133,980
FPU, Sevier River Resource Area					
BLM (Public Lands)	75,350				
Federal Minerals		75,350			
NPS (Capitol Reef NP)	4,180		2,900		
Federal Minerals				1,280	
USFS (Fishlake NF)	59,090				
Federal Minerals		[a]59,090			
State Ownership	10,920				
State Minerals				10,890	
Federal Oil & Gas		30			

(Continued)

TABLE RMP-3 (Concluded)

ADMINISTRATION OF SURFACE ESTATE		ADMINISTRATION OF MINERALS ESTATE (acres)			
Managing Agency or Surface Owner	Acres Total Surface	Federal Minerals by BLM	Federal Minerals by Other Federal Agency	State Minerals by State	Private Minerals by Owner
FPU, Sevier River Resource Area (Concluded)					
Private Ownership	43,500				
Federal Minerals		2,210			
Federal Oil & Gas		320			
Federal Oil, Gas, & Coal		60			
Federal Coal		11,120			
Private Minerals					29,790
FPU TOTALS	193,040	148,180	2,900	12,170	29,790
GRAND TOTALS	2,165,570	1,633,080	160,250	208,470	163,770

NOTE: Split-estate lands are those where the surface and minerals estates are managed by different entities. Federal minerals managed by BLM will be carried into the RMP; other totals are for information only.

[a]BLM manages leasable minerals only.

Source: BLM records and Master Title Plats.

Henry Mountain Resource Area administers grazing on certain lands in the southern part of SRRA. These lands were addressed in the Henry Mountain Grazing EIS [BLM, 1983b]; grazing concerns on these lands are not addressed in the San Rafael Proposed RMP and Final EIS, although other resource values are.

Additionally, there are small areas of SRRA lands along the boundary with Price River Resource Area on which grazing is administered by the Price River Resource Area. These lands were addressed in the Price River Grazing EIS [BLM, 1983a]; grazing concerns on these lands are not addressed in the San Rafael Proposed RMP and Final EIS, although other resource values are.

BLM also manages grazing uses, where allowed, on NPS-administered land. Grazing is allowed on two units of NPS land within the area covered by the grazing EIS (map RMP-3). SRRA administers grazing on part of Glen Canyon NRA within Wayne County, adjacent to lands in Henry Mountain Resource Area where SRRA administers grazing. Grazing is currently allowed in Capitol Reef NP; a small part of this NP extends into SRRA and FPU. Grazing on most of this area is administered by Henry Mountain Resource Area and was addressed in the Henry Mountain Grazing EIS [BLM, 1983b]; grazing on a very small area adjacent to FPU is administered by Sevier River Resource Area.

Land surface administration within the grazing area boundaries is shown in table RMP-4 and on map RMP-3.

TABLE RMP-4

Management of Grazing Resources

Jurisdictional Unit	Agency Total (acres)
San Rafael Resource Area	
Federal Ownership	
BLM-administered public lands	1,409,100
NPS (Glen Canyon NRA)	12,780
Forest Planning Unit	
Federal Ownership	
BLM administered public lands	190,240
Total area covered by this grazing EIS	1,612,120

IMPLEMENTATION

CONFORMANCE REQUIREMENTS

All future resource management authorizations and actions, including budget proposals, would conform with the plan. All operations and activities under existing permits, contracts, cooperative agreements, or other instruments for occupancy and use would be modified, if necessary, to conform with this plan within a reasonable period of time, subject to valid existing rights.

VALID EXISTING RIGHTS

Valid existing rights are those claims or rights to public land that take precedence over actions in the plan. For instance, a mining claim located before this plan was prepared, in an area withdrawn from mineral entry through the plan, may remain valid; a proposal to upgrade or modify a road within an existing right-of-way across an area of critical environmental concern (ACEC) would be allowed, even though management objectives (such as maintaining VRM class I in a scenic ACEC) may not be met.

In concert with the second example above, BLM recognizes that there may be a need to relocate a segment of a road outside of the existing right-of-way across the same ACEC for safety, engineering, or maintenance reasons. In this case, the proposal would be evaluated through the NEPA process to determine need, preferred location, and necessary measures to minimize visual and other impacts. Again, management objectives may not be achieved.

Valid existing rights may be held by other federal, state, or local governmental agencies, individuals, or private companies. Valid existing rights may pertain to any right to use the public lands in the planning area in effect when the RMP is adopted. This plan does not repeal valid existing rights on public lands.

FURTHER PLANNING OR ENVIRONMENTAL ANALYSIS

Decisions in this plan would be implemented as identified in the implementation plan. In most cases, more detailed and site-specific planning or environmental analysis may be required before an action can be taken. The EIS prepared in association with this plan will be used as a base and incorporated by reference in any additional site- or program-specific environmental analyses. Other required planning and analyses are incorporated in the decisions contained in this RMP.

IMPLEMENTATION PRIORITIES

Priorities have been established for those decisions that will be implemented after adoption of the RMP. These priorities are intended to guide the order of implementation and will be reviewed annually to help develop the annual work plan (budget) commitments for the coming year. The priorities may be revised based upon changes in administrative policies, Departmental directions, or Bureau goals. The priorities for implementing decisions are shown in chapter 4 of the proposed plan.

APPEAL RIGHTS

Any person adversely affected by a specific action being proposed to implement any portion of this plan may appeal such action pursuant to 43 CFR 4.400 at the time the action is proposed for implementation.

MONITORING AND EVALUATION

The effect of implementing the San Rafael RMP will be monitored and evaluated periodically to ensure that the desired results are being achieved. The frequency and standards for monitoring the plan are explained in chapter 4. Monitoring will determine whether original assumptions were correctly applied and impacts correctly predicted, whether mitigation measures are satisfactory, whether conditions or circumstances have significantly changed, or whether new data are significant to the plan. Monitoring will also help to establish long-term use and resource condition trends and provide information for future planning.

PLAN MAINTENANCE

MODIFYING THE PLAN

The RMP can be modified through plan maintenance, plan amendment, or plan revision, all of which must be documented. Documentation consists of making RMP changes available to the public at BLM's Utah State Office public room, Moab District Office, and SRRA office in Price.

Plan maintenance involves minor changes to the RMP to refine or further document the plan decisions. Such changes may be made in response to minor data changes, such as refinement of acreages or mapped data. Plan maintenance does not require formal public involvement, interagency coordination, or consistency review.

An RMP amendment would be initiated in response to a proposed action that could change the scope of resource uses covered by the plan decisions. An amendment would be required in order to proceed with a project documented as not being in conformance with the plan. The planning steps would be applied, and an environmental assessment (EA) or EIS prepared with full public involvement, interagency coordination, and Governor's consistency review.

A plan revision would be a major overhaul of the RMP in response to formal monitoring. A revision could be triggered by the need to consider monitoring findings, new data, new or revised policy, a major change in circumstances, or a change in the terms, conditions, decisions, goals, or objectives of the approved RMP. A plan revision would require an EA, EIS, or supplemental EIS with full public involvement, interagency coordination, and Governor's consistency review.

RELATIONSHIP TO OTHER BLM PLANNING LEVELS AND STUDIES

Tiers in the Bureau Planning System

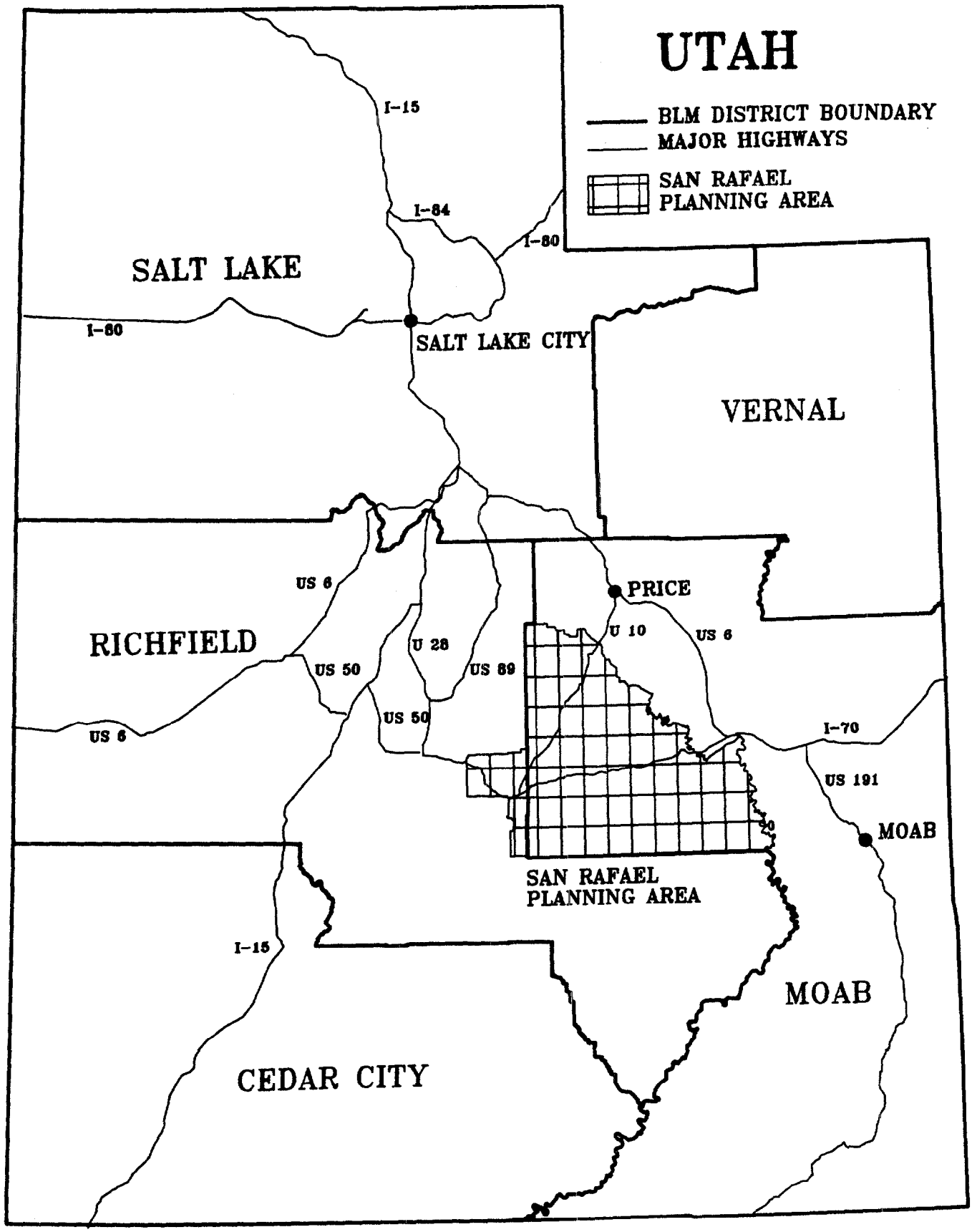
An RMP is developed within the framework of the BLM planning system, which has three distinct tiers: policy planning, land-use planning, and activity or program planning. This plan satisfies the requirements for the land-use planning tier. The Council on Environmental Quality (CEQ) regulations provide for tiering to aid compliance with NEPA (40 CFR 1500-1508).

Related Documents

Other documents are being prepared as a result of this land-use planning effort. A rangeland program summary is being prepared concurrently with the RMP. An off-road vehicle (ORV) implementation plan will be prepared within 1 year following the RMP. Activity plans for ACECs, as required, along with allotment management plans, habitat management plans, a fire management plan, recreation management plans for special recreation management areas, cultural resource management plans for selected sites, watershed activity plans, and the wild and scenic river management plan will be prepared following the RMP, as shown in chapter 4.

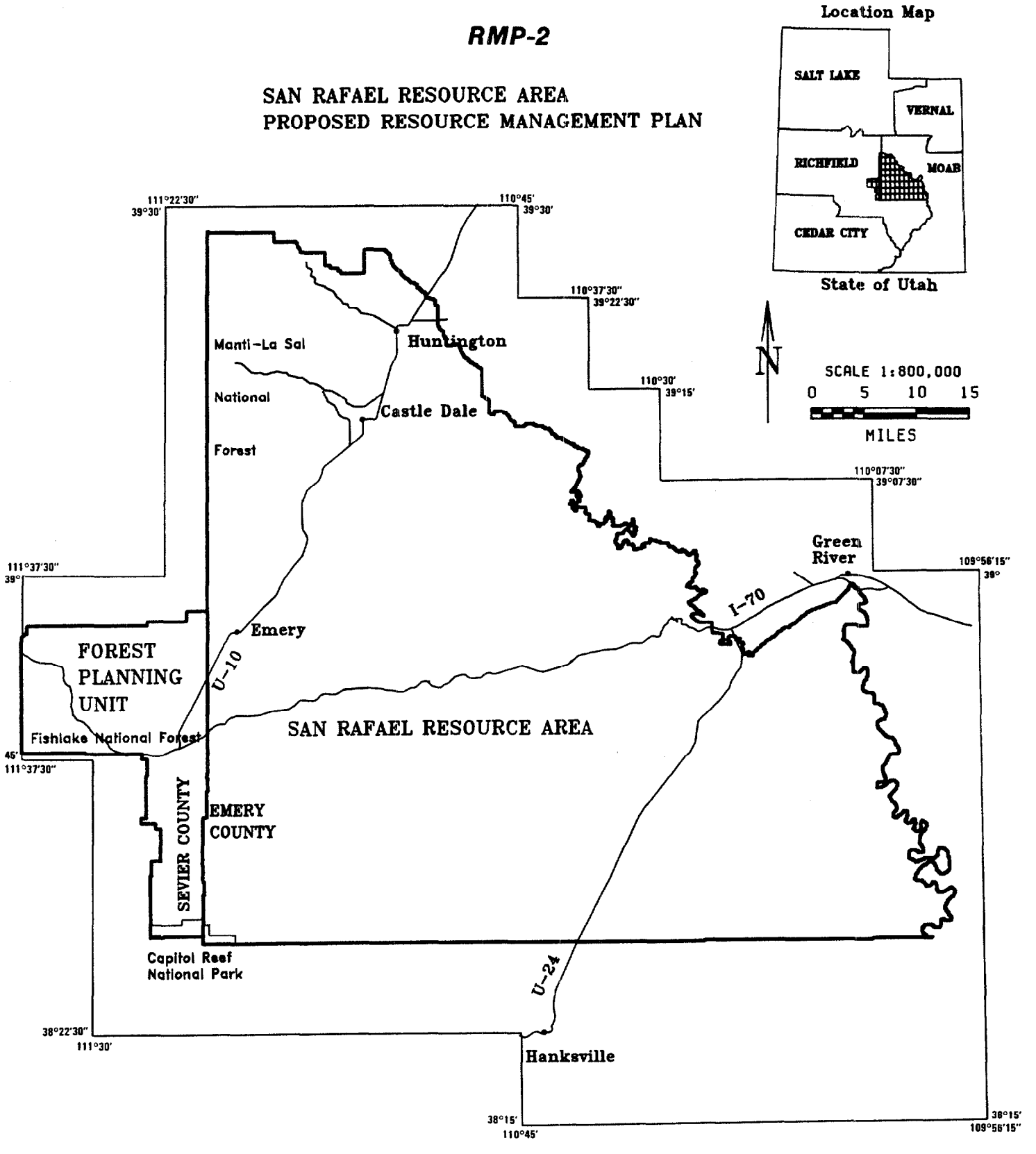
PUBLIC INVOLVEMENT AND INTERAGENCY COORDINATION

Public participation and consultation were encouraged and sought throughout the development of this plan. The RMP/EIS documents notices; coordination with other federal, state, and local agencies; public meetings; public review and comment; and other public participation efforts involved in the preparation of this RMP.



VICINITY MAP

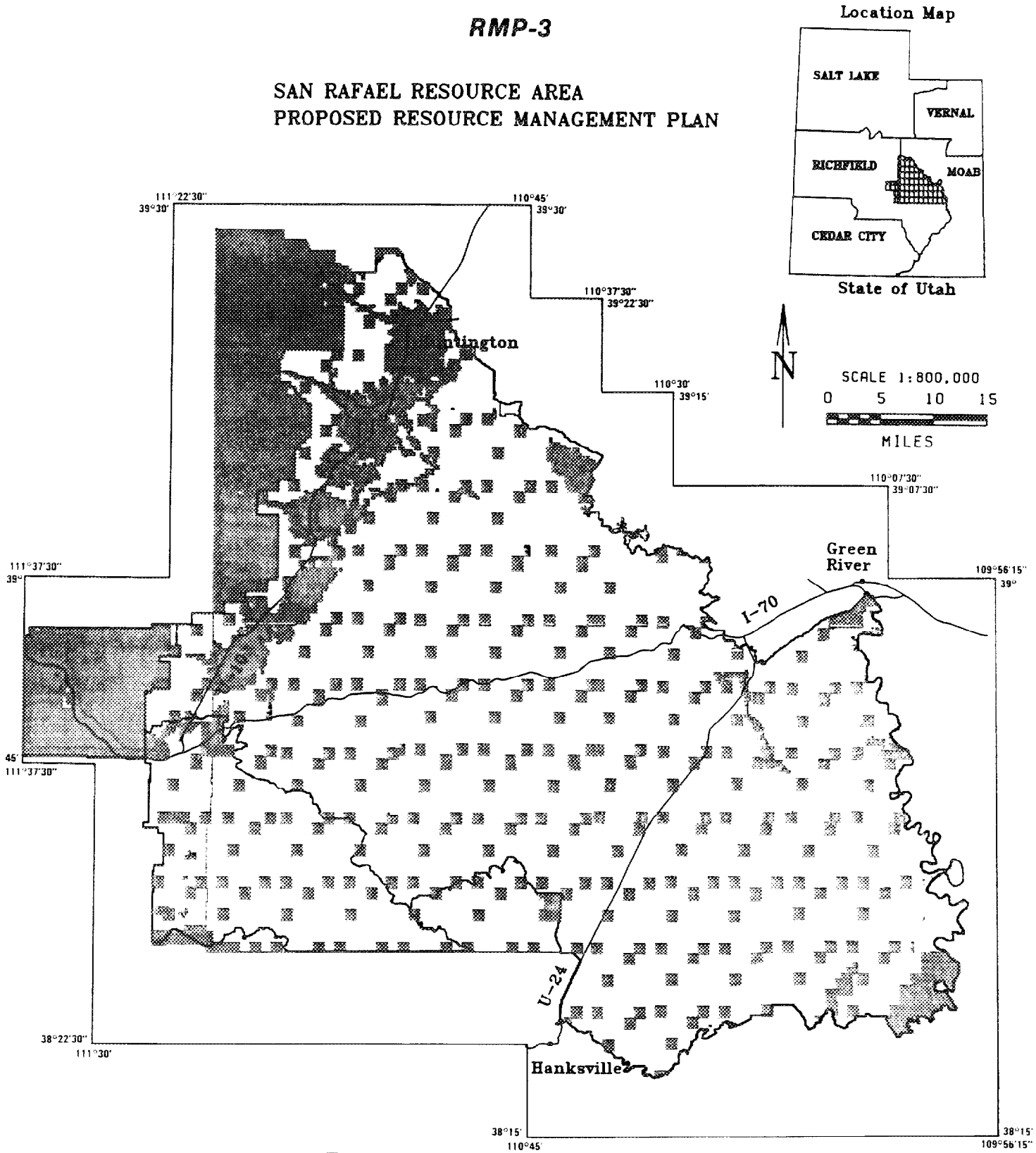
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



— PLANNING AREA BOUNDARY

SAN RAFAEL PLANNING AREA BOUNDARY

SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



PUBLIC LAND
OTHER LANDS
PLANNING AREA/GRAZING EIS BOUNDARY

LAND OWNERSHIP

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CHAPTER 2, RESOURCE MANAGEMENT PROGRAM DECISIONS

OVERVIEW

The following sections set forth the decisions that would guide future management of public lands and resources in San Rafael Resource Area (SRRA) and Forest Planning Unit (FPU). These resource management decisions, together with the administrative details discussed in chapters 3, 4, and 5, constitute the resource management plan (RMP) for SRRA and FPU.

This chapter describes the objectives, guidance, and specific management prescriptions for each resource management program administered in SRRA and FPU. These programs are interrelated and interdependent, and they must be viewed together with the special management conditions presented in chapter 3 for a complete description of the management direction for the planning area.

RESOURCE MANAGEMENT PLAN GOALS

The goals of this RMP are to manage public lands for multiple use of public resources, within the framework of applicable laws, regulations, and agency policies, as long as certain cultural resource values, certain scenic values, certain wildlife habitats, and critical soils are protected and minerals uses are otherwise allowed to increase.

"Certain cultural resource values" means the cultural resource values protected within Temple Mountain, Tomsich Butte, Dry Lake, Pictographs, Copper Globe, and Swasey Cabin Areas of Critical Environmental Concern (ACECs) (see the pocket map of proposed ACECs) and map RMP-4) and sites listed on or eligible for listing on the National Register of Historic Places.

"Certain scenic values" means the scenic values protected within Highway I-70 Scenic Corridor, Muddy Creek, San Rafael Canyon, San Rafael Reef, Segers Hole and Sids Mountain ACECs (map RMP-4 and the pocket of proposed ACECs).

"Certain wildlife habitats" means crucial and yearlong habitat for desert bighorn sheep; habitat for antelope; crucial habitat for mule deer and elk; and riparian habitat.

4111 OIL AND GAS MANAGEMENT

MANAGEMENT OBJECTIVE

+ To lease public lands for oil and gas, and to allow geophysical activity to occur, only so long as RMP goals are met; and to administer operational aspects of federal oil and gas leases where BLM does not manage the surface.

GENERAL MANAGEMENT GUIDANCE

Oil and gas leases issued prior to the RMP will continue to be managed under the stipulations that were in effect when the lease was issued. Leases issued after approval of the RMP will be subject to category restrictions in the RMP (map RMP-5 and the pocket map of proposed oil and gas leasing catetories). Leases are issued by BLM's Utah State Office (USO). Compliance with lease terms is administered by the respective districts and resource areas.

San Rafael Swell Special Tar Sand Area (STSA) is available for tar sand or oil and gas development only through combined hydrocarbon leases (CHLs). Two CHLs were issued in the STSA prior to adoption of the RMP. After the plan is adopted, CHLs would be issued by USO under competitive leases, subject to category stipulations in the RMP. In the STSA, 112,560 acres are federal surface underlain by federal minerals.

Oil and gas leases issued after November 16, 1981, carry the right to develop any tar sand resources that may be present outside the STSA.

Some federal oil and gas resources underlie lands not administered by BLM. The surface owner or administering federal agency manages the surface, and BLM administers the operational aspects of these leases with concurrence of the surface owner or administering agency where such use is authorized. BLM oil and gas leasing categories do not apply to these leases.

- Manti-LaSal National Forest (NF): BLM administers 155,840 acres of NF land.
- Fishlake National Forest: BLM administers 59,090 acres of NF land.
- Split-estate lands: BLM administers 2,850 acres of subsurface with state surface and 24,060 acres of subsurface with private surface.

Geophysical operations are conducted under a notice of intent. BLM has authority to approve or deny work done under such a notice to prevent unnecessary and undue degradation of public lands or specially designated areas, such as wilderness study areas (WSAs) and areas identified in the RMP as requiring restrictions.

SPECIFIC MANAGEMENT PRESCRIPTIONS

Leasing Category	SRRA Acres	FPU Acres
1 Open with standard[a] conditions	702,390	45,270
2 Open with special[b] conditions	468,670	27,930
3 No surface occupancy	225,900	2,150
4 No lease	66,880	0

[a]See chapter 5. [b]See chapter 2.

On the lands in category 2, surface restrictions would be applied to the following areas:
- Dry Lake ACEC
- San Rafael Canyon ACEC (middle portion)
- Temple Mountain ACEC
- existing land leases
- critical soils areas

Category 2 seasonal restrictions would be applied to the following areas:
- desert bighorn sheep crucial habitat
- antelope habitat
- mule deer and elk crucial winter range

Category 3 (no surface occupancy) would be applied to these areas:
- Highway I-70 Scenic Corridor ACEC
- Muddy Creek ACEC
- San Rafael Reef ACEC (south portion)
- Segers Hole ACEC
- Sids Mountain ACEC
- recreation opportunity spectrum (ROS) P-class areas inside and outside ACECs
- riparian and aquatic habitat

Category 4 (no lease) would be applied to the following areas:
- Big Flat Tops ACEC
- Bowknot Bend ACEC
- Copper Globe ACEC
- Pictographs ACEC
- San Rafael Canyon ACEC (upper and lower portions)
- San Rafael Reef ACEC (north portion)
- Swasey Cabin ACEC
- developed recreation sites

Geophysical Activity	SRRA Acres	FPU ACRES
Standard conditions[a]	702,390	45,270
Special conditions	761,450	30,080

The special conditions would include both surface and seasonal restrictions. Surface restrictions would be imposed on these areas:
- Big Flat Tops ACEC
- Bowknot Bend ACEC
- Copper Globe ACEC
- Dry Lake ACEC
- Highway I-70 Scenic Corridor ACEC
- Muddy Creek ACEC
- Pictographs ACEC
- San Rafael Canyon ACEC
- San Rafael Reef ACEC
- Segers Hole ACEC

- Sids Mountain ACEC
- Swasey Cabin ACEC
- Temple Mountain ACEC
- existing land leases
- ROS P-class areas
- developed recreation sites
- critical soils
- riparian areas and aquatic habitat

Seasonal restrictions would be applied to the following areas:

- bighorn sheep crucial habitat
- antelope habitat
- mule deer and elk crucial winter range

The restrictions applied to geophysical activity in the listed areas would be as described below (map RMP-6).

The Big Flat Tops, Bowknot Bend, and San Rafael Reef (north portion) ACECs, which would be in category 4 for oil and gas leasing, would be surveyed for relict vegetation, and relict vegetation areas avoided.

In the Copper Globe, Pictographs, and Swasey Cabin ACECs, which would be in category 4 for oil and gas leasing, no explosives would be allowed in the ACEC, and no surface disturbance would be allowed within 100 feet of pictographs, mine portals, or buildings. Disturbed areas in Copper Globe and Swasey Cabin ACECs would be reclaimed to visual resource management (VRM) class II.

No explosives would be allowed in riparian and aquatic habitat areas, which would be in oil and gas leasing category 3 (no surface occupancy).

No explosives would be allowed on developed recreation sites, and no surface disturbance would be allowed within 100 feet of structures. Disturbed areas would be reclaimed to meet the objectives of VRM class II.

Disturbed areas within the Highway I-70 Corridor, Muddy Creek, San Rafael Canyon (upper and lower portions), San Rafael Reef, Segers Hole, and Sids Mountain ACECs and ROS P-class areas would be reclaimed to meet the objectives of VRM class I. All these areas would be in category 3 for oil and gas leasing, except for the listed portions of San Rafael Canyon and San Rafael Reef ACECs, which would be in category 4.

In the middle portion of San Rafael Canyon ACEC, disturbed areas would be reclaimed to meet VRM class II objectives.

Temple Mountain and Dry Lake ACECs, existing land leases, and critical soils areas would have the same restrictions as oil and gas leasing category 2. Seasonal restrictions for antelope, bighorn sheep, elk, and mule deer would be the same as those for oil and gas leasing category 2.

4113 GEOTHERMAL MANAGEMENT

MANAGEMENT OBJECTIVE

+ To allow geothermal leasing and development, only as long as RMP goals are met.

GENERAL MANAGEMENT GUIDANCE

A portion of Undine Springs geothermal area (about 18,850 acres) extends into SRRA. The U.S. Geological Survey (USGS) has identified this area as prospectively valuable for geothermal resources, but no data are available to confirm whether or not a geothermal resource is present. No interest has been expressed in geothermal leasing. Leases in Undine Springs geothermal area would be noncompetitive and would be issued by USO.

If and when interest is expressed in geothermal leasing, the conditions developed for oil and gas leasing will apply. If the conditions prove unsatisfactory, the RMP will be amended to establish leasing conditions and exploration requirements.

SPECIFIC MANAGEMENT PRESCRIPTIONS

See 4111, Oil and Gas Management.

4121 COAL MANAGEMENT

MANAGEMENT OBJECTIVE

+ To allow coal exploration and leasing on public lands inside the Wasatch and Emery KRCRAs that have been found suitable, so long as RMP goals are met and to administer operational aspects of federal coal leases.

GENERAL MANAGEMENT GUIDANCE

Coal resources within the planning area are limited to the Emery and Wasatch Plateau coal fields. Both fields have high development potential and have been designated as KRCRAs. Unsuitability criteria were applied to public lands within these KRCRAs (see map RMP-7) to delineate areas that have other resource values that may restrict leasing and/or certain types of mining methods. From the unsuitability assessment and the developed RMP special conditons, the plan will provide protection for other resources while allowing coal exploration and leasing within the KRCRAs.

Leases are issued by USO. No leasing will occur outside the KRCRAs unless an unsuitability review is done on these lands. The regional coal team has recently decertified regional leasing and has initiated lease by application. Industry applications for coal leases will be leased by competitive bid. When issued, the leases will be subject to the special conditions developed in the RMP, as well as through the unsuitability criteria.

A total of 62,290 acres of public land overlie the Emery and Wasatch Plateau KRCRAs. The unsuitability study identified 4,100 acres unsuitable to leasing or mining (map 19, Volume 2) due to areas of municipal watersheds and coal overlain by public land within an incorporated town (town of Emery). In addition, the 10 acre Rochester Pictographs were closed to leasing and exploration to be consistent with management prescriptions to other similar archeological sites within the planning area. A no-surface-occupancy prescription is proposed on 2,130 acres in SRRA and 730 acres in FPU to protect the I-70 scenic corridor and riparian and aquatic habitat. The no-surface-occupancy requirement for the I-70 corridor will, in essence, prohibit coal exploration since almost all coal exploration is done by core drilling. However, the I-70 corridor is narrow where it intersects the Emery coal field and coal information can still be obtained from either side of the corridor. The I-70 corridor designation has been dropped in the FPU (Alternative F) releasing 2,700 acres from the no-surface-occupancy requirement. Coal leasing and underground mining can still occur under the I-70 corridor as long as there is no surface disturbance.

Under the proposed RMP, riparian zones that cross over the Emery coal field will be designated as no-surface-occupancy areas to be consistent with management prescriptions for riparian zones. Current regulations for coal exploration and mining prohibit disturbances in riparian zones nor is it practical to place mine portals, surface facilities or drilling equipment in creek bottoms or washes. Though the acres for riparian zones are tabulated in the proposed alternative for the first time, it was assumed that no coal development would occur in riparian zones in all the other alternatives.

SPECIFIC MANAGEMENT PRESCRIPTIONS

Coal Leasing	SRRA Acres	FPU Acres
Standard conditions	16,520	10,480
Special conditions	11,080	17,240
No surface occupancy	2,130	730
Determined unsuitable for mining	4,100	0
Closed	10	0

In the special conditions area, surface restrictions would be imposed to protect sensitive soils, and seasonal restrictions to protect mule deer and elk crucial winter range.

The no-surface-occupancy stipulation would be applied to protect the Highway I-70 Scenic Corridor ACEC and riparian and aquatic habitat.

The areas determined unsuitable for mining would include municipal watersheds and federal lands in incorporated cities.

The Rochester Pictographs area would be closed to leasing.

4131 MINERAL MATERIALS MANAGEMENT

MANAGEMENT OBJECTIVE

+ To make federal mineral materials available where needed, only so long as RMP goals are met.

GENERAL MANAGEMENT GUIDANCE

Mineral materials are disposed of by sale at fair market value or by free use permit to public agencies and nonprofit organizations. Disposal sites are established in response to specific requests. The RMP determines areas available for use of mineral materials and conditions that need to be applied to use of material sites (map RMP-8).

Under the proposed RMP, existing sites would continue to be used, subject to the permit conditions applied when the permit was issued. Sales and free use permits are prepared at the resource area offices.

Eight areas, (six in SRRA, two in FPU) totaling about 870 acres, (770 in SRRA, 100 in FPU) have been designated as community pits (map 78, volume 2).

Free use of petrified wood (up to 250 pounds per person per year) is allowed for noncommercial purposes on all public lands unless otherwise provided for through notice in the Federal Register. No areas have been designated as closed to petrified wood collecting in SRRA or FPU.

SPECIFIC MANAGEMENT PRESCRIPTIONS

Mineral Material Disposal and Development	SRRA Acres	FPU Acres
Standard Conditions	702,390	45,270
Special Conditions	468,670	27,930
No disposal	292,780	2,150

In the areas covered by special conditions, both surface and seasonal restrictions would be applied. Surface restrictions would be imposed to protect
- Dry Lake ACEC
- San Rafael Canyon ACEC (middle portion)
- Temple Mountain ACEC
- existing land leases
- critical soils

Seasonal restrictions would be imposed to protect
- desert bighorn sheep crucial habitat
- antelope habitat
- mule deer and elk crucial winter range.

The following areas would be closed to use and development of mineral materials:
- Big Flat Tops ACEC
- Bowknot Bend ACEC
- Copper Globe ACEC
- Highway I-70 Scenic Corridor ACEC
- Muddy Creek ACEC
- Pictographs ACEC
- San Rafael Canyon ACEC (upper and lower portions)
- San Rafael Reef ACEC
- Segers Hole ACEC
- Sids Mountain ACEC
- Swasey Cabin ACEC
- developed recreation sites
- ROS P-class areas inside and outside ACECs
- riparian and aquatic habitat areas

4132 MINING LAW ADMINSTRATION

MANAGEMENT OBJECTIVE

+ To make public lands available for claim location and mineral development, so long as the scenic values, relict vegetation, and cultural or historic values identified in the RMP goals are protected; to apply RMP goals to mineral development only so long as valid legal rights of claimants are not curtailed; and to administer operational aspects of claims where BLM does not manage the surface.

GENERAL MANAGEMENT GUIDANCE

Locatable minerals are administered under the mining laws, which preserve individuals' and corporations' rights to enter on the public lands to claim (locate) certain types of mineral discoveries. All public lands overlying federal minerals are open to mining claim location unless specifically withdrawn from mineral entry by secretarial order or public law or segregated from mineral entry under specific reservations, such as a recreation and public purpose (R&PP)

lease (map RMP-9). Lands and minerals that were acquired by the Federal Government but were not part of the original public domain are not open to mineral entry under the mining laws. Lands not open to mineral entry prior to the RMP are shown in table RMP-5.

TABLE RMP-5

Areas Not Open to Mineral Entry Prior to the RMP

Segregations	SRRA (acres)	FPU (acres)
Airport and R&PP leases	1,780	0
TOTAL	1,780	0

The RMP identifies lands proposed for withdrawal from mineral entry, but does not serve to withdraw these lands. BLM must file an application for Secretarial withdrawal. Upon BLM's filing for such a withdrawal, the identified lands would become segregated from entry for 2 years. If the Secretary orders a withdrawal, the segregation ceases. If the Secretary disagrees with BLM's recommendation, he can release the segregation. If the Secretary fails to act, the segregation expires after 2 years. Proposed withdrawals of more than 5,000 acres require congressional approval. Valid existing rights of claims located on these areas prior to segregation will not be affected.

The RMP does not impose conditions on work done under a notice of intent, but does provide special conditions to apply to work approved under a plan of operations, regardless of whether the claim is located before or after the RMP is adopted. For claims previously located in segregated areas, work done under a plan of operations would be approved with special conditions to protect the resource value for which the segregation was made.

BLM administers claim recording requirements (at USO) and operational aspects of mining federally owned minerals (at SRRA and FPU), whether or not BLM administers the surface. Mining claims located on U.S. Forest Service-administered (USFS) lands are located, recorded, and operated very much like claims on public land. Location and operation of mining claims on other federal lands or split-estate lands is extremely restricted under various land ownership laws. The surface owner or administering federal agency manages the surface. RMP requirements do not apply to nonpublic lands.

Manti-LaSal NF: administer mining claims on 155,840 acres.

Fishlake NF: administer mining claims on 59,090 acres

Federally owned locatable minerals underlying federal lands administered by the National Park Service (NPS) within SRRA boundaries are not available for claim location, because all NPS-administered land has been withdrawn from mineral entry.

SPECIFIC MANAGEMENT PRESCRIPTIONS

Mining Claim Location	SRRA Acres	FPU Acres
Administer mining claim location	1,463,840	75,350
Open to entry	1,395,180	75,350
Proposed for withdrawal	66,880	0

The following areas would be proposed for withdrawal:

- Big Flat Tops ACEC
- Bowknot Bend ACEC
- Copper Globe ACEC
- Pictographs ACEC
- San Rafael Canyon ACEC (upper and lower portions)
- San Rafael Reef ACEC (north portion)
- Swasey Cabin ACEC
- developed recreation sites

Approve Plans of Operations	259,830	2,150

Plans of operations would be required for the following areas:

- Dry Lake ACEC
- Highway I-70 Scenic Corridor ACEC
- Muddy Creek ACEC
- San Rafael Canyon ACEC (middle portion)

- San Rafael Reef ACEC (south portion)
- Segers Hole ACEC
- Sids Mountain ACEC
- Temple Mountain ACEC
- ROS P-class areas outside the ACECs

When a plan of operations is required, certain areas would be covered by surface or seasonal conditions. Surface restrictions would be applied to riparian and aquatic habitat areas and critical soils areas. Seasonal restrictions would be applied to desert bighorn sheep crucial habitat; antelope habitat; and mule deer and elk crucial winter range.

4133 MINERAL MANAGEMENT (NONENERGY LEASABLES)

MANAGEMENT OBJECTIVE

+ To allow minerals leasing and development, only so long as RMP goals are met.

GENERAL MANAGEMENT GUIDANCE

In SRRA, potash is the only mineral that has been managed under this program, although other nonenergy leasable minerals, if present, could be leased, if found to occur in marketable quantities. No interest has been expressed in potash leasing. In areas where mineral values are not known, SRRA could issue prospecting permits, which could lead to issuance of a preference right lease. Leases are issued by USO. Once an area is leased, the Federal Government is committed to allowing mining on the lease.

If and when interest is expressed in potash leasing, the conditions developed for oil and gas leasing will apply. If the conditions prove unsatisfactory, the RMP will be amended to establish leasing conditions and exploration requirements.

SPECIFIC MANAGEMENT PRESCRIPTIONS

See 4111, Oil and Gas Management.

4211 RIGHTS-OF-WAY

MANAGEMENT OBJECTIVE

+ To designate right-of-way corridors; to allow discretionary rights-of-way only so long as RMP goals are met; and to process other rights-of-way upon request.

GENERAL MANAGEMENT GUIDANCE

The plan recognizes valid existing rights, including (1) rights of access to inheld private and state lands and (2) rights-of-way for county, state, or municipal roads. The management options presented are not intended to challenge or abridge those rights, including the rights under Revised Statute (R.S.) 2477. Most of the county roads are pre-FLPMA roads, which are authorized under R.S. 2477. Under R.S. 2477, counties have the right to do what is reasonable and necessary at the time of need. The R.S. 2477 roads are managed in accordance with memorandums of understanding between the BLM and the affected counties. Post-FLPMA roads and realignments outside the recognized existing road rights-of-way are authorized under Title V of FLPMA.

Lands available for rights-of-way are divided into four major categories:

(1) lands in designated right-of-way corridors where standard operating procedures apply,

(2) lands outside designated corridors where standard conditions apply,

(3) areas to be avoided and where special conditions may apply after site-specific NEPA documentation, and

(4) areas to be excluded.

The RMP identifies right-of-way corridors and lands to be available for additional rights-of-way, avoided, or excluded. These are

shown on map RMP-10 and the pocket map of proposed rights-of-way management.

The lands identified for inclusion in right-of-way corridors are shown in table RMP-6. The corridors include those recommended in the 1986 Western Regional Corridor Study [Western Utility Group, 1986]. Corridors are generally 1 mile wide, centered on the existing right-of way, unless shown otherwise on the RMP map. In FPU, the right-of-way corridor would be 0.25 mile wide. All legal descriptions identify lands in the Salt Lake Meridian.

SPECIFIC MANAGEMENT PRESCRIPTIONS

Lands Available for Rights-of-Way	SRRA Acres	FPU Acres
In designated corridors	21,540	2,900
Outside designated corridors		
Standard conditions	696,030	42,710
Avoidance areas	679,420	29,740
Exclusion Areas	66,880	0

Avoidance areas would contain the following:
- Dry Lake Archaeological District ACEC
- Highway I-70 Scenic Corridor ACEC
- Middle portion of the San Rafael Canyon ACEC
- Sids Mountain ACEC
- Muddy Creek ACEC
- South portion of the San Rafael Reef ACEC
- Segers Hole ACEC
- Temple Mountain Historic District ACEC
- Tomsich Butte Historic District special emphasis area within Muddy Creek ACEC

Surface restrictions would apply in the following areas:
- existing land leases
- ROS P-class areas outside ACECs
- critical soils
- riparian and aquatic habitat

Seasonal restrictions would be applied in the following areas:
- desert bighorn crucial habitat
- antelope habitat
- mule deer and elk crucial winter range

The following would be identified as exclusion areas:
- Big Flat Tops ACEC
- Bowknot Bend ACEC
- Copper Globe ACEC
- San Rafael Canyon ACEC (upper and lower portions)[a]
- San Rafael Reef ACEC (north portion)
- Swasey Cabin ACEC
- Pictographs ACEC
- Developed recreation sites

[a]Exception: The Mexican Mountain road may be authorized if, through the NEPA process, it is determined necessary for public safety (i.e., access for river rescue operations, etc.).

4212 LANDS

MANAGEMENT OBJECTIVE

+ To dispose of lands for community expansion or private uses where RMP goals would be met; to process permits, leases and other actions as needed, while applying RMP goals to the extent possible; and to acquire lands as needed to enhance management of special relict vegetation areas and nonmotorized recreation areas.

GENERAL MANAGEMENT GUIDANCE

Lands actions, including permits, leases, disposals, and easements, are considered upon application and cannot reasonably be predicted.

Existing land uses (map RMP-10 and the pocket map of proposed rights-of-way management) will be protected under the following special conditions.

Huntington Airport Lease. Use of the 340-acre lease will be allowed only with special conditions to ensure the use is consistent with the purpose for which the land was leased, and only with the consent of airport officials. Allowed use would be subject to Federal Aviation Administration (FAA) regulations, Part 77, "Objects Affecting Navigable Airspace."

Recreation and Public Purpose Leases. Emery School (40 acres), Millsite Park (40 acres),

TABLE RMP-6

Lands Identified for Inclusion in Right-of-Way Corridors

Legal Description	Location
T. 16 S. R. 8 E. Sec. 1, 12, 13, 24, 25, 31	SRRA north boundary to Highway
T. 17 S. R. 8 E. Sec. 1, 12, 14	
T. 17 S. R. 8 E. Sec. 7, 17, 18, 21, 22,23, 27, 34	UP&L Huntington Powerplant east to Highway 10
T. 18 S. R. 8 E. Sec. 3, 10, 11	
T. 18 S. R. 9 E. Sec. 9, 14, 15, 23, 24	Highway 10 east to SRRA/Price River Resource Area boundary
T. 18 S. R. 10 E. Sec. 19, 29, 30, 33	
T. 19 S. R. 10 E. Sec. 1, 3, 4, 11, 12	
T. 19 S. R. 11 E. Sec. 7, 18	
T. 21 S. R. 15 E. Sec. 33, 34, 35	Price River Resource Area/SRRA boundary east to Grand Resource Area
T. 21 S. R. 16 E. Sec. 3, 4	
T. 18 S. R. 9 E. Sec. 30, 31	Highway 10 south and west to FPU boundary
T. 19 S. R. 8 E. Sec. 1, 12, 22, 23, 27, 33, 34	
T. 20 S. R. 8 E. Sec. 3, 4, 19, 30, 31	
T. 21 S. R. 7 E. Sec. 1	
T. 22 S. R. 6 E. Sec. 12, 13, 14	
T. 22 S. R. 7 E. Sec. 6	
T. 22 S. R. 5 E. Sec. 25, 26, 35	FPU Boundary to Fishlake NF
T. 23 S. R. 5 E. Sec. 3, 10, 15, 17, 18	

Millsite Golf Course (190 acres), Clawson Motocross (160 acres), Castle Dale Fairgrounds (290 acres), and Goblin Valley State Park extension (720 acres) will be available only for uses consistent with the purpose for which the land was leased.

New realty actions would be allowed within designated right-of-way corridors and avoidance areas identified on maps, subject to the applicable conditions. For other lands, new permits and leases would be allowed on a case-by-case basis when consistent with the needs and uses of other resources; each would be assessed through a site-specific NEPA document.

SPECIFIC MANAGEMENT PRESCRIPTIONS

Specific tracts of land totalling 6,730 acres in SRRA and 1,000 acres in FPU would be managed for disposal for community expansion, economic development, and better management of isolated tracts (map RMP-11). Disposal of individual parcels may be precluded on a temporary or long-term basis because of mining claim location, presence of archaeological or historic sites, presence of habitat used by threatened or endangered (T/E) species (unless disposal would benefit the species), or for other specific legal reasons. A plan amendment would be required for disposal of a tract that is not identified. Lands that would be managed for disposal are shown in table RMP-7.

BLM would act to acquire easements if and when the need is identified in activity plans or project proposals. These would be considered on a case-by-case basis and assessed through a site-specific NEPA document and land report prepared when an action is initiated.

Lands totalling 6,070 acres (all in SRRA) within potential ACECs (map RMP-12) are identified for possible acquisition under the proposed RMP (table RMP-8).

4220 WITHDRAWAL AND CLASSIFICATION

MANAGEMENT OBJECTIVE

+ To continue withdrawal review, remove unneeded withdrawals, and process new withdrawals as needed.

GENERAL MANAGEMENT GUIDANCE

Existing powersite withdrawals and public water reserves (PWRs) are shown on map 39 in volume 2. PWR withdrawals that meet PWR criteria will be continued, and those not meeting the criteria will be modified or terminated as determined in site-specific land reports. Powersite withdrawals identified by the Federal Energy Regulatory Commission (FERC) will be continued in accordance with the requirements of Section 24 of the Federal Power Act of June 10, 1920. Lands restored to operation of the public land laws, including mining and mineral leasing laws, would be subject to the management prescriptions contained in the proposed RMP.

No lands are classified for retention under the Classification and Multiple Use (C&MU) Act nor classified for disposal under repealed authorities. There are no other existing BLM or other federal agency withdrawals. No petitions or applications requesting withdrawal have been filed by either BLM or other federal agencies.

Table RMP-9 shows the lands that are presently leased or classified for lease or disposal. Lands presently classified for lease or disposal under the R&PP Act are segregated from appropriation under any land law, including locations under the mining laws. Lands presently leased for airport use under the Act of May 24, 1928, as amended, are segregated from all appropriation. The classifications will be continued during the terms of the leases.

All legal descriptions are based in the Salt Lake Meridian.

New withdrawals are processed upon request from BLM or another federal agency, but can be made only by the Secretary or by Congress. The Secretary would have to obtain congressional approval for any withdrawal involving 5,000 acres or more.

Under the proposed RMP, BLM would request withdrawals on a total of 66,880 acres in the areas listed below:

Big Flat Tops ACEC
Bowknot Bend ACEC
Copper Globe ACEC
Pictographs ACEC

TABLE RMP-7

Tracts Managed for Disposal Under Various Authorities

Authorities: Various, including including Section 203(a)(1) of FLPMA.

Rationale: Tracts are isolated from the large blocks of federal land, by either land ownership pattern or physical features, and are difficult and uneconomic to manage.

Note: Tracts 1 through 33 are in SRRA; tracts A through J are in FPU. All legal descriptions identify lands in the Salt Lake Meridian.

Parcel	Legal Description			
1	T. 17 S.	R. 9 E.	Sec.	9, NW4SW4, SE4SW4
2	T. 17 S.	R. 9 E.	Sec.	34, S2SW4
3	T. 18 S.	R. 9 E.	Sec.	3, lots 1 & 2, SW4NE4 SE4SW4, NW4SE4
4	T. 18 S.	R. 8 E.	Sec.	21, NW4SE4
5	T. 18 S.	R. 8 E.	Sec.	21, N2NW4, SE4NW4 NE4SW4, SW4SE4
6	T. 18 S.	R. 8 E.	Sec.	20, NE4NE4
7	T. 18 S.	R. 8 E.	Sec.	23, SE4SE4
			Sec.	26, NE4NE4
8	T. 18 S.	R. 8 E.	Sec.	12, E2SE4
	T. 18 S.	R. 9 E.	Sec.	7, N2SW4, SE4SW4 SW4SE4
			Sec.	18, N2NE4
9	T. 18 S.	R. 9 E.	Sec.	10, E2NE4
10	T. 18 S.	R. 9 E.	Sec.	9, SE4, E2SW4
11	T. 18 S.	R. 9 E.	Sec.	6, NW4SE4
12	T. 18 S.	R. 9 E.	Sec.	7, NE4NE4
13	T. 18 S.	R. 9 E.	Sec.	17, SE4NW4
14	T. 18 S.	R. 9 E.	Sec.	17, W2SE4
			Sec.	20, NW4NW4, NW4NE4
15	T. 18 S.	R. 9 E.	Sec.	20, S2NW4, SW4NE4
16	T. 19 S.	R. 7 E.	Sec.	14, NW4NE4, E2NW4
17	T. 19 S.	R. 8 E.	Sec.	7, lot 2, NE4SW4, SW4SE4
18	T. 19 S.	R. 8 E.	Sec.	3, SE4SE4
19	T. 19 S.	R. 8 E.	Sec.	11, SE4SE4
			Sec.	12, SW4SW4
20	T. 19 S.	R. 8 E.	Sec.	17, NW4NW4
21	T. 19 S.	R. 8 E.	Sec.	17, E2SW4
22	T. 19 S.	R. 8 E.	Sec.	20, lots 1-4, NE4SW4
			Sec.	21, NE4, E2NW4, SW4NW4, NE4SW4, NE4SE4
23	T. 19 S.	R. 8 E.	Sec.	31, N2NE4, SE4NE4, SE4, E2SW4, SW4SW4
	T. 20 S.	R. 7 E.	Sec.	1, N2, NESE4
	T. 20 S.	R. 8 E.	Sec.	6, N2, N2S2, SE4SW4, SW4SE4
			Sec.	7, W2NE4, NE4NW4
24	T. 20 S.	R. 7 E.	Sec.	4, SE4NE4
25	T. 20 S.	R. 7 E.	Sec.	27, NW4NW4

(Continued)

TABLE RMP-7 (Continued)

Parcel	Legal Description			
26	T. 20 S.	R. 7 E.	Sec.	12, SW4NE4, NW4SE4
27	T. 21 S.	R. 6 E.	Sec.	25, SE4SW4, S2SE4
28	T. 21 S.	R. 6 E.	Sec.	27, NW4NE4
29	T. 21 S.	R. 6 E.	Sec.	27, lot 1, SW4NE4
30	T. 21 S.	R. 7 E.	Sec.	31, NW4SW4
31	T. 22 S.	R. 6 E.	Sec.	11, NE4NE4, SE4NW4
32	T. 22 S.	R. 6 E.	Sec.	14, SW4NW4, NW4SW4
			Sec.	15, lot 1
33	T. 22 S.	R. 6 E.	Sec.	18, SW4SE4
			Sec.	19, W2NE4, NW4SE4
A	T. 22 S.	R. 3 E.	Sec.	5, lots 3, 4
B	T. 22 S.	R. 3 E.	Sec.	6, SW4NE4
C	T. 22 S.	R. 3 E.	Sec.	7, SE4NE4
D	T. 22 S.	R. 3 E.	Sec.	33, NW4NE4
E	T. 22 S.	R. 3 E.	Sec.	35, NE4SW4
F	T. 22 S.	R. 3 E.	Sec.	35, W2SW4, SE4SW4
G	T. 22 S.	R. 4 E.	Sec.	6, NE4SW4
H	T. 23 S.	R. 3 E.	Sec.	3, E2SE4, SE4NE4
			Sec.	10, E2NE4
			Sec.	11, NW4
I	T. 23 S.	R. 3 E.	Sec.	10, W2SE4
J	T. 23 S.	R. 5 E.	Sec.	31, lot 4, S2SE4

Authorities: Various, including Section 203(a)(3) of FLPMA (community expansion).

Rationale: Because of their higher elevation, these lands would serve purposes such as infrastructure needs and related large-scale development which could not be met on nonfederal lands. Disposal of these lands would be limited to these purposes.

Note: Tracts 34 through 38 are in SRRA. All legal descriptions identify lands in the Salt Lake Meridian.

Parcel	Legal Description			
34	T. 19 S.	R. 7 E.	Sec.	26, S2SW4
			Sec.	35, W2NW4, NW4NE4NW4
35	T. 19 S.	R. 7 E.	Sec.	35, S2NE4NW4, NE4NE4NW4
37	T. 22 S.	R. 6 E.	Sec.	4, lot 6
38	T. 22 S.	R. 6 E.	Sec.	4, lots 5 & 7

(Continued)

TABLE RMP-7 (Continued)

Authorities: Tract managed for disposal under available disposal authorities, including Section 203(a)(3) of FLPMA (community expansion).

Rationale: An old barn and parts of three newer homes were constructed in trespass on this tract which is within Emery city limits. Disposal of this tract would be limited to the land owners in trespass.

Note: Tract 39 is in SRRA. All legal descriptions identify lands in the Salt Lake Meridian.

Parcel	Legal Description			
39	T. 22 S.	R. 6 E.	Sec.	4, tract 37

Authorities: Various, including Section 203(a)(3) of FLPMA (economic development).

Rationale: Utah Power and Light Company (UP&L) has indicated interest in purchasing these lands to use in conjunction with operation of the Huntington and Hunter powerplants. UP&L identified these lands because of their location in relation to existing facilities. Disposal of these lands would be limited to UP&L or their successors for this purpose only.

Note: Tract 40 is in SRRA. All legal descriptions identify lands in the Salt Lake Meridian.

Parcel	Legal Description			
40	T. 19 S.	R. 8 E.	Sec.	22, SE4NE4, E2SE4, SW4SE4, SE4SW4
			Sec.	27, NE4, E2NW2, E2SE4, SW4SE4

Authorities: Recreation and Public Purposes (R&PP) Act of 1926 and Section 212 of FLPMA.

Rationale: These tracts would be managed for disposal for recreation and public purposes to local governmental agencies only (potential R&PP disposal tracts).

Parcel	Legal Description			
41	T. 16 S.	R. 7 E.	Sec.	35, S2S2NE4
42	T. 20 S.	R. 6 E.	Sec.	11, all
			Sec.	12, SW4, W2SE4, S2NW4
	T. 20 S.	R. 7 E.	Sec.	7, E2E2SW4, E2W2E2SW4, W2SW4SE4SW4, S2SW4NW4SE4SW4

(Continued)

TABLE RMP-7 (Concluded)

Authorities: The R&PP Act of 1926 and Section 212 of FLPMA.

Rationale: This tract is already under R&PP lease to local governmental agency. If the R&PP lease is terminated without going to patent, the tract would be managed for disposal under available disposal authorities, including Section 203(a)(3) of FLPMA (community expansion). Because of its higher elevation and location, this land would serve purposes such as infrastructure needs and related large-scale development which could not be met on nonfederal lands. Disposal of this tract would be limited to these purposes.

Parcel	Legal Description
49	T. 22 S. R. 6 E. Sec. 4, lot 9

TABLE RMP-8

Lands Identified for Possible Acquisition Under the Proposed Plan

Scenic ACECs	Legal Description
San Rafael Canyon ACEC (upper portion)	T. 20 S., R. 10 E., Sec. 16
San Rafael Canyon ACEC (lower portion)	T. 20 1/2 S., R. 13 E., Sec. 36
San Rafael Reef ACEC (north portion)	T. 23 S., R. 12 E., Sec. s 2, 36; T. 23 S., R. 13 E., Sec. s 16, 32; T. 24 S., R. 12 E., Sec. 2, 16, 32
Relict Vegetation ACEC	**Legal Description**
Big Flat Tops ACEC	T. 26 S., R. 13 E., Sec. 36.

TABLE RMP-9

Lands Presently Classified for Lease or Disposal

Lands presently classified for lease or disposal under the R&PP Act

Parcel	Legal Description				Current Use, Expiration Date
1	T. 18 S.	R. 8 E.	Sec.	35, NE4NW4, NE4, N2SE4	U-22940 - Castle Dale City Fairgrounds expires 09/11/1995
2		19 S.	7 E.	35, SE4	U-29388 - Emery County/ Clawson Motocross expires 08/18/1995
3		20 S.	6 E.	12, S2SW4NE4 N2NW4SE4	U-53817 - Ferron City/ Millsite Park expires 05/27/2005
4		20 S.	6 E.	7, lots 3, 4 12, lots 3, 4 W2W2NE4SW4, NW4NW4SE4SW4	U-54668 - Ferron City/ Millsite Golf Course expires 12/07/2011
5		26 S.	11 E.	3, lots 1-4, S2NE 4, lots 1-4, S2N2 9, E2NW4	U-48132 - Utah Division of State Parks and Recreation/Goblin Valley State Park Extension expires 01/23/2004
6		22 S.	6 E.	4, lot 9	U-48777 - Emery County School District/Emery School expires 05/30/1993

Lands presently leased for airport use under the Act of May 24, 1928

Parcel	Legal Description				Current Use, Expiration Date
1		17 S.	9 E.	9, W2NE4, SE4NE4, E2NW4, SW4NW4, NW4SE4, NE4SW4	SL-068958 - Emery County/ Huntington Airport expires 08/23/1991

San Rafael Canyon ACEC (upper and lower portions)
San Rafael Reef ACEC (north portion)
Swasey Cabin ACEC
Developed recreation sites

4311/4312 FOREST MANAGEMENT AND DEVELOPMENT

MANAGEMENT OBJECTIVE

+ To allow use of woodland and vegetation products in areas specified for this use; and to preserve woodland products in other areas to meet RMP goals (map RMP-13).

SPECIFIC MANAGEMENT PRESCRIPTIONS

Vegetation and woodland product management	SRRA Acres	FPU Acres
Area open to harvest	1,462,060	73,350
Standard Conditions	1,121,560	49,460
Special Conditions		
Surface restrictions	309,440	2,150
Seasonal restrictions	30,730	21,740
Excluded from private dead fuelwood harvest	2,110	0

Surface restrictions would limit woodland harvest in the following areas to onsite collection of downed, dead fuelwood (for campfires):
- Big Flat Tops ACEC
- Bowknot Bend ACEC
- Highway I-70 Scenic Corridor ACEC
- Muddy Creek ACEC
- San Rafael Canyon ACEC
- San Rafael Reef ACEC
- Segers Hole ACEC
- Sids Mountain ACEC
- Swaseys Cabin ACEC
- Temple Mountain Historic District ACEC
- ROS P-class areas
- riparian and aquatic habitat

Seasonal restrictions on harvest of woodland products would apply in the following areas:
- crucial desert bighorn sheep habitat
- antelope habitat
- mule deer and elk crucial winter range

The following areas would be excluded from private dead fuelwood harvest:
- Copper Globe ACEC
- Pictographs ACEC
- existing land leases
- recreation facilities

4321 WILD HORSE AND BURRO MANAGEMENT

MANAGEMENT OBJECTIVE

+ To manage wild, free-roaming horses and burros to maintain a thriving natural ecological balance with other resources, keeping equid numbers within designated limits.

GENERAL MANAGEMENT GUIDANCE

BLM will monitor the number of wild horses and burros in each herd unit (table RMP-10; also see map 42 in volume 2). A herd management area plan (HMAP) will be prepared to guide management of herd management areas used by these animals. Wild equids would be allowed to increase until they reach the upper limit as shown below, and excess horses or burros would be removed until the lower limit is achieved. The animals would then be allowed to increase until they reach the upper limit again, at which time the process would be repeated. A range of numbers has been used instead of a single population figure to allow for possible inventory inaccuracies and for increases or decreases in available forage. Numbers would be adjusted if monitoring data show the need for a change.

SPECIFIC MANAGEMENT PRESCRIPTIONS

Under the proposed RMP, BLM would manage for 75 to 125 wild horses and 30 to 70 wild burros. HMAPs would be developed for 475,680 acres in SRRA (none in FPU).

4322 GRAZING MANAGEMENT

MANAGEMENT OBJECTIVE

+ To continue to manage rangelands to produce livestock forage and water to meet current demand so long as critical soils areas, scenic values, and crucial wildlife habitat are protected; to provide special management

TABLE RMP-10

Wild Horse and Burro Herd Unit Acreages, by Grazing Allotment

Herd Management Area and Unit	Grazing Allotment	Kind of Animal	BLM Acres Yearlong	Critical	Total
Robbers Roost (UT-653)	Iron Wash	Horses	3,490		3,490
Flat Top	Jeffery Well	Horses	17,430		17,430
	Moonshine	Horses	8,060	3,610	11,670
	Pasture Canyon	Horses	22,350		22,350
	Sweetwater	Horses	48,560	17,470	66,030
ROBBERS ROOST TOTAL			99,890	21,080	120,970
Muddy Creek (UT-651)	Globe Link	Horses	730		730
Globe Link	Last Chance	Horses	380		380
	Lone Tree	Horses	34,380		34,380
	Mussentuchit	Horses	32,580		32,580
	South Sid & Charley	Horses	1,930		1,930
SUBTOTAL			70,000		70,000
Globe Link[a]	Globe Link	Horses		5,770	5,770
	Lone Tree	Horses		22,620	22,620
	South Sid & Charley	Horses		1,300	1,300
SUBTOTAL				29,690	29,690
Globe Link[b]	Lone Tree	Horses		6,420	6,420
	Mussentuchit	Horses		1,310	1,310
SUBTOTAL				7,730	7,730
Globe Link[c]	Lone Tree	Horses		2,720	2,720
	Mussentuchit	Horses		11,420	11,420
SUBTOTAL				14,140	14,140
Canyon Pond (Map Y-4)	Dry Wash	Horses	160	90	250
	Lone Tree	Horses	1,460	12,360	13,820
	South Ferron	Horses	60		60
	South Sid & Charley	Horses	470	950	1,420
SUBTOTAL			2,150	13,400	15,550
MUDDY CREEK TOTAL			72,150	64,960	137,110
Sinbad (UT-652)	Big Pond	Horses	8,190		8,190
McKay Flat	Georges Draw	Horses	11,690		11,690
	Head of Sinbad	Horses	1,430		1,430
	Hondo	Horses	300	860	1,160
	McKay Flat	Horses	1,100	43,660	44,760
	Red Canyon	Horses	15,760	7,910	23,670
	Taylor Flat	Horses	36,230		36,230
	Temple Mountain	Horses	10,150	3,770	13,920
SUBTOTAL			84,850	56,200	141,050

(Continued)

TABLE RMP-10 (Concluded)

Herd Management Area and Unit	Grazing Allotment	Kind of Animal	BLM Acres		
			Yearlong	Critical	Total
Sinbad (UT-652, Concluded)					
Black Dragon	Big Pond	Burros	10		10
	Black Dragon	Burros	6,770	17,920	24,690
SUBTOTAL			6,780	17,920	24,700
Mexican Mountain	Black Dragon	Burros	7,380	12,340	19,720
	Mexican Bend	Burros	11,330	880	12,210
	North Sinbad	Burros	15,210	4,710	19,920
SUBTOTAL			33,920	17,930	51,850
SINBAD TOTAL			125,550	92,050	217,600
GRAND TOTAL			297,590	178,090	475,680

[a]Critical section A. [b]Critical section B. [c]Critical section C.

for certain cultural values; and to reserve the Bowknot Bend and Big Flat Tops ACECs as relict vegetation areas to provide an ecological baseline for range studies.

GRAZING MANAGEMENT GUIDANCE

The San Rafael Grazing Area includes SRRA, FPU, and the Richfield District grazing allotments for which Moab District is responsible under a May 1980 interdistrict agreement. Grazing use in the San Rafael Grazing Area is based on historical use and depends on the availability of forage and water. All of the grazing area is open for livestock grazing except the Wildlife Allotment, which is reserved for wildlife, and Buckhorn Draw, which is closed to grazing because of its aesthetic and recreation values.

All grazing allotments covered in this RMP/EIS (see the pocket map of existing livestock grazing management) have been evaluated for resource potential and conflicts and assigned to a management category in accordance with BLM range policy (table RMP-11). The management category criteria are explained in appendix G, which also shows the category currently assigned to each grazing allotment.

Changes in grazing allocations, if any, will be based on evaluation of range conditions through rangeland monitoring. Any change (increase or decrease) in available forage allocation will be considered on an individual allotment basis.

Desired livestock utilization levels on grazing allotments would be as follows:

Season	Dates	Utilization (percent)
Spring	March 1 to June 30	25 to 35
Summer	July 1 to September 30	30 to 50
Fall	October 1 to November 30	30 to 50
Winter	December 1 to February 28	30 to 50

These percentages may vary based on ecological sites and vegetation communities within individual allotments and the type of management applied.

Changes in livestock use, including changes in allotment boundaries, may be made to resolve resource conflicts identified in the RMP or as a result of monitoring range condition and trend. Monitoring takes into account actual use, utilization, trend, and climate, to measure vegetation change and determine the need for subsequent livestock adjustments.

In general, if agreements are not obtained, grazing-use decisions will be issued within 5 years after publication of the rangeland program summary (RPS) following adoption of the RMP. Some allotments analyzed in this RMP/EIS already have the required 5 years of monitoring; on these allotments, changes may be implemented as soon as the RPS is issued.

Future changes in existing season of use or kind of livestock may be made, provided that (1) physiological needs of plants for sustained yield of forage are met and (2) resource conflicts do not result. The decision to allow or not allow a change in season of use or kind of livestock will be made only after assessing the proposal in NEPA documents prepared at that time.

Coordination of grazing responsibilities between BLM and NPS on lands within Glen Canyon National Recreation Area (NRA) was addressed in an umbrella memorandum of understanding [BLM and NPS, 1984] signed by the directors of the two agencies, and in an interagency agreement for grazing management [BLM and NPS, 1986], signed by the Rocky Mountain Regional Director, NPS, and the Utah State Director, BLM. Both agreements were considered in preparing the RMP.

State and local interest has been expressed in the control of poisonous or noxious weeds and nuisance insects. Because of the small areas involved, control projects will be covered by separate project-specific NEPA documents, rather than in this RMP/EIS. Insect or weed control will consider onsite and adjacent land uses and resource values, and BLM will work closely with state and local officials when conducting eradication programs.

For each allotment, as needed, an allotment management plan (AMP) will detail management objectives, the grazing system to be used, and range improvements to be constructed. Ecological site information is used to establish management objectives, management potential, and

TABLE RMP-11

Grazing Management Actions by Allotment

Allotment No. and Name	Management Category	Allotment Management Plan	Combine	Land Disposal (Acres)	Exclude[a] Domestic Sheep
5001 Allred	Custodial	No	w/Cove	No	No
5002 Big Pond	Maintain	Yes	No	No	Yes
5003 Black	Custodial	No	No	280	No
5004 Black Dragon	Maintain	Yes	No	No	Yes
5005 Buckhorn	Improve	Yes	No	320	Yes
5105 Buckhorn Draw		No	No	No	Yes[b]
5006 Bunderson	Custodial	No	No	390	No
5007 Case	Custodial	No	No	120	No
5008 Clawson Dairy	Maintain	Yes	No	40	No
5009 Coal Wash	Improve	Yes	No	No	Yes
5010 Cove	Custodial	Yes	No	110	No
5013 Cowley	Custodial	No	No	80	No
5100 Cox (Don)	Custodial	No	No	No	No
5012 Cox (John)	Maintain	Yes	No	No	No
5014 Crawford	Maintain	Yes	No	No	No
5015 Day	Custodial	No	No	340	No
5016 Deep Wash	Maintain	No	No	1,160	No
0602 Deer Peak	Improve	Yes	No	No	No
5017 Dry Wash	Maintain	Yes	No	No	No
5018 Dougout	Improve	Yes	No	No	No
5020 East Grimes	Maintain	No	No	280	No
5021 Ferron Mills	Improve	Yes	No	370	No
5023 Fullers Bottom	Maintain	Yes	No	No	Yes
5024 Georges Draw	Maintain	Yes	No	No	Yes
5025 Globe Link	Improve	Yes	No	No	No
5026 Hambrick Bottoms	Maintain	Yes	No	140	No
5027 Head of Sinbad	Maintain	Yes	No	No	Yes
5099 Hondo	Improve	No	No	No	Yes
5028 Horse Bench	Improve	Yes	No	No	No
5029 Horseshoe North	Improve	Yes	No	No	No
5100 Horseshoe South	Improve	Yes	No	No	No
5030 Humphrey	Custodial	No	No	80	No
5031 Iron Wash	Improve	Yes	No	No	Yes
5032 Jacobson	Custodial	No	No	No	No
5033 Jeffery Well	Improve	Yes	No	No	No
5034 Jensen	Custodial	No	No	120	No

[a]A change in kind from cattle to domestic sheep would not be allowed. Allotments currently being grazed by domestic sheep would not be required to change to cattle.

[b]This area is currently closed to livestock grazing (cattle and domestic sheep) except for trailing by permit.

(Continued)

TABLE RMP-11 (Continued)

Allotment No. and Name	Management Category	Allotment Management Plan	Combine	Land Disposal (Acres)	Exclude[a] Domestic Sheep
5035 Johnson	Custodial	No	No	No	No
5036 Jorgensen	Custodial	No	No	No	No
5037 Justensen	Custodial	Yes	No	No	No
0605 Last Chance	Improve	Yes	No	No	No
5038 Link Canyon	Maintain	No	No	No	No
5039 Little Holes	Custodial	No	No	No	No
5040 Little Valley	Custodial	Yes	No	No	No
5041 Lone Tree	Improve	Yes	No	No	Yes
0607 M & O	Improve	Yes	No	120	No
5042 McCarty Canyon	Maintain	No	No	No	Yes
5043 Mckay Flat	Maintain	Yes	No	No	Yes
5097 Mervin	Custodial	No	No	360	No
5044 Mesquite Wash	Maintain	No	No	No	Yes
5045 Mexican Bend	Improve	Yes	No	No	Yes
5046 Miller Canyon	Maintain	No	No	No	No
5047 Molen Pasture	Custodial	No	No	No	No
5048 Molen Tanks	Custodial	No	No	No	No
5049 Moonshine	Improve	Yes	w/Saucer Basin	No	No
0608 Mussetuchit	Improve	Yes	No	No	Yes
5050 Neva	Custodial	No	No	80	No
5051 North Ferron	Maintain	Yes	No	No	No
5052 North Herring Flat	Maintain	No	No	No	No
5053 North Huntington	Improve	Yes	No	240	No
5054 North Sid & Charley	Maintain	Yes	No	No	Yes
5055 North Sids Mountain	Custodial	No	No	No	Yes
5065 North Sinbad	Improve	Yes	No	No	Yes
5057 Northwest Ferron	Maintain	No	No	No	No
5058 North Wolf Hollow	Custodial	No	No	900	No
5098 O.E.J.	Custodial	No	No	No	No
5059 Oil Dome	Custodial	No	No	360	No
5060 Oil Well Flat	Improve	Yes	No	No	Yes
5061 Olsen (E.)	Custodial	No	No	160	No
5062 Olsen (G.L.)	Improve	No	No	No	No
5063 Pasture Canyon	Improve	Yes	No	No	No
5064 Peacock	Custodial	No	No	No	No
5065 Price (Vic)	Custodial	No	No	90	No
5067 Red Canyon	Maintain	Yes	No	No	Yes
5068 Red Seeps	Maintain	Yes	No	No	No
5069 Reid	Custodial	No	No	200	No
5066 R.J.	Custodial	No	No	40	No

[a]A change in kind from cattle to domestic sheep would not be allowed. Allotments currently being grazed by domestic sheep would not be required to change to cattle.

(Continued)

TABLE RMP-11 (Concluded)

Allotment No. and Name	Management Category	Allotment Management Plan	Combine	Land Disposal (Acres)	Exclude[a] Domestic Sheep
5071 Rochester	Maintain	Yea	No	No	No
5072 Rock Canyon	Improve	Yes	No	No	No
0611 Rock Springs	Improve	Yes	No	No	Yes
5073 Saddle Horse	Improve	No	No	No	Yes
5074 Saleratus	Maintain	Yes	No	No	No
5075 Salt Wash	Maintain	Yes	No	No	Yes
5076 San Rafael River	Improve	Yes	No	No	No
5077 Saucer Basin	Improve	No	w/Moonshine	No	No
5079 Sorensen	Custodial	Yes	No	No	No
5080 South Ferron	Maintain	No	No	No	No
5081 South Herring Flat	Maintain	No	No	No	No
5082 South Sid & Charley	Improve	Yes	No	No	Yes
5083 South Sids Mountain	Maintain	No	No	No	Yes
5084 South Wolf Hollow	Custodial	No	No	No	No
5085 Straight Hollow	Maintain	No	No	No	No
5086 Sweetwater	Improve	Yes	No	No	No
5087 Taylor Flat	Maintain	Yes	No	No	Yes
5088 T.D.J.	Custodial	No	No	No	No
5089 Temple Mountain	Maintain	Yes	No	No	Yes
5090 Tuttle	Custodial	No	No	No	No
5091 West Grimes	Maintain	Yes	No	No	No
5092 West Huntington	Improve	Yes	No	260	No
5093 West Orangeville	Custodial	No	No	No	No
5094 Wilberg	Custodial	Yes	No	40	No
5102 Wildlife		No	No	No	No
0612 Willow Springs	Improve	Yes	No	No	No
5096 Wood Hollow	Improve	Yes	No	No	Yes

[a]A change in kind from cattle to domestic sheep would not be allowed. Allotments currently being grazed by domestic sheep would not be required to change to cattle.

treatment potential within the allotment. Grazing systems such as deferred rotation and rest-rotation could be used. AMPs will be written and implemented as current budget, manpower, and operator cooperation allow.

An investment analysis will be done where an AMP suggests projects that require expenditure of rangeland improvement funds. The analysis serves to (1) identify allotments where there is opportunity for a positive return on the investment; (2) integrate economic, resource, and social objectives in prioritizing investments; and (3) incorporate priorities and detailed investment analysis in annual work plans. The analysis will be done when a specific project is proposed.

Grazing systems will be maintained, revised, or implemented, based on consideration of

- objectives detailed in the AMP;
- resource characteristics detailed in the RMP;
- vegetation characteristics determined by monitoring;
- availability of water;
- operator requests; and
- implementation costs.

Currently, little or no forage is reserved for big game or wild horses and burros grazing the public lands. Conflicts between these animals and livestock may be resolved and specific forage-use levels adjusted at the activity-planning stage or at any time deemed necessary as a result of rangeland monitoring.

Use levels for livestock and wild horses and burros may be adjusted to provide for protection of critical soils and crucial wildlife habitat. If additional forage becomes available, and crucial wildlife habitat and critical soils areas would not deteriorate, equal consideration will be given to livestock, wildlife, and wild horses and burros, based on rangeland monitoring.

Changes in season from spring to fall/winter may be necessary in the 43 allotments that have areas of critical soils (see the pocket map of proposed rights-of-way management). At this time, it is not known whether these allotments are exceeding the Soil Conservation Service (SCS) critical soil loss threshold. This determination will be made on an allotment-by-allotment basis in conjunction with current monitoring methods. If it is determined that the allotments are exceeding the threshold, and that rangelend trend is down, changes in livestock management would be needed. These changes could include changes in grazing seasons, reductions in livestock numbers, implementation of a grazing system or other agreements may be entered into to provide protection for these areas (map RMP-14 and the pocket map of proposed grazing actions and limitations on range.

Specific actions to protect riparian areas will be determined through activity plans after completion of the RMP.

Range improvements facilitate grazing management (map RMP-15 and the pocket map of proposed grazing actions and limitations on range improvements). The location, extent, and scheduling of specific range projects will be determined on an individual allotment basis and will depend on operator contributions and BLM funding capability (table RMP-11). Existing land treatments may be maintained.

SPECIFIC MANAGEMENT PRESCRIPTIONS

Grazing Allotments/Licensed Use	Acres
Allotments: (95 SRRA, 6 FPU)	1,612,120
public lands (SRRA)	1,409,730
public lands (FPU)	190,240
Glen Canyon NRA	12,780
Unallotted	1,730
Licensed Use: 56,207 to 86,654 AUMs	1,606,320
SRRA 49,415 to 78,455 AUMs	1,416,080
FPU 6,792 to 8,199 AUMs	190,240

Grazing would be excluded on four allotments (4,530 acres) in the following areas:

- Big Flat Tops ACEC
- Bowknot Bend ACEC
- Swasey Cabin ACEC (trailing only)
- Developed recreation sites

Surface restrictions would limit range improvements on 742,260 acres in the following areas:

- Dry Lake ACEC

- Highway I-70 Scenic Corridor ACEC
- Muddy Creek ACEC
- San Rafael Canyon ACEC
- San Rafael Reef ACEC
- Segers Hole ACEC
- Sids Mountain ACEC
- Temple Mountain ACEC
- existing land leases
- ROS P-class area
- critical soils
- desert bighorn sheep crucial habitat
- antelope habitat
- mule deer and elk crucial winter range
- riparian and aquatic areas

Range improvements would be excluded on a total of 4,990 acres in the following areas:

- Big Flat Tops ACEC
- Bowknot Bend ACEC
- Copper Globe ACEC
- Pictographs ACEC
- Swasey Cabin ACEC
- developed recreation sites

Other Grazing Actions	SRRA Acres	FPU Acres
Prohibit changes from cattle to domestic sheep on 29 allotments (939,150 acres) in crucial desert bighorn sheep habitat.	799,040	140,110
Modify and implement 17 AMPs prepared prior to RMP/EIS:	16	1
Develop and implement 31 New AMPs	27	4
Special Designations		
Designate two 2 ACECs to protect relict vegetation	4,470	0
Big Flat Tops ACEC	2,640	0
Bowknot Bend ACEC	1,830	0

Gilson Butte would be reconsidered for designation as an ACEC to protect relict vegetation when additional data are gathered.

4331 CULTURAL RESOURCE MANAGEMENT

MANAGEMENT OBJECTIVE

+ To manage surface-disturbing actions so as to avoid or reduce adverse impacts to paleontological and cultural resources and to manage cultural resource values for information potential, public values, or conservation for the future.

GENERAL MANAGEMENT GUIDANCE

Potential cultural resources will be evaluated, and identified resources protected, as required by law, regulation, and policy. Consultation with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation will occur wherever mandated.

Fossils of scientific interest (other than petrified wood), including petrified dinosaur bone, may not be collected on public land. These resources are covered by the Antiquities Act, which prohibits excavation or appropriation of paleontological resources without a permit. The Act also protects these resources from impacts of development. For example, the Tempskya fossil fern site near Castle Dale would require site-specific mitigation measures prepared at the time any project was proposed which could disturb the fossil bed. Recreational rockhounding occurs throughout the planning area. No part of the planning area will be designated as closed to rockhounding.

Sites listed in the National Register of Historic Places and other known sites eligible for listing in that register will be managed in consultation with SHPO and the Advisory Council on Historic Preservation. Listed sites include the Black Dragon Canyon pictographs, Buckhorn rock art, Rochester-Muddy pictographs, and the Denver-Rio Grande lime kiln.

All areas proposed for surface disturbance or rehabilitation that have not been previously inventoried for cultural resources must be inventoried before starting the activity. Direct and indirect damage will be avoided to the extent possible without curtailing valid rights.

Surface disturbance will be allowed only after cultural resource management objectives are met. All sites will be avoided or mitigated in keeping with the specific management objectives assigned.

Cultural Resource Management Objectives

During activity-level planning after completion of the RMP, all cultural resources in the planning area will be assigned to one of three management categories based on the following objectives: (1) conservation, (2) public values, or (3) information potential.

Conservation

The objective for the category managed for conservation is to protect a 20 percent proportionally representative sample of all known site types from both natural and human-caused deterioration. Sites within this 20 percent sample will be protected from natural deterioration and closed to conflicting uses; they will remain under protective management until all similar non-conservation sites are used and data recovery technology has developed sufficiently that their use will make a major contribution to the archaeological study of the area.

The rationale for the 20 percent sample size is that research effectiveness declines greatly above that level. Sampling studies have shown that the amount of new information obtainable (compared to redundant data) falls significantly around a 20 percent sample figure. This makes expenditure of more time, effort, or research money on a larger scale sample size unprofitable.

The area manager will use the following criteria to place sites in the 20 percent sample covered by the conservation category:

- proportional representation of site types;
- sites that are currently in the best condition;
- sites located in areas with few current surface-use conflicts;
- sites nominated by cultural resource professionals or other interested parties as having values that need to be conserved for the future;
- samples of large linear features, such as historic trails (the feature need not be conserved in total); and
- additional sites as new sites are located, in order to keep the sample at 20 percent of the known total.

Sites placed in the conservation category will be listed in files kept at the resource area office. Site categorization is intended to be permanent; however, some latitude must be used in order to conserve a 20 percent sample for the future. If a listed site is destroyed, damaged, or endangered, a similar site in as good or better condition may be substituted.

Public Values

The number of sites placed in the category managed for public values is expected to be small. Objectives for this category are:

- to provide access to these sites for the general public or particular segments of the public (such as providing Native American groups access to their sacred sites);
- to provide sufficient supervision to protect both the public and the scientific values of these sites;
- where there are conflicts between the protection needs of these values, to mitigate impacts to scientific values before the site is turned over for public use;
- to emphasize the concerns of specific cultural or social groups in managing sites needed for religious or culturally important uses; and
- to prepare specific site management plans for all sites in this category.

Sites managed for public values must first have their information potential recovered through appropriate study guided by an approved research

design, in order to mitigate the impacts of visitor use and to provide information for interpretation. Test or sampling excavations will be made to define the extent of the sites and obtain information needed to interpret them. Interpretive displays and improved access will be constructed.

Information Potential

Most cultural resources will be managed under the following information potential objectives:

- to make all sites in this category available for research;
- to protect these sites until they have been appropriately studied;
- to ensure that all study is guided by an appropriate research design; and
- to mitigate conflicts with other resource uses by appropriate study.

BLM will determine what study is appropriate.

Sites managed for their information potential will be avoided until their potential is collected through study directed by an approved research design.

SPECIFIC MANAGEMENT PRESCRIPTIONS

To protect historic values within Temple Mountain, Tomsich Butte, and Copper Globe Historic Districts, an intensive data recovery program would be initiated. The program would include a search of historic literature and documents and compilation of oral histories in order to tie any significant events or persons to specific locations on the ground.

To protect Dry Lake Archaeological District from piecemeal destruction, a study of the whole area would be initiated. The program would identify the archaeological values and their spatial, temporal, and cultural relationships.

Special Designations	Acres
6 ACECs	22,170
- Dry Lake Archaeological District (Information)	16,990
- Pictographs (Public Values)	40
- Temple Mountain Historic District (Information)	2,660
- Tomsich Butte Historic District (Information)	2,040
- Copper Globe (Public Values)	220
- Swasey Cabin (Public Values)	220

4332 WILDERNESS MANAGEMENT

MANAGEMENT OBJECTIVE

+ To manage areas undergoing wilderness review under the interim management policy (IMP); and to manage designated wilderness areas to protect wilderness values.

GENERAL MANAGEMENT GUIDANCE

SRRA contains one ISA and all or part of seven WSAs (listed in table RMP-12 and shown on map 10 in volume 2). These areas will be managed under wilderness IMP until Congress either designates them as wilderness or drops them from wilderness review. Actions allowed under IMP will also be subject to restrictions developed in the RMP.

If and when an area is designated as wilderness, that designation will automatically amend this plan. The amendment will be noted and added to the RMP. Designated wilderness will be managed under regulations at 43 CFR 8560. A wilderness management plan will be prepared to provide site-specific management guidance for each designated wilderness area.

Areas not designated as wilderness will remain under IMP until released from wilderness review by Congress. When released, these areas will be managed under guidance for management of other resource programs given in the RMP.

Table RMP-12 shows how each area under wilderness review will be managed if Congress releases it from review without designating it as wilderness.

4333 RECREATION MANAGEMENT

MANAGEMENT OBJECTIVE

+ To develop and implement management plans for all special recreation management areas (SRMAs) using management prescriptions

TABLE RMP-12

Wilderness Review Areas

Unit Number	Unit Name	WSA Acres	ACEC Acres	Special Conditions Acres
ISA	Link Flats	912	0	912
UT-060-007	Muddy Creek	31,400	13,690	17,710
UT-060-023	Sids Mountain Complex	80,530	67,680	12,850
UT-060-025	Devils Canyon	9,610	1,620	7,990
UT-060-028A	Crack Canyon	25,315	22,640	2,675
UT-060-029A	San Rafael Reef	55,540	39,910	15,630
UT-060-045	Horseshoe Canyon	20,500	1,830	18,670
UT-060-054	Mexican Mountain	[a] 29,000	16,160	12,840
TOTALS		252,807	163,530	89,277

NOTE: All areas under wilderness review will be managed under IMP until either designated as wilderness or dropped from review by Congress. Areas designated as wilderness will be dropped from ACEC management where wilderness management adequately protects the values for which the ACEC was established. Acres of ACECs lie within the boundary of the indicated WSA. Special conditions include restrictions listed under ROS P- and SPNM-class areas (see chapter 3).

[a]Excludes 30,600 acres in Price River Resource Area. The total acreage in Mexican Mountain WSA is 59,600.

developed in the RMP; to identify areas to be maintained in each ROS class; to identify and designate additional developed recreation sites; to conduct suitability studies for wild and scenic river designations; and to designate all of the planning areas as open, limited, or closed to off-road vehicle (ORV) use.

GENERAL MANAGEMENT GUIDANCE

Two public land areas, San Rafael Swell and Labyrinth Canyon (map 55 in volume 2), are managed as SRMAs in recognition of their intensive use or special recreation values. The remaining public lands are managed as an extensive recreation management area (RMA). An SRMA serves as the basis for preparing an activity plan. A recreation management plan will be developed for each SRMA in the planning area.

Dispersed recreation use will be allowed throughout the planning area, with permits required for commercial use. If demand increases, BLM may require permits for use in other areas where needed to protect resource values; this would not require a plan amendment.

Recreational rockhounding occurs throughout the planning area. No part of the planning area will be designated as closed to rockhounding. However, fossils of scientific interest, including dinosaur bone, may not be collected on public land. Public Law 209 prohibits excavation or collection of fossils without a permit.

SRRA will continue to manage recreation use of the Green River in cooperation with the Grand Resource Area, Moab District, BLM, and with the Utah State Division of Parks and Recreation.

Emery County and the town of Green River propose to establish a scenic loop road along existing vehicle routes in the San Rafael Swell and Desert. Alternatives or improvements to the existing road will be authorized on a case-by-case basis.

In the Nationwide Rivers Inventory (NRI) [NPS, 1982], NPS lists the Green and San Rafael Rivers as potential additions to the National Wild and Scenic Rivers System under the Wild and Scenic Rivers Act. BLM has identified a segment of Muddy Creek in SRRA as having potential for wild and scenic designation. Designation to the National Wild and Scenic Rivers System would be made by Congress and would amend this plan.

Interim management of the three river segments (appendix J) will serve to protect the identified values until Congress acts. NEPA documents prepared for any proposals for use of the study segments will take these values into account and provide mitigation for potentially adverse impacts. Actions allowed under interim management would also be subject to restrictions developed in the RMP.

ROS classes have been identified based on inventory work (map 58 in volume 2). Classes are based on five setting factors (appendix K). These factors are reviewed periodically; a change in conditions could result in a change in ROS class. However, RMP special conditions (if any) developed to protect specific ROS class areas reflect conditions present when the RMP was prepared and may be changed only through a plan amendment.

Management restrictions are not necessary to maintain ROS class areas toward the urban end of the spectrum, including roaded natural (RN), rural (R), and urban (U). Therefore, no attempt will be made to manage for these specific ROS class areas.

ORV use designations developed in the RMP will be made following completion of an ORV implementation plan (appendix L). Criteria will be developed to determine the specific course of action needed to implement the ORV allocation decision. ORV designations do not apply to state, county or BLM system roads, or to private or state inholdings. An assessment will be made to determine a purpose and need for public land non-system roads. Public participation will be encouraged to assist BLM in identifying which non-system roads should be designated as open. The implementation plan will become effective following publication of a Federal Register notice after the RMP is complete. See map RMP-16 and the pocket map of proposed ORV use designations.

The ORV designations do not distinguish between recreational and nonrecreational use; ORV use in an area designated closed or limited may be allowed under an authorized permit. ORV designations can be changed only through a plan amendment.

In 1986, a cooperative management agreement between BLM and Pathfinders Motorcycle Club, Inc. of Price, Utah provided for joint development and management of a system of motorcycle trails within San Rafael Swell in the Temple Mountain Vicinity (map 57 in volume 2). BLM has cooperated with the Utah Division of Parks and Recreation to manage the annual Goblin Valley Trail Rides.

Current Recreation Management Areas	Acres
Special Recreation Management Areas	
- San Rafael Swell	846,340
- Labyrinth Canyon	49,220
TOTAL	895,560
Extensive Recreation Management Area	
- Remainder of SRRA	577,520
- FPU Extensive RMA	75,350
TOTAL	652,870
Developed Recreation Sites	
- San Rafael Campground	80
- Buckhorn Pictographs	10
- Cattleguard Pictographs	10
- Swasey Cabin Historic Site	220
- Wedge Overlook	20
- Tomsich Butte Campground	20
- Justesen Flats Campground	20
TOTAL	380

SPECIFIC MANAGEMENT PRESCRIPTIONS

Recreation Management Areas	SRRA Acres	FPU Acres
- Manage to preserve ROS P-class areas	117,720	0
- Manage to protect ROS SPNM-class areas outside ACECs	152,950	0
- Develop 2 SRMA management plans	895,560	0
Developed Recreation Sites		
- Intensify management of 7 developed recreation sites to protect facilities; develop or improve 3 of those recreation sites	380	0
ORV Use Designations		
- Open to ORV use	281,820	45,270
- Open with seasonal restrictions	11,600	21,710
- Limited to existing roads and trails	0	0
- Limited to designated roads and trails	1,018,680	8,370
- Closed to ORV use	151,770	0

The following areas would be open to ORV use with seasonal restrictions:
- bighorn sheep lambing areas (03/16 to 04/01)
- bighorn sheep rutting areas (10/16 to 01/31)
- deer and elk winter range (12/14 to 04/30)

ORV use in the following areas would be limited to designated roads and trails:
- ACECs
- existing land leases
- San Rafael Swell SRMA
- SPNM-ROS class areas
- developed recreation sites
- critical soils
- riparian and aquatic habitat

The following areas would be closed to ORV use:
ACECs
ROS P-class areas

4333 VISUAL RESOURCE MANAGEMENT

MANAGEMENT OBJECTIVE

+ To provide design standards that protect or enhance designated VRM classes.

GENERAL MANAGEMENT GUIDANCE

VRM class areas on public lands have been identified based on inventory work (map RMP-17 and the pocket map of proposed visual resource management). Classes are based on visual resource conditions such as scenic quality, distance zones, and sensitivity levels (appendix

M). These are reviewed periodically; a change in conditions could cause a change in VRM class.

VRM classes give management objectives to be applied to actions taking place on public lands. Land-use proposals are reviewed individually to determine whether visual impacts can be adequately mitigated to meet the objective of the existing VRM class.

Visual values and projects will be evaluated to determine appropriate management and conformance with VRM class objectives on a case-by-case basis.

SPECIFIC MANAGEMENT PRESCRIPTIONS

Special Designations	SRRA Acres	FPU Acres
6 ACECs		
- Highway I-70 Scenic Corridor ACEC	50,650	0
- Muddy Creek ACEC	22,540	0
- San Rafael Canyon ACEC	34,420	0
- San Rafael Reef ACEC	68,720	0
- Segers Hole ACEC	7,120	0
- Sids Mountain ACEC	61,870	0
VRM class I Areas	278,340	0
- Highway I-70 Scenic Corridor ACEC		
- Muddy Creek ACEC		
- San Rafael Canyon ACEC (upper and lower portions)		
- San Rafael Reef ACEC		
- Segers Hole ACEC		
- Sids Mountain ACEC		
- ROS P-class areas		
VRM class II Areas	252,060	4,140
- Copper Globe ACEC		
- San Rafael Canyon ACEC (middle portion)		
- Swasey Cabin ACEC		
- developed recreation sites		

4341 SOIL, WATER AND AIR MANAGEMENT

MANAGEMENT OBJECTIVE

+ To maintain or improve soil productivity, water quality, and air quality, and to improve watershed conditions, so long as RMP goals are met; to improve water quality in areas exceeding state water quality standards; to maintain vegetation cover at or above the level necessary to and exceeding the SCS critical soil loss threshold in the critical soil areas (or any newer method adopted by the BLM).

GENERAL MANAGEMENT GUIDANCE

BLM will manage actions on the public lands to protect the soil resource and municipal watersheds, and will manage the soil resource to maintain or increase soil productivity, prevent or minimize accelerated soil erosion, and prevent or minimize flood and sediment damage, as needed. Public lands will be managed so as to abide by laws, executive orders, and regulations on floodplain and wetland areas to reduce resource loss from floods and erosion.

Areas with critical soil needs have been identified based on unpublished Emery area and Henry Mountain area SCS soil surveys (map 69 in volume 2 and appendix N). Additional inventories could determine the existence of additional special areas or change the location or extent of areas previously identified.

BLM will maintain the soil data base by updating ecological site descriptions from information collected through range monitoring and other specific studies and share information with SCS.

Soil productivity and vegetation cover will be maintained at or above the threshold necessary to avoid exceeding the soil loss tolerance for critical soils (appendix N). Watershed condition and water quality will be maintained or improved.

Watershed control structures in place prior to the RMP will be evaluated and maintained where required. Additional structures may be installed if needed, subject to conditions developed in the RMP.

Water quality improvements will be implemented in areas that do not meet state water quality standards. Specific actions will be determined through activity-level plans prepared after completion of the RMP. Improvements may include limitations on grazing to maintain water quality

within state standards, actions to allow increased vegetation cover, stabilization of soils where erosion and leaching of natural salts have decreased water quality, limitations on surface-disturbing activities to prevent deterioration of water quality, rehabilitation of abandoned roads and mine tailings, restrictions on placement of erodible material, cooperation with surface users to reduce surface disturbance, and restriction of ORV use on erodible or steep slopes.

BLM will monitor existing water quality and watershed conditions and identify watersheds that contribute high salt and sediment loads to the Colorado River basin. Water quality data have been entered on the Environmental Protection Agency (EPA) STORET computer data base program and will be maintained. BLM will take appropriate actions to maintain water quality of streams within the planning area to meet state and federal water quality standards, including designated beneficial uses and antidegradation requirements. BLM will also maintain a water quantity data base.

BLM will maintain in-house water rights files and a water rights data base on the nationwide BLM computer system. BLM has participated in two water rights adjudication proceedings in cooperation with the Utah State Division of Water Rights and will continue to cooperate with the state as updates are made. BLM will continue to obtain new water rights to benefit resource activities.

BLM will manage actions on public lands to meet air quality standards prescribed by federal, state, and local laws and will protect existing air quality when feasible. The unique visual (air quality) characteristics of four special interest areas (Mexican Mountain, San Rafael Reef, Sids Mountain, and the lower Green River) will be maintained. Potential adverse impacts will be mitigated through site-specific NEPA documents prepared at the time an action in this area is proposed, through best available control technology as part of the state permitting process and prevention of significant deterioration (PSD) review.

SPECIAL MANAGEMENT PRESCRIPTIONS

Watershed Control Structures	SRRA Acres	FPU Acres
Locate where needed	1,459,370	75,350
Standard Conditions	702,440	45,270
Special Conditions	737,950	30,080
Excluded (except where watershed control structures would protect:	19,010	

In the special conditions area, either surface restrictions or seasonal restrictions would apply. Surface restrictions would be applied to the following areas:

- Dry Lake Archeological District ACEC
- Highway I-70 Scenic Corridor ACEC
- Muddy Creek ACEC
- San Rafael Canyon middle portion of the ACEC
- San Rafael Reef ACEC
- Segers Hole ACEC
- Sids Mountain ACEC
- Temple Mountain Historic District ACEC
- existing land leases
- ROS P-class areas outside ACECs
- critical soils
- riparian and acquatic habitat

Seasonal restrictions would be applied to the following areas:

- desert bighorn sheep crucial habitat
- antelope habitat
- mule deer and elk crucial winter range

Watershed control structures would be excluded except where they would protect resource values on 19,010 acres in the following areas:

- Copper Globe ACEC
- San Rafael Canyon ACEC (upper and lower portions)
- Swasey Cabin ACEC
- Pictographs ACEC
- developed recreation sites

Watershed control structures would be excluded from 4,470 acres in relict vegetation ACECs:

- Big Flat Tops ACEC
- Bowknot Bend ACEC

4351 HABITAT MANAGEMENT

MANAGEMENT OBJECTIVE

+ To provide habitat for a diversity of wildlife species and to alter management of wildlife habitats as to protect crucial wildlife habitats and certain desert bighorn sheep and riparian habitats.

GENERAL MANAGEMENT GUIDANCE

Wildlife habitats within the planning area will be managed to provide for a diversity of species. Specific habitat areas will be managed to provide forage, cover, water, and space requirements to support major wildlife species.

BLM will continue to manage big game species habitat (maps 71, 72, 73, and 74 in volume 2) and recommend population levels to the Board of Big Game Control. BLM will continue to cooperate with Utah Division of Wildlife Resources (UDWR) on interagency big game studies to monitor habitat conditions. UDWR has identified seasonal and crucial habitat areas with input from federal agencies, including BLM. These areas could change over time as animal populations and habitat conditions change.

BLM will continue to cooperate with UDWR and other federal agencies to identify herd units, crucial habitat areas, and hunting and trapping areas and to control predators.

Riparian and aquatic habitats will be managed to preserve, protect, and restore natural functions in accordance with laws, executive orders, and regulations as they relate to habitat management. Inventories will be initiated to determine the condition and affecting elements of riparian habitat. All activity plans developed under this RMP will consider riparian and aquatic habitat.

Known raptor sites will be protected from human disturbance to the greatest extent possible. All permitted activities within 0.5 mile of an active nest site will be restricted during the nesting season (February 1 to August 15 annually). These sites may vary in location from year to year and have not been mapped for this RMP.

BLM will cooperate with UDWR to maintain or re-establish desert bighorn sheep within identified habitat areas, so long as this practice is in keeping with RMP goals and objectives. Transplants of native big game species may take place within habitat areas if identified in an HMP prepared or modified after completion of the RMP; these actions will not require a plan amendment. HMPs will be coordinated with affected land owners. Transplants of fish and game birds may take place without requiring an HMP or a plan amendment.

BLM will manage for big game populations in suitable areas only so long as critical soils are protected and livestock use in non-crucial big game habitat areas is considered.

SPECIFIC MANAGEMENT PRESCRIPTIONS

None identified.

4352 ENDANGERED SPECIES MANAGEMENT

MANAGEMENT OBJECTIVE

+ To protect and conserve all officially listed and candidate plant and animal species and their habitats, as provided by law, and to increase animal and plant populations where opportunities exist.

GENERAL MANAGEMENT GUIDANCE

No management action will be permitted on public lands that will jeopardize the continued existence of plant or animal species that are listed, are officially proposed for listing, or are candidates for listing as T/E (tables RMP-13 and RMP-14).

BLM will cooperate with U.S. Fish and Wildlife Service (USFWS) in writing recovery plans for T/E species located within the planning area or grazing area. Also, BLM will consult USFWS for a formal consultation under Section 7 of the Endangered Species Act before approving or implementing any action that may affect a protected species.

Sensitive species listed by the State of Utah will be managed in similar fashion, except that no Section 7 consultation is required. BLM will

TABLE RMP-13

Status of Threatened, Endangered, or Sensitive Plants

Common Name	Status	Scientific Name	Known to Occur in Planning Area
Maguire daisy	Endangered	Erigeron maguirei	Yes
Wright fishhook cactus	Endangered	Sclerocactus wrightiae	Yes
San Rafael cactus	Endangered	Pediocactus despainii	Yes
Jones cycladenia	Threatened	Cycladenia humilis var. jonesii	Yes
Last Chance townsendia	Threatened	Townsendia aprica	Yes
Silver milkvetch	Sensitive	Astragalus subcinereus var. basalticus	Yes
Smith wild buckwheat	Sensitive	Eriogonum smithii	Yes
Yellow blanket flower	Sensitive	Gaillardia flava	Yes
Western sweetvetch	Sensitive	Hedysarum occidentale var. canone	Yes
Hymenoxys	Sensitive	Hymenoxys depressa	Yes
Jones indigo bush	Sensitive	Psorothamnus polyadenius var. jonesii	Yes
Barneby schoenocrambe	Sensitive	Schoenocrambe barnebyi	Yes
Globemallow	Sensitive	Sphaeralcea psorgloides	Yes

Source: Federal Register Vol. 50, No. 181, September 18, 1985, pp. 37958 to 37967 and Vol. 51, No. 86, May 5, 1986, pp. 16526 to 16530.

TABLE RMP-14

Status of Threatened, Endangered, or Sensitive Animals

Common Name	Status	Scientific Name	Known to Occur in Plan Area	Habitat Use
Bald eagle	Endangered	Haliaeetus leucocephalus	Yes	Winter
Peregrine falcon	Endangered	Falco peregrinus var. anatum	Yes	Nesting[a]
Ferruginous hawk	Sensitive	Buteo regalis	Yes	Nesting[a]
Western snowy plover	Sensitive	Charadrius alexandrinus nivosus	No	Nesting[a]
Mountain plover	Sensitive	Charadrius montanus	No	Nesting[a]
Long-billed curlew	Sensitive	Numenius americanus	Yes	Nesting[a]
White-faced ibis	Sensitive	Plegadis chihi	No	Nesting[a]
Southern spotted owl	Sensitive	Strix occidentalis lucida	No	Nesting[a]
Black-footed ferret	Endangered	Mustela nigripes	No	Yearlong
Spotted bat	Sensitive	Euderma maculata	No	Unknown
Southwestern river otter	Sensitive	Lutra canadensis sonorae	No	Yearlong
Humpback chub	Endangered	Gila cypha	Yes	Transient
Bonytail chub	Endangered	Gila elegans	No	Unknown
Colorado squawfish	Endangered	Ptychocheilus lucius	Yes	Yearlong[b]
Razorback sucker	Sensitive	Xyrauchen texanus	Yes	Summer

[a]Nesting habitat includes breeding areas and areas where young are raised.

[b]Yearlong habitat for the Colorado squawfish includes spawning areas.

Source: Federal Register Vol. 50, No. 181, September 18, 1985, pp. 37958 to 37967 and Vol. 51, No. 86, May 5, 1986, pp. 16526 to 16530.

continue to cooperate in surveys to determine the extent or existence of T/E or candidate species.

As required by the Endangered Species Act, recovery actions may be taken where possible in coordination with USFWS; such actions will require an activity plan. Transplants will be done in compliance with the Endangered Species Act and would require a cooperative agreement and an activity plan.

BLM will protect and conserve all officially listed and candidate species and their habitats.

SPECIFIC MANAGEMENT PRESCRIPTIONS

None identified.

4360 FIRE MANAGEMENT

MANAGEMENT OBJECTIVE

+ To suppress wildfires where necessary to protect life, property, and high-risk resource values; to limit motorized suppression in areas closed to ORV use; and to use prescribed fire to implement or maintain seedings where necessary.

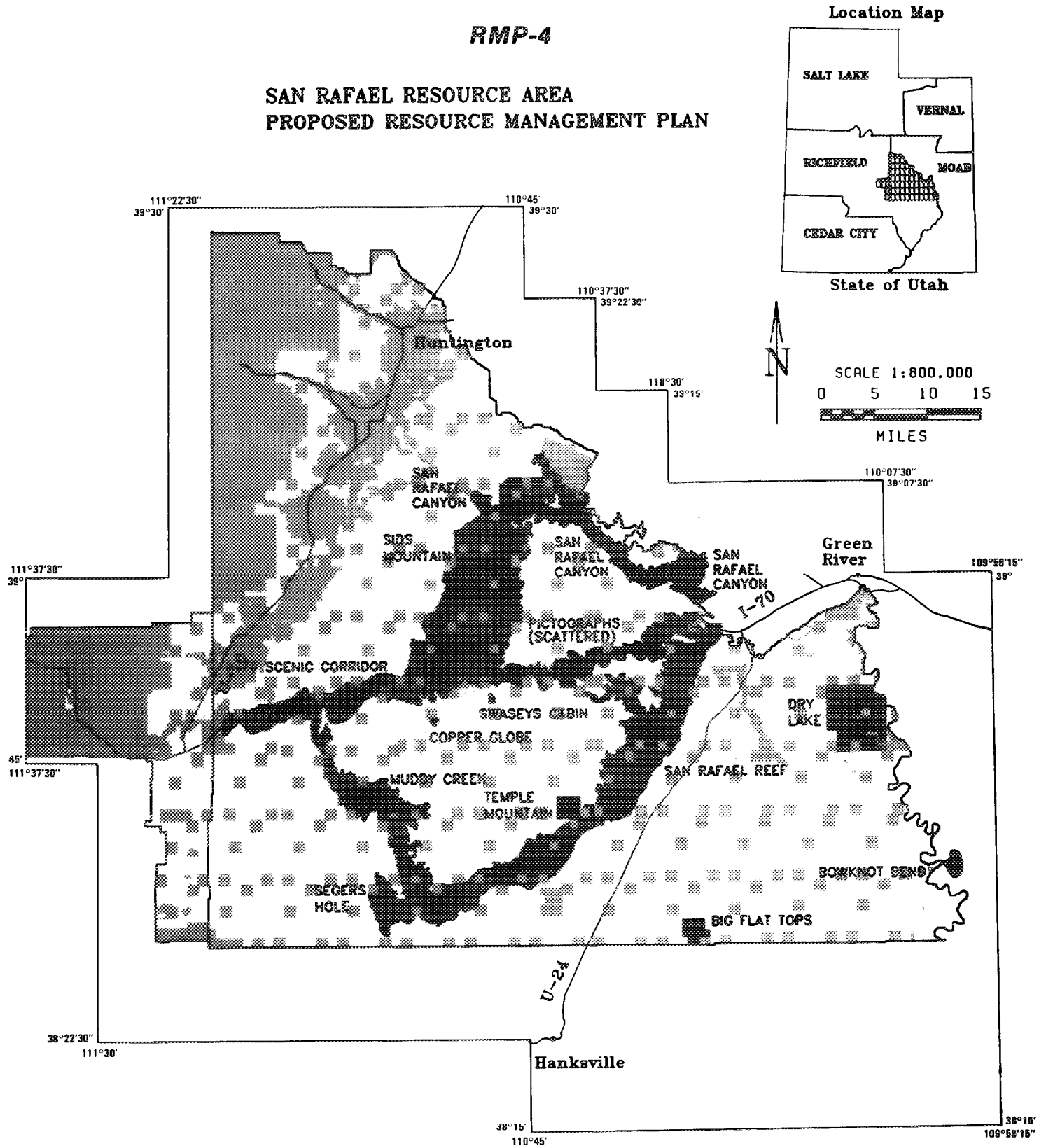
GENERAL MANAGEMENT GUIDANCE

Fires will be suppressed in accordance with the fire management plan prepared to implement RMP decisions. The fire management plan will detail prescriptions for or limitations on fire suppression, including areas where fires will be completely suppressed or allowed to burn, equipment and techniques, equipment and techniques allowed in specified areas, and values at risk to be protected (see map RMP-18).

SPECIFIC MANAGEMENT PRESCRIPTIONS

Fire Suppression Action	SRRA Acres	FPU Acres
Full Suppression	195,890	25,640
Conditional Suppression	1,267,950	19,710

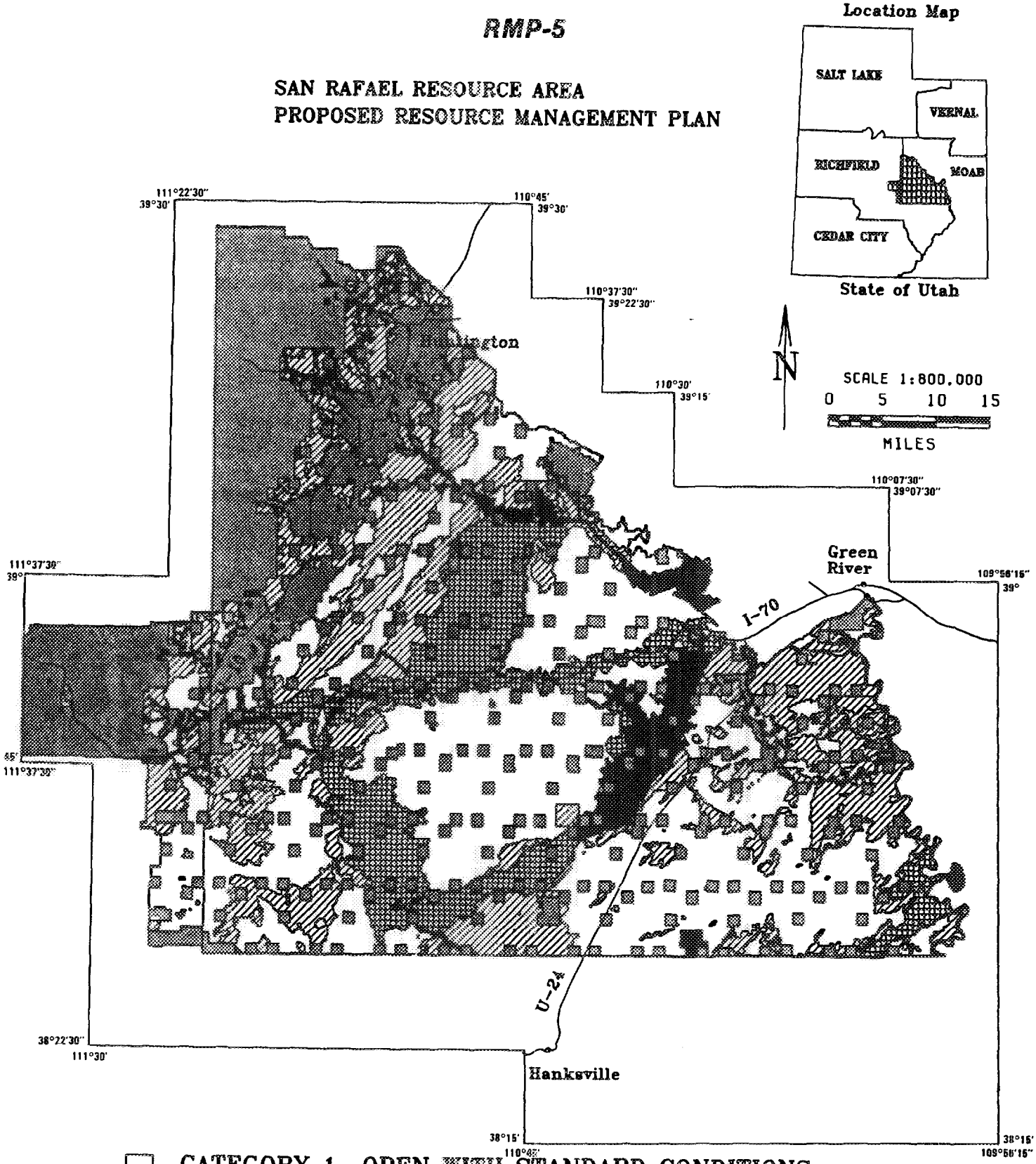
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



ACECs
PLANNING AREA BOUNDARY

AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACECs)

SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN

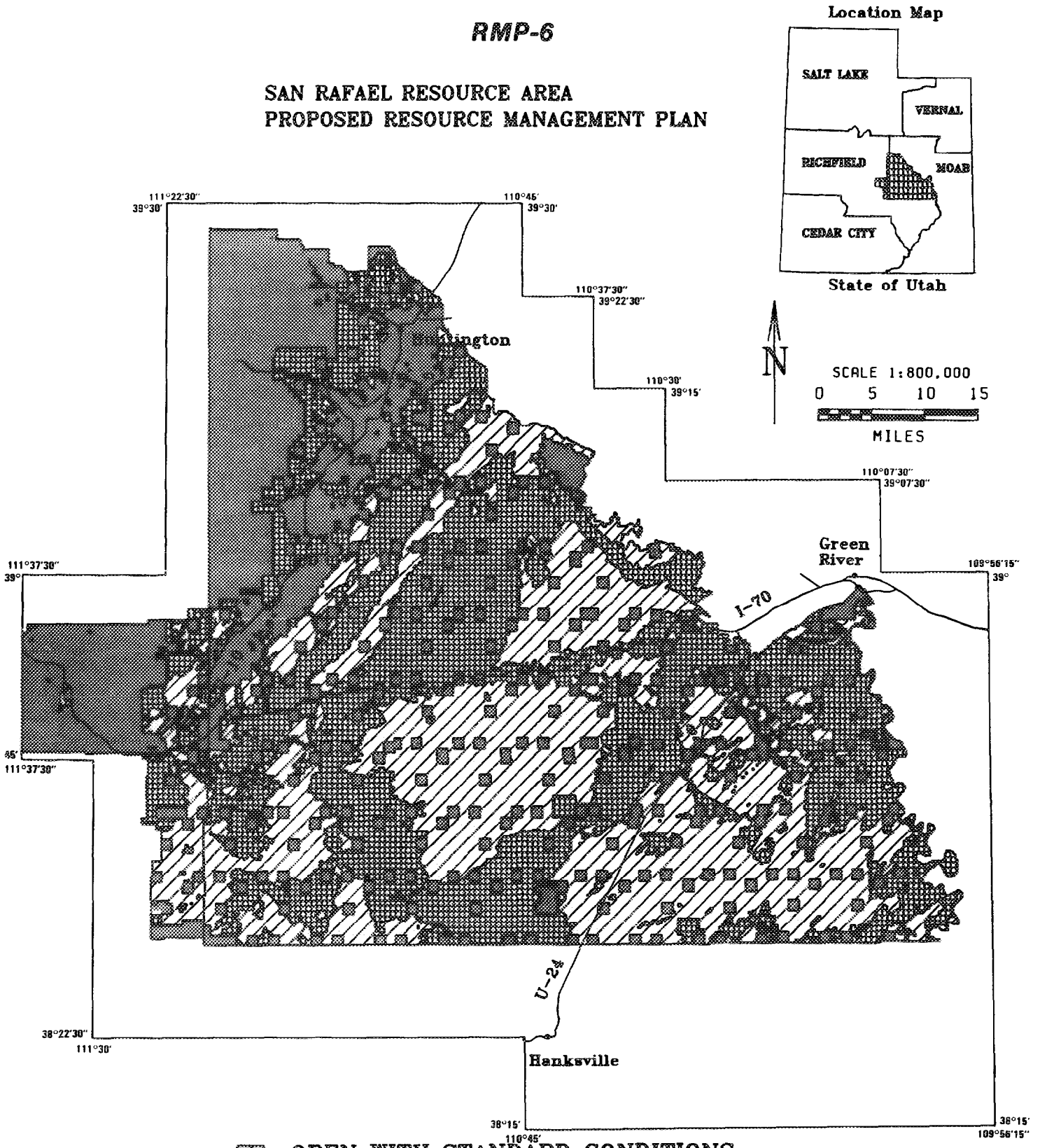


- CATEGORY 1 OPEN WITH STANDARD CONDITIONS
- CATEGORY 2 OPEN WITH SPECIAL CONDITIONS
- CATEGORY 3 NO SURFACE OCCUPANCY
- CATEGORY 4 NO LEASE
- PLANNING AREA BOUNDARY

OIL AND GAS LEASING CATEGORIES

RMP-6

SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



OPEN WITH STANDARD CONDITIONS

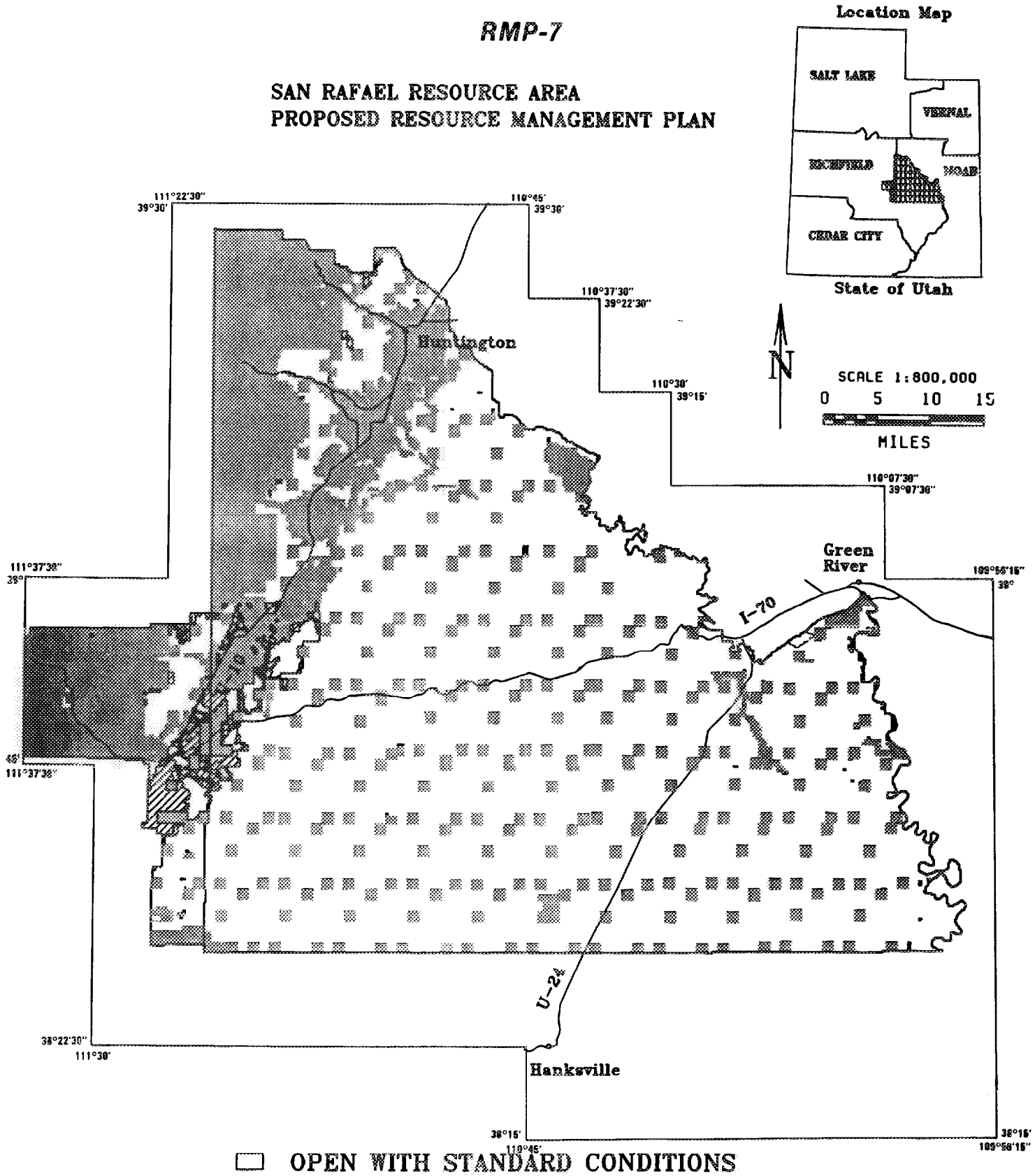
OPEN WITH SPECIAL CONDITIONS

PLANNING AREA BOUNDARY

GEOPHYSICAL EXPLORATION MANAGEMENT

RMP-55

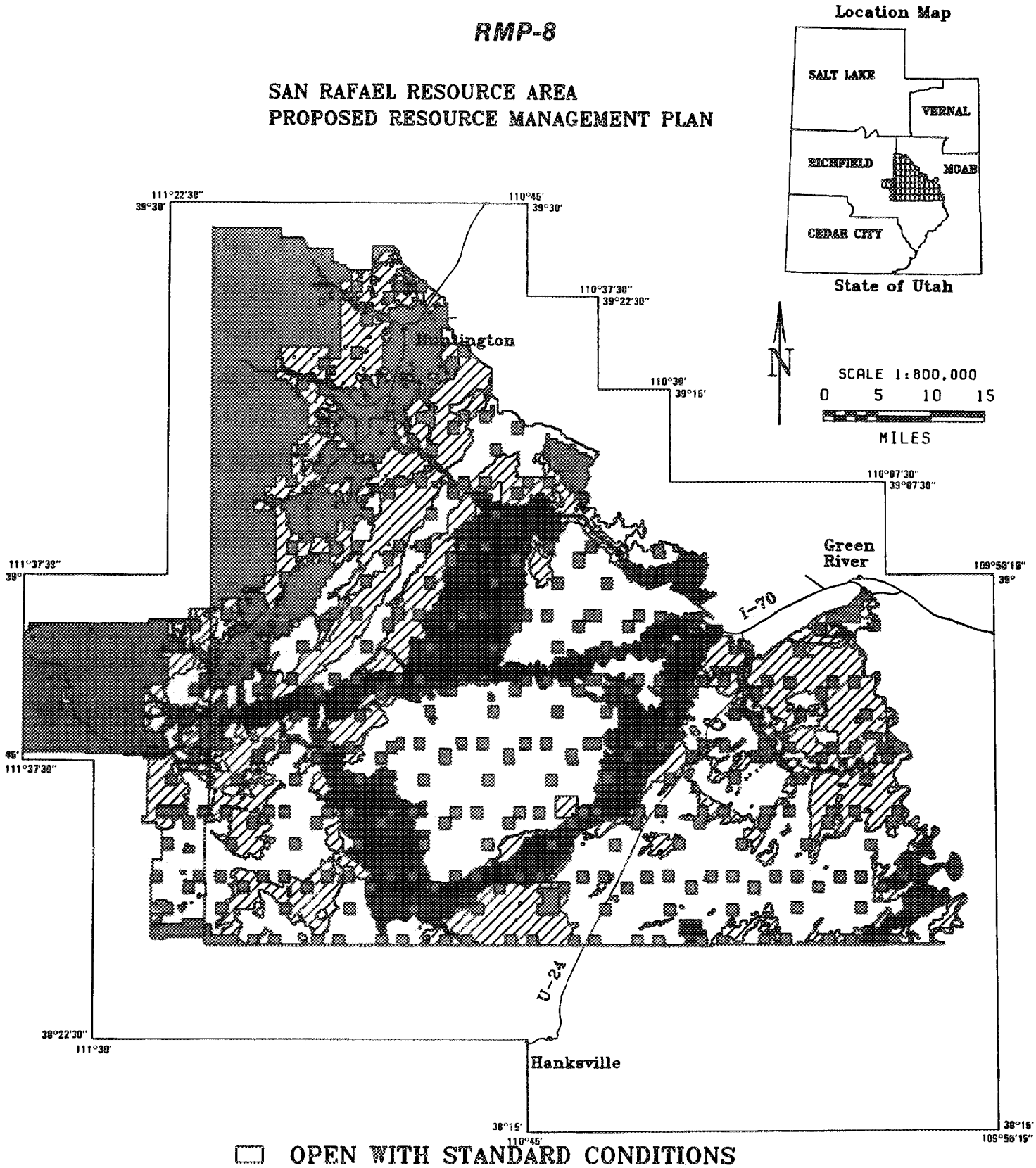
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



- OPEN WITH STANDARD CONDITIONS
- SPECIAL CONDITIONS
- NO SURFACE DISTURBANCE
- CLOSED TO LEASING (ROCHESTER PICTOGRAPHS)
- PLANNING AREA BOUNDARY

COAL MANAGEMENT

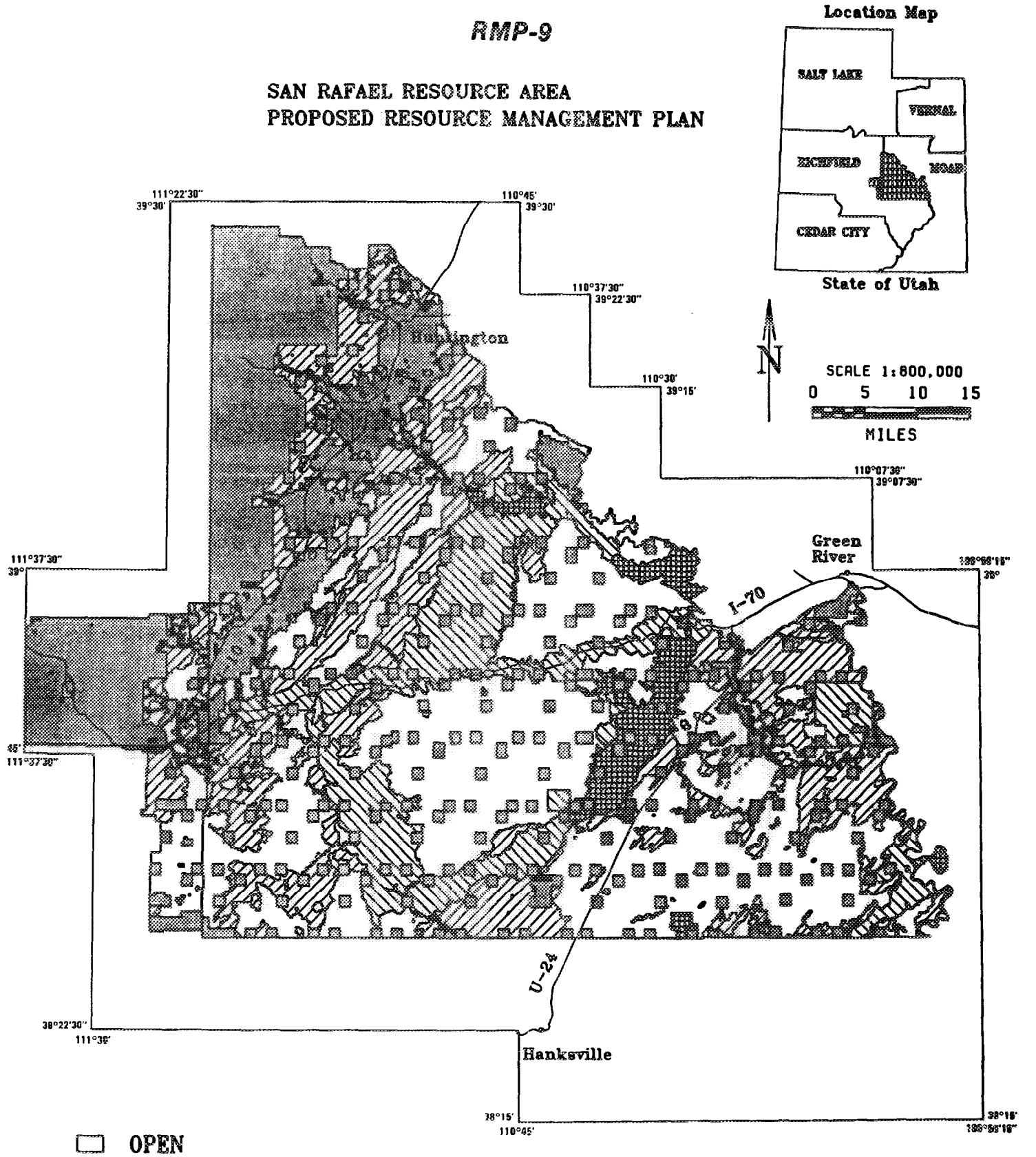
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



- OPEN WITH STANDARD CONDITIONS
- SPECIAL CONDITIONS
- NO DISPOSAL
- PLANNING AREA BOUNDARY

MINERAL MATERIAL MANAGEMENT

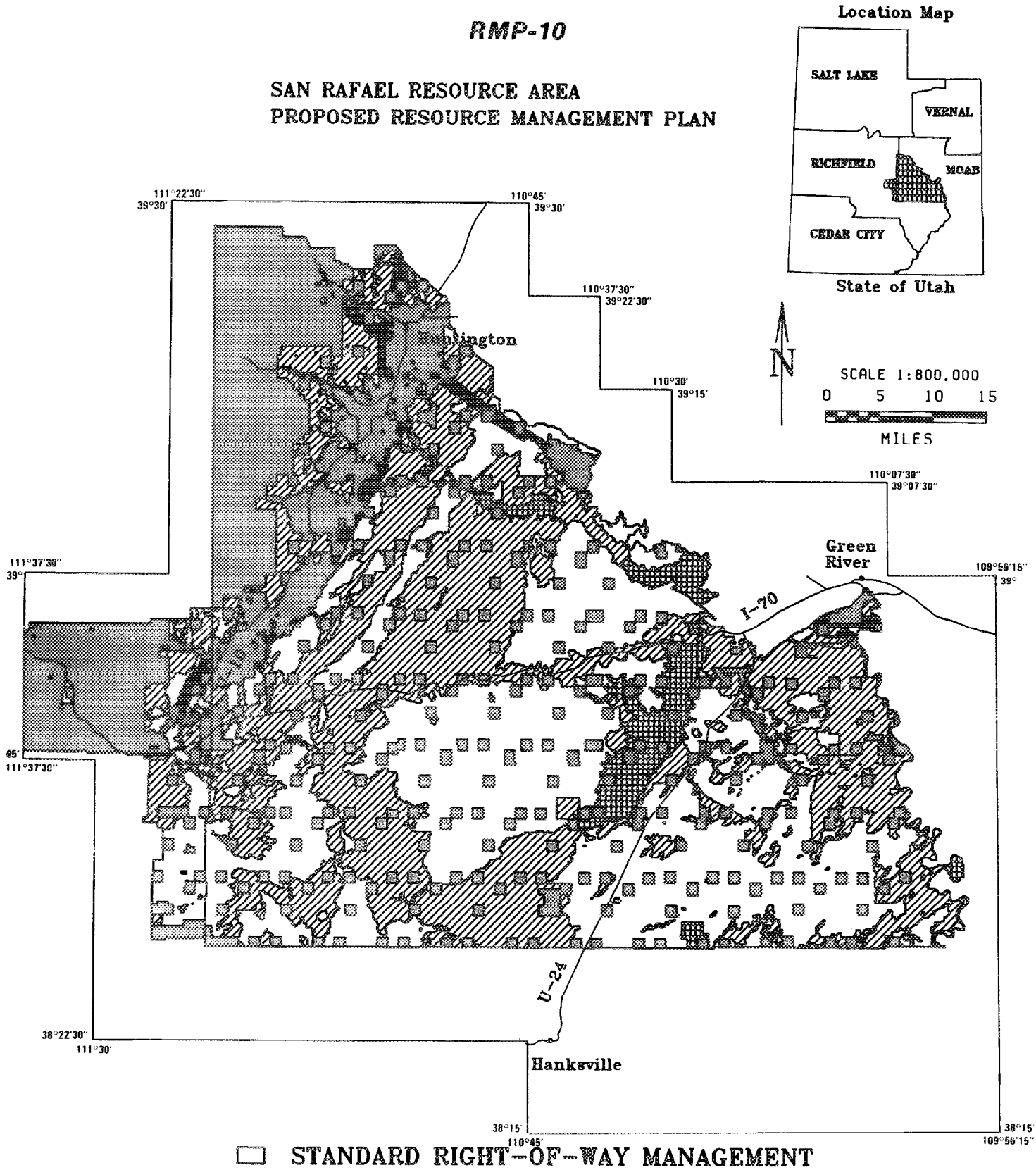
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



- OPEN
- OPEN WITH SPECIAL CONDITIONS WHEN A PLAN OF OPERATIONS IS REQUIRED
- OPEN WITH SPECIAL CONDITIONS AND A PLAN OF OPERATIONS
- PROPOSED WITHDRAWALS
- WITHDRAWALS (LAND LEASES)
- PLANNING AREA BOUNDARY

MINING LAW MANAGEMENT

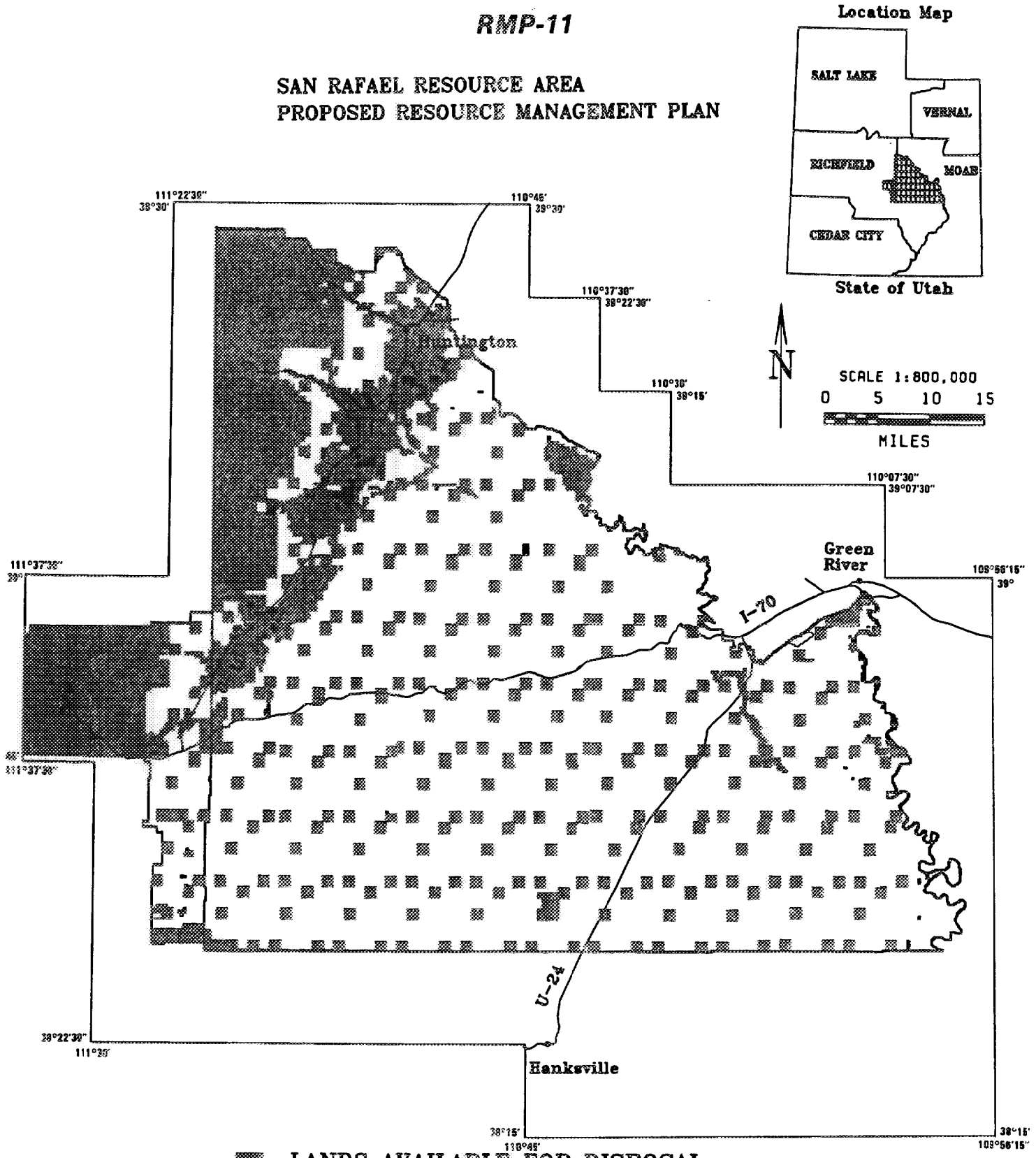
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



- STANDARD RIGHT-OF-WAY MANAGEMENT
- RIGHT-OF-WAY CORRIDORS
- AVOIDANCE AREAS
- EXCLUSION AREAS
- PLANNING AREA BOUNDARY

RIGHTS-OF-WAY MANAGEMENT

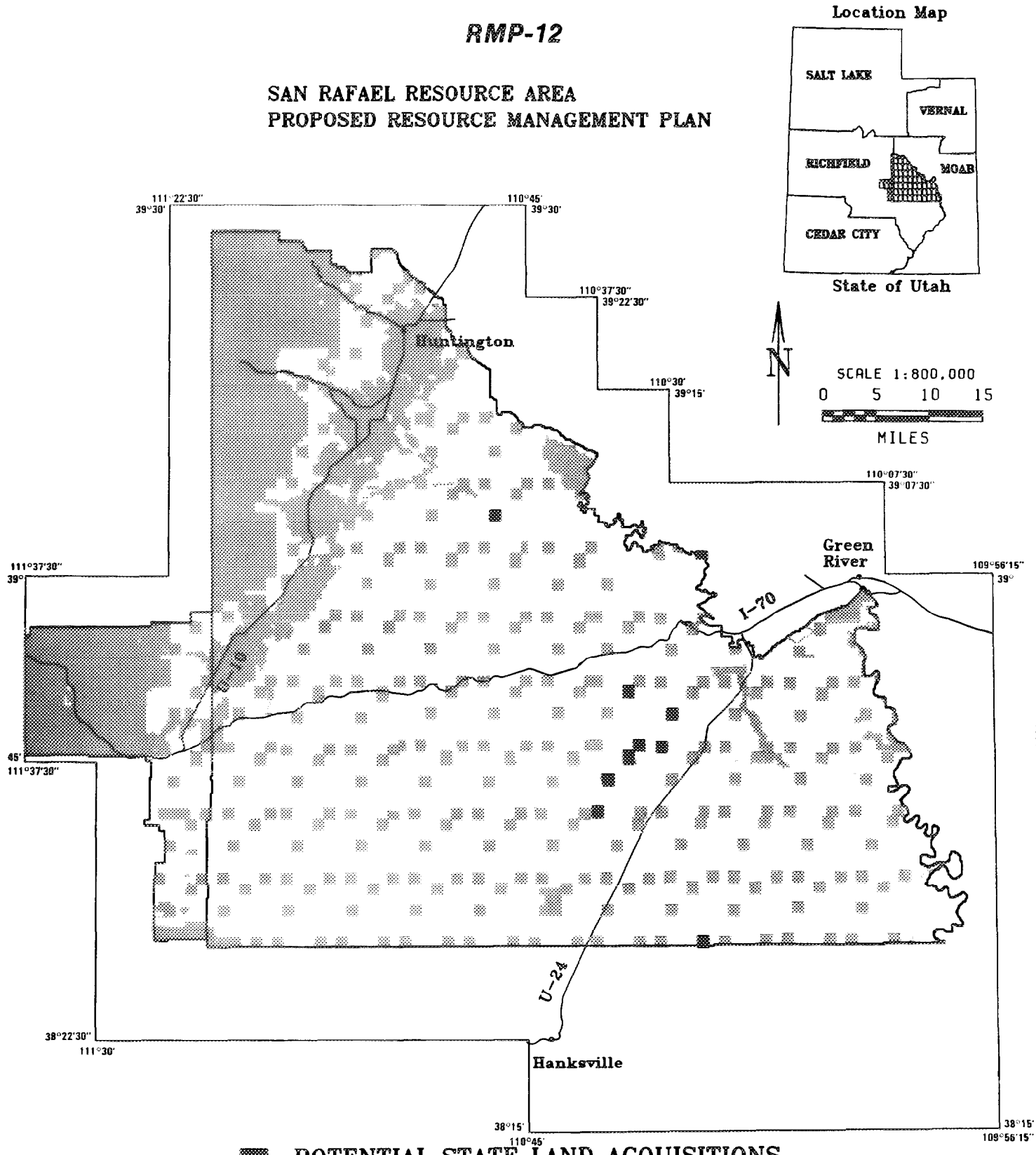
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



LANDS AVAILABLE FOR DISPOSAL
PLANNING AREA BOUNDARY

LAND DISPOSALS

SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN

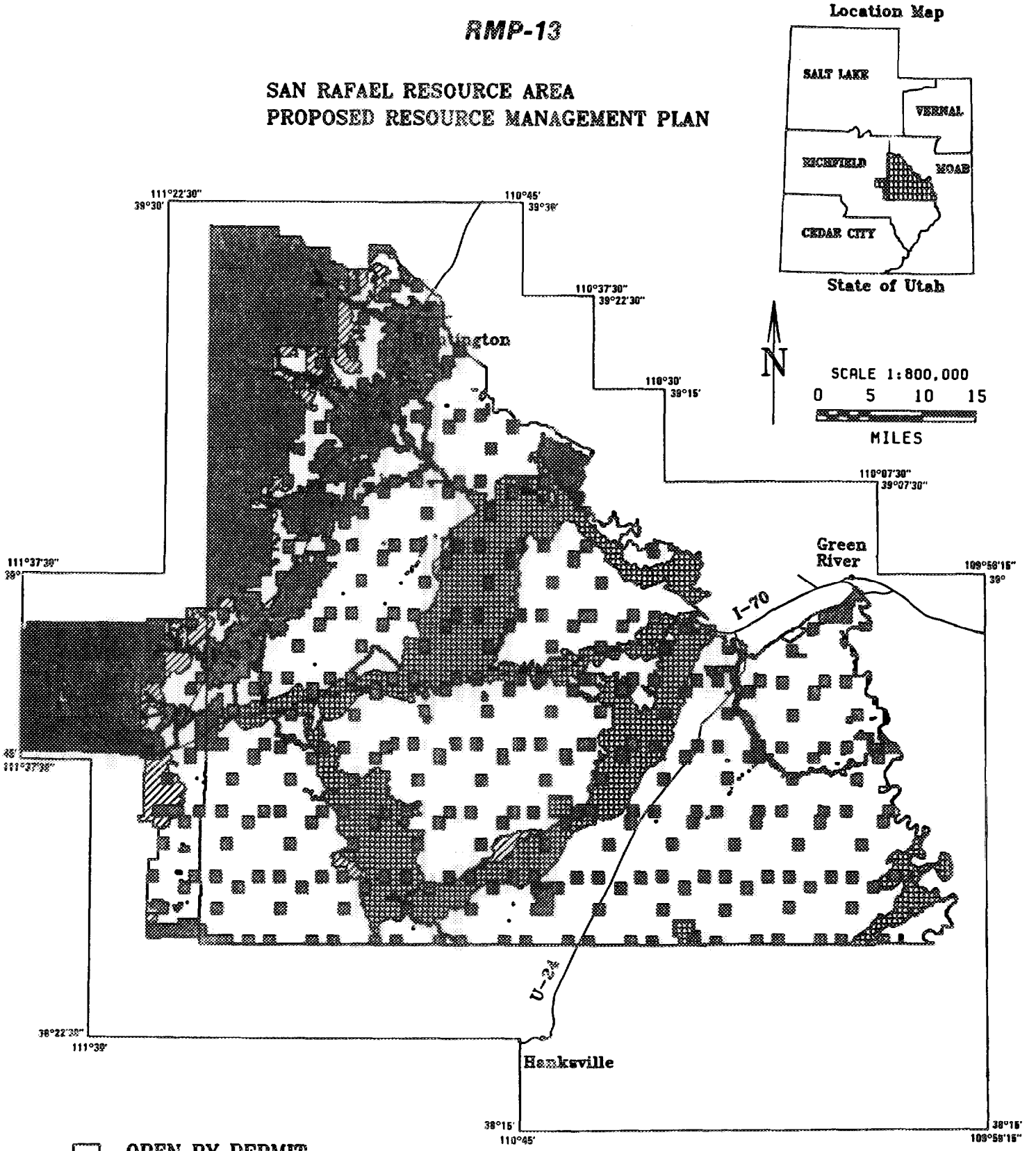


▩ POTENTIAL STATE LAND ACQUISITIONS

— PLANNING AREA BOUNDARY

POTENTIAL LAND ACQUISITIONS

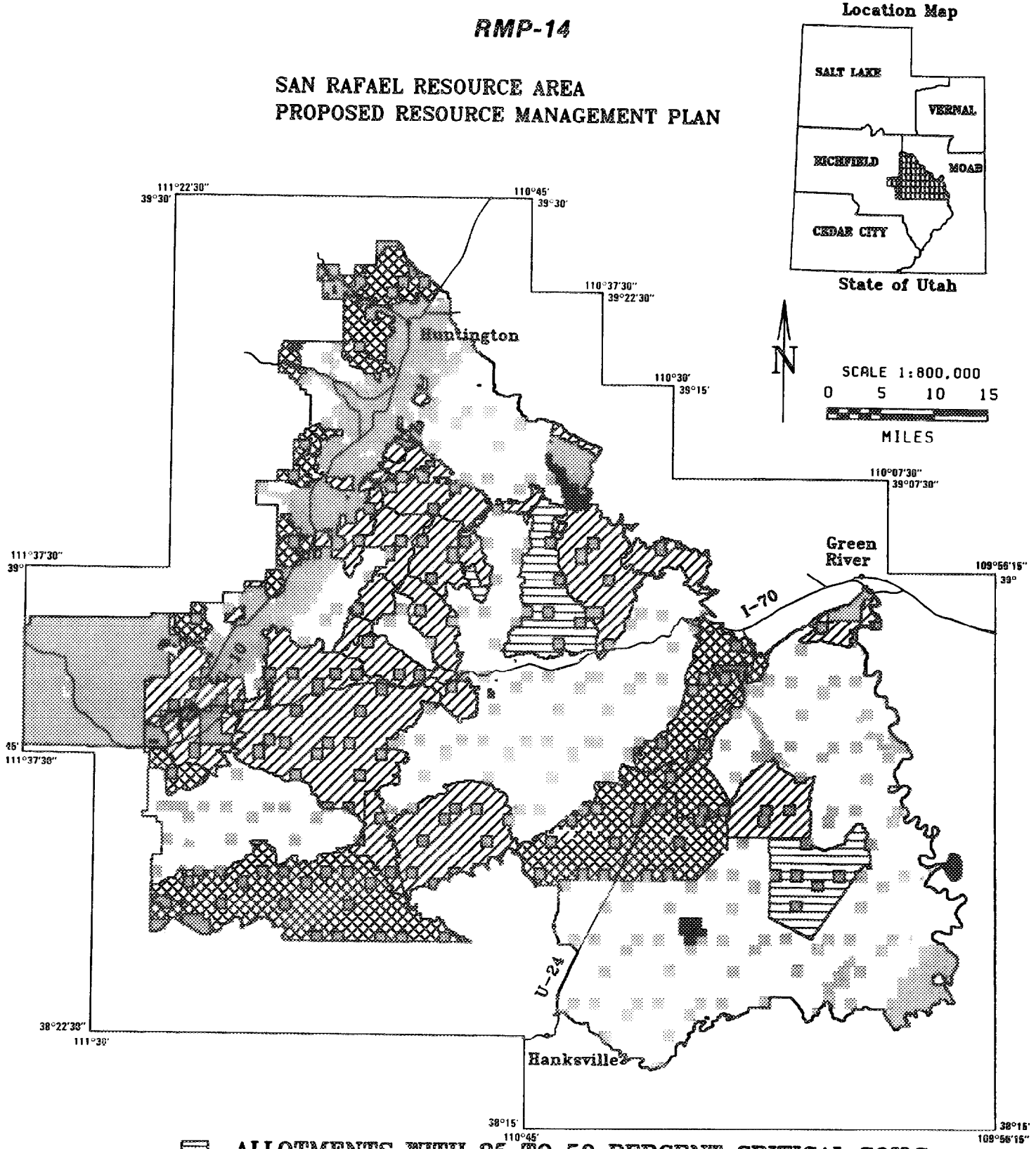
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



- OPEN BY PERMIT
- SPECIAL CONDITIONS
- LIMITED TO ONSITE COLLECTION OF DOWNED DEAD FUELWOOD FOR CAMPFIRES
- EXCLUDED FROM ALL HARVESTING
- PLANNING AREA BOUNDARY

WOODLAND AND VEGETATIVE PRODUCT MANAGEMENT

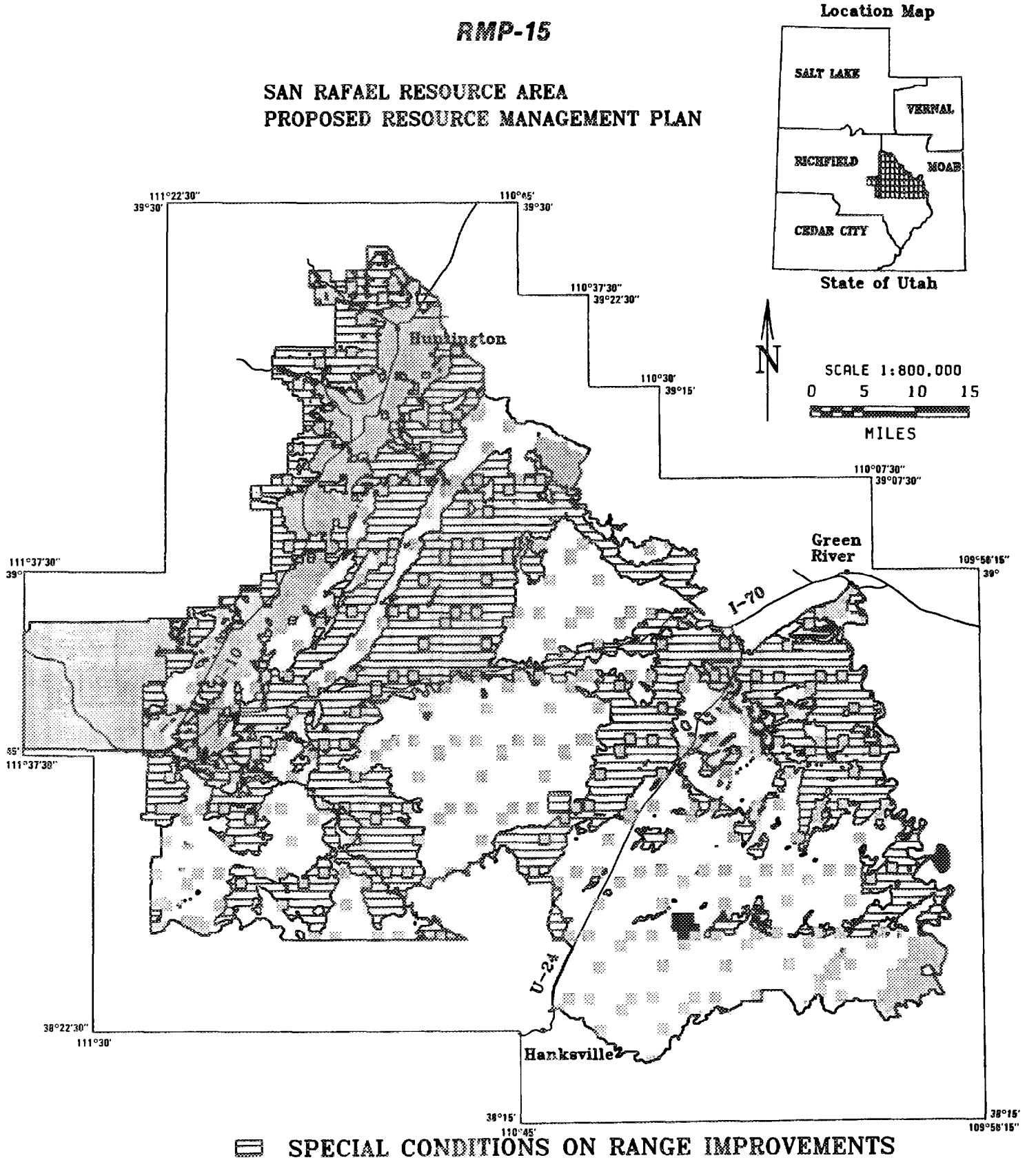
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



- ALLOTMENTS WITH 25 TO 50 PERCENT CRITICAL SOILS (MAY NEED SPECIAL MANAGEMENT)
- ALLOTMENTS WITH 50 PERCENT OR MORE CRITICAL SOILS (MAY NEED SPECIAL MANAGEMENT)
- ALLOTMENTS WITH BOTH 50 PERCENT OR MORE CRITICAL SOILS AND CERTAIN CRUCIAL WILDLIFE HABITAT (MAY NEED SPECIAL MANAGEMENT)
- AREAS EXCLUDED FROM LIVESTOCK GRAZING
- PLANNING AREA BOUNDARY

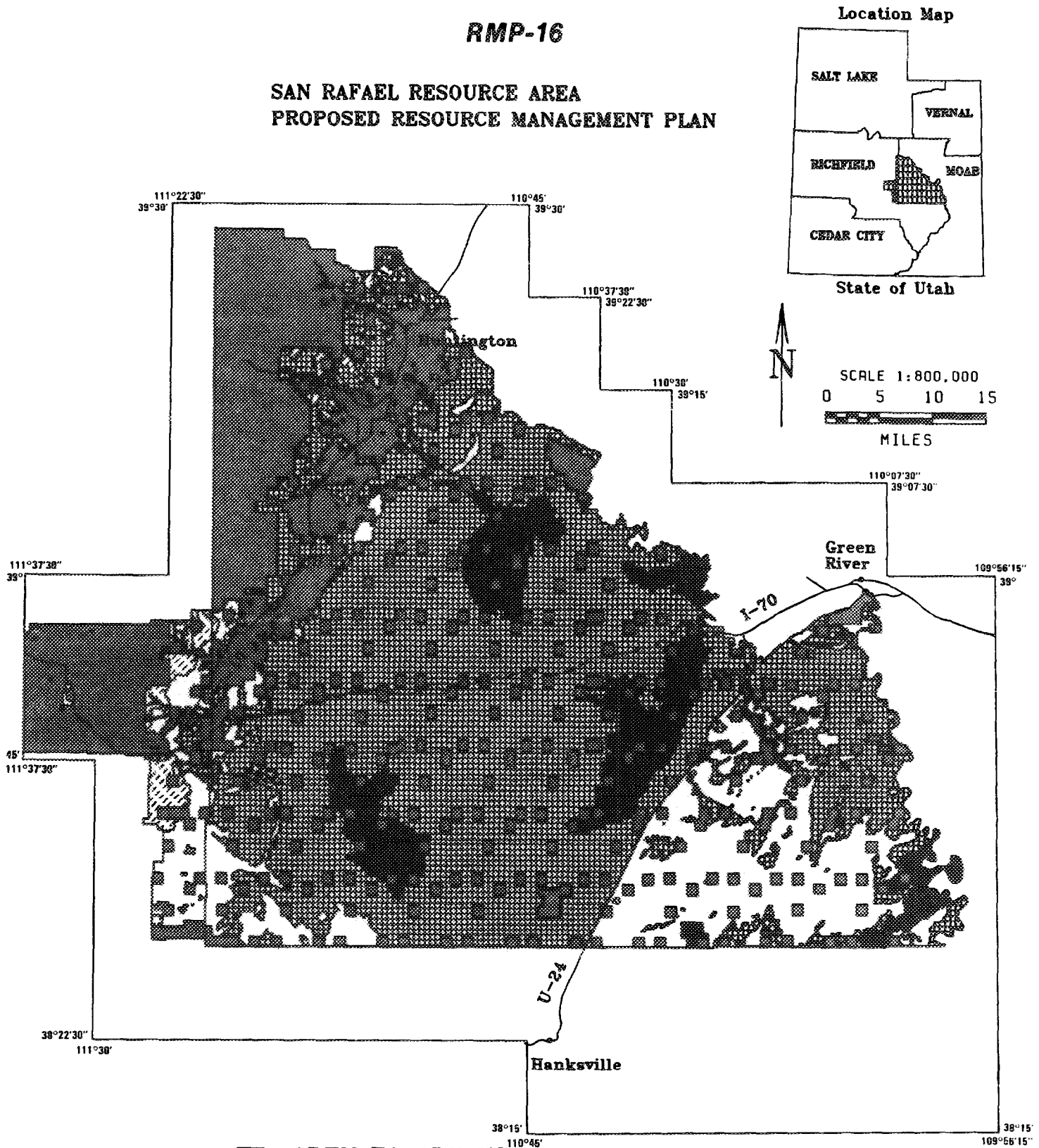
GRAZING ACTIONS

SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



LIMITATIONS ON LIVESTOCK RELATED RANGE IMPROVEMENTS

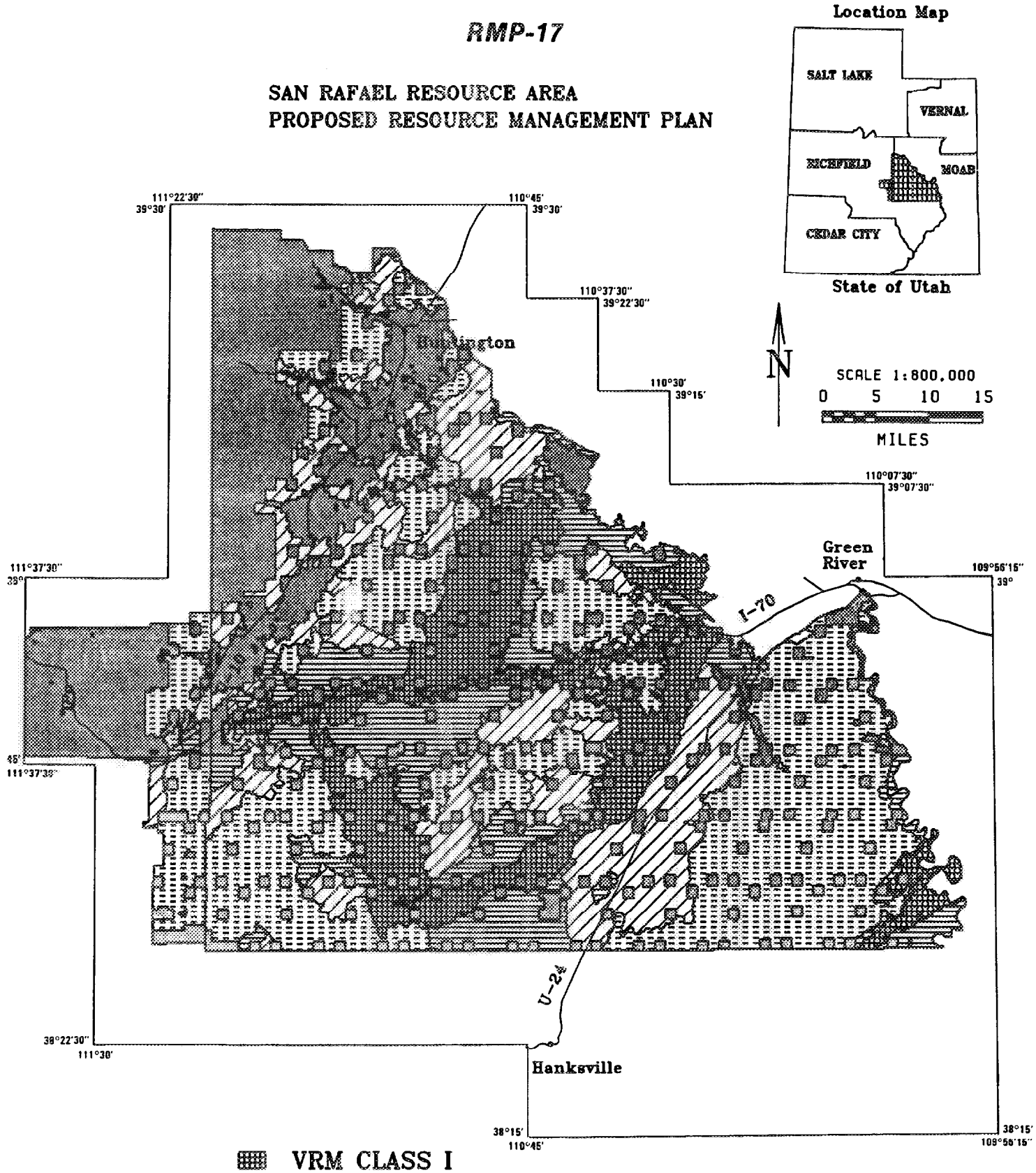
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



- OPEN TO ORV USE
- ORV USE LIMITED TO SEASONAL RESTRICTIONS
- ORV USE LIMITED TO DESIGNATED ROADS AND TRAILS
- CLOSED TO ORV USE
- PLANNING AREA BOUNDARY

OFF-ROAD VEHICLE USE DESIGNATIONS

SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN

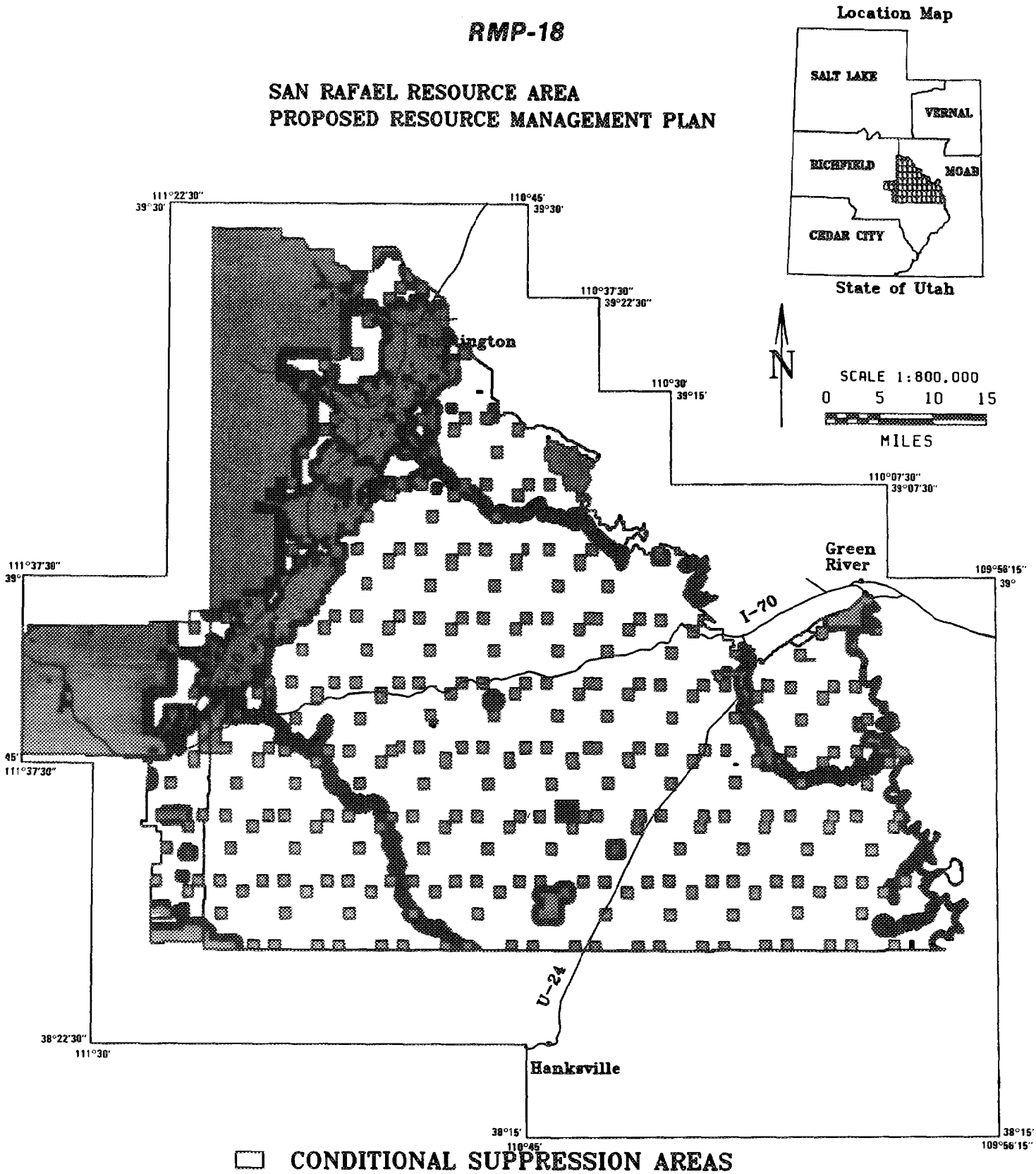


- VRM CLASS I
- VRM CLASS II
- VRM CLASS III
- VRM CLASS IV
- PLANNING AREA BOUNDARY

VISUAL RESOURCE MANAGEMENT

RMP-18

SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



CONDITIONAL SUPPRESSION AREAS

FULL SUPPRESSION AREAS

PLANNING AREA BOUNDARY

FIRE MANAGEMENT

RMP-67

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CHAPTER 3, SPECIAL MANAGEMENT CONDITIONS

OVERVIEW

This chapter describes the special management conditions that would apply to certain areas or resources within San Rafael Resource Area (SRRA) and Forest Planning Unit (FPU) under the San Rafael Resource Management Plan (RMP). These special conditions are part of the resource management program decisions and must be viewed together with the management prescriptions given in chapter 2.

RMP special conditions are intended to mitigate broad-scale adverse impacts to specific resource values found to be at risk. They would be applied to any actions taken in the areas specified; however, these are not the only conditions that might apply to a project.

Four levels of mitigation could apply to any action taken in SRRA and FPU; (1) mitigation required by law, executive order, or regulations; (2) the RMP special conditions presented here; (3) project stipulations either submitted as part of a proposed action or developed through site-specific National Environmental Policy Act (NEPA) documentation; and (4) standard operating conditions (shown in chapter 5).

Mitigating measures mandated by law, executive order, or regulation are not listed here, but would apply to any project. RMP special conditions would not apply if they would limit valid legal rights to use public lands (for example, under certain aspects of the mining laws). RMP decisions also do not apply where they would limit valid existing rights (rights that were in effect when the RMP was adopted, such as prior mineral leases).

Some types of land uses, such as geophysical operations, do not require a Bureau of Land Management (BLM) decision or authorization; in these cases, project stipulations or special conditions would not be applied unless needed to mitigate unnecessary or undue degradation of public lands or resources or restrictions applied through the RMP. Projects that would result in unnecessary and undue degradation would be denied unless the operator could mitigate or lessen the degree of change to an acceptable level as would any projects that could not meet the RMP conditions.

Except as noted above, the RMP special conditions would be applied to any projects proposed for the specific area identified, to protect the resource values as risk. If a project could not meet the special conditions, either it would have to be modified or denied or the RMP would have to be amended. However, the Area Manager may approve exceptions to application of the special conditions on a case-by-case basis if sufficient justification exists to show that this level of mitigation is not needed (such as waiving a seasonal use requirement if a protected wildlife species is not using crucial habitat in a specific year).

Site-specific NEPA documentation, prepared at the time a project is evaluated for approval, would be used to provide site-specific analysis of the project's environmental effects and to determine site-specific mitigation requirements. If adverse impacts from a proposed action could not be mitigated, the project would be denied or modified to bring the degree of change to an acceptable level.

Standard operating procedures, found in chapter 5, generally would apply to any project, but could be modified or waived by the Area Manager on a case-by-case basis. They include such things as standard road specifications, fencing specifications, trash control methods, land-

scaping specifications, and requirements for cultural resource clearances.

The RMP special conditions have been developed through the RMP and its environmental impact statement (EIS) and are part of the decisions, terms, and conditions for use of public lands and resources within SRRA. They cannot be changed without a plan amendment.

The special conditions are listed using the names given in chapter 2. RMP special conditions for areas of critical environmental concern (ACECs) are listed first, in alphabetical order. The special conditions for other areas and resource values, including special management conditions for recreation opportunity spectrum (ROS) primitive (P) and semiprimitive nonmotorized (SPNM) class areas, are listed after those for the ACECs.

SPECIAL CONDITIONS FOR ACECs

BIG FLAT TOPS ACEC

The Big Flat Tops area encompasses approximately 2,640 acres in southern Emery County, about 17 miles northeast of Hanksville. This area is defined by the upper edge of the cliffs that separate the mesa top from the adjacent flats. These cliffs effectively prevent livestock from gaining access to Big Flat Tops, except by a narrow path on the southeast ridge along which people and animals may ascend to the top.

The vegetation communities on Big Flat Tops probably developed without the influence of grazing animals. Therefore, the area has potential value for scientific study and as a comparison area for similar vegetation communities that have been grazed. Other flat mesa tops similar in potential for relict vegetation adjoin north Big Flat Tops to the south.

The mesa top supports a little-disturbed vegetation community that would fill identified needs of Utah's growing system of natural areas. The area could be used for scientific research and comparative studies, and designation could be accomplished with few resource conflicts.

The ACEC would be
- in mineral leasing category 4;
- closed to disposal of mineral materials;
- proposed for withdrawal from locatable mineral entry;
- excluded from right-of-way 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 treatments and range improvements, except for test plots and facilities necessary for study of the relict and near-relict plant communities;
- designated as closed to off-road vehicle (ORV) use;
- managed as visual resource management (VRM) class I;
- subject to fire suppression with special conditions.

BOWKNOT BEND ACEC

Bowknot Bend encompasses about 1,830 acres in southeastern Emery County and borders Grand County, approximately 40 miles south of the city of Green River. The subject area is defined by a continuous cliff band separating Bowknot Bend from the Green River.

Bowknot Bend presents an isolated relict plant community that remains unaltered by human intervention or domestic livestock grazing. The area has potential for scientific study and as a comparison area for similar vegetation communities that have been grazed. Natural history values in the area are also recognized because this area has rarely had human or domestic animal intrusion.

The Bowknot Bend area presents important relict plant communities that meet the criteria for Utah's growing system of natural areas.

The ACEC would be
- in mineral leasing category 4;
- closed to disposal of mineral materials;
- proposed for withdrawal from locatable mineral entry;
- excluded from right-of-way 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 treatments and range improvements, except for test plots and facilities necessary for study of the relict and near-relict plant communities;
- designated as closed to ORV use;
- managed as VRM class I;
- subject to fire suppression with special conditions.

COPPER GLOBE ACEC

The 220-acre Copper Globe Mine area, located 10 miles south of Highway I-70 in the center of Emery County, contains an historic underground base metal mine. This mine, discovered prior to 1900 and worked periodically up to World War II, is an example of mine workings and technologies of the early 20th Century. Several drifts, some scattered equipment and structures, and one access shaft remain in an area where miners tried to develop a copper oxide ore body.

The Copper Globe ACEC would be designated to protect the public values of historic mining use thought to be present. The ACEC would be

- in mineral leasing category 4;
- closed to disposal of mineral materials;
- proposed for withdrawal from locatable mineral entry;
- excluded from right-of-way grants;
- excluded from private or commercial use of woodland products, including collection of live or downed dead wood for campfires;
- excluded from land treatments and range improvements except for watershed control structures where these would protect historic values;
- designated as limited for ORV use, with use limited to designated roads and trails;
- managed as VRM class II;
- subject to fire suppression with special conditions.

DRY LAKE ARCHAEOLOGICAL DISTRICT ACEC

Dry Lake Archaeological District (16,990 acres) has a multitude of apparently undisturbed single-episode lithic scatters, as well as other site types such as lithic procurement, shelters, and campsites. It is one of the most likely locations for finding Paleo-Indian sites, the rarest site type in Utah.

The area also contains the Dry Lake Meander: two large, well expressed, abandoned meanders of the Green River. The size of the meander scar indicates that abandonment must have occurred during either the Early Pleistocene or the Late Pliocene period, when the volume of water in the river was much greater than it is at present. Related geologic values are visible where the Summerville and Curtis Formations erode to form an escarpment, colorful promontories, and stepped terraces, especially in Curtis beds. The broad, sandy valley of the meander, covered with mixed desert shrub, has potential as a botanical preserve.

The Dry Lake Archaeological District ACEC would be designated to protect the information values of Paleo-Indian sites thought to be present. Special conditions would be designed to prevent surface disturbance or damage that could adversely affect those values. The ACEC would be

- in mineral leasing category 2;
- open to disposal of mineral materials;
- open to mineral entry with plans of operations;
- avoided for right-of-way grants;
- open to land treatments and range improvements subject to special conditions;
- designated as limited for ORV use, with use limited to designated roads and trails;
- subject to fire suppression with special conditions.

HIGHWAY I-70 SCENIC CORRIDOR ACEC

Highway I-70 Scenic Corridor ACEC (50,650 acres including ROS P-class area) across the San Rafael Swell is highly scenic. Because of increased traffic on this route, the scenic values are becoming better known to the traveling public. Its scarcity within the Colorado Plateau physiographic province makes this particular combination of scenic values an important resource.

The ACEC would be managed under program 4333 Recreation/Visual Resource Management, to protect scenic values. The following special conditions are intended to protect scenic values and would apply to actions within the Highway I-70 Scenic Corridor ACEC.

Highway I-70 Scenic Corridor ACEC would be:
- in mineral leasing category 3;
- closed to disposal of mineral materials;
- open to mineral entry with plans of operations;
- avoided for right-of-way grants;
- 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 for ORV use, with use limited to designated roads and trails;
- managed as VRM class I;
- subject to fire suppression with special conditions.

An exception to the no-surface-occupancy stipulation may be granted if an environmental assessment (EA) concludes that the proposed action would not adversely affect scenic values.

MUDDY CREEK ACEC

Muddy Creek ACEC (22,540 acres including ROS P-class area) includes primarily the Muddy Creek drainage from South Salt Wash downstream to Segers Hole. The ACEC also contains the Tomsich Butte special emphasis area (4,970 acres). The special emphasis area contains historic mine workings and Hondu Arch.

The ACEC would be managed under program 4333, Recreation/Visual Resource Management to protect scenic values. The special emphasis area would also be managed under program 4331, Cultural Resource Management, to protect historic values.

The following special conditions are intended to protect scenic and historic values and would apply to actions within the Muddy Creek ACEC. Special conditions are also intended to protect historic values in the Tomsich Butte special emphasis areas.

Muddy Creek ACEC would be:
- in mineral leasing category 3;
- closed to disposal of mineral materials;
- open to mineral entry with plans of operations;
- avoided for right-of-way grants;
- 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 for ORV use, with use limited to designated roads and trails;
- managed as VRM class I;
- subject to fire suppression with special conditions.

In the Tomsich Butte special emphasis area (4,970 acres), no historic structures would be disturbed until features have been recorded.

PICTOGRAPHS ACEC

The Pictographs ACEC (40 acres) include the world-famous Black Dragon, Head of Sinbad, and Lone Warrior rock art sites, plus the Rochester Creek rock art site. The Rochester Creek site is located east of Emery City. Some of the best examples of Colorado Plateau rock art, the sites are easily accessible from Highway I-70 and are being visited more every year. Their popularity has grown following mention in several publications including National Geographic magazine [Smith, 1980; Schaafsma, 1971; and Castleton, 1984].

The Pictographs ACEC would be protected and interpreted for public use. Special conditions would protect these values from surface disturbance which could destroy or diminish their values. Testing or sampling excavations would be made to define the extent of the sites and obtain information needed to interpret them. Interpretive displays and improved access would be constructed.

The Pictographs ACEC would be
- in mineral leasing category 4;
- closed to disposal of mineral materials;
- proposed for withdrawal from locatable mineral entry;
- excluded from right-of-way grants;
- excluded from private or commercial use of woodland products, including collection of live or downed dead wood for campfires;
- excluded from livestock use;
- excluded from land treatments and range improvements except for watershed control structures where these would protect cultural resource values;

- designated as limited for ORV use, with use limited to designated roads and trails;
- subject to fire suppression with special conditions.

SAN RAFAEL CANYON ACEC

The 34,420 acre (including ROS P-class area) San Rafael River canyon area (0.5 mile on either side of the San Rafael River) extends downriver 50 miles from Fullers Bottom Draw to Sulphur Spring and includes the Upper Black Box of the San Rafael River, downriver from Lockhart Wash to Indian Benches and the lower portion of Drowned Hole Draw. Major tributary canyons are Virgin Spring Canyon, Cane Wash, Road Draw, Red Canyon, Horse Canyon, Swasey Leap, and the Lower Black Box. Also included is Buckhorn Wash from Furniture Draw to its intersection with the San Rafael River including Calf, Cow, and Pine Canyons. Associated landforms include Assembly Hall Peak, Window Blind Peak, The Wedge, and Indian Bench.

The ACEC would be managed under program 4333, Recreation/Visual Resource Management to protect scenic values. The ACEC consists of the lower, middle, and upper portions.

The following special conditions are intended to protect scenic values and would apply to actions within the San Rafael Canyon ACEC.

San Rafael Canyon ACEC (Lower Portion)

The lower portion of San Rafael Canyon ACEC (12,540 acres) contains the Black Box portion of the San Rafael River and would be

- in mineral leasing category 4;
- closed to disposal of mineral materials;
- proposed for withdrawal from locatable mineral entry;
- excluded from right-of-way grants except the Mexican Mountain road;
- 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 watershed control structures where these would protect recreation or riparian values;
- designated as closed to ORV use;
- managed as VRM class I;
- subject to fire suppression with special conditions.

San Rafael Canyon ACEC (Middle Portion)

The middle portion of San Rafael Canyon ACEC (15,930 acres including ROS P-class area) covers an area along the San Rafael River between Johansen Cabin and Lockhart Wash and includes The Wedge and a portion of Buckhorn Wash.

The middle portion of San Rafael Canyon ACEC would be

- in mineral leasing category 2;
- open to disposal of mineral materials with special conditions;
- open to mineral entry with plans of operations;
- avoided for right-of-way grants;
- excluded from private or commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires.
- excluded from livestock grazing within Buckhorn Draw;
- excluded from land treatments and range improvements unless used to protect or improve riparian values;
- designated as limited for ORV use, with use limited to designated roads and trails;
- managed as VRM class II;
- subject to fire suppression with special conditions.

San Rafael Canyon ACEC (Upper Portion)

The upper portion of San Rafael Canyon ACEC (5,950 acres) contains the Little Grand Canyon portion of the San Rafael River and would be

- in mineral leasing category 4;
- closed to disposal of mineral materials;
- proposed for withdrawal from locatable mineral entry;
- excluded from right-of-way 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 recreation or riparian values;
- designated as closed to ORV use;
- managed as VRM class I;
- subject to fire suppression with special conditions.

SAN RAFAEL REEF ACEC

The San Rafael Reef is important because of its unique vegetation and scenic values. Relict vegetation communities are found throughout the steeply dipping cuestas on the back side of the reef. Because of the terrain, only desert bighorn sheep or wild burros graze in the area. Therefore, these vegetation communities are unique because they have developed without the influence of domestic grazing.

San Rafael Reef is created by the resistant Wingate, Kayenta, and Navajo Sandstones of the Glen Canyon group along the eastern side of San Rafael Swell. These Triassic and Jurassic rocks dip steeply along the monocline, but become nearly horizontal a short distance east and west of the major fold. The monocline is spectacularly expressed by these resistant units, particularly as they rise above the valley floor on the east, carved on Carmel and Entrada beds. Nearly flat-lying Entrada, Curtis, Summerville, and basal Morrison beds are exposed in mesas east of the reef. Toward the west, Chinle, Moenkopi, and Kaibab beds are exposed in the central part of San Rafael Swell, on the uplifted part of the monoclinal flexure. Softer Chinle and Moenkopi beds form some of the characteristic "wineglass" valleys. These formations have eroded to form discontinuous strike valleys between San Rafael Reef and the upper, higher San Rafael Swell, which is carved on lower Moenkopi, Kaibab, and older rocks.

The ACEC area of 68,720 acres is divided into two portions. The north portion (43,400 acres) would be managed under program 4333, Recreation/ Visual Resource Management and 4322, Grazing Management to protect scenic values and relict vegetation. The south portion would be managed under program 4333, Recreation/Visual Resource Management, to protect scenic values.

The North portion of the San Rafael Reef ACEC is between Temple Mountain and Highway I-70. The following special conditions are intended to protect scenic values and relict vegetation. The north portion of the San Rafael Reef ACEC would be:

- in mineral leasing category 4;
- closed to disposal of mineral materials;
- proposed for withdrawal from locatable mineral entry;
- excluded from right-of-way 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 ORV use, with use limited to designated roads and trails;
- managed as VRM class I;
- subject to fire suppression with special conditions.

The south portion of the San Rafael Reef ACEC (25,320 acres) contains the San Rafael Reef south of Temple Mountain. The following special conditions are intended to protect scenic values. The south portion of the San Rafael Reef ACEC would be

- in mineral leasing category 3;
- closed to disposal of mineral materials;
- open to mineral entry with plans of operations;
- avoided for right-of-way grants;
- excluded from private and commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires;
- open to range improvements with special conditions;
- excluded from land treatments;
- designated as limited for ORV use, with use limited to designated roads and trails;
- managed as VRM class I;
- subject to fire suppression with special conditions.

SEGERS HOLE ACEC

The Segers Hole ACEC (7,120 acres) is bounded by the Chimney on the north and east and by Moroni Slopes on the south and west.

The ACEC would be managed under program 4333, Recreation/Visual Resource Management, to protect scenic values. The following special conditions are intended to protect scenic values and would apply to actions within Segers Hole ACEC.

Segers Hole ACEC would be:

- in mineral leasing category 3;
- closed to disposal of mineral materials;

- open to mineral entry with plans of operations;
- avoided for right-of-way grants;
- excluded from private and commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires;
- open to range improvements with special conditions;
- excluded from land treatments;
- designated as limited for ORV use, with use limited to designated roads and trails;
- managed as VRM class I;
- subject to fire suppression with special conditions.

SIDS MOUNTAIN ACEC

The Sids Mountain ACEC (61,870 acres including ROS P-class area) is located south of San Rafael Canyon and north of Link Flats, between Cane and Coal Washes. It includes Devil and Eagle Canyons, Saddle Horse Canyon, Ghost Rock, the Blocks, Joe and His Dog, San Rafael Knob, Sids Mountain, Bullock Draw, Coal Wash, Cat Canyon, Kimball Draw, Justensen Flats, and Limestone and Sagebrush Benches. The ACEC would be managed under program 4333, Recreation/Visual Resource Management, to protect scenic values. The following special conditions are intended to protect scenic values and would apply to actions within Sids Mountain ACEC.

Sids Mountain ACEC would be:

- in mineral leasing category 3;
- closed to disposal of mineral materials;
- open to mineral entry with plans of operations;
- avoided for right-of-way grants;
- excluded from private and commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires;
- open to range improvements with special conditions;
- excluded from land treatments;
- designated as limited for ORV use, with use limited to designated roads and trails;
- managed as VRM class I;
- subject to fire suppression with special conditions.

SWASEY CABIN ACEC

The Swasey Cabin area (220 acres) includes several features built or used by the Swasey family. The Swasey family, foremost in the folklore of the San Rafael region, used the cabin area as part of their livestock operation. Features within the area include a cabin built in 1920; Joe's Office, a rock shelter used as a camp until the cabin was built; the Refrigerator, a cave which keeps things cool year-round; Cliff Dweller's spring; and a dry farm.

The Swasey Cabin ACEC would be designated to protect the public values of historic ranching use thought to be present. The ACEC would be

- in mineral leasing category 4;
- closed to disposal of mineral materials;
- proposed for withdrawal from locatable mineral entry;
- excluded from right-of-way grants;
- excluded from private or commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires.
- excluded from grazing use except livestock trailing under an approved permit;
- excluded from land treatments and range improvements except for watershed control structures where these would protect historic values;
- designated as limited for ORV use, with use limited to designated roads and trails;
- managed as VRM class II;
- subject to full fire suppression.

TEMPLE MOUNTAIN HISTORIC DISTRICT ACEC

Temple Mountain (2,580 acres) is one of the best examples of uranium mining activities in the area. Especially in the 1950s, this activity was nationally significant, and these old uranium workings offer important evidence of the technology of that time and the use of the area's mineral resources.

Without special management and with another mining boom, these resources could be destroyed in a matter of days. Development under a current mining claim would remove important cultural evidence of previous activities. The potential threat most likely to occur is that mine assessment or small-scale mining will destroy the values piecemeal without mitigating the effect on the area as a whole.

The Temple Mountain Historic District ACEC would be designated to protect the information values

of historic mining use thought to be present. No historic structures would be disturbed until features have been recorded.

Temple Mountain Historic District ACEC would be
- in mineral leasing catetory 2;
- open to disposal of mineral materials subject to special conditions;
- open to mineral entry with plans of operations;
- avoided for right-of-way grants;
- excluded from private or commercial use of woodland products, including wood from historic structures, but available for limited onsite collection of downed dead wood for campfires;
- open to land treatments and range improvements subject to special conditions;
- open to wildlife habitat improvements subject to special conditions;
- designated as limited for ORV use, with use limited to designated roads and trails;
- subject to full fire suppression.

SPECIAL CONDITIONS FOR AREAS OTHER THAN ACECs

HUNTINGTON AIRPORT LEASE

Use of the 340 leased acres would be allowed only with (1) special conditions to ensure the use is consistent with the purpose for which the land was leased and (2) consent of airport officials. Any use allowed would be subject to Federal Aviation Administration (FAA) regulations, Part 77, "Objects Affecting Navigable Airspace."

The Huntington Airport lease area would be
- in mineral leasing category 2;
- open to disposal of mineral materials with special conditions;
- withdrawn from mineral entry;
- avoided for right-of-way grants;
- excluded from private or commercial use of woodland products, including collection of live or downed dead fuelwood for campfires;
- open to livestock use with special conditions;
- open to land treatments and range improvements with special conditions;
- open to development of watershed control structures with special conditions;
- designated as limited for ORV use, with use limited to designated roads and trails;
- subject to fire suppression with special conditions.

RECREATION AND PUBLIC PURPOSE LEASES

Emery School (40 acres), Millsite Park (40 acres), Millsite Golf Course (190 acres), Clawson Motocross (160 acres), Castle Dale Fairgrounds (290 acres), and Goblin Valley State Park extension (720 acres) would be available only for uses consistent with the purpose for which the land was leased.

Existing R&PP leases would be
- in mineral leasing category 2;
- open to disposal of mineral materials with special conditions;
- withdrawn from mineral entry;
- avoided for right-of-way grants;
- excluded from private or commercial use of woodland products, including collection of live or downed dead fuelwood for campfires;
- open to livestock use with special conditions;
- open to land treatments and range improvements with special conditions;
- open to development of watershed control structures with special conditions;
- designated as limited for ORV use, with use limited to designated roads and trails;
- subject to fire suppression with special conditions.

RECREATION OPPORTUNITY SPECTRUM CLASS AREAS

These special conditions are necessary to ensure that specific areas are managed to maintain or protect certain ROS classes. These special conditions are intended to maintain P-class areas and to protect SPNM-class areas identified in SRRA at the time the RMP was adopted.

Primitive-Class Areas

ROS P-class areas outside ACECs (44,960 acres) and inside ACECs (72,760 acres) would be managed to be essentially free of evidence of human use and to maintain an environment of isolation. Levels of management and use are aimed at maintaining natural ecosystems.

The following special conditions would apply to all ROS P-class areas outside ACECs and within the Muddy Creek, Highway I-70 Scenic Corridor,

San Rafael Canyon (middle portion), Sids Mountain, and Segers Hole ACECs. These areas would be

- in mineral leasing category 3;
- closed to disposal of mineral materials;
- open to mineral entry with plans of operations;
- avoided for right-of-way grants;
- excluded from private and commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires;
- open to range improvements with special conditions;
- excluded from land treatments;
- designated as closed to ORV use;
- managed as VRM class I, except the middle portion of San Rafael Canyon ACEC, which would be managed as VRM class II;
- subject to fire suppression with special conditions.

ROS P-class areas in the north portion of the San Rafael Reef ACEC, Bowknot Bend ACEC, and the upper portion of the San Rafael Canyon ACEC would be managed to protect scenic values and relict vegetation. These areas would be

- in mineral leasing category 4;
- closed to disposal of mineral materials;
- proposed for withdrawal from locatable mineral entry;
- excluded from right-of-way grants;
- excluded from private and commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires;
- designated as closed to ORV use;
- managed as VRM class I;
- subject to fire suppression with special conditions.

In regard to exclusions from land treatments and range improvements, the following exceptions would apply to the particular areas named:

- The north portion of the San Rafael Reef ACEC would be excluded from land treatments and range improvements except for water control structures where these would protect scenic values.

- Bowknot Bend ACEC would be excluded from land treatments and range improvements except for test plots and facilities necessary for study of the relict and near-relict plant communities.

- The upper portion of the San Rafael Canyon ACEC would be excluded from land treatments and range improvements except for water control structures where these would protect recreation or riparian values .

Semiprimitive Nonmotorized-Class Areas

ROS SPNM-class areas outside ACECs (152,950 acres) would be managed to provide a predominantly natural environment with limited evidence of human use and restrictions and, where possible, to provide an environment of isolation.

ROS SPNM-class areas would be designated as limited for ORV use, with use limited to designated roads and trails.

DEVELOPED RECREATION SITES

The special conditions for developed recreation sites are those necessary to protect the Federal Government's investment in capital improvements and facilities; they would apply upon adoption of the RMP.

Three new recreation sites (20 acres each) would be developed: The Wedge Overlook, Justensen Flats, and Tomsich Butte. Development may include picnic tables, fire grills, and restrooms.

Developed recreation sites would be:

- in mineral leasing category 4;
- closed to disposal of mineral materials;
- proposed for withdrawal from locatable mineral entry;
- excluded from right-of-way grants;
- excluded from private or commercial use of woodland products, including collection of live or downed dead wood for campfires;
- excluded from livestock use;
- excluded from land treatments and range improvements except for development of watershed control structures where necessary to protect the recreation sites;
- designated as limited for ORV use, with use limited to designated roads and trails;
- managed as VRM class II;
- subject to fire suppression with special conditions.

CRITICAL SOIL AREAS

A total of 473,780 acres in SRRA and 6,380 acres in FPU would be designated as critical soil areas to protect soils that are either highly saline or highly susceptible to water erosion. Critical soil areas would be managed to maintain vegetation cover at or above the level necessary to avoid exceeding the Soil Conservation Service (SCS) critical soil loss threshold (appendix N). Management decisions would be based on all data available at that time. Critical soil areas would be

- in mineral leasing category 2;
- open to disposal of mineral materials subject to special conditions;
- avoided for right-of-way grants;
- available for land treatments and range improvements where critical soil conditions would be maintained or improved;
- designated as limited for ORV use, with use limited to designated roads and trails;
- subject to fire suppression with special conditions.

New roads will be constructed so as to avoid critical soil areas where possible. In critical soil areas where roads must be allowed, new roads will be constructed with water bars. Riprap may be required. No road grades in excess of 10 percent will be allowed with a maximum length of 1000 feet.

In order to minimize watershed damage during wet or muddy periods, BLM will prohibit access grading, exploration, drilling or other activities. Grading operations will be allowed only when soils are dry. Cross-country travel or construction activity will be allowed only when soils are dry or frozen or have snow cover. BLM will determine what is "wet, muddy or frozen" based on weather and field conditions at the time. The limitation does not apply to maintenance and operation of producing wells or mines.

Construction and development are to be avoided in the critical soil areas on slopes in excess of 6 percent. Operations would be located so as to reduce erosion and improve the opportunity for revegetation within areas of critical soils.

Reclamation on sites with critical soil would require grading using slopes of 5 percent or less where possible and grading the site so as to collect water for revegetation onsite.

DESERT BIGHORN SHEEP CRUCIAL HABITAT

Activities within 180,000 acres would be limited during the lambing seasons (April 15 to June 1 annually). During these periods, no activities may take place which require a continued human presence (over 12 hours duration) within the area or involve sudden loud noises (such as detonation of surface charges) or sustained noise (such as chain saw or diesel generator). Allotments containing crucial and yearlong desert bighorn sheep habitat would not be allowed to change kind of livestock from cattle to domestic sheep. Allotments currently being grazed by domestic sheep would not be required to change to cattle. Desert bighorn sheep crucial habitat would be managed with special conditions to protect the habitat from deterioration and the animals from interference with lambing. Desert bighorn sheep crucial habitat would be

- in mineral leasing category 2;
- open to disposal of mineral materials with special conditions;
- open to mineral entry with special conditions where plans of operations are required;
- avoided for right-of-way grants;
- open to private or commercial use of woodland products with special conditions;
- open to land treatments and range improvements with special conditions;
- designated as limited for ORV use, with use limited to designated roads and trails during seasonal restriction period.

ANTELOPE HABITAT

Activities within 506,660 acres (SRRA only) would be limited during the critical fawning period (between May 15 and June 15 annually). Fawning areas fall within the total habitat acreage given, but have not been mapped separately. During the fawning period, no activities may take place which require a continued human presence (over 12 hours duration) within the area or involve sudden loud noises (such as detonation of surface charges) or sustained noise (such as chain saw or diesel generator). Antelope habitat would be managed with special conditions to protect it for antelope use. This special condition would be applied following

completion of the antelope fawning range inventory and would not apply to areas of antelope habitat not being used as fawning range.

Antelope habitat would be
- in mineral leasing category 2;
- open to disposal of mineral materials with special conditions;
- open to mineral entry with special conditions where plans of operations are required;
- avoided for right-of-way grants;
- open to private or commercial use of woodland products with special conditions;
- open to land treatments and range improvements with special conditions;
- designated as limited for ORV use, with use limited to designated roads and trails during seasonal restriction period.

MULE DEER AND ELK CRUCIAL WINTER RANGE

Activities within 23,170 acres in SRRA and 32,550 acres in FPU would be limited during periods of critical winter use (when animals are actually present, generally December 1 to April 15 annually). During this period, no surface-disturbing activity may take place which would remove forage and browse plants used by the mule deer or elk, require a continued human presence (over 12 hours duration) within the area, involve sudden loud noises (such as detonation of surface charges), or sustained noise (such as chain saw or diesel generator). Hunting during a recognized hunting season in an official hunting area, as established by UDWR, would not be affected. Mule deer and elk winter range would be managed with special conditions to protect winter range values for deer and elk use.

Mule deer and elk crucial winter range would be
- in mineral leasing category 2;
- open to disposal of mineral materials with special conditions;
- open to mineral entry with special conditions where plans of operations are required;
- avoided for right-of-way grants;
- open to private or commercial use of woodland products with special conditions;
- open to land treatments and range improvements with special conditions;
- designated as limited for ORV use, with use limited to designated roads and trails during seasonal restriction period.

RIPARIAN AND AQUATIC HABITAT

Riparian and aquatic habitat of 14,350 acres in SRRA and 590 acres in FPU would be inventoried, evaluated, and managed. Specific actions would be determined through activity plans after completion of the RMP. Special conditions may include limitations on grazing to protect riparian areas or allow increased vegetation cover; soil stabilization where erosion and leaching of natural salts have decreased riparian habitat quality; limitations on surface-disturbing activities to prevent deterioration of riparian condition; rehabilitation of abandoned roads and mine tailings; restrictions on placement of erodible material; and cooperation with surface users to reduce surface disturbance.

Riparian and aquatic habitat areas would be
- in mineral leasing category 3 within actual riparian and aquatic habitat areas;
- closed to disposal of mineral materials;
- open to mineral entry, subject to special conditions where plans of operations are required;
- avoided for right-of-way grants;
- excluded from private or commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires;
- open to land treatments and range improvements where these would maintain or improve riparian and aquatic habitat;
- designated as limited for ORV use, with use limited to designated roads and trails;
- subject to fire suppression methods that exclude motorized earth-moving equipment and aerial chemical fire retardants.

OFFSITE MITIGATION FOR BIG GAME HABITAT

When unreclaimed disturbance caused by a user totals more than 10 acres in 2 years, offsite mitigation would be required in addition to standard reclamation requirements on the 704,420 acres in SRRA and 32,550 acres in FPU. The offsite mitigation must be within the known habitat area, but not necessarily within the crucial habitat area. Offsite mitigation could include such measures as seedings or planting vegetation species favorable to the big game animals displaced or constructing water projects that would allow the animals to use other parts of the habitat area. Offsite mitigation projects must be approved in advance by the authorized officer.

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CHAPTER 4, IMPLEMENTATION AND MONITORING

OVERVIEW

This implementation and monitoring plan describes monitoring procedures to be followed, implementation schedules, and other information that is part of the resource management plan (RMP). RMP implementation is expected to be complete within 10 years after adoption, except for certain grazing decisions.

USING THE RESOURCE MANAGEMENT PLAN

In using the RMP, the Bureau of Land Management (BLM) will

- implement the plan decisions;
- monitor both implementation and decisions to ensure that the plan remains current and evaluate the results; and
- modify the RMP in response to the monitoring process or specific proposals through maintenance, plan amendment, or plan revision.

IMPLEMENTING THE PLAN DECISIONS

Implementation translates the plan decisions (management actions, activity plans, land allocations, etc.) into on-the-ground action. It includes such diverse items as

- providing personnel and equipment to make physical changes, such as constructing facilities for a developed recreation site;
- changing land-status plats to reflect land-allocation decisions, and issuing leases and permits accordingly;
- taking actions to inform the public, such as printing maps of off-road vehicle (ORV)-use designations; and
- tailoring BLM's budget and staff requirements to ensure that plan decisions can be put into action.

Implementation also means establishing priorities and schedules. Some actions have established schedules that must be met. For example, all grazing-use decisions must be issued within 5 years following publication of the rangeland program summary (RPS), which will be published with the final RMP. Other decisions take effect immediately when the RMP is adopted, or provide for ongoing action in response to specific project requests.

The RMP provides BLM with a systematic way to prioritize funding and personnel management. Decisions in the RMP shape BLM's goals and objectives for managing public lands and resources; the RMP's primary goals should be given priority in allocating work months and project funding. Besides informing the public of BLM's priorities, the RMP serves as a "contract" among different levels of management within the agency to ensure that BLM's financial planning process supports the plan goals and objective.

MONITORING AND EVALUATION

Monitoring the RMP includes both on-the-ground resource indicators and the land-use decisions themselves, and should provide ongoing answers to the following questions:

- Are the management decisions in the RMP being implemented in a timely manner?

- Are plan decisions being carried out through site-specific activity plans?

- Were the impacts to the human environment (beneficial or adverse) projected accurately in the environmental impact statement (EIS), and are prescribed mitigation measures effective in decreasing adverse impacts?

- Are the projects or prescriptions, as implemented, successful in achieving the desired result of resource protection or resource production?

- Are the planning decisions, as implemented, successful in meeting the goals and objectives of the RMP selected?

- Are the RMP goals and objectives valid and appropriate to meet public needs for use of public lands and resources?

Plan monitoring is important to ensure that the RMP is a useful management tool. It points out both successes and inadequacies in the RMP and is used to keep the plan current. Monitoring provides the manager with evaluation to ensure that laws, regulations, and policies are being met; that management programs are proceeding in the desired direction; and that the resource conflicts and administration problems identified in the RMP are being adequately resolved.

MODIFYING THE PLAN

The RMP can be modified through plan maintenance, plan amendment, or plan revision.

ANTICIPATED IMPLEMENTATION AND MONITORING NEEDS

Table 15 lists, by management program, the anticipated priorities, implementation, scheduling, and monitoring needs for the RMP. This general table is intended to give a framework for the types of implementation actions, general schedules, and broad objectives of monitoring for the management actions given in the plan.

For some programs, implementation depends upon further agency action and cannot be anticipated. Coal implementation depends on an unsuitability analysis, wilderness or wild and scenic river designations on congressional action, and hazardous-waste management on formulation of agency policy. A more detailed monitoring plan for grazing management will be found in the RPS. The range monitoring plan is required by the agreement stemming from the court-ordered grazing studies.

TABLE RMP-15

Anticipated Implementation and Monitoring of Plan Decisions, by Management Program

Program	Implementation	Schedule	Monitoring Objectives[a]
4111 Oil and Gas Management	Issue leases with proper stipulations and special conditions (by USO).	Immediate upon approval of RMP.	Ensure that plats are correct and leases are issued with proper conditions.
	Apply RMP stipulations and special conditions to applications for permit to drill (APDs) and other projects through NEPA documentation.	Ongoing.	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.
	Apply RMP stipulations and special conditions to geophysical activities.	Ongoing.	Ensure compliance with FLPMA.
4113 Geothermal Management	Issue leases with proper stipulations and special conditions (by USO).	Undetermined.	If leased, ensure that plats are correct and leases issued with proper conditions; field-check for presence or absence of geothermal resources.
	Apply RMP stipulations and special conditions to licenses and plans of operationand other projects through NEPA documentation. Amend RMP if necessary.	Undetermined.	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.
4121 Coal Management	Apply RMP and unsuitability stipulations and special conditions for leasing, exploration and mining operations on public land inside the Emery and Wasatch Plateau coal fields.	Ongoing.	Ensure compliance with existing laws; determine if RMP and unsuitability objectives are valid. Ensure that plats are correct and leases are issued with proper conditions.
	Continue administering operations on coal leases.	Ongoing.	Ensure lease compliance.

[a]Compliance with NEPA requires compliance with EA, EIS, or categorical exclusion stipulations; watching for cumulative impacts; mitigation of projected impacts; determining whether RMP stipulations and special conditions are necessary to meet objectives; analyzing impacts to operators; and assessing the resource condition.

(Continued)

TABLE RMP-15 (Continued)

Program	Implementation	Schedule	Monitoring Objectives[a]
4131 Mineral Materials Management	Apply RMP stipulations and special conditions to applications for disposal through NEPA documentation.	Ongoing.	Ensure compliance with NEPA:[a] determine if RMP objectives are valid.
4132 Mining Law Administration	Apply for withdrawals (by tarial Order); show on plats. Prioritize as follows: -Bowknot Bend ACEC -Flat Tops ACEC -Copper Globe ACEC -Swasey Cabin ACEC -Pictographs ACEC -upper and lower portions of San Rafael Canyon ACEC -north portion of San Rafael Reef ACEC	Within 2 years after approval of RMP.	Ensure that plats are correct.
	Apply RMP stipulations and special conditions to plans of operation through NEPA documentation.	Ongoing.	Ensure Compliance with NEPA;[a] determine if RMP objectives are valid.
	Review notices of intent.	Ongoing.	Ensure compliance with FLPMA.[b]
4133 Other Nonenergy Leasables	Issue leases with proper stipulations and special conditions (by USO).	Undetermined.	If leased, ensure that plats are correct and leases issued with proper conditions.
	Apply RMP stipulations and special conditions to exploration permits and exploration and mining operations. Amend RMP if necessary.	Undetermined.	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.

[a]Compliance with NEPA requires compliance with EA, EIS, or categorical exclusion stipulations; watching for cumulative impacts; mitigation of projected impacts; determining whether RMP stipulations and special conditions are necessary to meet objectives; analyzing impacts to operators; and assessing the resource condition.

[b]Compliance with FLPMA requires prevention of unnecessary and undue degradation of public lands and resources.

(Continued)

TABLE RMP-15 (Continued)

Program	Implementation	Schedule	Monitoring Objectives[a]
4211 Rights-of-Way	Designate right-of-way corridor.	Upon approval of RMP.	See if RMP objectives are met.
	Apply RMP stipulations and special conditions to right-of-way grants.	Ongoing.	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.
4212 Lands	Apply RMP stipulations and special conditions to lands and realty applications, permits, sales, and leases through NEPA documentation.	Ongoing.	Ensure compliance with NEPA:[a] determine if RMP objectives are valid.
	Use RMP objectives to determine whether land disposals are in the national interest.		Watch for cumulative impacts; see if RMP objectives are met; determine if RMP objectives are valid.
	Resolve unauthorized land uses to meet RMP goals and objectives.	Ongoing.	Watch for cumulative impacts; see if RMP objectives are met; determine if RMP objectives are valid.
4220 Withdrawal Processing and Review	Use RMP objectives to determine whether existing and proposed withdrawals are in the nationalinterest.	Ongoing.	Watch for cumulative impacts; see if RMP objectives are met; deter-mine if RMP objectives are valid.
4311/4312 Forest Management Development	Designate sites for private harvest of forest products through NEPA documentation.	Ongoing (within 1 year after approval of RMP.	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.
4321 Wild Horse and Burro Management	Control numbers in herd management areas.	Ongoing.	To maintain a thriving ecological balance between wild equids and other resources.
4322 Grazing Management	Exclude livestock from specific areas listed in RMP. Prioritize as shown in RPS (published with final RMP).	Within 2 years after approval of RMP.	See RPS.

[a]Compliance with NEPA requires compliance with EA, EIS, or categorical exclusion stipulations; watching for cumulative impacts; mitigation of projected impacts; determining whether RMP stipulations and special conditions are necessary to meet objectives; analyzing impacts to operators; and assessing the resource condition.

(Continued)

TABLE RMP-15 (Continued)

Program	Implementation	Schedule	Monitoring Objectives[a]
4322 Grazing Management (Concluded)	Change season of use on certain allotments to meet RMP objectives. Prioritize as shown in RPS.	As rangeland monitoring dictates.	See RPS.
	Modify or prepare AMPs; apply RMP stipulations and special conditions through NEPA documentation. Prioritize as shown in RPS.	Ongoing.	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.
	Designate Bowknot Bend and Big Flat Top ACECs	Immediate upon approval of RMP.	Ensure that plats are correct.
	Prepare activity plans for for special designation areas; incorporate RMP objectives through NEPA documentation.	Within 1 year after approval of RMP.	Ensure compliance with activity plans; watch for cumulative impacts;determine if special values are properly protected; determine if designation remains valid.
4331 Cultural Resource Management	Apply legal requirements and use RMP objectives to manage cultural resources in the national interest.	Ongoing.	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.
	Designate Dry Lake Archaeological District, Pictographs, Temple Mountain Historic District,Copper Globe Mine and Swasey Cabin ACECs; and Tomsich Butte asa special emphasis area within Muddy Creek ACEC.	Immediate upon approval of RMP.	Ensure that plats are correct.
	Prepare activity plans for special designation areas; incorporate RMP objectives through NEPA documentation. Prioritize as follows: -Pictographs ACEC -Temple Mountain Historic District	Ongoing - one ACEC activity plan per fiscal year, as required.	Ensure compliance with activity plan; watch for cumulative impacts; determine if special values are properly protected; determine if designation remains valid.

[a]Compliance with NEPA requires compliance with EA, EIS, or categorical exclusion stipulations; watching for cumulative impacts; mitigation of projected impacts; determining whether RMP stipulations and special conditions are necessary to meet objectives; analyzing impacts to operators; and assessing the resource condition.

(Continued)

TABLE RMP-15 (Continued)

Program	Implementation	Schedule	Monitoring Objectives[a]
4331 Cultural Resource Management (Concluded)	-Dry Lake Archeological District -Swasey Cabin ACEC -Copper Globe Mine ACEC.		
	Initiate intensive data recovery program/study for Temple Mountain Historic District, Copper Globe Mine, Tomsich Butte Historic District and Dry Lake Archaeological District. Prioritize as follows: -Temple Mountain Historic District -Dry Lake Archaeological District -Copper Globe Mine -Tomsich Butte Historical District.	Ongoing - one study per fiscal year.	Ensure compliance with NEPA;[a] see of RMP objectives are met; determine if RMP objectives are valid.
	Prepare CRMPs; apply RMP stipulations and special conditions through NEPA documentation. Prioritize as follows: area CRMP (site managed for public values).	Area CRMP within 3 years; then one site-specific CRMP per year.	Ensure compliance with NEPA;[a] determine if RMP objectives are being met; see if RMP objectives are valid.
4332 Wilderness Management	Reserved[c]	Reserved	Reserved
4333 Recreation/ Visual Resource Management	Apply ORV designations; document through ORV implementation plan; apply RMP objectives through NEPA documentation.	Within 1 year after approval ov RMP.	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.

[a]Compliance with NEPA requires compliance with EA, EIS, or categorical exclusion stipulations; watching for cumulative impacts; mitigation of projected impacts; determining whether RMP stipulations and special conditions are necessary to meet objectives; analyzing impacts to operators; and assessing the resource condition.

[c]Implementation and monitoring depends on designations that would be made independently of the RMP and cannot be anticipated at this time.

(Continued)

TABLE RMP-15 (Continued)

Program	Implementation	Schedule	Monitoring Objectives[a]
4333 Recreation/ Visual Resource Management (Continued)	Apply VRM classes in designated areas.	Immediate upon approval of RMP.	Watch for cumulative impacts; see if RMP objectives are met; determine if objectives are valid.
	Conduct suitability studies for wild and scenic river designations; coordinate with other agencies involved in joint studies and in preparing legislative EIS. Prioritize as follows: -Green River -San Rafael River -Muddy Creek	Within 5 years after approval of RMP.	Ensure studies are completed; determine followup actions; determine if RMP objectives are valid.
	Designate I-70 Scenic Corridor, Muddy Creek , San Rafael Canyon (lower, middle, and upper), Segers Hole, Sids Mountain, and San Rafael Reef (north and South) ACECs.	Immediate upon approval of RMP.	Ensure that plats are correct.
	Prepare ACEC activity plans for special designation areas; incorporate RMP objectives through NEPA documentation. Prioritize as follows: -Highway I-70 Scenic Corridor -San Rafael Canyon -San Rafael Reef -Sid's Mountain -Muddy Creek -Seger's Hole	Ongoing - one ACEC activity plan per fiscal year.	Ensure compliance with activity plans; watch for cumulative impacts; determine if special values are being properly protected; determine if designation remains valid.
	Designate SRMAs for San Rafael Swell and Labyrinth Canyon	Immediate upon approval of RMP.	Prepare maps of SRMAs.
	Prepare management plans for SRMAs; incorporate RMP objectives through NEPA documentation.	Ongoing - one SRMA per fiscal year.	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.

[a]Compliance with NEPA requires compliance with EA, EIS, or categorical exclusion stipulations; watching for cumulative impacts; mitigation of projected impacts; determining whether RMP stipulations and special conditions are necessary to meet objectives; analyzing impacts to operators; and assessing the resource condition.

(Continued)

TABLE RMP-15 (Continued)

Program	Implementation	Schedule	Monitoring Objectives[a]
4333 Recreation/ Visual Resource Management (Concluded)	Modify or construct facilities at developed recreation sites; incorporate RMP objectives through NEPA documentation.	Ongoing.	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.
4341 Soil, Water and Air Management	Apply RMP stipulations and special conditions to watershed control and air quality related projects through NEPA documentation.	Ongoing.	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.
	Prepare a water quality monitoring plan for SRRA..	Within 3 years after approval of RMP.	Ensure compliance with State water quality standards and with NEPA. Monitor for progress toward meeting RMP and activity plan objectives and for identification of areas that need to have activity plans prepared for water quality management. Establish baseline and trends for both surface and ground water resources.
	Prepare a soil erosion monitoring plan.	Within 1 year after approval of the RMP.	Ensure compliance with management plans; Monitor for progress toward meeting RMP and activity plan objectives and identify areas that need to have soils objectives developed in the activity planning stage. Dynamic methodology fully integrated with range and wildlife monitoring programs will be used.
4351 Habitat Management	Apply RMP stipulations and special conditions to habitat management projects.	Ongoing.	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.

[a]Compliance with NEPA requires compliance with EA, EIS, or categorical exclusion stipulations; watching for cumulative impacts; mitigation of projected impacts; determining whether RMP stipulations and special conditions are necessary to meet objectives; analyzing impacts to operators; and assessing the resource condition.

(Continued)

TABLE RMP-15 (Concluded)

Program	Implementation	Schedule	Monitoring Objectives[a]
4351 Habitat Management (Concluded)	Modify San Rafael Desert HMP as necessary to meet RMP objectives; develop and implement HMPs; apply RMP stipulations and special conditions through NEPA documentation. Priortize as follows: -North San Rafael HMP -San Rafael River HMP -South San Rafael HMP	Ongoing	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.
	Conduct inventories of wetlands, riparian areas, and species of high federal high federal interest.	Ongoing.	Identify areas in poor condition that would benefit from application of detailed activity plans.
	Prepare a crucial wildlife habitat monitoring plan.	Within 1 year after approval of the RMP.	Ensure compliance with the RMP. Methodology will be fully integratedwith range and soils monitoring program.
4352 Endangered Species Management	Apply legal requirements; apply RMP stipulations and special conditions through NEPA documentation.	Ongoing.	Ensure compliance with NEPA[a] and the Endangered Species Act of 1973, as amended; determine if RMP objectives are valid.
	Conduct inventories for T/E species known to occur in the region.	Ongoing.	Identify habitat areas that would benefit from developopment of detailed management plans.
4360 Fire Management	Prepare fire management plan to meet RMP objectives; apply RMP stipulations and special conditions through NEPA documentation.	Within 1 year after approval of of the RMP.	Ensure compliance with NEPA;[a] determine if RMP objectives are valid.

[a]Compliance with NEPA requires compliance with EA, EIS, or categorical exclusion stipulations; watching for cumulative impacts; mitigation of projected impacts; determining whether RMP stipulations and special conditions are necessary to meet objectives; analyzing impacts to operators; and assessing the resource condition.

CHAPTER 5, STANDARD OPERATING PROCEDURES

OVERVIEW

The following mitigation measures are currently applied to development activities and other uses in the planning area. They are considered to be a part of all alternatives unless specifically superseded by the special conditions developed for the proposed resource management plan (RMP) and described in chapter 3.

STANDARD OPERATING PROCEDURES

SOILS

Mitigation measures are placed on all surface-disturbing actions to protect watersheds and prevent offsite sedimentation and salinity within surface watercourses. Operations or facilities will be located so as to reduce erosion and improve the opportunity for revegetation.

In order to minimize watershed damage during wet or muddy periods, the Bureau of Land Management (BLM) may prohibit access, grading, exploration, drilling, development, or other activity. BLM may limit cross-country travel or construction activity to times when soils are dry or frozen or have snow cover. BLM will determine what is "wet," "muddy" or "frozen" based on weather and field conditions at the time. The limitation does not apply to maintenance and operation of producing wells or mines.

During project construction, surface disturbance and vehicle travel will be limited to the approved location and approved access routes. Any additional area needed must be approved by BLM prior to use.

Water bars will be constructed on road grades or slopes, if required by BLM.

Reserve pits for mining or oil and gas drilling operations may be required to be lined with commercial-grade bentonite or plastic liners sufficient to prevent seepage. At least half of the capacity will be in a cut.

No oil, lubricants, or toxic substances may be drained onto the ground surface.

Construction and development are to be avoided where possible in areas with the following characteristics: slopes in excess of 10 percent, soils high in clay content, and soils high in salt or gypsum content; these areas are subject to erosion and difficult to revegetate. BLM will determine whether soils within a project area meet these criteria.

No road grades in excess of 15 percent will be allowed; no surface disturbance from vehicle chains or leads will be allowed on slopes greater than 15 percent. No vehicle access will be allowed across slopes in excess of 25 percent.

Vegetation manipulation techniques on slopes greater than 10 percent will be limited to chemical treatments and broadcast seedings; chainings, railings, or other surface-disturbing methods will not be allowed.

WATER

Existing fords will be used for drainage crossings where possible.

Bridges and culverts will allow adequate fish passage where applicable.

Drill holes will be sealed, plugged, and capped in accordance with BLM and state standards.

No vibroseis, drilling, or blasting will be allowed within 0.25 mile of any spring or water well. Powder magazines will be located at least 0.25 mile from regularly traveled roads and out of sight from the roads.

The reserve pit must be completely dry before reclamation takes place. Reclamation must be completed within 1 year after completion of the project.

For construction projects and recreation events, the authorized officer may require portable chemical toilets to be provided at all staging areas, bases of operations, and storage areas.

Soaps, detergents, or other nondegradable foreign substances will not be used for washing in streams or rivers; biodegradable soap may be used.

Before using insecticides, herbicides, fungicides, rodenticides, and other similar substances, an operator must obtain from BLM approval of a written plan. The plan must describe the type and quantity of material to be used, the pest to be controlled, the method of application, the location for storage and disposal of containers, and other information that BLM may require. A pesticide may be used only in accordance with its registered uses and within other agency limitations. Pesticides must not be permanently stored on public lands.

If facilities authorized for construction use polychlorinated biphenyls (PCBs), such use must be in a totally enclosed manner in accordance with provisions of 40 CFR Part 761. Additionally, any release of PCBs (leaks, spills, etc.) in excess of the reportable quantity must be reported as required in 40 CFR Part 117.

VEGETATION

Vegetation removal necessitated by a construction project will be confined to the limits of actual construction. Removed vegetation will be burned, stockpiled for use in reclamation, or removed from the construction site at the direction of BLM.

Reclamation will start immediately upon completion of the project, unless prevented by weather conditions. Disturbed areas will be restored to approximately the original contour.

Topsoil material will be removed and stockpiled as directed by BLM. The stockpiled topsoil will be spread evenly over the recontoured area. The authorized officer may require all disturbed areas and vehicle tracks from overland access to be ripped 4 to 12 inches deep with the contour.

Reseeding will be done from October 1 to March 31. The seed mix and the time of seeding will be prescribed by BLM. The area will be reseeded with a mixture of native and exotic species tailored to a specific ecological site (not a standard seed mixture). An adventive species may be included as a nurse crop or as a ground cover to control erosion, when approved in advance by BLM.

Seed may be drilled or broadcast, as approved by BLM. Where broadcast seeding is used, seeding will take place after the soil surface is recontoured and scarified. A harrow or similar implement will be dragged over the area to assure seed cover.

The seeding on all cut slopes must extend from the bottom of the ditch to the top of the cut slope. On embankment slopes, the seeding must extend from the roadway shoulder to the toe of the slope. Seeding will also be done on all borrow pit areas and on all sidecast slopes in areas of full bench construction. A drainage ditch on the top of the backslope may be required to prevent erosion; the ditch may be required to be lined and/or riprapped.

BLM may require a reclamation bond. Revegetation must be successfully established within 5 years after project completion for release of the bond. The authorized officer may require fencing around seeded areas (to BLM standards) to allow re-establishment of vegetation. The fence will be removed prior to release of the bond.

Woodland products may be harvested only in designated areas. During fire-closure periods, woodcutters using a chain saw will carry shovels and attempt to prevent or control any fire that may result from their cutting operation.

During other types of activities, living trees must not be cut or otherwise damaged unless authorized by BLM.

Precautions must be taken at all times to prevent wildfire. Public land users will be held responsible for suppression costs for any fires on public lands caused through negligence. No burning of debris will be allowed without specific authorization from BLM.

For cooking, the use of small campstoves is recommended. Campfires must be kept to a minimum size and utilize only downed dead wood.

WILD HORSES AND BURROS

No water source in a wild horse or burro area will be fenced or otherwise made inaccessible to wild horses or burros, except guzzlers constructed for wildlife.

No established wild horse or burro trail will be fenced, nor will any barricade be established that would restrict wild horse or burro movement along that trail, without authorization from BLM.

LIVESTOCK GRAZING

Range management facilities such as fences, wells, reservoirs, and other improvements must not be disturbed without prior approval of BLM. Where disturbance is necessary, the operator will return the facility to its original condition. Project maintenance is not considered a disturbance.

Newly constructed range improvements such as fences and reservoirs must meet BLM standards. When it is necessary to gain access across a fenceline for construction purposes, the fence must be braced. Four-inch timber or equivalent must be installed and the gateway kept closed when not in actual use. All gates found closed during the course of the operation must be reclosed after each passage of equipment and crew members. A cattleguard may be required on main travel routes.

If road construction cuts through natural topography that serves as a livestock barrier, a fence must be constructed.

Drilling pits will be fenced upon completion of drilling operations, unless the pit is immediately filled in.

CULTURAL RESOURCES

All areas subject to surface disturbance or rehabilitation that have not been previously inventoried for cultural resources must be inventoried prior to starting the activity. Both direct and indirect damage will be avoided to the extent possible without curtailing valid rights.

Cultural resources will be evaluated under existing federal laws and regulations. Consultation with the Utah State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation will occur wherever mandated.

Surface disturbance will be allowed only after cultural resource management objectives are met. All sites will be avoided or mitigated in keeping with the specific management objectives assigned. Disturbance to or loss of any cultural property to the extent that the specific cultural resource management objective cannot be met is considered to be unnecessary and undue degradation and will not be allowed, regardless of the causal activity.

The following special management conditions are needed to achieve cultural resource management objectives:

- All sites managed for conservation must be avoided and protected from natural and human-caused deterioration. They are closed to conflicting uses. They remain under protective management until all similar sites not managed for conservation are used and technology used in archaeology has developed to such a state that their use would make a major contribution to archaeological study of the area.

- Sites managed for public values must first have their information potential recovered through appropriate study guided by an approved research design, in order to mitigate the impacts of visitor use and to provide information for interpretation.

- All other sites are managed for their information potential; they must be avoided until their potential is collected through appropriate study guided by an approved research design.

VISUAL RESOURCES

BLM may require semipermanent and permanent facilities to be painted to blend with the natural surroundings.

With BLM approval, existing roads or trails may be improved (bladed) if impassable by vehicles or equipment. No widening or realignment will be allowed unless approved by BLM. Existing trails may have to be reclaimed or brought back to original conditions.

New trails may be constructed only when vehicle and equipment passage is impossible, and only with the concurrence of BLM. There will be no straight line-of-sight bulldozing; any path dozed through a timbered area will take a zig-zag path. Any pushed trees are to be readily retrievable without additional disturbance, if needed for reclamation.

Upon project completion, the area and access routes not needed for BLM or BLM-authorized purposes will be reclaimed to as near the original condition as possible.

All disturbed areas will be recontoured to blend as nearly as possible with the natural topography. All berms will be removed and all cuts (including roads) filled.

Drill hole cuttings will be placed down the hole, and any remaining cuttings will be buried at the drill hole location.

Construction areas and access roads will be kept litter-free. The operator must provide a trash cage.

For other types of activities, such as recreation events, trash will be collected and contained during the operation. All garbage, trash, flagging, lath, etc. will be removed from the area and hauled to an authorized dump site.

WILDLIFE

Known raptor nest sites in both San Rafael Resource Area (SRRA) and Forest Planning Unit (FPU) will be protected. Permitted activities within 0.5 mile of active nest sites (these have not been mapped and may vary in location from year to year) will be restricted during the nesting season (generally February through August annually).

ENDANGERED SPECIES

All surface-disturbing activities, including recreation events, will require a clearance to ensure protection of threatened or endangered (T/E) species.

T/E species will be managed in accordance with the Endangered Species Act and all other applicable laws and policies. Under the Endangered Species Act, the habitat of a T/E plant species cannot be disturbed unless the species would benefit from the disturbance; departmental regulations and policy extend this requirement to candidate and sensitive species also. Activities or projects will be checked to ensure adequate protection for these species.

FIRE

All wildfires endangering life or property will be suppressed. Where resource conditions warrant, a fire rehabilitation plan will be developed and implemented, using native or exotic species.

APPENDIX A, THE MONITORING PLAN

OVERVIEW

An implementation and monitoring plan will be part of the resource management plan (RMP) as adopted, but cannot be completed until the RMP is finalized.

This appendix describes the monitoring procedures to be followed and outlines implementation schedules and other information that may be part of the implementation and monitoring plan. Implementation of the RMP is expected to be complete within 10 years after adoption, except for certain grazing decisions.

Monitoring and evaluation is the last step in the planning process, but can lead back to the beginning, since the process is cyclic.

USING THE RESOURCE MANAGEMENT PLAN

The following steps are involved in using the RMP:

- adopting the RMP and making plan decisions;
- implementing the plan decisions;
- monitoring both the decision and implementation to ensure that the plan remains current, and evaluating the results; and
- modifying the RMP in response to the monitoring process or specific proposals through maintenance, plan amendment, or plan revision.

ADOPTING THE PLAN

The RMP will go into effect when adopted by the State Director. The final EIS includes a proposed RMP. The record of decision for the EIS will document adoption of the final RMP.

Some plan decisions go into effect immediately when the RMP is adopted. Examples are oil and gas category leasing allocations and special management designations such as areas of critical environmental concern. Other decisions, such as off-road vehicle (ORV) use designations, go into effect after a stated time period. Some plan decisions authorize preparation of site-specific activity plans, such as allotment management plans, habitat management plans, or cultural resource management plans. Many require preparation of site-specific National Envrionmental Policy Act documentation before they can go into effect.

IMPLEMENTING THE PLAN DECISIONS

Implementation translates the plan decisions (management actions, activity plans, land allocations, etc.) into on-the-ground action. It includes such diverse items as

- providing personnel and equipment to make physical changes (such as constructing facilities for a developed recreation site);
- changing land status plats to reflect land allocation decisions, and issuing leases and permits accordingly;
- taking actions to inform the public, such as printing maps of ORV use designations; and
- tailoring Bureau of Land Management (BLM) budget and staff requirements to ensure that plan decisions can be put into action.

Implementation also means establishing priorities and schedules. Some actions have established schedules that must be met. For example, all grazing use decisions must be issued within 5 years following publication of the Rangeland Program Summary. Other decisions take effect immediately when the RMP is adopted, or provide for ongoing action in response to specific project requests.

The RMP provides the BLM with a systematic way to priortize funding and personnel management. The decisions in the RMP shape BLM's goals and objectives for management of public lands and resources; the primary goals of the management plan should be given priority in allocating work months and project funding. Besides informing the public of the BLM's priorities, the RMP serves as a "contract" among different levels of management within the agency to ensure that BLM's financial planning process supports the plan goals and objectives.

MONITORING AND EVALUATION

Monitoring the RMP includes monitoring both on-the-ground resource indicators and the land use decisions themselves. The monitoring process should provide ongoing answers to the following questions:

- Are the management decisions given in the RMP being implemented in a timely manner?
- Are plan decisions being carried out through site-specific activity plans?
- Were the impacts to the human environment (beneficial or adverse) projected accurately in the EIS, and are prescribed mitigation measures effective in decreasing adverse impacts?
- Are the projects or prescriptions, as implemented, successful in achieving the desired result of resource protection or resource production?
- Are the planning decisions, as implemented, successful in meeting the goals and objectives of the RMP selected?
- Are the goals and objectives of the RMP valid and appropriate to meet public needs for use of public lands and resources?

Plan monitoring is important to ensure that the RMP is a useful management tool. It points out both successful measures and inadequacies in the RMP and is used to keep the plan current. Monitoring provides the manager with feedback (evaluation) to ensure that laws, regulations, and policies are being met, and that management programs are proceeding in the desired direction. Monitoring assures the land manager that BLM management is adequately resolving both the resource conflicts and the administrative problems identified in the RMP process.

MODIFYING THE PLAN

The RMP can be modified through plan maintenance, plan amendment, or plan revision. All must be documented.

Plan maintenance involves minor changes to the RMP to refine or further document the plan decisions. They may be in response to minor data changes; for example, refinement of acreages or mapped data. Plan maintenance does not require formal public involvement, interagency coordination, or consistency review. Documentation consists of making revision sheets available to the public at the BLM's Utah State Office public room, the Moab and Richfield District offices, and the San Rafael and Sevier River Resource Area offices.

An RMP amendment would be initiated in response to a proposed action that could change the scope of resource uses covered by the plan decisions. An amendment would be required in order to proceed with a project that was documented as not being in conformance with the plan. The planning steps would be applied, and an environmental assessment (EA) or EIS prepared with full public involvement, interagency coordination, and Governor's consistency review.

A plan revision would be a major overhaul of the RMP made in response to formal monitoring. A revision could be triggered by the need to consider monitoring findings, new data, new or

revised policy, a major change in circumstances, or a change in the terms, conditions, decisions, goals, or objectives of the approved RMP. A plan revision would require an EA, EIS, or supplemental EIS with full public involvement, interagency coordination, and Governor's consistency review.

A complete implementation and monitoring plan, schedule, and priority listing has been developed in the proposed RMP and final EIS. If the final RMP reflects changes from the proposed RMP, the implementation and monitoring plan may be revised accordingly.

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APPENDIX B, RATIONALE FOR SPECIAL MANAGEMENT DESIGNATIONS

OVERVIEW

Appendix B has two parts: an overview of the potential area of critical environmental concern (ACEC) designations that were reviewed by the interdisciplinary team and recommended for inclusion in at lease one alternative of the resource management plan and environmental impact statement (RMP/EIS), and a list of other candidate ACECs not recommended for analysis in the RMP/EIS, along with the rationale for dropping such areas from consideration.

Any area not considered, not accepted, or not nominated could be designated at a future time. That would require preparing the nomination documents, qualifying under the ACEC criteria, receiving district manager support, and preparing the site plan and amending the RMP. This could be done at any time during the life of the RMP.

To be designated, an ACEC must meet the criteria of relevance and importance as described in Bureau of Land Management (BLM) manual 1613.

AREAS NOMINATED FOR DESIGNATION

Areas nominated for ACEC designation in this final EIS are listed here, along with the rationale for nomination and the alternatives under which the nomination is addressed.

RELICT VEGETATION VALUES

Big Flat Tops (North Big Flat Top)

The North Big Flat Top area encompasses approximately 190 acres in extreme southern Emery County, about 17 miles northeast of Hanksville. This area is defined by the upper edge of the cliffs that separate the mesa top from the adjacent flats. These cliffs effectively prevent livestock from gaining access to North Big Flat Top, except by a narrow path on the southeast ridge along which people and animals may ascend to the top.

The vegetation communities on North Big Flat Top probably developed without the influence of grazing by domesticated animals. Therefore, the area has potential value for scientific study and as a comparison area for similar vegetation communities that have been grazed. Other flat mesa tops similar in potential for relict vegetation adjoin North Big Flat Top to the south.

Rationale

The mesa top supports a little-disturbed vegetation community that would fill identified needs of Utah's growing system of natural areas. The area could be used for scientific research and comparative studies, and designation could be accomplished with few resource conflicts.

The 190-acre North Big Flat Top area is nominated for ACEC designation in alternatives B through E. In alternative F and the proposed RMP, the area's name would be changed to Big Flat Tops and its acreage increased to 2,640 acres to facilitate management to protect potential relict vegetation in adjoining similar areas.

Bowknot Bend

Bowknot Bend encompasses about 1,830 acres in southeastern Emery County and borders Grand County, approximately 40 miles south of the city of Green River. The subject area is defined by a continuous cliff band separating Bowknot Bend from the Green River.

Bowknot Bend presents an isolated relict plant community that remains unaltered by human intervention or domestic livestock grazing. The area has potential for scientific study and as a comparison area for similar vegetation communities that have been grazed. Natural history values in the area are also recognized because this area has rarely had human or domestic animal intrusion.

Rationale

The Bowknot Bend area presents important relict plant communities that meet the criteria for Utah's growing system of natural areas. It is nominated as an ACEC containing 1,830 acres in alternatives B through F and in the proposed RMP.

Hebes Mountain

Hebes Mountain encompasses about 960 acres in southwestern Emery County, about 14 miles east-southeast of Fremont Junction (Highways I-70 and U-10). This area, nominated by the Nature Conservancy, is defined by the top edge of an essentially continuous cliff band that encircles Hebes Mountain and separates it from the adjacent flats. The cliff band and the slopes beneath it effectively prevent domestic livestock from gaining access to Hebes Mountain.

The nominator called the vegetation communities on Hebes Mountain unique because they have developed without the influence of grazing animals. Therefore, the area has potential value for scientific study as a comparison area for similar vegetation communities that have been grazed.

Rationale

The mountain top may present an isolated, unaltered relict plant community that meets the identified needs of Utah's growing system of natural areas.

Under alternative D, the Hebes Mountain area is recommended for designation as an ACEC to allow for a broader range of alternatives to be examined and for possible selection by the area manager. The area is not recommended for ACEC designation under alternatives B, C, E, F or under the proposed RMP because further investigations failed to confirm the presence of relict vegetation. Therefore, Hebes Mountain does not meet the ACEC criteria of relevance and importance.

VEGETATION AND SCENIC VALUES

San Rafael Reef

The San Rafael Reef area (68,720 acres) is important because of its unique vegetation and scenic values. Relict vegetation communities are found throughout the steeply dipping cuestas on the back side of the reef. Because of the terrain, only desert bighorn sheep or wild burros graze in the area. Therefore, these vegetation communities are unique because they have developed without the influence of domestic grazing.

San Rafael Reef is created by the resistant Wingate, Kayenta, and Navajo Sandstones of the Glen Canyon group along the eastern side of San Rafael Swell. These Triassic and Jurassic rocks dip steeply along the monocline, but become nearly horizontal a short distance east and west of the major fold. The monocline is spectacularly expressed by these resistant units, particularly as they rise above the valley floor on the east, carved on Carmel and Entrada beds. Nearly flat-lying Entrada, Curtis, Summerville, and basal Morrison beds are exposed in mesas east of the reef. Toward the west, Chinle, Moenkopi, and Kaibab beds are exposed in the central part of San Rafael Swell, on the uplifted part of the monoclinal flexure. Softer Chinle and Moenkopi beds form some of the characteristic "wineglass" valleys. These formations have eroded to form discontinuous strike valleys between San Rafael Reef and the upper, higher San Rafael Swell which is carved on Lower Moenkopi, Kaibab, and older rocks.

The most outstanding visual features of San Rafael Reef are the deeply carved drainages and the sawtooth ridge of the reef itself. Rising at a near-vertical angle from the desert floor, huge upturned sandstone fins dominate the scenery for over 12 miles. Deep-cut canyons find their way through the reef, adding character to an already unique desert scene. There

are few views within the reef that do not involve a panoramic scene into a deeply cut canyon or an enclosed view dominated by a vertical red sandstone wall or tremendous fin. The San Rafael Reef area also contains crucial bighorn sheep habitat and riparian habitat.

Rationale

Important relict vegetation communities, which have developed without the influence of domestic grazing, need special management to protect them from grazing and surface disturbance that could destroy their value as a botanical preserve and comparison area.

The degree of expression in San Rafael Swell is extremely unusual, with well-exposed rock units of the Wingate, Kayenta, and Navajo Formations. The area includes discontinuous strike valleys and "wineglass" valleys, which are interesting geomorphologic features. The reef could be affected by development of tar sand or uranium and by off-road vehicle (ORV) use. Its outstanding scenic values, visible from major tourist routes, warrant protection.

The area also has specific value as lambing and rutting areas for Utah's second largest population of bighorn sheep, a nationally important species. These values need protection from conflicting land uses that could remove or decrease essential habitat components or displace bighorn sheep. Riparian habitat found within the reef needs special protection as well.

The San Rafael Reef is nominated for ACEC designation under alternatives B, C, D, and F and under the proposed RMP. Under alternatives B and D, the ACEC would cover 43,870 acres of important vegetation values. Under alternative C, the acreage would be increased to 67,520 acres to include scenic values. The San Rafael Reef is not nominated for ACEC designation under alternative E because of conflicts with ORV recreation use. Under alternative F and the proposed RMP, the ACEC designation would cover 68,720 acres to include important scenic values in the extreme southern area.

CULTURAL AND HISTORIC VALUES

Copper Globe

The 220-acre Copper Globe Mine area, located 10 miles south of Highway I-70 in the center of Emery County, contains an historic underground base metal mine. This mine, discovered prior to 1900 and worked periodically up to World War II, is an example of mine workings and technologies of the early 20th Century. Several drifts, some scattered equipment and structures, and one access shaft remain in an area where miners tried to develop a copper oxide ore body.

Rationale

Special management is needed to protect the historic remains of a copper base metal mine. The 220-acre Copper Globe area is nominated for ACEC designation in alternative F and in the proposed RMP. Under alternatives C and D, this area would be included in the Sids Mountain ACEC.

Dry Lake Archaeological District

Dry Lake Archaeological District (16,990 acres) has a multitude of apparently undisturbed single-episode lithic scatters, as well as other site types such as lithic procurement, shelters, and campsites. It is one of the most likely locations for finding Paleo-Indian sites, the rarest site type in Utah.

The area also contains the Dry Lake Meander: two large, well expressed, abandoned meanders of the Green River. The size of the meander scar indicates that abandonment must have occurred during either the Early Pleistocene or the Late Pliocene period, when the volume of water in the river was much greater than it is at present. Related geologic values are visible where the Summerville and Curtis Formations erode to form an escarpment, colorful promontories, and stepped terraces, especially in Curtis beds. The broad, sandy valley of the meander, covered with mixed desert shrub, has potential as a botanical preserve.

Rationale

It is the small lithic scatters that qualify this area for ACEC designation. Individually,

these sites have little or no scientific value, but collectively they are a valuable resource. Designation is needed because the value of the area as a whole would be lost if some of the sites are disturbed. These sites are in grave danger of piecemeal disturbance. Natural history values are also recognized in the area.

The Dry Lake Archaeological District is nominated for ACEC designation under alternatives C, D, E, and F and under the proposed RMP.

Highway I-70 Pictographs

The Highway I-70 pictographs include the world-famous Black Dragon, Head of Sinbad, and Lone Warrior rock art sites. Some of the best examples of Colorado Plateau rock art, the sites are easily accessible from Highway I-70. They are being visited more every year. Their popularity has grown following mention in several publications including National Geographic magazine [Smith, 1980; Schaafsma, 1971; and Castleton, 1984].

Rationale

Special management is needed at these sites to resolve conflicting uses and preserve the values for future generations.

The I-70 pictographs are nominated as an ACEC under alternative B. In alternatives C and E they are recommended as a special emphasis area of the I-70 Scenic Corridor ACEC. In alternatives D and F and in the proposed RMP, the I-70 pictographs and the Rochester pictograph site are recommended as the Pictographs ACEC.

Little Black Mountain

Black Mountain and the associated areas to the south exhibit a varied and unusually well exposed series of dikes and sills. The intrusive relationships of the dark basalt and the reddish Entrada beds is clearly shown, perhaps more clearly than anywhere else in the Colorado Plateau. Feeder dikes, up to 20 or 30 feet across, cut vertically though the horizontally bedded sedimentary sequence and terminate as horizontal sills. Individual sills are traceable for varying distances depending upon their thicknesses. The two or three large sills that form the cliff faces near the upper part of Little Black Mountain are traceable for the full length of the mountain. Other smaller sills, lower on the range and in the area to the south, near the road, are mappable over shorter distances. In many areas the exact termination of the sills can be seen either as multiple splits and feather edges or as a single thin wedge of basaltic material in the Entrada Sandstone.

The Little Black Mountains, which rise in elevation to about 7,000 feet, are a mountain-like butte covered with rounded black lava rock, both on top and on the side slopes. Sparse pinyon-juniper can be found growing on the tops and north-facing slopes, creating interesting color contrasts with the black lava rock. The most outstanding feature of this area is the influence of adjacent scenery. From the top of the mountains, one can see outstanding distant views of the Thousand Lake and Boulder Mountains to the southwest, Cathedral Valley to the west, Factory Butte and the LaSal Mountains to the east, and the Abajo and Henry Mountains to the southeast.

Rationale

The 2,160-acre Little Black Mountain contains several intrusions at different levels, while most of the other mountains in Emery County contain three or fewer. A swarm of dikes and sills surround the mountain, forming many ridges. The extensive exposure and excellent development of the dikes and sills in the area make Little Black Mountain an important geologic feature.

The area is nominated under alternative D, consistent with the goals of that alternative.

There is no identified threat to the geologic (natural history) features of Little Black Mountain. It was not nominated under alternative F or the proposed RMP because it did not meet the ACEC criteria of importance.

Pictographs

Pictographs include the three rock art sites listed under the Highway I-70 pictographs plus

the Rochester Creek rock art site. The Rochester Creek site is located east of Emery City. It too has received some notoriety from the same publications as the I-70 pictographs. The site is only slightly less accessible and has a management conflict resulting from increasing visitor use.

Rationale

Similar management is needed to protect both the I-70 pictographs and the Rochester site, to resolve conflicting uses and preserve the values for future generations. Both sites are included in the 40-acre Pictographs ACEC nominated for designation under alternatives D and F and under the proposed RMP.

Swasey Cabin

The Swasey Cabin area includes several features built or used by the Swasey family. The Swasey family, foremost in the folklore of the San Rafael region, used the cabin area as part of their livestock operations. Features within the area include a cabin built in 1920; the Jackass Corral constructed in 1905; Joe's Office, a rock shelter used as a camp until the cabin was built; the Refrigerator, a cave which keeps things cool year-round; Cliff Dweller's spring; and a dry farm.

Rationale

Special management is needed to preserve historic values in the Swasey Cabin area and protect them from public use.

The 220-acre Swasey Cabin area is nominated for ACEC designation under alternatives D and F and under the proposed RMP.

Temple Mountain and Tomsich Butte Historic Districts

Temple Mountain and Tomsich Butte are two of the best examples of uramium mining activities in the area. Especially in the 1950s, this activity was nationally significant, and these old uranium workings offer important evidence of the technology of that time and the use of the area's mineral resources. Without special management and with another mining boom, these resources could be destroyed in a matter of days. Development under a current mining claim would remove important cultural evidence of previous activities. The potential threat most likely to occur is that mine assessment or small-scale mining will destroy the values piecemeal without mitigating the effect on the area as a whole.

Tomsich Butte's important geological features such as Hondu (Hondoo) Arch, one of the spectacular collapsed arch features in the Colorado Plateau. This feature is unusual because of the obvious bedding plane control of the upper part of the arch, which stands high along the west rim and monocline of the western San Rafael Swell. The area also demonstrates uranium mineralization in the Triassic nonmarine deposits, in associations characteristic of the Colorado Plateau. The scenic Permian-to-Jurassic red bed sequence is unusually well exposed and shows the marginal marine tidal flat and arid nonmarine environments well.

This area has potential as a scenic ACEC. The area includes primarily the lower Muddy Creek drainage, beginning at Hebes Canyon and running downstream to Segers Hole. (Segers Hole has also been nominated for ACEC designation and is discussed under Scenic Values.) Major tributary canyons and landscape features include Tomsich Butte, Reds Canyon, Penitentiary Canyon, Hondu Country, and Keesle Country.

The southeastern portion of the subject area is referred to as Keesle Country. Its deep red terrain is formed by mesas situated in stair-step fashion as the country dips gently to The Chute. Here the Coconino Sandstone is exposed by a dramatic cut of Muddy Creek. Buff, tan, and rust-colored rocks are rounded, cracked, and carved into a deep, narrow passage. The walls are dripped with a dark brown-black color, and the landscape is one of outstanding visual quality.

Rationale

Special management is needed to protect the historic remains of uranium mining in the Temple Mountain and Tomsich Butte area.

Because few arches occur in SRRA, Hondu Arch is important. While the uranium mineralization is common around San Rafael Swell in the Chinle Formation and therefore has only local significance, Hondu Arch is unique because of the bedding plane control of the upper part of the arch. A potential exists for resurrection of uranium development, which could endanger Hondu Arch.

Keesle Country and Tomsich Butte are considered to be scenic quality A and unique or very rare within the physiographic province. Combining these two areas would create one continuous ACEC for management of Muddy Creek.

The Temple Mountain Historic District (2,580 acres) is nominated for ACEC designation under alternatives C, D, E, and F and under the proposed RMP; Tomsich Butte Historic District (2,040 acres) is recommended for ACEC designation under alternatives C, D, and E. Under alternative F and the proposed RMP, Tomsich Butte would be a special emphasis area (4,970 acres) within Muddy Creek ACEC (discussed under Scenic Values).

SCENIC VALUES

Gilson Buttes

The Goblin Valley Buttes area is located approximately 45 miles southwest of the town of Green River near Goblin Valley State Park. One area includes Well Draw, Goblin Valley, Mollys Castle, Wild Horse Butte, and lower Red Canyon. It is bounded on the north by Wild Horse Creek, on the south by the Emery County line, and on the east and west by Well Draw and Big Wild Horse Mesa. The other area is located 0.5 mile west of Highway U-24 and includes Gilson Butte and Little Gilson Butte. The two visually similar areas are evaluated as one potential ACEC.

The most outstanding visual features are the rock buttes with their windblown snapes creating extremely interesting erosional patterns. The rock formations found in Goblin Valley State Park invite the imagination to conjure up images of goblins, hoodoos, or marching armies. However, these rock formations appear to occur almost entirely in the State Park; few are located on public lands south of the park. The rich color variations in the rock of Mollys Castle and Gilson Buttes provide great variety and contrast, though little vegetation is present. The landform features of Wild Horse Butte, Mollys Castle, and Gilson Buttes all rise abruptly from the sandy San Rafael Desert, making this area somewhat unique within the region.

The sand dunes surrounding two large buttes contain a series of active U-shaped barchans and long, straight, longitudinal dunes. Also, the Entrada Sandstone beds have weathered into peculiar pillars, resembling hoodoos and goblins. The area is vegetated by shrubs, grasses, and forbs of the desert shrub community. Several narrow endemic species are peculiar to this area.

Present resource use conflicts include ORV use, minor grazing, and conceivably uranium mining.

Rationale

The 1,750-acre Gilson Buttes area was suggested for designation because of its geology and vegetation. The consultant who performed the original visual resource inventory of this area in 1977 incorrectly noted the occurrence of the goblins throughout the area (for example, in Red Canyon). Without such formations, the area is scenic, but not unique, and therefore does not meet the criteria of being unique or rare within its physiographic region.

The Gilson Buttes area is nominated as an ACEC containing 1,750 acres in alternatives C and D to allow for a broader range of alternatives to be examined for possible selection by the BLM official; Goblin Valley was not nominated for ACEC designation under any alternative.

During the comment period, it was suggested that the tops of the Buttes may contain relict vegetation. Further inventory is necessary to determine if this area contains natural values that meet the ACEC criteria of relevance and importance.

APPENDIX B

Highway I-70 Scenic Corridor

An area of 52,150 acres in the foreground/middleground zone of Highway I-70 has potential for designation as a scenic corridor ACEC. This designation was recommended in the San Rafael Management Framework Plan (MFP) [BLM, 1979a] but never implemented. Sevier River Resource Area identified the I-70 corridor in the Forest Planning Unit (FPU) for special management in the MFP [BLM, 1977a].

Highway I-70 across the San Rafael Swell is highly scenic. Because of increased traffic on this route, the scenic values are becoming better known to the traveling public. Scarcity within the Colorado Plateau physiographic province makes this particular combination of scenic values an important resource that would be irreplaceable if damaged or destroyed.

Portions of the subject area are under wilderness review as part of the Sids Mountain, Devils Canyon, and San Rafael Reef Wilderness Study Areas (WSAs). The adjacent portion of Muddy Creek has been identified as a segment to be studied for possible inclusion in the National Wild and Scenic Rivers System. Both studies indicate the importance of the area's scenic values.

Wilderness designation or wild and scenic river designation would provide an element of protection for some of the area's scenic qualities.

Rationale

The Highway I-70 Scenic Corridor qualifies as a scenic ACEC because it has high visual sensitivity and visual quality and is unique and very rare within its physiographic province.

The 52,130-acre I-70 Scenic Corridor area is nominated for ACEC designation under alternatives D and F and the proposed RMP. Under alternatives A, C, and E, the acreage would be increased by 30 acres to include the I-70 pictographs as a special emphasis area. Under the proposed RMP, the acreage would decrease to 50,650 acres, due to dropping the isolated FPU area because of manageability problems.

Muddy Creek

An area of 22,540 acres has potential for ACEC designation for scenic values. The area includes primarily the Muddy Creek drainage from South Salt Wash downstream to Segers Hole (Segers Hole has also been nominated for ACEC designation). Major tributary canyons and landscape features include Ireland Mesa, Slaughter Slopes, Willow Springs Wash, Hebes Canyon, Cat Canyon, Tomsich Butte (also nominated for ACEC designation under mining law administration and cultural resources), Reds Canyon, Penitentiary Canyon, Hondu Country, and Keesle Country.

The Muddy Creek area consists of several incised drainages and major canyons, colorful rolling volcanic terrain, large rounded knobs of arch-forming sandstone, alcoves and caves, and red stair-step mesas.

The Muddy Creek Canyon drainage cuts through the length of the subject area, and many other tributaries carve their way to Muddy Creek canyon, cutting through and exposing successively the dark red Carmel Mudstone, pink and tan rounded Navajo Sandstone, ledgy grayish Kayenta Sandstone, red and gold sheer Wingate Sandstone cliffs, and the buff, brown-dripped Coconino Sandstone. Near the northwestern boundary the rolling terrain is colored with pink, purple, and gray. Atop the canyons are large rounded knobs of arch-forming sandstone. Hondu Arch is a dominant visual feature in the central part of the subject area.

The southeastern portion of the subject area is referred to as Keesle Country. The deep red terrain is formed by mesas situated in a stair-step fashion as the country dips gently to the Chute. Here the Coconino Sandstone is exposed by a dramatic cut of Muddy Creek. In colors of buff, tan, and rust, the rocks are rounded, cracked, and carved into a deep, narrow passage. The walls are dripped with a dark brown-black color, and the landscape is one of outstanding visual quality.

From most viewpoints in the upper levels of the canyon system, the landscape would be classified as panoramic in that there is little impression

of visual boundaries, and distant views are seldom blocked by landforms in the foreground. From within the canyon, where views are dominated by vertical red and gold sandstone walls, the landscape would be classified as enclosed.

The subject area is under wilderness review as part of the Muddy Creek WSA. It has also been identified as a segment to be studied for possible inclusion in the National Wild and Scenic Rivers System. Both of the studies indicate the importance of the area's scenic values. Wilderness designation or wild and scenic river designation would provide an element of protection of the area's scenic qualities.

Rationale

The Muddy Creek area is scenic quality A and unique or very rare within its physiographic province. The Muddy Creek area is nominated as an ACEC containing 22,540 acres under alternatives D, E, and F and under the proposed RMP. Under alternative C, the designated area would be enlarged to 46,720 acres to include Tomsich Butte Historic District as a special emphasis area, along with the ROS P-class area.

San Rafael Canyon

The 58,510-acre San Rafael River canyon area (0.5 mile on either side of the San Rafael River) extends downriver 50 miles from Fullers Bottom Draw to Sulphur Spring and includes the Upper Black Box of the San Rafael River, downriver from Lockhart Wash to Indian Benches and the lower portion of Drowned Hole Draw. Major tributary canyons are Virgin Spring Canyon, Cane Wash, Road Draw, Red Canyon, Horse Canyon, Swasey Leap, and the Lower Black Box. Also included is Buckhorn Wash from Furniture Draw to its intersection with the San Rafael River including Calf, Cow, and Pine Canyons. Associated landforms include Assembly Hall Peak, Window Blind Peak, The Wedge, and Indian Bench.

Dominant scenic features of the subject area are spectacular vertical cliff formations, talus slopes, and deep canyons with severe erosional patterns. Diverse, vivid rock and soil coloration of varying intensities of red, brown, and buff add to the areas's scenic quality. The small amount of vegetation present includes scattered pinyon-juniper, some sagebrush, grasses, and riparian vegetation and cottonwood trees along the river. The Black Box is an extremely narrow, meandering canyon cut by the San Rafael River. The near-vertical, rough-textured canyon walls are varying shades of brown and buff. Desert varnish stains the canyon walls, creating interesting color contrasts and patterns.

Rationale

Special management attention is required to protect the scenic values from irreparable damage; they are important to private river runners who float the river in canoes or innertubes and to an ever-increasing number of hikers who use the Black Box. Prevention of development activities would retain opportunities for isolation.

Scarcity within the Colorado Plateau physiographic province makes this particular combination of scenic values an important resource that would be irreplaceable if damaged or destroyed.

The 58,510-acre San Rafael Canyon area is nominated for ACEC designation under alternatives C, D, and E. Under Alternative F and the proposed RMP, the area nominated was reduced to 34,420 acres. The proposed RMP management prescriptions would adequately protect the areas dropped from consideration for ACEC designation.

Segers Hole

The Segers Hole area is bounded by The Chimney on the north and east and by Moroni Slopes on the south and west. The area's most outstanding feature is the enclosure of Segers Hole on three sides by high sandstone cliffs. This enclosure creates a feeling of isolation for those who visit the area. The cliffs are composed of (1) a narrow band of reddish-brown Carmel Mudstone forming vertical cliffs at the top, (2) buff-colored Navajo Sandstone creating rounded convex slopes, and (3) a lower layer of Kayenta Sandstone creating gray ledges and supporting the valley floor. A basalt dike juts up vertically from the valley floor, cutting through the

southern cliffs and imposing an interesting geologic contrast. Segers Hole itself is composed of gently rolling land with some small washes and canyons and small buff-colored sandstone rock outcrops. The vegetation is scattered juniper with sage grass floor, creating dark green to seasonal green colors.

Adjacent scenery greatly enhances the overall impression of Segers Hole as one walks through the area. Distant views include the Boulder and Thousand Lake Mountains to the southwest, Muddy Creek and Keesle Country to the north and east, the Henry and Abajo Mountains to the southeast and the LaSal Mountains to the east.

Rationale

Special management attention is required to protect the scenic values from irreparable damage that could occur from possible mineral exploration or ORV use. Segers Hole is scenic quality A and unique or very rare within its physiographic province.

The 7,120-acre Segers Hole area is nominated for ACEC designation under alternatives C, D, and F and under the proposed RMP.

Sids Mountain

The Sids Mountain area is located south of San Rafael Canyon and north of Link Flats, between Cane and Coal Washes. It includes Devil and Eagle Canyons, Saddle Horse Canyon, Ghost Rock, the Blocks, Joe and His Dog, San Rafael Knob, Sids Mountain, Bullock Draw, Coal Wash, Cat Canyon, Kimball Draw, Justensen Flats, and Limestone and Sagebrush Benches.

The scenic quality is outstanding in terms of diversity of landforms and colors present. Landforms include rounded domes, high truncated buttes, and vertical cliffs dissected by deep canyons. The change in form and elevation is highly visible. Vivid colors range from light buff and brown sandstones to the light grayeen with dark green vegetation on the mesas and in the canyons.

Rationale

Special management attention is required to protect the scenic values from irreparable damage that could occur from possible mineral exploration or ORV use. Sids Mountain is scenic quality A and unique or very rare within its physographic province.

The 89,060-acre Sids Mountain area is nominated for ACEC designation in alternatives C and D. Under alternative F and the proposed RMP, the designated area would be reduced to 61,870 acres to exclude less scenic areas south of Highway I-70 while protecting the primary values.

The proposed RMP would adequately protect the areas dropped from consideration for ACEC designation.

AREAS CONSIDERED BUT NOT NOMINATED

Several areas were mentioned in the management situation analysis (MSA) or otherwise suggested for possible ACEC designation, but not nominated in the RMP/EIS. These areas are listed below, along with the rationale for dropping them from consideration.

CASTLE DALE TEMPSKYA VICINITY

This area was suggested because of the occurrence of in-place and upright Tempskya, a giant fossilized fern. It was dropped from consideration for ACEC designation because no present or potential threat could be identified that would require protection through special management designation. Therefore, the area does not meet the ACEC criteria of importance.

CRACK CANYON

The majority of the area suggested in Crack Canyon is included in the San Rafael Reef nomination under alternatives B, C, D, and F and under the proposed RMP. The values in the balance of the area were not found to be unique or rare, and therefore do not meet the ACEC criteria of relevance and importance.

DERRS CHANNEL

The Derrs Channel area was dropped from consideration for ACEC designation because no present or potential threat could be identified that would require protection through special management designation, and therefore does not meet the ACEC criteria of importance.

DRY LAKE MEANDER

The area is included in the Dry Lake Archaeological District under alternatives C, D, E, and F and under the proposed RMP.

HORSE BENCH CHANNEL

The Horse Bench Channel area was not found to have unique rangeland values. It was dropped from consideration for ACEC designation because no present or potential threat could be identified that would require protection through special management designation. The area does not meet the ACEC criteria of relevance and importance.

KEESLE COUNTRY

The Keesle Country area was not found to qualify as a relict vegetation area; however, it is covered by the Muddy Creek nomination under alternatives C, D, E, and F and under the proposed RMP.

LABYRINTH CANYON/HORSESHOE CANYON

The Labyrinth Canyon/Horseshoe Canyon area has outstanding scenic quality. Since the area straddles the planning boundary, it was decided that the area as a whole should be considered for an ACEC, not just that part within the planning boundary. After the RMP is finalized the San Rafael Resource Area will work with the Henry Mountain and Grand Resource Areas to study this area. Should an ACEC designation be made it would require amendments to each resource area RMP.

LINK FLATS

The Link Flats area was not found to contain either unique rangeland values or relict vegetation and therefore does not meet the ACEC criteria of relevance and importance.

MEXICAN MOUNTAIN

The San Rafael Canyon nomination under alternatives C, D, E, and F and under the proposed RMP covers part of the Mexican Mountain area. The proposed RMP management prescriptions would adequately protect the areas dropped from consideration for ACEC designation.

MUNICIPAL WATERSHEDS

Most of the municipal watershed areas are private lands; the public land area makes up a less than significant part of the overall watersheds and therefore do not neet the ACEC criteria of relevance and importance.

SALT WASH-MUDDY CREEK TRIANGLE

The Salt Wash-Muddy Creek Triangle area contains an unusual geologic feature which is better represented at other locations. It was dropped from consideration for ACEC designation because no present or potential threat could be identified that would require protection through special management designation. The area does not meet the ACEC criteria of importance.

TROUGH HOLLOW ARCHAEOLOGICAL DISTRICT

Trough Hollow was thought to be an important Fremont archaeological area containing evidence of a substantial and sustained Fremont occupation and likely a rare, extensive, earlier occupation by the Archaic peoples. Limited access into the area helped to keep it undisturbed by vandalism and construction projects. The area was identified in the Sevier River Resource Area Management Framework Plan [BLM, 1977a] as needing special management to protect archaeological values.

However, since similar Fremont and Archaic archaeological areas were observed along the Wasatch Plateau (at Ferron Creek, Muddy Creek, Willow Creek, Last Chance Creek, Quitchupah Creek, and Molen Reef), the area was dropped from consideration. The area does not meet the ACEC criteria of importance.

APPENDIX B

AREAS CONSIDERED DURING COMMENT RESPONSE

Several areas were suggested for possible ACEC designation during the public comment period. Most of them are addressed in the previous sections of this appendix. New areas, considered during the analysis of the public comments, are listed below along with the rational for not considering them further in this RMP/EIS.

Cedar Mountain

No values (scenic, natural or cultural) were identified that meet the ACEC criteria of relevance and importance.

Jones Bench

The Jones Bench area is rated scenic quality B. Under guidance in BLM Manual 8410, Visual Resource Inventory, an area must be scenic quality A to be a potential candidate ACEC for scenic values. It's wilderness values were analyzed in the wilderness study process and is outside the scope of this EIS. The Jones Bench area does not meet the ACEC criteria of relevance and importance.

Limestone Cliffs

The Limestone Cliffs area is also not rated scenic quality A. There are no other identified values (natural and cultural) that meet the ACEC criteria of relevance and importance.

Mussentuchit Badlands

No values (scenic, natural, or cultural) have been identified by the BLM or the public that meet the ACEC criteria of relevance and importance.

San Rafael Swell

Much of the San Rafael Swell area is included for ACEC nomination in the nominations of San Rafael Reef, Copper Globe, Swasey Cabin, Temple Mountain, Muddy Creek, I-70 Scenic Corridor, San Rafael Canyon, Segers Hole and Sids Mountain. The areas of the Swell outside these nominations do not have any identified values that meet the ACEC criteria of relevance and importance.

Wild Horse Mesa

No values (scenic, natural or cultural) have been identified that meet the ACEC criteria of relevance and importance.

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APPENDIX C, IMPLEMENTATION COST

OVERVIEW

Appendix C describes the procedures used to estimate the cost of implementing each alternative plan.

The 1986 fiscal year budget was used as a baseline. From this baseline budget, district program leaders and San Rafael Resource Area (SRRA) resource specialists estimated the changes needed in this baseline budget to implement alternative A. Budgets for other alternatives were then derived by comparing the prescribed management between alternative A and the other alternatives. Table C-1 summarizes the estimated total cost changes for labor and nonlabor cost under the alternatives.

BASELINE BUDGET

Several adjustments were made to the 1986 budget to reflect the average cost of managing public lands in the planning area.

Labor costs in the Moab District are recorded by resource area and program; however, most nonlabor costs are not delineated by resource area. Furthermore, most of the district office labor cost can be directly attributed to managing lands in each of the four resource areas. For these reasons, the district office's labor cost, and the entire district's nonlabor costs, were allocated to the four resource areas in proportion to each resource area's labor costs.

The budget also had to be adjusted to account for managing public lands in the Forest Planning Unit (FPU). The cost of managing these lands could not be segregated. The per-acre cost of managing each program in FPU was assumed to be the same as in SRRA.

COST PROJECTIONS

District office program leaders and SRRA resource specialists estimated changes in the amount of labor needed to manage each program under each of the alternatives. Changes in support labor and nonlabor cost were projected based on the existing ratio of support labor and nonlabor cost to direct labor cost. The alternative budgets include the costs of investments being considered under each alternative.

The budgets presented are based on 1986 dollars and do not account for inflation. Activity plans with detailed site-specific management and investments were not available. The cost projections for each alternative are therefore not precise and should be used only as a means for comparing alternatives.

ALTERNATIVE BUDGETS

ALTERNATIVE A

Projected management cost under alternative A (the no-action alternative) would exceed the baseline budget by 10 percent. Capital investments were eliminated from the baseline budget, while the alternative A budget includes these anticipated costs. However, even if historical investments were included in the baseline budget, the cost of implementing alternative A would still be greater. Much of the additional cost stems from the additional management needed to fully implement existing programs.

Budget projections indicate that the no-action alternative would be the least costly to implement, followed by alternatives E, B, F, C, and D respectively. The programs most responsible for the cost differences among alternatives are oil and gas management; mineral materials manage-

APPENDIX C

TABLE C-1

Summary of Labor and Nonlabor Cost, Alternatives A through F

Plan Alternative	San Rafael Resource Area Labor (WMs)	Moab District Office Labor (WMs)	Labor Cost ($1,000)	Nonlabor Cost ($1,000)	Total Cost ($1,000)
Baseline	179.6	131.2	781.0	226.7	1,007.3
Alternative A	189.7	147.7	846.1	259.8	1,105.9
Alternative B	219.8	191.4	1,011.8	431.7	1,443.5
Alternative C	223.1	194.6	1,010.5	427.7	1,438.2
Alternative D	202.1	154.0	896.7	362.2	1,258.9
Alternative E	218.1	167.4	966.8	331.0	1,297.8
Alternative F	232.9	199.5	1,078.6	422.6	1,501.2
Proposed RMP	236.9	199.5	1,087.3	422.6	1,510.2

ment; mining law administration; lands; withdrawal processing and review; grazing management; cultural resource management; recreation management; soil, water, and air management; and habitat management.

ALTERNATIVE B

Management cost under alternative B is projected to be 30 percent greater than alternative A. Grazing management accounts for the largest share of this increase, because of the higher grazing level and the additional investments needed to support this level of grazing. Oil and gas exploration and drilling are also projected to increase 10 percent and would require additional work in the oil and gas program. Having no lands available for land disposal is expected to reduce the lands program costs by 75 percent. Recreation management would also receive lower priority and would not hire seasonal personnel.

ALTERNATIVE C

Management cost under alternative C is also projected to be 30 percent greater than alternative A. Habitat; soil, water, and air; and cultural resource management account for the largest share of this increase. The cost of riparian fencing would be shared by the wildlife habitat management and soil, water, and air programs and would increase the costs of these programs by 290 and 72 percent respectively. A cultural research project in the Dry Lake Area of Critical Environmental Concern (ACEC) and developing the Highway I-70 Pictographs would increase cultural resource management cost by 150 percent. Although the areas withdrawn from mineral entry would reduce mining law activity, pre- existing claims in ACECs and ACECs not withdrawn would increase the processing of plans of operations, thereby increasing mining law administration cost by 25 percent. The ACECs closed to lease or production would have to be withdrawn from mineral entry, increasing withdrawal costs. Although livestock grazing would be reduced under alternative C, more comprehensive range monitoring and developing 25 new allotment management plans (AMPs) would increase the cost of grazing management by 17 percent. Additional recreation facilities and more aggressive management of primitive (P) and semiprimitive nonmotorized (SPNM) recreation opportunities would increase recreation management cost by 34 percent.

ALTERNATIVE D

Management cost under alternative D is projected to be 25 percent greater than under alternative A. Habitat; soil, water, and air; and cultural resource management account for the largest share of this increase. The cost of fencing riparian areas would be shared by the wildlife habitat management and soil, water, and air programs and would increase the management costs of these programs by 182 and 73 percent respectively. A cultural research project in the Dry Lake ACEC and developing the Highway I-70 Pictographs would increase cultural resource management cost by 150 percent. ACEC designations would increase the processing of plans of operation, thereby doubling mining law administration cost. Those ACECs that would be closed to lease or production would have to be withdrawn from mineral entry, thereby increasing withdrawal costs. Although livestock grazing would be reduced under alternative D, more comprehensive range monitoring and developing 19 new AMPs would increase the cost of grazing management by 17 percent. The large area closed to resource use or production would decrease the area available for mineral material development and oil and gas exploration and drilling, thereby decreasing oil and gas and mineral material management cost by 75 percent.

ALTERNATIVE E

Management cost under alternative E is projected to be 17 percent greater than under alternative A. Soil, water, and air; recreation; cultural; and grazing management and mining law administration account for the largest share of this increase. Additional wildlife water developments and watershed projects would increase wildlife habitat and soil, water, and air management cost by 48 and 25 percent respectively. Additional recreation facilities and more intensive management of semiprimitive motorized (SPM) and roaded natural (RN) recreation opportunities would increase recreation management cost by 33 percent. A cultural research project in the Dry

Lake ACEC and developing the Highway I-70 Pictographs would increase cultural management cost by 150 percent. More comprehensive range monitoring and developing 33 new AMPs would increase the cost of grazing management by 24 percent. The proposed ACECs would increase the processing of plans of operation, thereby doubling mining law administration cost. Those ACECs that would be closed to lease or production would have to be withdrawn from mineral entry, thereby increasing withdrawal costs.

ALTERNATIVE F

Management cost under alternative F is projected to be 36 percent greater than under alternative A. Habitat; soil, water, and air; and grazing management account for the largest share of this increase. Riparian fencing, water developments, watershed projects, and more intensive monitoring are projected to increase habitat and soil, water, and air management cost by 195 and 119 percent respectively. More comprehensive range monitoring, 31 new AMPs, rangeland improvements, and sharing the cost of riparian fencing with the wildlife habitat and soil, water, and air management programs would increase the cost of grazing management by 54 percent. The proposed ACECs would increase the processing of plans of operation, thereby doubling mining law administration cost. A cultural research project in the Dry Lake ACEC and developing the Highway I-70 Pictographs would increase cultural resource management cost by 150 percent. Additional recreation facilities and an increased emphasis on the recreation program would increase recreation management cost by 34 percent.

THE PROPOSED PLAN

The cost of implementing the proposed RMP would essentially be the same as alternative F. The added withdrawn acreage would increase mining law administration costs of processing plans of operations for grandfathered claims in these areas. Processing the additional withdrawals would also increase the cost of the range and recreation programs. The recreation program costs would also increase due to the increase level of ORV management. These added costs would be minor and would increase overall management cost by less than 0.1 percent over alternative F (34 percent greater than alternative A).

Table C-2 shows the baseline budget; changes in budget costs among the alternatives are shown in tables C-3 through C-9.

APPENDIX C

TABLE C-2

Baseline Budget (1986 dollars)

Subactivity/Resource Management Program		San Rafael Resource Area Labor (WMs)	Moab District Office Labor (WMs)	Labor Cost ($1,000)	Nonlabor Cost ($1,000)	Total Cost ($1,000)
4111	Oil and Gas	16.7	16.9	82.3	21.5	103.8
4121	Coal Management	33.3	34.6	182.6	39.3	221.9
4131	Mineral Materials	4.2	0.5	12.3	2.6	14.9
4132	Mining Law	8.4	2.3	28.1	4.2	32.3
4211	Rights-of-Way	12.7	5.2	45.2	7.2	52.4
4212	Lands	10.4	2.8	33.3	6.2	39.5
4220	Withdrawals	1.0	0.3	3.8	0.5	4.3
4311	Forest Management	3.1	0.5	6.4	0.5	6.9
4321	Wild Horse and Burro	1.1	0.0	3.0	1.3	4.3
4322	Grazing	36.4	10.4	117.5	18.2	135.7
4331	Cultural Resources	4.2	0.7	11.7	3.1	14.8
4333	Recreation	12.7	2.7	33.6	9.2	42.8
4341	Soil, Water, and Air	6.4	13.9	52.1	18.1	70.2
4351	Habitat Management	5.2	3.0	20.7	12.1	32.8
4352	Endangered Species	5.2	2.7	20.8	4.6	25.4
4410	Planning	5.2	9.2	39.7	6.4	46.1
4420	Data Management	0.0	0.3	0.4	0.6	1.0
4610	Presuppression	0.6	0.7	1.7	0.6	2.3
4620	Firefighting	0.1	0.1	0.5	0.5	1.0
4711	Building Maintenance	9.4	0.7	25.1	14.0	39.1
4712	Recreation Maintenance	1.1	0.8	4.4	4.2	8.6
4714	Engineering Services	0.0	0.6	1.5	0.7	2.2
4820	Equal Employment (EEO)	0.1	0.5	1.3	0.0	1.3
4830	Support Services	2.1	21.8	53.0	51.1	104.1
8100	Range Improvements	0.0	0.0	0.0	0.0	0.0
TOTAL		179.6	131.2	781.0	226.7	1,007.7

NOTE: The work month (WM) is a budgeting tool used to estimate labor cost. Workmonths are calculated dividing hours worked by 173.3. Full-time position planning for BLM is based on 10 WMs per position per year. Budgets include only those subactivities or programs that are relevant to the planning area. Totals may not be additive due to rounding.

APPENDIX C

TABLE C-3

Support Requirements Under Alternative A

Subactivity/Resource Management Program		San Rafael Resource Area Labor (WMs)	Moab District Office Labor (WMs)	Labor Cost ($1,000)	Nonlabor Cost ($1,000)	Total Cost ($1,000)
4111	Oil and Gas	16.7	18.7	86.8	22.1	108.9
4121	Coal Management	33.3	38.2	192.2	40.4	232.6
4131	Mineral Materials	4.2	0.5	12.4	2.6	15.0
4132	Mining Law	8.4	2.6	28.7	4.3	33.0
4211	Rights-of-Way	12.7	5.8	46.7	7.3	54.0
4212	Lands	10.4	3.1	34.0	6.3	40.3
4220	Withdrawals	0.1	0.0	0.4	0.0	0.4
4311	Forest Management	4.2	0.7	8.8	0.6	9.4
4321	Wild Horse and Burro	3.8	0.1	10.8	4.6	15.4
4322	Grazing Management	37.8	12.0	124.9	19.2	144.1
4331	Cultural Resources	4.2	0.8	11.8	4.2	16.0
4333	Recreation Management	16.9	4.0	45.6	12.3	57.9
4341	Soil, Water, and Air	7.4	18.3	65.7	30.4	96.1
4351	Habitat Management	5.3	3.8	22.8	19.9	43.7
4352	Endangered Species	5.3	3.0	21.6	4.8	26.4
4410	Planning	5.3	9.4	40.7	6.3	47.0
4420	Data Management	0.0	0.3	0.4	0.6	1.0
4610	Presuppression	0.6	0.9	2.0	0.7	2.7
4620	Firefighting	0.1	0.1	0.5	0.5	1.0
4711	Building Maintenance	9.6	0.7	25.6	14.3	39.9
4712	Recreation Maintenance	1.1	0.9	4.6	5.4	10.0
4714	Engineering Services	0	0.7	1.6	0.7	2.3
4820	Equal Employment (EEO)	0.2	0.5	1.4	0	1.4
4830	Support Services	2.1	22.3	55.4	50.0	105.4
8100	Range Improvements	0.0	0.2	0.5	0.4	0.9
TOTAL		189.7	147.7	846.1	259.8	1,105.9

NOTE: The work month (WM) is a budgeting tool used to estimate labor cost. Workmonths are calculated dividing hours worked by 173.3. Full-time position planning for BLM is based on 10 WMs per position per year. Budgets include only those subactivities or programs that are relevant to the planning area. Totals may not be additive due to rounding.

APPENDIX C

TABLE C-4

Support Requirements Under Alternative B

Subactivity/Resource Management Program		San Rafael Resource Area Labor (WMs)	Moab District Office Labor (WMs)	Labor Cost ($1,000)	Nonlabor Cost ($1,000)	Total Cost ($1,000)
4111	Oil and Gas	18.3	20.6	95.5	24.3	119.8
4121	Coal Management	33.3	38.2	192.2	40.4	232.6
4131	Mineral Materials	4.2	0.5	12.4	2.6	15.0
4132	Mining Law	9.2	2.8	31.6	4.7	36.3
4211	Rights-of-Way	12.7	5.8	46.7	7.3	54.0
4212	Lands	1.1	0.3	3.4	0.6	4.0
4220	Withdrawals	0.1	0.0	0.4	0.0	0.4
4311	Forest Management	4.2	0.7	8.8	0.6	9.4
4321	Wild Horse and Burro	3.8	0.1	10.8	4.6	15.4
4322	Grazing Management	76.3	33	274.4	112.8	387.2
4331	Cultural Resources	4.2	0.8	11.8	9.4	21.2
4333	Recreation Management	10.6	2.5	28.6	7.7	36.3
4341	Soil, Water, and Air	9.5	23.3	83.9	36.5	120.4
4351	Habitat Management	5.3	3.3	21.6	14.9	36.5
4352	Endangered Species	5.2	3.0	21.6	4.8	26.4
4410	Planning	6.2	10.9	47.1	7.3	54.4
4420	Data Management	0.0	0.3	0.5	0.7	1.2
4610	Presuppression	0.6	0.9	2.0	0.7	2.7
4620	Firefighting	0.1	0.1	0.5	0.5	1.0
4711	Building Maintenance	11.1	0.8	29.7	16.6	46.3
4712	Recreation Maintenance	1.1	0.9	4.6	5.4	10.0
4714	Engineering Services	0.0	0.8	1.8	0.8	2.6
4820	Equal Employment (EEO)	0.2	0.6	1.6	0.0	1.6
4830	Support Services	2.5	25.9	62.9	57.9	120.8
8100	Range Improvements	0.0	15.3	17.4	70.6	88.0
TOTAL		219.8	191.4	1,011.8	431.7	1,443.5

NOTE: The work month (WM) is a budgeting tool used to estimate labor cost. Workmonths are calculated dividing hours worked by 173.3. Full-time position planning for BLM is based on 10 WMs per position per year. Budgets include only those subactivities or programs that are relevant to the planning area. Totals may not be additive due to rounding.

APPENDIX C

TABLE C-5

Support Requirements Under Alternative C

Subactivity/Resource Management Program		San Rafael Resource Area Labor (WMs)	Moab District Office Labor (WMs)	Labor Cost ($1,000)	Nonlabor Cost ($1,000)	Total Cost ($1,000)
4111	Oil and Gas	16.7	18.7	86.8	22.1	108.9
4121	Coal Management	33.3	38.2	192.2	40.4	232.6
4131	Mineral Materials	4.2	0.5	12.4	2.6	15.0
4132	Mining Law	10.5	3.2	35.9	5.4	41.3
4211	Rights-of-Way	12.7	5.8	46.7	7.3	54.0
4212	Lands	10.4	3.1	34.0	6.3	40.3
4220	Withdrawals	2.2	0.9	8.9	1.2	10.1
4311	Forest Management	4.2	0.7	8.8	0.6	9.4
4321	Wild Horse and Burro	3.8	0.1	10.8	4.6	15.4
4322	Grazing Management	44.5	14.1	147.2	22.6	169.8
4331	Cultural Resources	5.6	15.7	15.7	28.3	44.0
4333	Recreation Management	19.3	5.5	54.1	24.1	78.2
4341	Soil, Water, and Air	9.5	26.6	92.4	74.0	166.4
4351	Habitat Management	15.1	14.3	73.9	86.6	160.5
4352	Endangered Species	8.6	4.9	35.5	7.8	43.3
4410	Planning	6.2	11.1	47.8	7.5	55.3
4420	Data Management	0.0	0.3	0.5	0.7	1.2
4610	Presuppression	0.6	0.9	2.0	0.7	2.7
4620	Firefighting	0.1	0.1	0.5	0.5	1.0
4711	Building Maintenance	11.3	0.9	30.2	16.8	47.0
4712	Recreation Maintenance	1.6	1.3	6.9	8.0	14.9
4714	Engineering Services	0.0	0.8	1.9	0.8	2.7
4820	Equal Employment (EEO)	0.2	0.6	1.6	0.0	1.6
4830	Support Services	2.5	26.3	63.8	58.8	122.6
8100	Range Improvements	0.0	0.0	0.0	0.0	0.0
TOTAL		223.1	194.6	1,010.5	427.7	1,438.2

NOTE: The work month (WM) is a budgeting tool used to estimate labor cost. Workmonths are calculated dividing hours worked by 173.3. Full-time position planning for BLM is based on 10 WMs per position per year. Budgets include only those subactivities or programs that are relevant to the planning area. Totals may not be additive due to rounding.

APPENDIX C

TABLE C-6

Support Requirements Under Alternative D

Subactivity/Resource Management Program		San Rafael Resource Area Labor (WMs)	Moab District Office Labor (WMs)	Labor Cost ($1,000)	Nonlabor Cost ($1,000)	Total Cost ($1,000)
4111	Oil and Gas	4.2	4.7	21.8	5.6	27.4
4121	Coal Management	31.3	35.9	180.7	38.0	218.7
4131	Mineral Materials	1.1	0.1	3.1	0.6	3.7
4132	Mining Law	16.8	5.1	57.5	8.6	66.1
4211	Rights-of-Way	12.7	5.8	46.7	7.3	54.0
4212	Lands	10.4	3.1	34.0	6.3	40.3
4220	Withdrawals	4.3	1.7	17.5	2.4	19.9
4311	Forest Management	4.2	0.7	8.8	0.6	9.4
4321	Wild Horse and Burro	3.8	0.1	10.8	4.6	15.4
4322	Grazing Management	44.2	14	146.1	22.5	168.6
4331	Cultural Resources	5.6	1.0	15.7	24.3	40.0
4333	Recreation Management	17.2	4.1	46.5	12.5	59.0
4341	Soil, Water, and Air	9.5	26.6	92.4	74	166.4
4351	Habitat Management	10.1	9.9	50.2	65.6	115.8
4352	Endangered Species	6.6	3.8	27.3	6.0	33.3
4410	Planning	5.7	10.0	43.3	6.7	50.0
4420	Data Management	0.0	0.3	0.4	0.6	1.0
4610	Presuppression	0.6	0.9	2.0	0.7	2.7
4620	Firefighting	0.1	0.1	0.5	0.5	1.0
4711	Building Maintenance	10.2	0.8	27.3	15.3	42.6
4712	Recreation Maintenance	1.1	0.9	4.6	5.4	10.0
4714	Engineering Services	0.0	0.1	0.2	0.9	1.1
4820	Equal Employment (EEO)	0.2	0.5	1.5	0.0	1.5
4830	Support Services	2.2	23.8	57.8	53.2	111.0
8100	Range Improvements	0.0	0.0	0.0	0.0	0.0
TOTAL		202.1	154.0	896.7	362.2	1,258.9

NOTE: The work month (WM) is a budgeting tool used to estimate labor cost. Workmonths are calculated dividing hours worked by 173.3. Full-time position planning for BLM is based on 10 WMs per position per year. Budgets include only those subactivities or programs that are relevant to the planning area. Totals may not be additive due to rounding.

APPENDIX C

TABLE C-7

Support Requirements Under Alternative E

Subactivity/Resource Management Program		San Rafael Resource Area Labor (WMs)	Moab District Office Labor (WMs)	Labor Cost ($1,000)	Nonlabor Cost ($1,000)	Total Cost ($1,000)
4111	Oil and Gas	16.7	18.7	86.8	22.1	108.9
4121	Coal Management	33.3	38.2	192.2	40.3	232.5
4131	Mineral Materials	4.2	0.5	12.4	2.6	15.0
4132	Mining Law	12.6	3.9	43.1	6.4	49.5
4211	Rights-of-Way	12.7	5.8	46.7	7.3	54.0
4212	Lands	10.4	3.1	34.0	6.3	40.3
4220	Withdrawals	2.2	0.9	8.9	1.2	10.1
4311	Forest Management	4.2	0.7	8.8	0.6	9.4
4321	Wild Horse and Burro	3.8	0.1	10.8	4.6	15.4
4322	Grazing Management	47.1	14.9	155.8	24.0	179.8
4331	Cultural Resources	5.6	1.0	15.7	28.3	44.0
4333	Recreation Management	19.0	5.4	53.2	23.8	77.0
4341	Soil, Water, and Air	9.5	23.3	83.9	36.5	120.4
4351	Habitat Management	8.1	5.7	34.7	28.7	62.4
4352	Endangered Species	6.6	3.8	27.3	6.0	33.3
4410	Planning	6.1	10.8	46.8	7.3	54.1
4420	Data Management	0.0	0.3	0.5	0.7	1.2
4610	Presuppression	0.6	0.9	2.0	0.7	2.7
4620	Firefighting	0.1	0.1	0.5	0.5	1.0
4711	Building Maintenance	11.0	0.8	29.5	16.5	46.0
4712	Recreation Maintenance	1.6	1.3	6.9	8.0	14.9
4714	Engineering Services	0.0	0.7	1.8	0.8	2.6
4820	Equal Employment (EEO)	0.2	0.6	1.6	0.0	1.6
4830	Support Services	2.5	25.7	62.4	57.4	119.8
8100	Range Improvements	0.0	0.2	0.5	0.4	0.9
TOTAL		218.1	167.4	966.8	331.0	1,297.8

NOTE: The work month (WM) is a budgeting tool used to estimate labor cost. Workmonths are calculated dividing hours worked by 173.3. Full-time position planning for BLM is based on 10 WMs per position per year. Budgets include only those subactivities or programs that are relevant to the planning area. Totals may not be additive due to rounding.

APPENDIX C

TABLE C-8

Support Requirements Under Alternative F

Subactivity/Resource Management Program		San Rafael Resource Area Labor (WMs)	Moab District Office Labor (WMs)	Labor Cost ($1,000)	Nonlabor Cost ($1,000)	Total Cost ($1,000)
4111	Oil and Gas	16.7	18.7	86.8	22.1	108.9
4121	Coal Management	33.3	38.2	192.2	40.3	232.5
4131	Mineral Materials	4.2	0.5	12.4	2.6	15.0
4132	Mining Law	12.6	3.9	43.1	6.4	49.5
4211	Rights-of-Way	12.7	5.8	46.7	7.3	54.0
4212	Lands	10.4	3.1	34.0	6.3	40.3
4220	Withdrawals	0.6	0.2	2.6	0.3	2.9
4311	Forest Management	4.2	0.7	8.8	0.6	9.4
4321	Wild Horse and Burro	3.8	0.1	10.8	4.6	15.4
4322	Grazing Management	52.0	16.5	171.8	26.4	198.2
4331	Cultural Resources	5.6	1.0	15.7	28.3	44.0
4333	Recreation Management	19.2	5.4	53.8	24.0	77.8
4341	Soil, Water, and Air	14.7	37.9	134.8	76.6	211.4
4351	Habitat Management	12.3	10.7	57.7	63.6	121.3
4352	Endangered Species	7.2	4.1	29.9	6.6	36.5
4410	Planning	6.5	11.6	49.9	7.8	57.7
4420	Data Management	0.0	0.3	0.5	0.8	1.3
4610	Presuppression	0.6	0.9	2.0	0.7	2.7
4620	Firefighting	0.1	0.1	0.5	0.5	1.0
4711	Building Maintenance	11.8	0.9	31.5	17.6	49.1
4712	Recreation Maintenance	1.6	1.3	6.9	8.0	14.9
4714	Engineering Services	0.0	0.8	1.9	0.8	2.7
4820	Equal Employment (EEO)	0.2	0.6	1.7	0.0	1.7
4830	Support Services	2.6	27.4	66.6	61.4	128.0
8100	Range Improvements	0.0	8.8	16.0	9.0	25.0
TOTAL		232.9	199.5	1,078.6	422.6	1,501.2

NOTE: The work month (WM) is a budgeting tool used to estimate labor cost. Workmonths are calculated dividing hours worked by 173.3. Full-time position planning for BLM is based on 10 WMs per position per year. Budgets include only those subactivities or programs that are relevant to the planning area. Totals may not be additive due to rounding.

APPENDIX C

TABLE C-9

Support Requirements Under the Proposed Plan

Subactivity/Resource Management Program		San Rafael Resource Area Labor (WMs)	Moab District Office Labor (WMs)	Labor Cost ($1,000)	Nonlabor Cost ($1,000)	Total Cost ($1,000)
4111	Oil and Gas	16.7	18.7	86.8	22.1	108.9
4121	Coal Management	33.3	38.2	192.2	40.3	232.5
4131	Mineral Materials	4.2	0.5	12.4	2.6	15.0
4132	Mining Law	13.6	3.9	46.3	6.4	49.7
4211	Rights-of-Way	12.7	5.8	46.7	7.3	54.0
4212	Lands	10.4	3.1	34.0	6.3	40.3
4220	Withdrawals	0.6	0.2	2.6	0.3	2.9
4311	Forest Management	4.2	0.7	8.8	0.6	9.4
4321	Wild Horse and Burro	3.8	0.1	10.8	4.6	15.4
4322	Grazing Management	52.2	16.5	172.5	26.4	198.9
4331	Cultural Resources	5.6	1.0	15.7	28.3	44.0
4333	Recreation Management	22.0	5.4	61.6	24.3	85.9
4341	Soil, Water, and Air	14.7	37.9	134.8	76.6	211.4
4351	Habitat Management	12.3	10.7	57.7	63.6	121.3
4352	Endangered Species	7.2	4.1	29.9	6.6	36.5
4410	Planning	6.5	11.6	49.9	7.8	57.7
4420	Data Management	0.0	0.3	0.5	0.8	1.3
4610	Presuppression	0.6	0.9	2.0	0.7	2.7
4620	Firefighting	0.1	0.1	0.5	0.5	1.0
4711	Building Maintenance	11.8	0.9	31.5	17.6	49.1
4712	Recreation Maintenance	1.6	1.3	6.9	8.0	14.9
4714	Engineering Services	0.0	0.8	1.9	0.8	2.7
4820	Equal Employment (EEO)	0.2	0.6	1.7	0.0	1.7
4830	Support Services	2.6	27.4	66.6	61.4	128.0
8100	Range Improvements	0.0	8.8	16.0	9.0	25.0
TOTAL		236.9	199.5	1,087.3	422.6	1,510.2

NOTE: The work month (WM) is a budgeting tool used to estimate labor cost. Workmonths are calculated dividing hours worked by 173.3. Full-time position planning for BLM is based on 10 WMs per position per year. Budgets include only those subactivities or programs that are relevant to the planning area. Totals may not be additive due to rounding.

APPENDIX D, LAWS APPLICABLE TO MANAGEMENT OF PUBLIC LANDS

OVERVIEW

This appendix lists the federal laws that either are referenced in this document or apply to management of public lands and resources in the planning or grazing area. The laws are arranged in table D-1 by subject, as codified in the titles of the United States Code (U.S.C.) of 1982. The U.S.C. section referenced is that believed to be most applicable, but may not include all sections of the statute.

Common names of laws are given in parentheses. This list is provided for the convenience of the reader and is not meant to include all laws pertaining to management of public lands and resources or to imply that laws or amendments not listed are irrelevant to public land management.

TABLE D-1

Laws Applicable to Management of Public Lands and Resources

Title, Subject, and Name of Act	Codification	Statute	Public Law
Title 7 - Agriculture			
Federal Insecticide, Fungicide and Rodenticide Act.	7 U.S.C. 101f	61 Stat. 163	
Title 15 - Commerce and Trade			
Toxic Substances Control Act	15 U.S.C. 2501f	90 Stat. 2003	P.L. 94-469
Title 16 - Conservation			
The Act of August 25, 1916 (The National Park Service Organic Act)	16 U.S.C. 1 et seq.	39 Stat. 535	Aug. 25, 1916, P.L. 235, ch. 408
National Parks and Recreation Act of 1978	16 U.S.C. 1 et seq.	92 Stat. 3467	P.L. 95-625
An Act to Establish Canyonlands National Park (September 12, 1964)	16 U.S.C. 271	78 Stat. 937	P.L. 88-590
Capitol Reef National Park Act	16 U.S.C. 273-273f	85 Stat. 739	P.L. 92-207
Capitol Reef National Park Act	16 U.S.C. 2735	96 Stat. 1639	P.L. 97-341
The Act of June 8, 1906 (Antiquities Act of 1906)	16 U.S.C. 431 et seq.	34 Stat. 225	June 8, 1906, P.L. 209, ch. 3060
The Land and Water Conservation Fund Act of 1965 (Sept. 3, 1964)	16 U.S.C. 4601-4 et seq.	78 Stat. 897	P.L. 88-578
An Act to Establish the Glen Canyon National Recreation Area in the States of Arizona and Utah (Oct. 27, 1972)	16 U.S.C. 460 dd	86 Stat. 1311	P.L. 92-593

The Federal Water Projects Recreation Act (July 9, 1965)	16 U.S.C. 4601-12 et seq.	79 Stat. 213	P.L. 89-72
The Water Resources Development Act of 1974 (March 7, 1974)	16 U.S.C. 4601-13 et seq.	88 Stat. 16	P.L. 93-251
The Act of Aug. 21, 1935 (Historic Sites, Buildings, and Antiquities Act)	16 U.S.C. 461 et seq.	49 Stat. 666	Aug. 21, 1935, P.L. 292 ch. 593
The Reservoir Salvage Act of 1960	16 U.S.C. 469 et seq.	74 Stat. 220	P.L. 86-523
The Reservoir Salvage Act Amendment of May 24, 1974 (Archaeological and Historic Preservation Act of 1974)	16 U.S.C. 469 et seq.	88 Stat. 174	P.L. 93-291
The National Historic Preservation Act (October 15, 1966), as amended	16 U.S.C. 470 et seq.	80 Stat. 915	P.L. 89-665
The Archaeological Resources Protection Act of 1979 (Oct. 31, 1979)	16 U.S.C. 470aa et seq.	93 Stat. 721	P.L. 96-95
The Multiple-Use Sustained-Yield Act of 1960 (June 12, 1960) (National Forest lands)	16 U.S.C. 528 et seq.	74 Stat. 215	P.L. 86-517
The Soil Conservation and Domestic Allotment Act of 1935, as amended	16 U.S.C. 590a et seq.	49 Stat 164	April 27, 1935, P.L. 46, ch. 85
The Act of September 28, 1962	16 U.S.C. 611	76 Stat. 652	P.L. 87-713
The Fish and Wildlife Coordination Act (March 10, 1934), as amended	16 U.S.C. 661 et seq.	48 Stat. 401	March 10, 1934, P.L. 121, ch. 55
The Fish and Wildlife Coordination Act Amendment of Aug. 12, 1958	16 U.S.C. 661 et seq.	72 Stat. 563	P.L. 85-624
The Act of June 8, 1940 (Bald Eagle Protection Act), as amended	16 U.S.C. 668 et seq.	54 Stat. 250	June 8, 1940, P.L. 567, ch. 278
The Act of September 15, 1960 (The Sikes Act), as amended	16 U.S.C. 670a	74 Stat. 1052	P.L. 86-797

TABLE D-1 (Continued)

Title, Subject, and Name of Act	Codification	Statute	Public Law
Title 16 - Conservation (Concluded)			
The Migratory Bird Treaty Act (July 3, 1918), as amended	16 U.S.C. 703	40 Stat. 756	July 3, 1918, P.L. 186, ch. 128
The Migratory Bird Treaty Act Amendments of June 20, 1936	16 U.S.C. 703 et seq.	49 Stat. 1556	June 20, 1936, P.L. 728, ch. 634
The Watershed Protection and Flood Prevention Act (Aug. 4, 1954), as amended	16 U.S.C. 1001 et seq.	68 Stat. 666	Aug. 4, 1954, P.L. 566, ch. 656
The Wilderness Act (Sept. 3, 1964)	16 U.S.C. 1131 et seq.	78 Stat 890	P.L. 88-577
The National Trails System Act (Oct. 2, 1968), as amended	16 U.S.C. 1241 et seq.	82 Stat. 919	P.L. 90-543
The Wild and Scenic Rivers Act (Oct. 2, 1968), as amended	16 U.S.C. 1271 et seq.	82 Stat. 906	P.L. 90-542
The Wild and Scenic Rivers Act Amendment of Jan. 3, 1975	16 U.S.C. 1276	88 Stat 2094	P.L. 93-621
The Act of Dec. 15, 1971 (The Wild Free-Roaming Horses and Burros Act)	16 U.S.C. 1331 et seq.	85 Stat. 649	P.L. 92-195
The Endangered Species Act of 1973 (Dec. 28, 1973), as amended	16 U.S.C. 1531 et seq.	87 Stat. 884	P.L. 93-205
The Endangered Species Act Amendment of Dec. 28, 1979	16 U.S.C. 1531 et seq.	93 Stat 1225	P.L. 96-159
The Soil and Water Resources Conservation Act of 1977 (Nov. 18, 1977)	16 U.S.C. 2001 et seq.	91 Stat. 1407 et seq.	P.L. 95-192

Title 25 - Indians

The Act of Feb. 8, 1887 (General Allotment Act), as amended	25 U.S.C. 331 et seq.	24 Stat. 388	Feb. 8, 1887, ch. 119
The Indian Mineral Development Act (December 22, 1982)	25 U.S.C. 2101 et seq.	96 Stat. 1938	P.L. 97-382
The Act of Sept. 2, 1958 (provides for the exchange of mineral and other rights between the U.S. and the Navajo Indian tribe)	(not codified in U.S.C.)	72 Stat. 1686	

Title 29 - Labor

The Act of Jan. 12, 1983 (Federal Oil and Gas Royalty Management Act of 1982)	29 U.S.C. 1701 et seq.	96 Stat. 2447	P.L. 97-451

Title 30 - Mineral Lands and Mining

The Act of May 10, 1872 (The General Mining Law of 1872)	30 U.S.C. 22 et seq.	R.S. 2319 et seq.	May 10, 1872, ch. 152
The Act of Feb. 25, 1920 (The Mineral Lands Leasing Act), as amended by the Federal Onshore Oil and Gas Leasing Reform Act of 1987	30 U.S.C. 181	41 Stat. 437	Feb. 25, 1920, P.L. 146, ch. 85
The Act of Aug. 4, 1976 (Federal Coal Leasing Amendment Act)	30 U.S.C. 201	90 Stat 1083	P.L. 94-377
The Combined Hydrocarbon Leasing Act of 1981, as amended (Nov. 16, 1981)	30 U.S.C. 226; 241	95 Stat. 1070	P.L. 97-78
The Act of Feb. 7, 1927 (The Potash Leasing Act)	30 U.S.C. 281 et seq.	44 Stat. 1057	Feb. 7, 1927, P.L. 579, ch. 66
The Mineral Leasing Act for Acquired Lands of 1947, as amended	30 U.S.C. 351 et seq.	61 Stat. 913	Aug. 7, 1947, P.L. 382, ch. 513
The Act of July 31, 1947 (The Material Sale Act)	30 U.S.C. 601 et seq.	61 Stat. 681	July 31, 1947, P.L. 291, ch. 406

TABLE D-1 (Continued)

Title, Subject, and Name of Act	Codification	Statute	Public Law
Title 30 - Mineral Lands and Mining			
The Act of July 23, 1955 (The Multiple Surface Use Act of 1955)	30 U.S.C. 601 et seq.	69 Stat. 367	July 23, 1955, P.L. 167, ch. 375
The Act of Aug. 11, 1955 (The Mining Claims Rights Restoration Act of 1955)	30 U.S.C. 621	69 Stat. 681	Aug. 11, 1955, P.L. 359, ch. 797
National Materials and Minerals Policy Research and Development Act of 1980	30 U.S.C. 1601	94 Stat. 2309	P.L. 96-479
The Geothermal Steam Act of 1970	30 U.S.C. 1001 et seq.	84 Stat. 1566	P.L. 91-581
The Mineral Policy Act of 1970	30 U.S.C. 21a	84 Stat. 1876	P.L. 91-631
The Act of Aug. 3, 1977 (Surface Mining Control and Reclamation Act of 1977)	30 U.S.C. 1201 et seq.	91 Stat. 447	P.L. 95-87
Federal Oil and Gas Royalty Management Act of 1982	30 U.S.C. 1701 et seq.	96 Stat. 2447	P.L. 97-451
Title 31 - Money and Finance			
The Act of June 30, 1932 (The Economy Act of 1932) (substantially restated in P.L. 97-258, Sept. 13, 1982, 96 Stat. 933)	31 U.S.C. 1535 (formerly 31 U.S.C. 686)	44 Stat. 417	P.L. 72-211
Federal Grant and Cooperative Agreement Act of 1977 (Feb. 3, 1978)	31 U.S.C. 6301 et seq.	92 Stat. 3	P.L. 95-224

Title 33 - Navigation and Navigable Waters

The Federal Water Pollution Control Act Amendments of Oct. 18, 1972	33 U.S.C. 1151 et seq.	86 Stat. 816	P.L. 92-500
The Federal Water Pollution Control Act (Clean Water Act) (June 30, 1948), as amended	33 U.S.C. 1251 et seq.	86 Stat. 896 (62 Stat. 1155)	June 30, 1948, P.L. 845, ch. 758 (P.L. 92-500)
The Clean Water Act of 1977 (Dec. 27, 1977), as amended	33 U.S.C. 1251 et seq.	91 Stat. 1566	P.L. 95-217

Title 42 - The Public Health and Welfare

The Safe Drinking Water Act (Dec. 16, 1974), as amended	42 U.S.C. 300f et seq.	88 Stat. 1660	P.L. 93-523
The Safe Drinking Water Act Amendments of 1977 (Nov. 16, 1977)	42 U.S.C. 300f et seq.	91 Stat. 1397	P.L. 95-190
The Water Resources Research Act of 1964 (July 17, 1964)	42 U.S.C. 1961 et seq.	78 Stat. 329	P.L. 88-379
The Water Resources Planning Act (July 22, 1965)	42 U.S.C. 1961 et seq.	79 Stat. 244	P.L. 89-80
The Water Resources Development Act of 1974 (Mar. 16, 1974)	42 U.S.C. 1961 et seq.	88 Stat. 49	P.L. 93-251
The Water Resources Development Act of 1976 (Oct. 22, 1976)	42 U.S.C. 1962d-5d et seq.	90 Stat. 2917	P.L. 94-587
The American Indian Religious Freedom Act of 1978 (Aug. 11, 1978)	42 U.S.C. 1996 et seq.	92 Stat. 469	P.L. 95-341
The Atomic Energy Act of 1954	42 U.S.C. 2001 et seq.	68 Stat. 919	
The Uranium Mill Tailings Radiation Control Act of 1978	42 U.S.C. 2014 et seq.	92 Stat. 3021	P.L. 95-604

TABLE D-1 (Continued)

Title, Subject, and Name of Act	Codification	Statute	Public Law
Title 42 - The Public Health and Welfare (Concluded)			
Solid Waste Disposal Act, as amended, 1965 etc.	42 U.S.C. 3251f	79 Stat 997	P.L. 89-272
The National Environmental Policy Act of 1969 (Jan. 1, 1970), as amended	42 U.S.C. 4321 et seq.	83 Stat. 852	P.L. 91-190
The Noise Control Act of 1972 (Oct. 27, 1972), as amended	42 U.S.C. 4901 et seq.	86 Stat. 1234	P.L. 92-574
The Solid Waste Disposal Act (Oct. 20, 1965), as amended	42 U.S.C. 6901 et seq. (formerly 42 U.S.C. 3251 et seq.)	79 Stat. 997	P.L. 89-272
The Resource Conservation and Recovery Act, as amended	42 U.S.C. 6901f	90 Stat. 2795	P.L. 94-580
The Clean Air Act (July 14, 1955)	42 U.S.C. 7401 et seq.	77 Stat. 392	July 14, 1955, P.L. 159, ch. 360 (P.L. 88-206)
The Clean Air Act Amendments of Dec. 17, 1963	42 U.S.C. 7401 et seq	77 Stat. 392	P.L. 88-206
The Clean Air Act Amendments of 1970 (Dec. 31, 1970)	42 U.S.C. 7401 et seq.	84 Stat. 1676	P.L. 91-604
The Clean Air Act Amendments of Aug. 7, 1977	42 U.S.C. 7401 et seq.	91 Stat. 685	P.L. 95-95
Comprehensive Environmental Response and Recovery Act, as amended	42 U.S.C. 9601f	94 Stat. 2767	P.L. 96-510

The Nuclear Waste Policy Act of 1982 (Jan. 7, 1983)	42 U.S.C. 10101 et seq.	96 Stat 2201	P.L. 97-425
Title 43 - Public Lands			
The Taylor Grazing Act	43 U.S.C. 315 et seq.	48 Stat. 1269	June 28, 1934, P.L. 482, ch. 865
The Act of Mar. 3, 1877 (The Desert Land Entry Act), as amended	43 U.S.C. 321 et seq.	19 Stat. 377	Mar. 3, 1877, ch. 107
The Act of June 17, 1902 (The Reclamation Act), as amended	43 U.S.C. 371 et seq.	32 Stat. 388	June 17, 1902, P.L. 161, ch. 1093
The Upper Colorado River Basin Compact	43 U.S.C. 617l	63 Stat. 31	Apr. 6, 1949, P.L. 37, ch. 48
The Act of April 11, 1956 (Colorado River Storage Project Act)	43 U.S.C. 620 et seq.	70 Stat. 105	Apr. 11, 1956, P.L. 485, ch. 203
The Appropriations Act of 1952, McCarran Amendment	43 U.S.C. 666	66 Stat. 560	July 10, 1952, P.L. 495, ch. 651
The Act of June 1, 1938 (Small Tract Act of 1938), as amended	43 U.S.C. 682a	52 Stat. 609	June 1, 1938, P.L. 577, ch. 317
The Act of June 14, 1926 (Recreation and Public Purposes Act), as amended	43 U.S.C. 869 et seq.	44 Stat. 741	June 14, 1926, P.L. 386, ch. 578
The Act of July 26, 1866	43 U.S.C. 932	R.S. 2477	July 26, 1866, ch. 262
The Act of March 4, 1911 (repealed Oct. 21, 1976 by FLPMA, 43 U.S.C. 1701, 90 Stat. 2793, P.L. 94-579)	43 U.S.C. 961	36 Stat 1253	March 4, 1911, P.L. 478, ch. 238
The Classification and Multiple Use Act of Sept. 19, 1964 (terminated)	43 U.S.C. 1411 et seq.	78 Stat. 986	P.L. 88-607
The Act of June 24, 1974 (Colorado River Basin Salinity Control Act)	43 U.S.C. 1571 et seq.	88 Stat. 266	P.L. 93-320

TABLE D-1 (Concluded)

Title, Subject, and Name of Act	Codification	Statute	Public Law
Title 43 - Public Lands (Concluded)			
The Federal Land Policy and Management Act (Oct. 21, 1976)	43 U.S.C. 1701 et seq.	90 Stat. 2743	P.L. 94-579
The Public Rangelands Improvement Act of 1978 (Oct. 25, 1978)	43 U.S.C. 1901 et seq.	92 Stat. 1803	P.L. 95-514
Title 49 - Transportation			
The Department of Transportation Act of 1966 (October 15, 1966), asamended (substantially repealed by P.L. 97-449, January 12, 1983, 90 Stat. 2413)	49 U.S.C. 1653	80 Stat. 931	P.L. 89-670
The Act of May 24, 1928 (as amended) (The Airport Leasing Act)	49 U.S.C. App. 211 et seq.	45 Stat. 728	May 24, 1928 P.L. 499
The Hazardous Materials Transportation Act, as amended	49 U.S.C. 1801f		

APPENDIX E, OIL AND GAS LEASING CATEGORIES

OVERVIEW

Appendix E explains the Bureau of Land Management's (BLM's) system for categorizing lands for oil and gas leasing and provides general background information regarding the categories currently in effect.

Under the category system, lands are studied in detail to assess all resource values present on the surface, as well as the potential for oil and gas resources. Lands are then placed in a given leasing category, based on the need to resolve surface resource conflicts.

CURRENT CATEGORIES

In 1975, the BLM in Utah established four leasing categories to determine which areas would be leased and under what conditions. That system was implemented through a programmatic environmental assessment (EA) [BLM, 1975]. The leasing categories established through the 1975 EA have remained in effect until the present time.

Lands in category 1 are open to leasing with standard lease stipulations. Category 2 lands are open to leasing with special stipulations to mitigate potential impacts to other resources from exploration and development of the lease. Category 3 lands are open to leasing but have a no-surface-occupancy stipulation, meaning that any development is normally done with minimal surface disturbance, usually by directional drilling from offlease areas. No-surface-occupancy stipulations may be waived or excepted in areas managed for scenic values, if an EA concludes that the proposed action would not adversely impact scenic values. Note, these leases would be stipulated to include a provision for granting the waiver or exception. This provision would specify the circumstances that would have to exist and indicate whether public notice would be necessary. Note that "waiver" of a stipulation means that it no longer applies anywhere within the leasehold. The only BLM official authorized to waive a stipulation is the State Director, since that is the official who issues the lease. In most cases, waiver of a stipulation will require an RMP amandment. Granting an "exception" means that the stipulation continues to apply to all other sites within the lease to which the restrictive criteria applied. Further, it means that specific permission is granted to the lessee/operator in a particular circumstance after that lessee/operator has shown or demonstrated that granting the exception is reasonable and proper. Category 4 lands are closed to leasing due to congressional or administrative withdrawal to protect nationally significant resource values on the surface.

In 1984 BLM revised the oil and gas leasing categories through the statewide tar sand leasing environmental impact statement (EIS) [BLM 1984c]. Because that EIS addressed only lease categories within special tar sand leasing areas (STSAs), it applies within the planning area only to the San Rafael STSA in San Rafael Resource Area (SRRA). The leasing categories developed through the tar sand EIS apply to combined hydrocarbon leases (CHLs), which cover the development and production of tar sand, oil shale, and oil and gas resources within the STSA.

In 1986 BLM issued supplemental program guidance for fluid minerals, which required BLM to place public lands into four leasing categories:

- open subject to standard terms and conditions;

- open subject to seasonal or other minor constraints;

- open subject to no surface occupancy and similar major constraints;

- and closed to leasing [BLM manual section 1624.21].

These categories are similar to those previously used in Utah, but they have some slight differences, particularly regarding the separation of the second and third categories.

BLM policy requires that the least-limiting level of restriction be applied to oil and gas leases (76 IBLA 395 (1983)). Accordingly, the nature and extent of an actual or potential conflict must be determined, and the area must be placed under the least restrictive category that would serve to mitigate the conflict.

Lease conditions are established through the BLM planning process and cannot be changed without amending the plan. By accepting a lease with special conditions limiting seasonal or surface use, an operator agrees to abide by those conditions. Accordingly, minerals from that lease can be developed only if the special conditions can be met. If the special conditions cannot be met, mineral resources cannot be developed on the leasehold.

Under amendments to the leasing law (The Federal Oil and Gas Leasing Reform Act of 1987) passed in December, 1987, lands under wilderness review are not available for leasing. Additionally, lands designated as wilderness are not available for leasing unless specifically provided for in the enabling legislation. These lands may be available for exploration under permit (such as seismic work), provided that their wilderness values are not impaired.

The existing allocation of public lands based on the 1975 lease categories and 1984 tar sand EIS will be re-evaluated in the resource management plan (RMP) and EIS. The reallocation will be based on the 1986 lease category divisions. Additionally, public lands will be examined to see if concerns and conflicts identified in 1975 and 1984 are still valid or whether new concerns have appeared.

For ease of reference in this RMP/EIS, the same numbering system will be used as was in effect under the 1975 system.

APPENDIX F, METHODOLOGY FOR IDENTIFYING AREAS SUITABLE FOR COAL LEASING

OVERVIEW

To determine which coal lands should be considered for leasing, four screens (43 CFR 3420-1) are applied during land use planning. The first screen eliminates from coal leasing lands that have little or no coal development potential. The second screen (coal unsuitability review) eliminates lands that contain sensitive resources. The third screen (multiple-use tradeoffs) eliminates lands that contain resources considered more important than coal. The fourth screen (surface-owner consultation) eliminates private land containing federal coal if the land owner objects to mining.

In the planning area, only the first three screens were applied. The fourth screen is not required unless coal lands are to be surface mined. During the analysis period, only underground mining methods were considered feasible for lands in the planning area.

Lands found acceptable in this plan can be considered for coal leasing on a lease-by-application basis or as several tracts offered in a regional sale.

COAL DEVELOPMENT POTENTIAL (SCREEN 1)

A total of 62,290 acres of BLM-administered public lands within the planning area were identified as having coal development potential. These lands (map 18 in volume 2) are defined by the Wasatch Plateau and Emery Known Recoverable Coal Resource Areas (KRCRAs).

COAL UNSUITABILITY REVIEW (SCREEN 2)

The coal unsuitability review, required by the Surface Mining Control and Reclamation Act of 1977 (SMCRA), involved applying 20 criteria with exemptions and exceptions. The criteria (43 CFR 3461.1) were applied to public lands in the planning area within the KRCRAs. The exceptions were applied where appropriate; the exemptions were determined inappropriate.

The KRCRAs were assessed only for suitability for underground mining, because surface mining methods are considered infeasible within the planning area during the next 20 years. Although the planning area contains potentially strippable coal, development is considered unlikely within the analysis period because of geologic, engineering, and economic factors.

Based on application of the criteria, about 18,913 acres were found suitable for further leasing consideration; approximately 19,277 acres were found suitable for leasing but sensitive to development; and 4,100 acres were found unsuitable (map 19 in volume 2 and table F-1).

CRITERION 1

All federal lands included in the following land systems or categories shall be considered unsuitable: National Park System, National Wildlife Refuge System, National System of Trails, National Wilderness Preservation System, National Recreation Areas, land acquired with money derived from the Land and Water Conservation Fund, national forests, and federal lands in incorporated cities, towns, and villages.

Analysis

Incorporated within the town of Emery, Utah, 160 acres of federal land are unsuitable for future coal leasing.

TABLE F-1

Areas Found Unsuitable for Coal Leasing or Sensitive to Development

Criterion/Reason for Leasing Category		Unsuitable (acres)	Unsuitable (miles)	Sensitive (acres)	Sensitive (miles)
1	Federal land in incorporated cities	160		0	0
2	Rights-of-way	0	0		15.4
	Easement and communication site	0	0	21.8	
3	Highway I-70	0	0	376	6.2
	Highway U-10	0	0	335	6.9
	Public roads	0	0		80
4	Wilderness study areas	0	0	0	0
5	Visual resource management[a]	0	0	3,980	
6	Scientific studies	0	0	0	0
7	Historic places	0	0	40	0.25
8	Natural areas	0	0	0	0
9	Threatened and endangered species habitat	0	0	3,750	
10	State threatened and endangered wildlife habitat	0	0	0	0
11	Golden eagle habitat	0	0	3	
12	Eagle concentration areas	0	0	0	0
13	Falcon nest sites	0	0	1.25	
14	Habitat for migratory species of high federal interest[b]	0	0	0	0
15	Perennial and ephemeral water, riparian	0	0	280	
	Deer and elk winter range	0	0	6,190	
	Cliff areas associated with raptor nests	0	0	3,700	
16	100-year floodplain	0	0	300	
17	Municipal watersheds	3,940		0	0
18	National resource waters	0	0	0	0
19	Alluvial valley floors	0	0	300	
20	State proposed criteria	0	0	0	0
TOTAL		4,100	0	19,277.05	108.75

[a]The same VRM class I areas are proposed under RMP alternatives C, D, E, F, and proposed RMP.

[b]Golden eagle habitat is included in criterion 11.

CRITERION 2

Federal lands that are within rights-of-way or easements or within surface leases for residential, commercial, industrial, or other public purposes on federally-owned surface shall be considered unsuitable.

Exception

A lease may be issued, and mining operations approved, in such areas if the surface management agency determines that (i) all or certain types of coal development (e.g., underground mining) will not interfere with the purpose of the right-of-way or easement; or (ii) the right-of-way or easement was granted for mining purposes; or (iii) the right-of-way or easement was issued for a purpose for which it is not being used; or (iv) the parties involved in the right-of-way or easement agree, in writing, to leasing; or (v) it is impractical to exclude such areas due to the location of coal and method of mining, and such areas or uses can be protected through appropriate stipulations.

Analysis

The pipeline right-of-way to Dog Valley was for mining purposes.

Sixteen other rights-of-way and easements are present within the KRCRAs (table F-2). The lands within these rights-of-way and easements are suitable for leasing but sensitive to development. A no-surface-disturbance restriction will be required to protect these rights-of-way from surface damage.

CRITERION 3

Federal land affected by Section 522(c)(40) and (50) of SMCRA shall be considered unsuitable. This includes lands within 150 feet of the outside line of the right-of-way of a public highway or within 100 feet of a cemetery, or within 350 feet of any occupied public building, school, church, community or institutional building or public park or within 300 feet of an occupied building.

Analysis

Highways I-70 and U-10 cross about 6.2 and 6.9 miles respectively of public lands within the KRCRAs. Highway I-70 (500-foot-wide right-of-way), Highway U-10 (400-foot-wide right-of-way), and the lands within 100 feet of the outside line of both rights-of-way are suitable for leasing but sensitive to development. Stipulations will be developed to protect these public highways from any damage associated with underground mining.

Public roads occupying about 80 miles of BLM land within the KRCRAs are suitable for leasing but sensitive to development. A lease stipulation will be required to protect these roads from subsidence.

No cemeteries, public buildings, schools, churches, community or institutional buildings, public parks, or occupied dwellings are known to exist on public land within the KRCRAs.

CRITERION 4

Federal lands designated as wilderness study areas (WSAs) shall be considered unsuitable while under review by the Administration and Congress for possible wilderness designation.

Analysis

No WSAs have been proposed or designated within the KRCRAs.

CRITERION 5

Scenic federal lands designated by visual resource management (VRM) analysis as class I (an area of outstanding scenic quality or high visual sensitivity) but not currently on the National Register of Natural Landmarks shall be considered unsuitable. A lease may be issued if the surface management agency determines that surface coal mining operations will not significantly diminish or adversely affect the scenic quality of the designated area.

TABLE F-2

Rights-of-way and Easements Within Coal Development Potential Areas or KRCRAs

Area	Grantee	Serial No.	Type	Size (acres)	Size (miles)	Planning Unit
Emery KRCRA	Dog Valley	U-37222	Powerline		4.5	SRRA
	Emery County	U-53807	Telephone line		0.1	SRRA
	Emery County	U-53808	Telephone line		1.9	SRRA
	Emery County	U-59972	Road		0.4	SRRA
	Emery Town	U-34614	Communication site	1.8		SRRA
	Ferron Canal Company	SL-033612	Irrigation canal		1.7	SRRA
	Sevier County	U-43522	Road		1.4	FPU
	State/BLM	U-52821	Revegetation easement	20.0		SRRA
	Utah Power & Light Company	U-22141	Powerline		4.3	SRRA
		U-36072	Powerline		1.5	SRRA
		U-36469	Powerline		2.0	SRRA
		U-4030	Powerline		0.2	SRRA
		U-53813	Powerline		1.1	SRRA
		U-060193	Powerline		0.4	SRRA
		U-38062	Powerline		0.2	SRRA
Wasatch Plateau KRCRA	Utah Power & Light Company	U-18934	Powerline		0.1	SRRA
		U-52401	Pipeline		0.1	SRRA
TOTAL				21.8	19.5	

Analysis

About 3,980 acres of public land along the Highway I-70 corridor within the Emery KRCRA are identified as VRM class I areas under alternatives C, D, E, and F and under the proposed resource management plan (RMP). VRM class I areas are suitable for leasing but sensitive to development. Any development would have to meet the VRM class I objective.

CRITERION 6

Federal lands under permit by the surface management agency and being used for scientific studies involving food or fiber production, natural resources, or technology demonstrations and experiments shall be considered unsuitable for the duration of the study, demonstrations or experiment, except where mining could be conducted in such a way as to enhance or not jeopardize the purposes of the study, as determined by the surface management agency, or where the principal scientific user or agency gives written concurrence to all or certain methods of mining.

Analysis

No lands within the KRCRAs are being used for these types of studies.

CRITERION 7

All publicly owned places on federal lands which are included in the National Register of Historic Places shall be considered unsuitable. This shall include any areas that the surface management agency determines, after consultation with the Advisory Council on Historic Preservation and the State Historic Preservation Office, are necessary to protect the inherent values of the property that made it eligible for listing in the National Register.

Exception

All or certain stipulated methods of coal mining may be allowed if the surface management agency determines, after consultation with the Advisory Council on Historic Preservation and State Historic Preservation Office that the direct and indirect effects of mining as stipulated on a property in or eligible for the National Register of Historic Places will not result in significant adverse impacts to the property.

Analysis

The Rochester-Muddy petroglyph site was listed on the National Register of Historic Places on February 6, 1979. This petroglyph site is 25 miles southeast of Emery, Utah in T. 22 S., R. 6 E., SE1/4, NW1/4, Sec. 13. This site is suitable for leasing, but no surface disturbance will take place within 0.25 mile, and no underground mining will be allowed within this 0.25-mile buffer without consultation with the Advisory Council on Historic Preservation and State Historic Preservation Office.

No other known sites within the KRCRAs are included in or eligible for inclusion in the National Register of Historic Places.

CRITERION 8

Federal lands designated as natural areas or as national natural landmarks shall be considered unsuitable.

Analysis

No federal lands within the KRCRAs are designated as national natural landmarks.

CRITERION 9

Federally designated critical habitat for threatened or endangered (T/E) plant and animal species, and habitat for federal T/E species which is determined by the Fish and Wildlife Service (USFWS) and the surface management agency to be of essential value and where the presence of T/E species has been scientifically documented, shall be considered unsuitable.

Exception

A lease may be issued and mining operations approved if, after consultation with USFWS, it is determined that the proposed activity is not likely to jeopardize the continued existence of the listed species and/or its critical habitat.

Analysis

There are no federally designated critical habitats for T/E plant or animal species; however, the presence of four species has been scientifically documented in the planning area. Others plants may also occur. USFWS considers the lands associated with these species of essential value, suitable for leasing but sensitive to development. Therefore, no surface disturbance will be allowed on these lands.

CRITERION 10

Federal lands containing habitat determined critical or essential for plant or animal species listed as T/E by the state pursuant to state law shall be considered unsuitable.

Analysis

The Utah Division of Wildlife Resources (UDWR), considers the federal T/E species list adequate and therefore does not maintain a separate state list of T/E plant or animal species.

CRITERION 11

A bald or golden eagle nest or site on federal lands that is determined active and an appropriate buffer zone of land around the nest site shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with USFWS.

Exceptions

A lease may be issued if (i) it can be conditioned in such a way, either in manner or period of operation, that eagles will not be disturbed during breeding season; or (ii) the surface management agency, with concurrence of USFWS, determines that the golden eagle nest(s) will be moved; (iii) buffer zones may be decreased if the surface management agency determines that the active eagle nests will not be adversely affected.

Analysis

Eleven active golden eagle (Aquila chrysaetos) nest sites are located within the KRCRAs. Golden eagle habitat is suitable for leasing but sensitive to development. The following conditions will be imposed to protect golden eagles:

(1) An 0.25-mile buffer zone will be established around the nest when surface disturbance is below and not in direct sight of the nest.

(2) An 0.5-mile buffer zone will be established when surface disturbance is above the level of the nest or in direct sight of the nest.

(3) No surface disturbance will be allowed along cliff faces associated with nests.

CRITERION 12

Bald and golden eagle roost and concentration areas on federal lands used during migration and wintering shall be considered unsuitable.

Analysis

No known bald or golden eagle roosts or concentration areas exist within the KRCRAs. Eagles do visit the area during the winter, but no critical habitat areas have been identified.

CRITERION 13

Federal lands containing a falcon (excluding kestrel) cliff nesting site with an active nest and a buffer zone of federal land around the nest site shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with USFWS.

Exception

A lease may be issued where the surface management agency, after consultation with USFWS, determines that all or certain stipulated methods of coal mining will not adversely affect the falcon habitat during the periods when such habitat is used by the falcons.

Analysis

Five active falcon nest sites exist within the KRCRAs. These sites are suitable for leasing but sensitive to development; therefore, the following lease stipulations will be imposed:

(1) An 0.25-mile buffer zone will be established around the nest when surface disturbance is below and not in direct sight of the nest.

(2) An 0.5-mile buffer zone will be established around the nest when surface disturbance is above the level of the nest or in direct sight of the nest.

The prairie falcon (Falco mexicanus) has also been observed in the planning area.

CRITERION 14

Federal lands that are high-priority habitat for migratory bird species of high federal interest on a regional or national basis, as determined jointly by the surface management agency and USFWS, shall be considered unsuitable.

Analysis

Five migratory bird species of high federal interest are found or have the potential to occur within the coal development potential areas. They are the western bluebird (Shalia mexicana), flammulated owl (Otus flammelus), ferruginous hawk (Buteo regalis), prairie falcon (Falco mexicanus), merlin (Falco columbarius), Cooper's hawk (Accipiter cooperii), golden eagle, and bald eagle. There is no known high-priority habitat for the western bluebird, flammulated owl, ferruginous hawk, prairie falcon, merlin, or Cooper's hawk in the KRCRAs. High-priority habitat for the golden eagle and bald eagle has been discussed under criteria 9, 11, and 12.

CRITERION 15

Federal lands which the surface management agency and the state jointly agree are fish and wildlife habitat for resident species of high interest to the state, and which are essential for maintaining these priority wildlife species, shall be considered unsuitable. Examples of such lands which serve a critical funtion for the species involved include: (i) active dancing and strutting grounds for sage grouse, sharp-tailed grouse, and prairie chicken; (ii) winter ranges most critical for deer, antelope, and elk; and (iii) migration corridors for elk.

Exception

A lease may be issued if, after consultation with the state, the surface management agency determines that all or certain stipulated methods of coal mining will not have a significant long-term impact on the species being protected.

Analysis

The KRCRAs are inhabited by approximately 380 species of vertebrate wildlife during various seasons of the year. According to UDWR, 84 percent of these species are protected by state law. BLM and UDWR have agreed on essential habitat for these species. The following lands have been identified as essential habitat due to their dependent use by these wildlife species for feeding, reproduction, and wintering:

(1) All perennial and ephemeral water sources, riparian habitat, and associated wetlands along with 0.5 mile terrestial habitat.

(2) All crucial deer and elk winter range or habitat.

(3) Cliff areas associated with raptor nests.

After consultation with UDWR, it is determined that these areas are suitable for leasing but sensitive to development. Therefore, the following lease stipulations will be applied:

(1) Appropriate state and federal permits and reclamation plans will be required for any planned mining opertions that could alter or destroy any riparian vegetation or discharge effluents into any perennial streams, reservoirs, lakes, or ponds.

(2) No surface disturbance or occupancy will be allowed during elk and mule deer migration

and use of the crucial winter range (November 1 through May 15).

(3) Prior to coal development, the developer will be required to provide a baseline intensive inventory of raptor breeding territories and identification of eyrie sites within an 0.6 mile (1 km) radius of any proposed portal facilities, load-out sites, or any other facility development that would result in a continual or significant disturbance during the raptor breeding season (February through June).

(4) Cliff areas associated with raptor nests are essential habitat, and no surface disturbance will be allowed.

CRITERION 16

Federal lands in riverine, coastal, and special floodplains (100-year recurrence interval), on which the surface management agency determines that mining could not be undertaken without substantial threat or loss of life or property, shall be considered unsuitable for all or certain stipulated methods of coal mining.

Analysis

There are about 300 acres of public land within the KRCRAs in 100-year floodplains on Muddy, Quitchupah, and Ivie Creeks. These areas are suitable for leasing but sensitive to development. Special stipulations will be developed to protect these floodplains.

CRITERION 17

Federal lands which have been committed by the surface management agency to use as municipal watersheds shall be considered unsuitable.

Exception

A lease may be issued where the surface management agency, in consultation with the municipality (incorporated entity) or the responsible governmental unit, determines, as a result of studies, that all or certain stipulated methods of coal mining will not adversely affect the watershed to any significant degree.

Analysis

The Huntington, Orangeville, and Ferron municipal watersheds include land committed by BLM within the KRCRAs. The Huntington and Orangeville municipal watersheds, located on Huntington and Cottonwood Creeks respectively, involve public lands presently under lease. The BLM-administered land committed to these watersheds is unsuitable for future coal leasing until studies show that leasing and development would not have any adverse impact on the watershed and the muncipality is in concurrence.

CRITERION 18

Federal lands with national resource waters, as identified by states in their water quality management plans, and a buffer zone of federal lands 0.25 mile from the outer edge of the far banks of the water, shall be unsuitable.

Analysis

The Utah Division of Water Resources has not identified any federal lands with national resource waters.

CRITERION 19

Federal lands identified by the surface management agency, in consultation with the state in which they are located, as alluvial valley floors according to the definition in 43 CFR 3400.0-5(a) of this title, the standards in 30 CFR Part 822, the final alluvial valley floor guidelines of the Office of Surface Mining Reclamation and Enforcement when published, and approved state programs under SMCRA, where mining would interrupt, discontinue, or preclude farming, shall be considered unsuitable. Additionally, when mining federal land outside an alluvial valley floor would materially damage the quantity or quality of water in surface or underground water systems that would supply alluvial valley floors, the land shall be considered unsuitable.

Analysis

The Office of Surface Mining tentatively identified 300 acres of BLM land as alluvial valley

floors along Muddy, Quitchupah, and Ivie creeks within the Emery KRCRA. These tentatively identified alluvial valley floors are suitable for leasing but sensitive to surface development. Stipulations will be required to ensure water supplies of these areas are not affected by underground mining operations.

CRITERION 20

Federal lands in a state to which is applicable a criterion (i) proposed by that state, and (ii) adopted by rulemaking by the Secretary, shall be considered unsuitable.

Analysis

The State of Utah has not adopted any other criteria.

MULTIPLE-USE TRADE-OFFS (SCREEN 3)

The multiple use trade-offs screen was applied as part of the land use conflict resolution process. Where conflicts were identified between coal development and development or protection of other resources, a determination was made whether the resource is more important than coal and whether the land associated with this resource should be eliminated from coal leasing. Many resource conflits with coal development were identified, but all could be mitigated. Therefore, no areas were found unacceptable for future leasing.

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APPENDIX G, GRAZING ALLOTMENT MANAGEMENT CATEGORY CRITERIA AND CLASSIFICATION

OVERVIEW

Grazing allotments are grouped into three categories according to their potential to respond to management. These categories, and the criteria for assigning a specific allotment to them, are listed below. Note, however, that an allotment may or may not meet all criteria in the category to which it is assigned. These categories represent the allotments potential to respond to management or the degree of resource conflicts and are not a description of ecological condition. Grazing allotments and their current (1988) category classifications are listed at the end of this appendix.

MAINTAIN (M) CATEGORY CRITERIA

- Resource production potential is moderate to high, and present production is near potential.
- No serious resource-use conflicts exist.
- Opportunities may exist for positive economic return from public investments.

IMPROVE (I) CATEGORY CRITERIA

- Resource production potential is moderate to high, and present production is at low to moderate levels.
- Serious resource-use conflicts are present.
- Opportunities exist for positive economic return from public investments.

CUSTODIAL (C) CATEGORY CRITERIA

- Resource production potential is low, and present production is near potential.
- Limited resource-use conflicts may exist.
- Opportunities for positive economic return on public investment do not exist.

CURRENT ALLOTMENT CATEGORIES

MAINTAIN

5002	Big Pond	5051	North Ferron
5004	Black Dragon	5052	North Herring Flat
5008	Clawson Dairy	5054	North Sid & Charley
5012	Cox (John)	5057	Northwest Ferron
5014	Crawford	5067	Red Canyon
5016	Deep Wash	5068	Red Seeps
5017	Dry Wash	5071	Rochester
5020	East Grimes	5074	Saleratus
5023	Fullers Bottom	5075	Salt Wash
5024	Georges Draw	5080	South Ferron
5026	Hambrick Bottoms	5081	South Herring Flat
5027	Head of Sinbad	5083	South Sids Mountain
5038	Link Canyon	5085	Straight Hollow
5042	McCarty Canyon	5087	Taylor Flat
5043	Mckay Flat	5089	Temple Mountain
5044	Mesquite Wash	5091	West Grimes
5046	Millers Canyon		

APPENDIX G

IMPROVE

SRRA

5005	Buckhorn
5009	Coal Wash
5018	Dugout
5021	Ferron Mills
5025	Globe Link
5099	Hondo
5028	Horse Bench
5029	Horseshoe North
5100	Horseshoe South
5031	Iron Wash
5033	Jeffery Well
5041	Lone Tree
5045	Mexican Bend
5049	Moonshine
5053	North Huntington
5056	North Sinbad
5060	Oil Well Flat
5062	Olsen, G. L.
5063	Pasture Canyon
5072	Rock Canyon
5073	Saddlehorse
5076	San Rafael River
5077	Saucer Basin
5082	South Sid & Charley
5086	Sweetwater
5092	West Huntington
5096	Wood Hollow

FPU

0602	Deer Peak
0605	Last Chance
0607	M&O
0608	Mussentuchit
0611	Rock Springs
0612	Willow Springs

CUSTODIAL

5001	Allred
5003	Black
5006	Bunderson
5007	Case
5010	Cove
5013	Cowley
5011	Cox (Don)
5015	Day
5019	Duncan
5030	Humphrey
5032	Jacobson
5034	Jensen
5035	Johnson
5036	Jorgensen
5037	Justesen
5039	Little Holes
5040	Little Valley
5097	Mervin
5047	Molen Pasture
5048	Molen Tanks
5050	Neva
5055	North Sids Mountain
5058	North Wolf Hollow
5098	OEJ
5059	Oil Dome
5061	Olsen, E.
5064	Peacock
5065	Price
5069	Reid
5066	R.J.
5079	Sorensen
5084	South Wolf Hollow
5088	T.D.J
5090	Tuttle
5093	West Orangeville
5094	Wilberg

APPENDIX H, RANGELAND MONITORING PROCEDURES

OVERVIEW

Appendix H outlines the procedures and presents background information concerning range monitoring in San Rafael Resource Area (SRRA) and Forest Planning Unit (FPU). Monitoring information will be used to determine the need for changes in grazing management and to record improvement or change in range condition.

BASIC CONSIDERATIONS

PRIORITIES

Studies will be established or maintained in allotments in the following order.

(a) Allotments with grazing problems and those in the I (improve) category.

(b) Allotments with management plans in place.

(c) Allotments where management plans are contemplated.

(d) Allotments in the M (maintain) category.

(e) All remaining allotments.

The criteria for range management categories are given in appendix G.

STUDIES TO BE CONDUCTED

Actual use, utilization, and trend studies will be established on all allotments; however, the intensity of management will differ. Climate information will be gathered from National Oceanic and Atmospheric Administration (NOAA) stations and BLM stations.

Changes that may be contemplated in allotment management are changes in numbers of livestock, wildlife, or wild horses and burros; kind of livestock; and season of use. These changes will be based on data generated by the studies. Phenology information may be collected if necessary to support actions that may be suggested through other studies. Key areas and key plant species will be selected for each study site.

STUDY METHODS

Studies will be conducted as outlined in Utah Rangeland Inventory and Monitoring, Rel. 4-9 (June 11, 1987), the SRRA Monitoring Plan developed in 1985, and BLM Technical Reference 4400 series.

ACTUAL USE STUDIES

An actual grazing use report will be required on all critical I-category allotments at the end of each grazing season.

Actual use information for all M-category allotments will be gathered every 3 to 5 years. In most cases, licensed use will be used on C-category (custodial) allotments, but if the need arises, actual use may be requested from operators of C-category allotments.

Form 4130-5 (on file in SRRA) will be used to submit information. If the form is not available, the information asked for on the form will be required. If the need arises, actual use may be collected more often than stated here. Livestock, wildlife, and wild horses and burros may be counted whenever the authorized officer deems it appropriate.

APPENDIX H

UTILIZATION

Utilization data will be collected at the end of each grazing period as soon as possible after the animals are moved. Livestock operators will be encouraged to participate in gathering the utilization information.

Where grazing wildlife or wild horses or burros use the same area as domestic livestock, it may be necessary to gather utilization data prior to the turnout date for livestock. Other methods, such as comparative pastures, may also be used. Severe, heavy use of forage plants will be documented with photographs.

Key forage and extensive browse methods will be used. Utilization maps will be made after each collection period until a utilization pattern has been determined.

TREND

Trend studies are used to determine the effectiveness of on-the-ground management by indicating if changes in the rangeland are moving toward or away from the rangeland's potential. The photo plot method or the quadrat frequency method will be used.

The photo plot method will generally use a 3-foot by 3-foot plot, and the information gathered will usually be estimated. The quadrat frequency method will be used as outlined in the SRRA monitoring plan. The frame sizes will be 3, 6, 12, and 24 inches.

A 3-foot by 3-foot plot will also be included in each frequency study. Each time the plot is read, photographs will be taken of the plot and in each direction of the centerline of the frequency layout. Data will be collected in the same schedule as outlined above under Actual Use.

CLIMATE

Changes that occur on rangeland may be attributable to climate and weather, as well as to livestock grazing. SRRA has three BLM weather stations (table H-1). Some information from these sites has been recorded, but it has not been put into usable form.

TABLE H-1

BLM Weather Stations, San Rafael Resource Area

Grazing Allotment	Location, SLB&M
Head of Sinbad	T. 23 S., R. 10 E., Sec. 10
Iron Wash	T. 24 S., R. 13 E., Sec. 27
West Huntington	T. 17 S., R. 8 E., Sec. 21

NOAA stations at Capitol Reef, Castle Dale, Emery, Ferron, Green River, and Hanksville are the primary sources for climate information in SRRA. These stations provide records of monthly precipitation, monthly mean temperature, and annual precipitation. In some instances, daily information collection may be required.

EVALUATION

Study data will be evaluated in accordance with BLM Technical Reference 4400-7 and the Utah Rangeland Inventory and Monitoring Handbook, both on file at the resource area and district offices. Monitoring data should be evaluated as soon as they are available. Range users will be invited to assist in the evaluation. The evaluations will be used to assess progress toward management objectives.

APPENDIX I, GRAZING MANAGEMENT ACTIONS, BY ALLOTMENT

OVERVIEW

Appendix I presents the management actions projected for each grazing allotment by alternative.

ASSUMPTIONS

Under each alternative, changes from current grazing seasons or animal unit months (AUMs) are made to meet the objectives of the alternative or to alleviate potential resource conflicts.

Currently, livestock grazing occurs at the level of the past 5 years average licensed use; operator demand is not equal to allowable active preference. For all alternatives except B, it is assumed that operator demand for livestock forage would remain at the past 5 years average licensed use level, but that it might increase to allowable active preference. Therefore, a range is used for analysis purposes. For alternative B, it is assumed that operator demand for livestock forage would increase to the active preference level, thus only one number is analyzed.

New land treatments are identified only on allotments in the Forest Planning Unit (FPU) which receive at least 9 inches of precipitation per year. These land treatments are not figured into the future AUMs, as they would be handled at the activity plan level. San Rafael Resource Area (SRRA) allotments receive little moisture (5 to 9 inches per year), and soils are shallow. Land treatments are considered risky; therefore, none have been identified in the draft resource management plan (RMP).

Currently, the Bowknot Bend and North Big Flat Top Areas of Critical Environmental Concern (ACECs) and the relict vegetation portions of the San Rafael Reef, Hebes Mountain, and I-70 Pictographs ACECs are not accessible to livestock. Therefore, under alternatives B through F and the proposed RMP, livestock AUMs would not be reduced because of livestock exclusions from these areas.

ALTERNATIVE A

Under alternative A, current management would continue. AUMs would remain the same except where lands have been identified for disposal. In such cases, it is assumed that these lands would be disposed of by the year 2000. Therefore, active preference and the past 5 years average licensed use have been adjusted. This assumption is the same for alternatives C through F.

ALTERNATIVE B

Grazing seasons and AUMs would remain the same as under current management, except that AUMs would be adjusted upward for the installation of livestock water developments. It is assumed that one livestock water development would make an additional 60 AUMs available for grazing within allotments. No land disposals are identified under alternative B.

ALTERNATIVE C

Grazing seasons would be changed from spring (March 15 to June 15) and fall (September 1 to November 1) to winter use in areas where conflicts exist between livestock grazing and recreation (in the primitive (P), semiprimitive nonmotorized (SPNM), and semiprimitive motorized (SPM) recreation opportunity (ROS) classes). Livestock AUMs are adjusted downward in allot-

ments where conflicts exist between wildlife and livestock. In some areas with winter use and large populations of wildlife, allotments would be closed to livestock grazing (current wildlife AUMs are subtracted from active preference and the past 5 years average licensed use). Additional reductions in active preference and the past 5 years average licensed use also occur where lands are identified for disposal and where developed recreation sites are proposed.

In allotments containing crucial bighorn sheep habitat, no changes from cattle to domestic sheep would be allowed. Allotments currently being grazed by domestic sheep would not be required to change to cattle.

ALTERNATIVE D

In critical watershed areas, grazing seasons would be changed from spring (March 1 to May 31) to winter and AUMs would be reduced to 50 percent of active preference and the past 5 years licensed use. Additional AUMs may be lost in certain ACECs that are closed to grazing, or where land disposals are identified.

ALTERNATIVE E

Grazing seasons would be changed from spring (March 15 to June 15) and fall (September 1 to November 1) to winter use in areas where conflicts exist between livestock grazing and off-road vehicle (ORV) users (in the SPM ROS class). AUMs would remain at the level of active preference and past 5 years average licensed use except where land disposals are identified and in areas are closed to grazing (Temple Mountain motorcycle trail).

ALTERNATIVE F

For analysis purposes, in the 43 allotments with 50 percent or more acres exceeding the Soil Conservation Service (SCS) critical soil loss threshold (appendix N), a change from spring grazing (March 15 to June 15) to winter use would be analyzed. In the three allotments with 25 to 49 percent of the acreage exceeding this threshold, a 25 percent reduction from the past 5 years average licensed use and active preference AUMs would be analyzed with no change in season of use. On the allotments analyzed with a change in season to winter, a 25 percent reduction would be made on the 16 allotments where conflicts exist with wildlife. At this time, it is not know whether the allotments are exceeding the SCS critical soil loss threshold. This determination will be made on an allotment by allotment basis in conjunction with current rangeland monitoring methods. If it is determined that the allotments are exceeding the SCS critical soil loss threshold, and the rangeland trend is down, then changes in livestock management are necessary. These changes could include changes in grazing season, reductions in numbers, implementation of grazing systems or other agreements that would provide some protection for these areas. If changes are necessary range use agreements will be pursued with the operators. On allotments exceeding the SCS critical soil loss threshold, but in an upward trend, no changes in management will be made as long as the areas are improving and heading toward the individual site goals. Additional monitoring data will be necessary before any reductions or changes of season can be made based soley on protection of these critical soils (highly saline soils and soils highly susceptible to water erosion). Therefore, any changes based on exceedance of the SCS critical soil loss threshold would be made in conjunction with grazing decisions to be issued following 5 years of rangeland monitoring. These analysis assumptions are made solely to measure the possible impacts from such changes (appendix T).

In allotments containing curcial bighorn sheep habitat, no changes from cattle to domestic sheep would be allowed. Allotments currently being grazed by domestic sheep would not be required to change to cattle.

Additional reductions in AUMs would occur where land disposals are identified. Table I-1 provides a breakdown of management actions so that the effect (impact) to each allotment can be determined.

PROPOSED RMP

For analysis purposes, in the 43 allotments with 50 percent or more acres exceeding the SCS critical soil loss threshold (appendix N), a

TABLE I-1

Grazing Management Actions by Allotment, by Alternative

Allotment	5-year Avg. AUMs	Alternative A	Future[a] AUMs	Alternative B	Future AUMs	Alternative C	Future AUMs	Alternative D	Future AUMs	Alternative E	Future AUMs	Alternative F	Future AUMs
5001[b]			(977)				(336)		(168)		(977)		(977)
Allred	6		6		0		0		0		0		0
Season of Use		04/16 to 12/15											
Combine w/ Cove		No		Yes		Yes		Yes		Yes		Yes	
5002			(977)				(336)		(168)		(977)		(977)
Big Pond	977		2,241		2,301		1,600		800		2,241		2,241
Season of Use		10/01 to 03/31 05/11 to 06/20		10/01 to 03/31 05/11 to 06/20		11/01 to 03/15		11/01 to 02/28		11/01 to 03/15		10/01 to 03/31 05/11 to 06/20	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		Yes		No		Yes		Yes	
Exclude Sheep[c]		No		No		Yes		No		No		No	
5003													
Black	19		0		19		0		9		0		0
Season of Use		11/01 to 12/31		11/01 to 12/31				11/01 to 12/31					
AMP		No		No		No		No		No		No	
Land Disposal		280 ac.		0 ac.		280 ac.		80 ac.		280 ac.		280 ac.	
5004 Black			(2,276)				(1,428)		(721)		(2,276)		(2,276)
Dragon	2,276		3,223		3,343		2,375		1,194		3,223		3,223
Season of Use		11/01 to 04/15		11/01 to 04/15		11/01 to 03/15		11/01 to 02/28		11/01 to 03/15		11/01 to 04/15	
Develop Water		0		2		0		0		0		0	
AMP		No		Yes		Yes		Yes		Yes		Yes	
Exclude Grazing		0 ac.		0 ac.		I-70 Pic - 20 ac.		I-70 Pic - 20 ac.		0 ac.		0 ac.	
Exclude Sheep[c]		No		No		Yes		No		No		No	

(Continued)

TABLE I-1 (Continued)

Allotment	5-year Avg. AUMs	Alternative A	Future[a] AUMs	Alternative B	Future AUMs	Alternative C	Future AUMs	Alternative D	Future AUMs	Alternative E	Future AUMs	Alternative F	Future AUMs
5005			(3,416)				(3,412)		(1,708)		(3,416)		(2,929)
Buckhorn	3,416		3,615		3,735		3,611		1,807		3,615		3,128
Season of Use		04/16 to 10/31		04/16 to 10/31		06/16 to 08/30		06/01 to 10/31		06/16 to 08/30		04/16 to 10/31	
Develop Water		0		2		0		0		0		0	
AMP		Yes		Yes		Yes		Yes		Yes		Yes	
Land Disposal		0 ac.		0 ac.		0 ac.		0 ac.		0 ac.		320 ac.	
Exclude Sheep[c]		No		No		Yes		No		No		No	
5105 Buckhorn Draw	0		0		348		0		0		0		0
Season of Use				4/16 to 10/31									
AMP		No		Yes		No		No		No		No	
Exclude[c d] Domestic Sheep		No		No		Yes		No		No		No	
5006 Bunderson	27		20		27		0		13		0		0
Season of Use		01/15 to 04/30		01/15 to 04/30				01/15 to 02/28					
AMP		No		No		No		No		No		No	
Land Disposal		160 ac.		0 ac.		390 ac.		0 ac.		390 ac.		390 ac.	
5007 Case	11		0		11		0		0		0		0
Season of Use		03/01 to 05/31		03/01 to 05/31									
AMP		No		No		No		No		No		No	
Land Disposal		120 ac.		0 ac.		120 ac.		120 ac.		120 ac.		120 ac.	
5008 Clawson Dairy	65		64		124		30		32		64		48
Season of Use		05/01 to 05/31		05/01 to 05/31		11/01 to 12/15		11/01 to 12/15		11/01 to 12/15		11/01 to 12/15	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		Yes		Yes		Yes		Yes	
Land Disposal		40 ac.		40 ac.		40 ac.		0 ac.		40 ac.		40 ac.	

5009			(265)				(250)		(132)		(265)		(265)
Coal Wash	265		386		386		371		196		386		386
Season of Use		03/01 to 03/31 05/06 to 06/15 12/01 to 01/15		03/01 to 03/31 05/06 to 06/15 12/01 to 01/15		11/01 to 01/15		06/01 to 06/15 11/01 to 01/15		11/01 to 01/15		03/01 to 03/15 12/01 to 01/15	
AMP		Yes		Yes		Yes		Yes		Yes		Yes	
Exclude Sheep[c]		No		No		Yes		No		No		No	
5010			(48)				(13)		(26)		(48)		(48)
Cove[b]	53		55		60		20		30		55		55
Season of Use		03/01 to 05/31		03/01 to 05/31		11/01 to 12/15		11/01 to 12/15		11/01 to 12/15		11/01 to 12/15	
AMP		No		Yes		Yes		No		Yes		Yes	
Land Disposal		110 ac.		0 ac.		110 ac.		0 ac.		110 ac.		110 ac.	
5013			(77)				(77)		(36)		(77)		(16)
Cowley	77		93		93		93		45		93		32
Season of Use		05/01 to 05/31		05/01 to 05/31		11/01 to 11/30		11/01 to 11/30		11/01 to 11/30		05/01 to 05/31	
AMP		No		No		No		No		No		No	
Land Disposal		0 ac.		0 ac.		0 ac.		0 ac.		0 ac.		80 ac.	
5011			(0)				(0)		(0)		(0)		(0)
Cox (Don)	0		72		72		36		35		72		72
Season of Use		10/01 to 11/30		10/01 to 11/30		11/01 to 12/31		11/01 to 12/31		11/01 to 12/31		10/01 to 11/30	
AMP		No		No		No		No		No		No	
5012			(153)				(76)		(76)		(153)		(115)
Cox (John)	153		146		146		70		70		146		110
Season of Use		03/08 to 05/31 10/16 to 01/15		03/08 to 05/31 10/16 to 01/15		11/01 to 01/15		11/01 to 01/15		11/01 to 01/15		10/16 to 01/15	
AMP		No		Yes		No		No		Yes		Yes	
5014			(137)				(26)		(69)		(137)		(103)
Crawford	137		211		271		100		105		211		159
Season of Use		03/01 to 06/15 10/16 to 12/31		03/01 to 06/15 10/16 to 12/31		11/01 to 12/31		11/01 to 12/31		11/01 to 12/31		10/16 to 12/31	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		No		No		Yes		Yes	

(Continued)

TABLE I-1 (Continued)

Allotment	5-year Avg. AUMs	Alternative A	Future[a] AUMs	Alternative B	Future AUMs	Alternative C	Future AUMs	Alternative D	Future AUMs	Alternative E	Future AUMs	Alternative F	Future AUMs
5015			(10)						(5)				
Day	10		14		14		0		7		0		0
Season of Use		05/01 to 10/15		05/01 to 10/15				06/15 to 10/31					
AMP		No		No		No		No		No		No	
Land Disposal		0 ac.		0 ac.		340 ac.		0 ac.		340 ac.		340 ac.	
5016			(71)				(70)		(69)		(70)		(71)
Deep Wash	138		81		148		80		74		80		81
Season of Use		04/01 to 06/10 11/01 to 11/30		04/01 to 06/10 11/01 to 11/30		04/01 to 06/10 11/01 to 11/30		11/01 to 12/31		04/01 to 06/10 11/01 to 11/30		11/01 to 11/30	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		No		No		No		No	
Land Disposal		1,160 ac.		0 ac.		1,160 ac.		0 ac.		1,160 ac.		1,160 ac.	
0602			(254)				(0)		(127)		(254)		(254)
Deer Peak	254		391		451		100		195		391		391
Season of Use		03/15 to 06/30		03/15 to 06/30		11/01 to 12/31		11/01 to 12/31		11/01 to 12/31		11/01 to 12/31	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		Yes		No		Yes		Yes	
Land Treatments		0 ac.		1,500 ac.		1,500 ac.		0 ac.		0 ac.		1,500 ac.	
5017			(375)				(375)		(187)		(375)		(375)
Dry Wash	375		562		662		562		281		562		562
Season of Use		11/17 to 01/31		11/17 to 01/31		11/17 to 01/31		11/17 to 01/31		11/17 to 01/31		11/17 to 01/31	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		Yes		No		Yes		Yes	
5018			(550)				(512)		(275)		(550)		(550)
Dugout	550		1,040		1,160		1,002		517		1,040		1,040
Season of Use		10/01 to 04/15		11/01 to 04/15		11/01 to 03/15		11/01 to 02/28		11/01 to 03/15		10/01 to 03/15	
Develop Water		0		2		0		0		0		0	
AMP		No		Yes		Yes		No		Yes		Yes	

5020 East Grimes	131		(102)	285			314			(0)	140			(65)	157			(102)	285			(102)	285
Season of Use		04/01 to 06/15			04/01 to 06/15			11/01 to 12/15			11/01 to 12/15			11/01 to 12/15			04/01 to 06/15					
AMP		No			No			No			No			No			No					
Land Disposal		280 ac.			0 ac.			280 ac.			0 ac.			280 ac.			280 ac.					
5021 Ferron Mills	121		108				121			0				61				108				108
Season of Use		04/16 to 07/15 03/20 to 06/19			04/16 to 07/15 03/20 to 06/19			11/01 to 12/15			11/01 to 12/15			11/01 to 12/15			04/16 to 07/15 03/20 to 06/19					
AMP		No			Yes			No			No			Yes			Yes					
Land Disposal		370 ac.			0 ac.			300 ac.			0 ac.			370 ac.			370 ac.					
5023 Fullers Bottom	490		(490)	772			832			(443)	725			(245)	425			(490)	772			(490)	772
Season of Use		05/01 to 06/15 11/01 to 12/31			05/01 to 06/15 11/01 to 12/31			11/01 to 02/28			11/01 to 02/28			11/01 to 02/28			11/01 to 02/28					
Develop Water		0			1			0			0			0			0					
AMP		No			Yes			Yes			Yes			Yes			Yes					
Exclude Sheep[c]		No			No			Yes			No			No			No					
5024 Georges Draw	747		(747)	988			1,048			(609)	850			(373)	425			(747)	988			(747)	988
Season of Use		10/01 to 02/28			10/01 to 02/28			11/01 to 02/28			11/01 to 02/28			11/01 to 02/28			10/01 to 02/28					
Develop Water		0			1			0			0			0			0					
AMP		No			Yes			Yes			No			Yes			Yes					
Exclude Sheep[c]		No			No			Yes			No			No			No					
5025 Globe Link	568		(568)	600			705			(568)	600			(264)	300			(568)	600			(568)	600
Season of Use		11/1 to 4/30			11/1 to 4/30			11/1 to 3/15			11/1 to 2/28			11/1 to 3/15			11/1 to 4/30					
Develop Water		0			2			0			0			0			0					
AMP		No			Yes			Yes			Yes			Yes			Yes					
5026 Hambrick Bottoms	1,609		(1,609)	1,890			2,106			(1,519)	1,800			(804)	993			(1,609)	1,890			(1,609)	1,890
Season of Use		2/16 to 6/15 10/16 to 12/31			2/16 to 6/15 10/16 to 12/31			11/1 to 2/15			11/1 to 2/15			11/1 to 2/15			10/16 to 12/31					
Develop Water		0			2			0			0			0			0					
AMP		No			Yes			Yes			Yes			Yes			Yes					
Land Disposal		140 ac.			0 ac.			140 ac.			0 ac.			140 ac.			140 ac.					

(Continued)

TABLE I-1 (Continued)

Allotment	5-year Avg. AUMs	Alternative A	Future[a] AUMs	Alternative B	Future AUMs	Alternative C	Future AUMs	Alternative D	Future AUMs	Alternative E	Future AUMs	Alternative F	Future AUMs
5027 Head of Sinbad	719		(719) 790		910		(718) 789		(360) 395		(719) 790		(719) 790
Season of Use		6/6 to 10/15		6/6 to 10/15		6/16 to 10/15		6/6 to 10/15		6/16 to 10/15		6/6 to 10/15	
Develop Water		0		2		0		0		0		0	
AMP		Yes		Yes		Yes		Yes		Yes		Yes	
Exclude Sheep[c]		No		No		Yes		No		No		No	
5099 Hondo	193		(193) 336		396		(193) 336		(97) 170		(193) 336		(193) 336
Season of Use		11/1 to 5/31		11/1 to 5/31		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		11/1 to 5/31	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		No		No		No		No	
Exclude Grazing		0 ac.		0 ac.		0 ac.		TB - 660 ac.		0 ac.		0 ac.	
Exclude Sheep[c]		No		No		Yes		No		No		No	
5028 Horse Bench	601		(601) 924		1,045		(577) 900		(239) 400		(601) 924		(601) 924
Season of Use		11/1 to 4/15		11/1 to 4/15		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		11/1 to 4/15	
Develop Water		0		2		0		0		0		0	
AMP		No		Yes		Yes		Yes		Yes		Yes	
Exclude Grazing		0 ac.		0 ac.		0 ac.		D.L. - 4,980 ac.		0 ac.		0 ac.	
5029 Horseshoe North	555		(555) 2,145		2,325		(490) 2,080		(278) 1,040		(555) 2,145		(555) 2,145
Season of Use		11/1 to 4/15		11/1 to 4/15		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		11/1 to 4/15	
Develop Water		0		3		0		0		0		0	
AMP		No		Yes		Yes		Yes		Yes		Yes	
5100 Horseshoe South	0		(0) 2,024		2,144		(0) 2,024		(0) 1,012		(0) 2,024		(0) 2,024
Season of Use		11/1 to 4/15		11/1 to 4/15		11/1 to 3/15		11/1 to 2/28		11/1 to 2/28		11/1 to 4/15	
Develop Water		0		2		0		0		0		0	
AMP		No		Yes		Yes		Yes		Yes		Yes	

5030																
Humphrey	4		0		4		0		2		0		0			
Season of Use		11/ 1 to 4/15		11/1 to 4/15				11/1 to 2/28								
Land Disposal		80 ac.		0 ac.		80 ac.		0 ac.		80 ac.		80 ac.				
5031			(2,400)				(1,947)		(1,200)		(2,400)		(1,800)			
Iron Wash	2,400		4,980		5,220		3,033		2,048		4,980		3,735			
Season of Use		9/1 to 6/30		9/1 to 6/30		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		9/1 to 3/15				
Develop Water		0		4		0		0		0		0				
AMP		Yes		Yes		Yes		Yes		Yes		Yes				
Exclude Grazing		0 ac.		0 ac.		0 ac.		TM Motor - 50 ac.		TM Motor - 10 ac.		0 ac.				
Exclude Sheep[c]		No		No		Yes		No		No		No				
5032																
Jacobson	18		18		18		0		9		18		18			
Season of Use		11/1 to 4/15		11/1 to 4/15		11/1 to 4/15		11/1 to 4/15		11/1 to 4/15		11/1 to 3/15				
5033 Jeffery			(2,025)				(1,430)		(1,013)		(2,025)		(2,025)			
Well	2,025		2,800		3,040		2,205		1,504		2,800		2,800			
Season of Use		10/17 to 5/15		10/17 to 5/15		11/1 to 3/15		11/1 to 3/1		11/1 to 3/15		10/17 to 5/15				
Develop Water		0		4		0		0		0		0				
AMP		No		Yes		Yes		Yes		Yes		Yes				
5034																
Jensen	10		6		10		0		5		6		6			
Season of Use		1/1 to 3/31		1/1 to 3/31		1/1 to 3/15		1/1 to 2/28		1/1 to 3/15		1/1 to 3/31				
Land Disposal		120 ac.		0 ac.		120 ac.		0 ac.		120 ac.		120 ac.				
5035			(175)				(93)		(87)		(175)		(131)			
Johnson	175		182		242		100		90		182		137			
Season of Use		2/1 to 5/15		2/1 to 5/15		1/1 to 3/15		1/1 to 2/28		1/1 to 3/15		2/1 to 3/15				
Develop Water		0		1		0		0		0		0				
AMP		No		Yes		No		No		No		No				
5036																
Jorgensen	18		18		18		16		9		18		18			
Season of Use		5/1 to 6/15		5/1 to 6/15		11/1 to 12/31		11/1 to 12/31		11/1 to 12/31		10/16 to 12/31				

(Continued)

TABLE I-1 (Continued)

Allotment	5-year Avg. AUMs	Alternative A	Future[a] AUMs	Alternative B	Future AUMs	Alternative C	Future AUMs	Alternative D	Future AUMs	Alternative E	Future AUMs	Alternative F	Future AUMs
5037			(0)						(0)		(0)		(0)
Justensen	0		45		45		0		20		45		45
Season of Use		2/1 to 3/15		2/1 to 3/15		2/1 to 3/15		2/1 to 2/28		2/1 to 3/15		2/1 to 3/15	
AMP		No		Yes		No		No		Yes		Yes	
0605 Last			(1,000)				(964)		(500)		(1,000)		(1,000)
Chance	1,000		1,036		1,096		1,000		518		1,036		1,036
Season of Use		11/1 to 5/30		11/1 to 5/30		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		11/1 to 5/30	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		Yes		Yes		Yes		Yes	
5038 Link			(130)				(42)		(65)		(130)		(130)
Canyon	130		288		348		200		145		288		288
Season of Use		11/1 to 2/28		11/1 to 2/28		11/1 to 2/28		11/1 to 2/28		11/1 to 2/28		11/1 to 2/28	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		No		No		No		No	
5039 Little			(56)				(56)		(28)		(80)		(56)
Holes	56		80		80		80		40		80		80
Season of Use		3/1 to 5/31		3/1 to 5/31		1/15 to 3/15		1/15 to 2/28		1/15 to 3/15		1/15 to 3/15	
5040 Little			(102)				(102)		(51)		(102)		(102)
Valley	102		139		199		139		70		139		139
Season of Use		4/1 to 10/15		4/1 to 10/15		11/1 to 3/15		11/1 to 3/15		11/1 to 3/15		11/1 to 3/15	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		Yes		No		Yes		Yes	
5041			(4,967)				(4,619)		(2,602)		(4,053)		(4,967)
Lone Tree	4,967		5,270		5,367		4,900		2,766		4,305		5,270
Season of Use		12/16 to 5/31		12/16 to 5/31		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		12/16 to 3/15	
Develop Water		0		4		0		0		0		0	
AMP		No		Yes		Yes		Yes		Yes		Yes	
Exclude Grazing		0 ac.		0 ac.		0 ac.		HM - 170 ac.		0		0	
Exclude Sheep[c]		No		No		Yes		No		No		No	

0607			(1,434)				(1,073)			(717)			(14,34)			(1,434)
M & O	1,444		1,239			1,249			935			625			1,239			1,239
Season of Use		12/1 to 4/15			12/1 to 4/15			11/1 to 3/15			11/1 to 2/28			11/1 to 3/15			11/1 to 3/15	
AMP		No			Yes			Yes			Yes			Yes			Yes	
Land Disposal		120 ac.			0 ac.			120 ac.			0 ac.			120 ac.			120 ac.	
5042 McCarty			(174)													
Canyon	174		174			234			100			87			174			174
Season of Use		3/1 to 4/30			3/1 to 4/30			11/1 to 3/15			11/1 to 2/28			3/1 to 4/30			11/1 to 3/15	
AMP		No			Yes			No			No			No			No	
Exclude Sheep[C]		No			No			Yes			No			No			No	
5043			(403)				(380)			(202)			(403)			(403)
McKay Flat	403		2,228			2,348			2,105			1,120			2,228			2,228
Season of Use		11/1 to 4/15			11/1 to 4/15			11/1 to 3/15			11/1 to 2/28			11/1 to 3/15			11/1 to 3/15	
Develop Water		0			2			0			0			0			0	
AMP		No			Yes			Yes			Yes			Yes			Yes	
Exclude Sheep[C]		No			No			Yes			No			No			No	
5097																
Mervin	42		0			12			0			21			0			0
Season of Use		5/1 to 5/31			5/1 to 5/31						11/1 to 11/30							
Land Disposal		360 ac.			0 ac.			360 ac.			0 ac.			360 ac.			360 ac.	
5044 Mesquite			(67)				(58)			(33)			(67)			(50)
Wash	67		115			175			100			60			115			86
Season of Use		4/1 to 6/20			4/1 to 6/20			11/1 to 12/15			11/1 to 12/15			4/1 to 6/20			4/1 to 6/20	
Develop Water		0			1			0			0			0			0	
AMP		No			Yes			No			No			No			No	
Exclude Sheep[C]		No			No			Yes			No			No			No	
5045 Mexican			(324)				(296)			(162)			(324)			(324)
Bend	324		977			1,037			891			488			977			977
Season of Use		11/12 to 4/25			11/12 to 5/25			11/1 to 3/15			11/1 to 2/28			11/1 to 3/15			11/1 to 3/15	
Develop Water		0			1			0			0			0			0	
AMP		No			Yes			Yes			Yes			Yes			Yes	
Exclude Sheep[C]		No			No			Yes			No			No			No	

(Continued)

TABLE I-1 (Continued)

Allotment	5-year Avg. AUMs	Alternative A	Future[a] AUMs	Alternative B	Future AUMs	Alternative C	Future AUMs	Alternative D	Future AUMs	Alternative E	Future AUMs	Alternative F	Future AUMs
5046 Miller			(300)				(296)		(150)		(300)		(300)
Canyon	300		492		552		488		248		492		492
Season of Use		12/16 to 4/30 11/1 to 1/18		12/16 to 4/30 11/1 to 1/8		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		12/16 to 4/30 11/1 to 1/18	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		No		No		No		No	
5047 Molen			(151)				(151)		(76)		(151)		(151)
Pasture	151		187		187		187		93		187		187
Season of Use		3/15 to 5/31 11/1 to 11/18		3/15 to 5/31 11/1 to 1/18		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		3/15 to 5/31 11/1 to 1/18	
5048 Molen			(140)				(140)		(70)		(140)		(105)
Tanks	140		311		371		311		155		311		233
Season of Use		2/26 tp 6/10		2/26 to 6/10		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		2/26 to 6/10	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		No		No		No		No	
5049			(704)				(1,501)		(709)		(1,583)		(1,187)
Moonshine	704		1,197		[e]2,255		[e]1,873		[e]1,003		[e]1,955		[e]1,466
Season of Use		10/1 to 4/15		10/1 to 4/15		10/1 to 3/15		10/1 to 2/28		10/1 to 3/15		10/1 to 4/15	
Develop Water		0		5		0		0		0		0	
AMP		No		Yes		Yes		Yes		Yes		Yes	
Combine w/Saucer Basin		No		Yes		Yes		Yes		Yes		Yes	
0608 Mussen-tuchit	1,905		(1,905) 1,994		2,174		(1,905) 1,994		(939) 984		(1,905) 1,994		(1,905) 1,994
Season of Use		10/15 to 5/30		10/15 to 5/30		10/15 to 3/15		10/1 to 2/28		10/1 to 3/15		10/15 to 5/30	
Develop Water		0		3		0		0		0		0	
AMP		No		Yes		Yes		Yes		Yes		Yes	
Exclude Grazing		0 ac.		0 ac.		0 ac.		H.M. 0 790 ac.		0 ac.		0 ac.	
Exclude Sheep[c]		No		No		Yes		No		No		No	

5050 Neva	149		145		149		147		74		145	147
Season of Use		11/1 to 2/25 4/1 to 5/31		11/1 to 2/25 4/1 to 5/31		11/1 to 2/25		11/1 to 2/25		11/1 to 2/25		11/1 to 2/25
Land Disposal		120 ac.		0 ac.		80 ac.		0 ac.		120 ac.		80 ac.
5051 North Ferron	704	(704)	875		935	(704)	875	(352)	875		(352)	437	(704)	875
Season of Use		3/6 to 6/10 11/11 to 12/10		3/6 to 6/10 11/11 to 12/10		11/11 to 12/10		11/11 to 12/10		11/11 to 12/10		11/11 to 12/10
Develop Water		0		1		0		0		0		0
AMP		No		Yes		Yes		No		Yes		Yes
5052 North Herring Flat	33		34		34		15		15		34		26
Season of Use		4/16 to 6/15		4/16 to 6/15		11/1 to 12/15		4/16 to 6/15		11/1 to 12/15		11/1 to 12/15
5053 North Huntington	1,898	(1,871)	2,011		2,165		0		(985)	1,000	(1,871)	2,011	(1,437)	1,542
Season of Use		4/22 to 6/26 11/1 to 12/15		4/22 to 6/26 11/1 to 12/15		11/1 to 12/31		11/1 to 12/31		11/1 to 12/31		11/1 to 12/31
Develop Water		0		2		0		0		0		0
AMP		No		Yes		Yes		Yes		Yes		Yes
Land Disposal		240 ac.		0 ac.		240 ac.		100 ac.		240 ac.		240 ac.
5054 North Sid & Charley	529	(529)	1,010		1,130		(529)	1,010	(265)	505	(529)	1,010	(529)	1,010
Season of Use		2/16 to 5/15 11/1 to 1/15		2/16 to 5/15 11/1 to 1/15		11/1 to 1/15		11/1 to 1/15		11/1 to 1/15		2/16 to 5/15 11/1 to 1/15
Develop Water		0		2		0		0		0		0
AMP		No		Yes		Yes		No		Yes		Yes
Exclude Sheep[c]		No		No		Yes		No		No		No
5055 North Sids Mountain	73	(73)	90		150		(43)	60	(36)	45	(73)	90	(73)	90
Season of Use		8/1 to 5/31		8/1 to 5/31		8/1 to 3/15		8/1 to 2/28		8/1 to 5/31		8/1 to 5/31
Develop Water		0		1		0		0		0		0
AMP		No		Yes		No		No		No		No
Exclude Sheep[c]		No		No		Yes		No		No		No

(Continued)

TABLE I-1 (Continued)

Allotment	5-year Avg. AUMs	Alternative A	Future[a] AUMs	Alternative B	Future AUMs	Alternative C	Future AUMs	Alternative D	Future AUMs	Alternative E	Future AUMs	Alternative F	Future AUMs
5056 North			(2,408)				(1,948)		(1,204)		(2,408)		(2,408)
Sinbad	2,408		3,200		3,320		2,860		1,600		3,200		3,200
Season of Use		11/1 to 5/10		11/1 to 5/10		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		11/1 to 3/15	
Develop Water		0		2		0		0		0		0	
AMP		No		Yes		Yes		Yes		Yes		Yes	
Exclude Sheep[c]		No		No		Yes		No		No		No	
5057 Northwest			(38)						(25)		(38)		(38)
Ferron	49		107		118		0		59		107		107
Season of Use		4/1 to 6/15		4/1 to 6/15		11/1 to 12/15		11/1 to 12/15		11/1 to 12/15		11/1 to 12/15	
Land Disposal		40 ac.		0 ac.		40 ac.		0 ac.		40 ac.		40 ac.	
5058 North Wolf Hollow	6		6		6		0		3		0		0
Season of Use		5/16 to 6/6 7/16 to 8/15 10/1 to 10/31		5/16 to 6/6 7/16 to 8/15 10/1 to 10/31				10/1 to 10/31					
Land Disposal		0 ac.		0 ac.		90 ac.		0 ac.		90 ac.		90 ac.	
5098 O.E.J.[f]	15		15		15		15		15		15		15
5059 Oil Dome	36		34		36		30		18		34		39
Season of Use		4/16 to 5/31 11/1 to 12/31		4/16 to 5/31 11/1 to 12/31		4/16 to 5/31 11/1 to 12/31		11/1 to 12/15		4/16 to 5/31 11/1 to 12/31		11/1 to 12/31	
Land Disposal		190 ac.		0 ac.		180 ac.		0 ac.		190 ac.		360 ac.	
5060 Oil Well			(800)				(800)		(400)		(800)		(600)
Flat	800		2,735		2,855		2,735		1,367		2,735		2,051
Season of Use		10/16 to 5/31		10/16 to 5/31		10/16 to 3/15		10/1 to 2/28		10/16 to 3/15		10/16 to 5/31	
Develop Water		0		2		0		0		0		0	
AMP		No		Yes		Yes		Yes		Yes		Yes	
Exclude Sheep[c]		No		No		Yes		No		No		No	

5061 Olsen (E.)	20		10		20		2		10		10		10			
Season of Use		4/16 to 6/15		4/16 to 6/15		11/1 to 12/15		11/1 to 12/15		11/1 to 12/15		4/16 to 6/15				
Land Disposal		160 ac.		0 ac.		160 ac.		0 ac.		160 ac.		160 ac.				
5062 Olsen (G.L.)	250		250		250		0		125		250		250			
Season of Use		5/16 to 6/30 11/1 to 11/30		5/16 to 6/30 11/1 to 11/30		11/1 to 11/30		11/1 to 11/30		11/1 to 11/30		5/16 to 6/30 11/1 to 11/30				
5063 Pasture Canyon	278		(278) 715		950		(123) 560		(139) 358		(278) 715		(278) 715			
Season of Use		10/1 to 4/15		10/1 to 4/15		10/1 to 3/15		10/1 to 2/28		10/1 to 3/15		10/1 to 4/15				
Develop Water		0		4		0		0		0		0				
AMP		No		Yes		Yes		Yes		Yes		Yes				
5064 Peacock	56		56		56		0		56		56		42			
Season of Use		4/1 to 6/10 1/1 to 2/28		4/1 to 6/10 1/1 to 2/28		11/1 to 12/15		11/1 to 12/15		11/1 to 12/15		1/1 to 2/28				
5065 Price (Vic)	75		(68) 125		132		(68) 125		(37) 66		(68) 125		(68) 125			
Season of Use		3/1 to 5/15 11/1 to 12/31		3/1 to 5/15 11/1 to 12/31		11/1 to 12/31		11/1 to 12/31		11/1 to 12/31		11/1 to 12/31				
Land Disposal		90 ac.		0 ac.		90 ac.		0 ac.		90 ac.		90 ac.				
5067 Red Canyon	1,111		(1,111) 2,237		2,357		(1,111) 2,237		(519) 1,082		(1,111) 2,237		(1,111) 2,237			
Season of Use		10/16 to 3/15		10/16 to 3/15		10/16 to 3/15		10/16 to 2/28		10/16 to 3/15		10/16 to 3/15				
Develop Water		0		2		0		0		0		0				
AMP		No		Yes		Yes		Yes		Yes		Yes				
Exclude Grazing		0 ac.		0 ac.		0 ac.		TB - 1,380 ac.		0 ac.		0 ac.				
Exclude Sheep[C]		No		No		Yes		No		No		No				
Red Seeps	705		(705) 1,607		1,727		(563) 1,465		(353) 803		(705) 1,607		(705) 1,607			
Season of Use		10/16 to 3/15		10/16 to 3/15		10/16 to 3/15		10/16 to 2/28		10/16 to 3/15		10/16 to 3/15				
Develop Water		0		2		0		0		0		0				
AMP		No		Yes		Yes		Yes		Yes		Yes				

(Continued)

TABLE I-1 (Continued)

Allotment	5-year Avg. AUMs	Alternative A	Future[a] AUMs	Alternative B	Future AUMs	Alternative C	Future AUMs	Alternative D	Future AUMs	Alternative E	Future AUMs	Alternative F	Future AUMs
5069													
Reid	12		12		12		0		6		0		0
Season of Use		10/16 to 3/15		10/16 to 3/15				10/16 to 2/28					
Land Disposal		0 ac.		0 ac.		200 ac.		0 ac.		200 ac.		200 ac.	
5066													
R.J.	80		78		80		78		40		78		78
Season of Use		10/1 to 2/28		10/1 to 2/28		10/1 to 2/28		10/1 to 2/28		10/1 to 2/28		10/1 to 2/28	
Land Disposal		40 ac.		0 ac.		40 ac.		0 ac.		40 ac.		40 ac.	
5071			(199)				(197)		(100)		(199)		(149)
Rochester	199		207		207		205		100		205		155
Season of Use		3/1 to 4/30 10/16 to 12/15		3/1 to 4/30 10/16 to 12/15		11/1 to 12/15		11/1 to 12/15		11/1 to 12/15		10/16 to 12/15	
AMP		Yes		Yes		Yes		Yes		Yes		Yes	
5072 Rock													
Canyon	236		236		236		0		115		236		177
Season of Use		4/15 to 5/30 11/1 to 2/28		4/15 to 5/30 11/1 to 2/28		11/1 to 2/28		11/1 to 2/28		11/1 to 2/28		11/1 to 2/28	
AMP		No		No		No		No		No		Yes	
0611 Rock			(2,628)				(2,314)		(1,314)		(2,628)		(1,971)
Springs	2,628		4,414		4,594		4,100		2,207		4,414		3,311
Season of Use		11/1 to 5/30		11/1 to 5/30		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		11/1 to 3/15	
Develop Water		0		3		0		0		0		0	
AMP		Yes		Yes		Yes		Yes		Yes		Yes	
Land Treatments		0 ac.		500 ac.		500 ac.		0 ac.		0 ac.		500 ac.	
Exclude Sheep[c]		No		No		Yes		No		No		No	

5073 Saddle Horse	180		(180) 220		280		(110) 150		(90) 110		(180) 220	(180) 220
Season of Use		7/1 to 11/4		7/1 to 11/4		10/1 to 11/15		10/1 to 11/15		10/1 to 11/15		7/1 to 11/4
Develop Water		0		1		0		0		0		0
AMP		No		Yes		No		No		No		No
Exclude Sheep[c]		No		No		Yes		No		No		No
5074 Saleratus	1,843		1,843		1,962		1,202		922		1,842	1,843
Season of Use		11/16 to 3/31		11/16 to 3/31		11/16 to 3/15		11/16 to 2/28		11/16 to 3/15		11/16 to 3/15
Develop Water		0		2		0		0		0		0
AMP		No		Yes		Yes		Yes		Yes		Yes
5075 Salt Wash	1,034		(1,034) 2,995		3,115		(679) 2,640		(517) 1,497		(1,034) 2,995	(1,034) 2,995
Season of Use		3/1 to 6/20 11/5 to 1/14		3/1 to 6/20 11/5 to 1/4		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		11/5 to 1/4
Develop Water		0		2		0		0		0		0
AMP		Yes		Yes		Yes		Yes		Yes		Yes
Exclude Sheep[c]		No		No		Yes		No		No		No
5076 San Rafael River	815		(815) 2,066		2,246		(620) 1,871		(186) 811		(815) 2,066	(815) 2,066
Season of Use		10/17 to 5/15		10/17 to 5/15		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		10/17 to 5/15
Develop Water		0		3		0		0		0		0
AMP		No		Yes		Yes		Yes		Yes		Yes
Exclude Grazing		0 ac.		0 ac.		0 ac.		D.L. - 12,010 ac.		0 ac.		0 ac.
5077 Saucer[e] Basin	879		(879) 957									
Season of Use		11/1 to 4/15										
Combine w/ Moonshine		No		Yes		Yes		Yes		Yes		Yes
5079 Sorensen	604		(604) 630		750		(604) 630		(302) 315		(604) 630	(604) 630
Season of Use		12/1 to 3/31		12/1 to 3/31		12/1 to 3/31		12/1 to 3/31		12/1 to 3/31		12/1 to 3/31
Develop Water		0		2		0		0		0		0
AMP		No		Yes		Yes		No		Yes		Yes

(Continued)

TABLE I-1 (Continued)

Allotment	5-year Avg. AUMs	Alternative A	Future[a] AUMs	Alternative B	Future AUMs	Alternative C	Future AUMs	Alternative D	Future AUMs	Alternative E	Future AUMs	Alternative F	Future AUMs
5080 South Ferron	287		(287) 743		743		(287) 743		(144) 370		(287) 743		(287) 743
Season of Use		3/6 to 6/10 11/1 to 12/10		3/6 to 6/10 11/1 to 12/10		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		11/1 to 12/10	
5081 South Herring Flat	112		111		111		0		55		111		83
Season of Use		4/10 to 6/15		4/10 to 6/15		11/1 to 12/15		11/1 to 12/15		11/1 to 12/15		11/1 to 12/15	
5082 South Sid & Charley	223		(233) 952		1,072		(183) 900		(116) 476		(233) 952		(233) 952
Season of Use		11/16 to 6/15		11/16 to 3/15		11/16 to 3/15		11/16 to 2/28		11/16 to 3/15		11/16 to 3/15	
Develop Water		0		2		0		0		0		0	
AMP		No		Yes		Yes		Yes		Yes		Yes	
Exclude Sheep[c]		No		No		Yes		No		No		No	
5083 South Sids Mountain	179		(179) 165		225		(90) 80		(90) 80		(179) 165		(179) 165
Season of Use		5/16 to 10/15		5/16 to 10/15		6/16 to 9/1		6/16 to 10/15		6/16 to 9/1		5/16 to 10/15	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		No		No		No		No	
Exclude Sheep[c]		No		No		Yes		No		No		No	
5084 South Wolf Hollow	30		19		30		0		15		19		19
Season of Use		4/21 to 6/20		4/21 to 6/20		11/1 to 12/15		11/1 to 12/15		11/1 to 12/15		11/1 to 12/15	
Land Disposal		280 ac.		0 ac.		280 ac.		0 ac.		280 ac.		280 ac.	
5085 Straight Hollow	42		42		42		0		21		42		32
Season of Use		3/16 to 6/15		3/16 to 6/15		11/1 to 12/15		11/1 to 12/15		11/1 to 12/15		11/1 to 12/15	

5086		(3,482)			(3,127)		(1,741)		(3,482)			(3,482)
Sweetwater	3,482	4,446		4,626	4,271		2,223		4,446			4,446
Season of Use		3/1 to 12/31		3/1 to 12/31		6/1 to 3/15		6/1 to 2/28		6/1 to 3/15		3/1 to 12/31
Develop Water		0		3		0		0		0		0
AMP		No		Yes		Yes		Yes		Yes		Yes
5087 Taylor		(1,185)			(1,089)		(505)		(1,074)			(1,185)
Flat	1,185	2,016		2,136	1,920		920		905			2,016
Season of Use		11/1 to 4/30		11/1 to 4/30		11/1 to 3/15		11/1 to 2/28		11/1 to 3/15		11/1 to 4/30
Develop Water		0		2		0		0		0		0
AMP		No		Yes		Yes		No		Yes		Yes
Exclude Grazing		0 ac.		0 ac.		SR - 2,430 ac.		SR - 2,430 ac. TM Motor - 1,310 ac.		TM Motor - 1,890 ac.		
Exclude Sheep[c]		No		No		Yes		No		No		No
5088												
T.D.J.	26	26		26	26		13		26			26
Season of Use		4/11 to 5/31		4/11 to 5/31		4/11 to 5/31		11/1 to 12/15		4/11 to 5/31		11/1 to 12/15
5089 Temple		(201)			(133)		(71)		(201)			(201)
Mountain	201	618		678	550		280		618			618
Season of Use		10/16 to 4/15		10/16 to 4/15		10/16 to 3/15		10/16 to 2/18		10/16 to 3/15		10/16 to 4/15
Develop Water		0		1		0		0		0		0
AMP		No		Yes		Yes		No		Yes		Yes
Exclude Grazing		0 ac.		0 ac.		0 ac.		TM Motor - 1,210 ac.				
Exclude Sheep[c]		No		No		Yes		No		No		No
5090												
Tuttle	45	33		45	0		22		2			2
Season of Use		11/16 to 5/15		11/16 to 5/15				11/16 to 5/15		11/16 to 5/15		11/16 to 5/15
Land Disposal		150 ac.		0 ac.		530 ac.		0 ac.		530 ac.		530 ac.
5091 West		(254)					(127)		(254)			(254)
Grimes	254	295		295	0		150		295			295
Season of Use		4/1 to 6/10		4/1 to 6/10		11/1 to 12/15		11/1 to 12/15		11/1 to 12/15		4/1 to 6/10
AMP		No		Yes		No		No		Yes		Yes

TABLE I-1 (Concluded)

Allotment	5-year Avg. AUMs	Alternative A	Future[a] AUMs	Alternative B	Future AUMs	Alternative C	Future AUMs	Alternative D	Future AUMs	Alternative E	Future AUMs	Alternative F	Future AUMs
5092 West Huntington	839		(800) 1,038		1,218		0		(420) 538		(786) 1,024		(639) 817
Season of Use		4/22 to 6/26 11/1 to 12/15		4/22 to 6/26 11/1 to 12/15		11/1 to 12/31		11/1 to 12/31		11/1 to 12/31		11/1 to 12/31	
Develop Water		0		3		0		0		0		0	
AMP		No		Yes		No		Yes		Yes		Yes	
Land Disposal		540 ac.		0 ac.		570 ac.		50 ac.		700 ac.		260 ac.	
5093 West Orangeville	199		(199) 230		290		0		(100) 115		(199) 230		(199) 230
Season of Use		3/11 to 5/31		3/11 to 5/31		11/1 to 12/31		11/1 to 12/31		11/1 to 12/31		3/11 to 5/31	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		No		No		No		No	
5094 Wilberg	235		(235) 312		430		(23) 100		(118) 155		(235) 310		(106) 164
Season of Use		4/16 to 6/15 11/1 to 12/15		4/16 to 6/15 11/1 to 12/15		11/1 to 12/31		11/1 to 12/31		11/1 to 12/31		11/1 to 12/15	
Develop Water		0		2		0		0		0		0	
AMP		No		Yes		No		No		Yes		Yes	
Land Disposal		0 ac.		0 ac.		0 ac.		0 ac.		0 ac.		40 ac.	
5102 Wildlife	0		0		30		0		0		0		0
Season of Use				6/16 to 9/30									
0612 Willow Springs	304		304		364		220		105		304		228
Season of Use		12/1 to 4/15		12/1 to 4/15		12/1 to 3/15		12/1 to 2/28		12/1 to 3/15		12/1 to 3/15	
Develop Water		0		1		0		0		0		0	
AMP		No		Yes		Yes		Yes		Yes		Yes	
Land Treatments		0 ac.		600 ac.		600 ac.		0 ac.		0 ac.		600 ac.	

5096 Wood Hollow	421		(421) 799		919		(345) 723		(211) 408		(421) 799		(421) 799	
Season of Use		3/1 to 6/15		3/1 to 6/15		11/1 to 2/28		11/1 to 2/28		11/1 to 2/28		11/1 to 2/28		
Develop Water		0		2		0		0		0		0		
AMP		Yes		Yes		Yes		Yes		Yes		Yes		
Exclude Sheep[c]		No		No		Yes		No		No		No		
5101 Unallotted														
Parcel 1	0		0		5		0		0		0		0	
Season of Use				11/16 to 6/15										
Parcel 2	0		0		32		0		0		0		0	
Season of Use				10/16 to 12/15										
Parcel 3	0		0		50		0		0		0		0	
Season of Use				11/1 to 2/28										
TOTAL[g]			(56,544) 87,927		94,852		(44,316) 71,696		(27,399) 42,650		(55,442) 86,543		(55,623) 85,745	

NOTE: SR = San Rafael Reef ACEC; I-70 Pic = I-70 Pictographs; TB = Tomsich Butte Historical District ACEC; DL = Dry Lake Archaeological District ACEC; HM = Hebes Mountain ACEC; TM Motor = Temple Mountain Motorcycle Trail; AMP = allotment management plan.

[a]The number in parentheses is the 5-year average licensed use AUMs; the second number is the active preference AUMs.

[b]Allred and Cove Allotments would be combined in alternatives B through F and proposed RMP; see Cove Allotment for combined AUMs and actions under the alternatives.

[c]A change in kind from cattle to domestic sheep would not be permitted due to yearlong and crucial bighorn sheep habitat. Allotments currently being grazed by domestic sheep would not be required to change to cattle.

[d]The Buckhorn Wash area is currently excluded from livesock grazing with the exception of trailing.

[e]Moonshine and Saucer Basin Allotments would be combined under alternatives B through F and the proposed RMP. Saucer Basin acres and AUMs are shown in Moonshine Allotment.

[f]O.E.J. Allotment is used with private land under an exchange-of-use agreement dated May 30, 1970.

[g]The total number of active preference and past 5 years average licensed use AUMs does not include adjustments for assumed land disturbances (i.e., from ORV use, oil and gas operations, etc.), because the locations of these potential disturbances could not be tied to specific allotments. See table 11 in chapter 2 for total AUMs.

change from spring grazing (March 15 to June 15) to winter use would be analyzed. In the three allotments with 25 to 49 percent of the acreage exceeding this threshold, a 25 percent reduction from the past 5 years average licensed use and active preference AUMs would be analyzed with no change in season of use. On the allotments analyzed with a change in season to winter, a 25 percent reduction would be made on the 16 allotments where conflicts exist with wildlife. At this time, it is not know whether the allotments are exceeding the SCS critical soil loss threshold. This determination will be made on an allotment by allotment basis in conjunction with current rangeland monitoring methods. If it is determined that the allotments are exceeding the SCS critical soil loss threshold, and the rangeland trend is down, then changes in livestock management are necessary. These changes could include changes in grazing season, reductions in numbers, implementation of grazing systems or other agreements that would provide some protection for these areas. If changes are necessary range use agreements will be pursued with the operators. On allotments exceeding the SCS critical soil loss threshold, but in an upward trend, no changes in management will be made as long as the areas are improving and heading toward the individual site goals. Additional monitoring data will be necessary before any reductions or changes of season can be made based soley on protection of these critical soils (highly saline soils and soils highly susceptible to water erosion). Therefore, any changes based on exceedance of the SCS critical soil loss threshold would be made in conjunction with grazing decisions to be issued following 5 years of rangeland monitoring. These analysis assumptions are made solely to measure the possible impacts from such changes (appendix T).

In allotments containing curcial bighorn sheep habitat, no changes from cattle to domestic sheep would be allowed. Allotments currently being grazed by domestic sheep would not be required to change to cattle.

Additional reductions in AUMs would occur where land disposals are identified. Table I-1 provides a breakdown of management actions by alternative so that the effect (impact) to each allotment can be determined. Table I-2 provides the same information for the proposed plan.

APPENDIX I

TABLE I-2

Proposed Grazing Management Actions, by Allotment

Allotment/Action	5-year Average AUMs	Future[a] AUMs
5001 Allred[b]	6	0
Combine w/ Cove		
5002 Big Pond		(977)
Season of Use 10/01 to 03/31	977	2,241
05/11 to 06/20		
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5003 Black	19	0
Land Disposal 280 ac.		
5004 Black Dragon		(2,276)
Season of Use 11/01 to 04/15	2,276	3,223
Allotment Management Plan		
Exclude Grazing 0 ac.		
Exclude Domestic Sheep[c]		
5005 Buckhorn		(2,929)
Season of Use 04/16 to 10/31	3,416	3,128
Allotment Management Plan		
Land Disposal 320 ac.		
Exclude Domestic Sheep[c]		
5105 Buckhorn Draw	0	0
Exclude Domestic Sheep[c] [d]		
5006 Bunderson	27	0
Land Disposal 390 ac.		
5007 Case	11	0
Land Disposal 120 ac.		
5008 Clawson Dairy	65	48
Season of Use 11/01 to 12/15		
Allotment Management Plan		
Land Disposal 40 ac.		
5009 Coal Wash		(265)
Season of Use 03/01 to 03/15	265	386
12/01 to 01/15		
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5010 Cove[b]		(48)
Season of Use 11/01 to 12/15	53	55
Allotment Management Plan		
Land Disposal 110 ac.		
5013 Cowley		(16)
Season of Use 05/01 to 05/31	77	32
Land Disposal 80 ac.		
5011 Cox (Don)		(0)
Season of Use 10/01 to 11/30	0	72
5012 Cox (John)		(115)
Season of Use 10/16 to 01/15	153	110
Allotment Management Plan		
5014 Crawford		(103)
Season of Use 10/16 to 12/31	137	159
Allotment Management Plan		
5015 Day	10	0
Land Disposal 340 ac.		
5016 Deep Wash		(71)
Season of Use 11/01 to 11/30	138	81
Land Disposal 1,160 ac.		
0602 Deer Peak		(254)
Season of Use 11/01 to 12/31	254	391
Allotment Management Plan		
Land Treatments 1,500 ac.		
5017 Dry Wash		(375)
Season of Use 11/17 to 01/31	375	562
Allotment Management Plan		
5018 Dugout		(550)
Season of Use 10/01 to 03/15	550	1,040
Allotment Management Plan		
5020 East Grimes		(102)
Season of Use 04/01 to 06/15	131	285
Land Disposal 280 ac.		

(Continued)

APPENDIX I

TABLE I-2 (Continued)

Allotment/Action	5-year Average AUMs	Future[a] AUMs
5021 Ferron Mills		
Season of Use 04/16 to 07/15 03/20 to 06/19	121	108
Allotment Management Plan		
Land Disposal 370 ac.		
5023 Fullers Bottom		(490)
Season of Use 11/01 to 02/28	490	772
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5024 Georges Draw		(747)
Season of Use 10/01 to 02/28	747	988
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5025 Globe Link		(568)
Season of Use 11/1 to 4/30	568	600
Allotment Management Plan		
5026 Hambrick Bottoms		(1,609)
Season of Use 10/16 to 12/31	1,609	1,890
Allotment Management Plan		
Land Disposal 140 ac.		
5027 Head of Sinbad		(719)
Season of Use 6/6 to 10/15	719	790
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5099 Hondo		(193)
Season of Use 11/1 to 5/31	193	336
Exclude Domestic Sheep[c]		
5028 Horse Bench		(601)
Season of Use 11/1 to 4/15	601	924
Allotment Management Plan		
5029 Horseshoe North		(555)
Season of Use 11/1 to 4/15	555	2,145
Allotment Management Plan		
5100 Horseshoe South		(0)
Season of Use 11/1 to 4/15	0	2,024
Allotment Management Plan		
5030 Humphrey	4	0
Land Disposal 80 ac.		
5031 Iron Wash		(1,800)
Season of Use 9/1 to 3/15	2,400	3,735
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5032 Jacobson	18	18
Season of Use 11/1 to 3/15		
5033 Jeffery Well		(2,025)
Season of Use 10/17 to 5/15	2,025	2,800
Allotment Management Plan		
5034 Jensen	10	6
Season of Use 1/1 to 3/31		
Land Disposal 120 ac.		
5035 Johnson		(131)
Season of Use 2/1 to 3/15	175	137
5036 Jorgense	18	18
Season of Use 10/16 to 12/31		
5037 Justensen	0	45
Season of Use 2/1 to 3/15		
Allotment Management Plan		
0605 Last Chance		(1,000)
Season of Use 11/1 to 5/30	1,000	1,036
Allotment Management Plan		
5038 Link Canyon		(130)
Season of Use 11/1 to 2/28	130	288
5039 Little Holes		(56)
Season of Use 1/15 to 3/15	56	80
5040 Little Valley		(102)
Season of Use 11/1 to 3/15	102	139
Allotment Management Plan		

(Continued)

APPENDIX I

TABLE I-2 (Continued)

Allotment/Action	5-year Average AUMs	Future[a] AUMs
5041 Lone Tree		(4,967)
Season of Use 12/16 to 3/15	4,967	5,270
Allotment Management Plan		
Exclude Domestic Sheep[c]		
0607 M & O		(1,434)
Season of Use 11/1 to 3/15	1,444	1,239
Allotment Management Plan		
Land Disposal 120 ac.		
5042 McCarty Canyon	174	174
Season of Use 11/1 to 3/15		
Exclude Domestic Sheep[c]		
5043 McKay Flat		(403)
Season of Use 11/1 to 3/15	403	2,228
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5097 Mervin	42	0
Land Disposal 360 ac.		
5044 Mesquite Wash		(50)
Season of Use 4/1 to 6/20	67	86
Exclude Domestic Sheep[c]		
5045 Mexican Bend		(324)
Season of Use 11/1 to 3/15	324	977
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5046 Miller Canyon		(300)
Season of Use 12/16 to 4/30	300	492
11/1 to 1/18		
5047 Molen Pasture		(151)
Season of Use 3/15 to 5/31	151	187
11/1 to 1/18		
5048 Molen Tanks		(105)
Season of Use 2/26 to 6/10	140	233
5049 Moonshine		(1,187)
Season of Use 10/1 to 4/15	704	[e]1,466
Allotment Management Plan		
Combine w/Saucer Basin		
0608 Mussentuchit		(1,905)
Season of Use 10/15 to 5/30	1,905	1,994
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5050 Neva	149	147
Season of Use 11/1 to 2/25		
Land Disposal 80 ac.		
5051 North Ferron		(704)
Season of Use 11/11 to 12/10	704	875
Allotment Management Plan		
5052 North Herring Flat	33	26
Season of Use 11/1 to 12/15		
5053 North Huntington		(1,437)
Season of Use 11/1 to 12/31	1,898	1,542
Allotment Management Plan		
Land Disposal 240 ac.		
5054 North Sid & Charley		(529)
Season of Use 2/16 to 5/15	529	1,010
11/1 to 1/15		
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5055 North Sids Mountain		(73)
Season of Use 8/1 to 5/31	73	90
Exclude Domestic Sheep[c]		
5056 North Sinbad		(2,408)
Season of Use 11/1 to 3/15	2,408	3,200
Allotment Management Plan		
Exclude Domestic Sheep[c]		

(Continued)

APPENDIX I

TABLE I-2 (Continued)

Allotment/Action	5-year Average AUMs	Future[a] AUMs
5057 Northwest Ferron		(38)
Season of Use 11/1 to 12/15	49	107
Land Disposal 40 ac.		
5058 North Wolf Hollow	6	0
Land Disposal 90 ac.		
5098 O.E.J.[f]	15	15
5059 Oil Dome	36	39
Season of Use 11/1 to 12/31		
Land Disposal 360 ac.		
5060 Oil Well Flat		(600)
Season of Use 10/16 to 5/31	800	2,051
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5061 Olsen (E.)	20	10
Season of Use 4/16 to 6/15		
Land Disposal 160 ac.		
5062 Olsen (G.L.)	250	250
Season of Use 5/16 to 6/30		
11/1 to 11/30		
5063 Pasture Canyon		(278)
Season of Use 10/1 to 4/15	278	715
Allotment Management Plan		
5064 Peacock	56	42
Season of Use 1/1 to 2/28		
5065 Price (Vic)		(68)
Season of Use 11/1 to 12/31	75	125
Land Disposal 90 ac.		
5067 Red Canyon		(1,111)
Season of Use 10/16 to 3/15	1,111	2,237
Allotment Management Plan		
Exclude Domestic Sheep[c]		
Red Seeps		(705)
Season of Use 10/16 to 3/15	705	1,607
Allotment Management Plan		
5069 Reid	12	0
Land Disposal 200 ac.		
5066 R.J.	80	78
Season of Use 10/1 to 2/28		
Land Disposal 40 ac.		
5071 Rochester		(149)
Season of Use 10/16 to 12/15	199	155
Allotment Management Plan		
5072 Rock Canyon	236	177
Season of Use 11/1 to 2/28		
Allotment Management Plan		
0611 Rock Springs		(1,971)
Season of Use 11/1 to 3/15	2,628	3,311
Allotment Management Plan		
Land Treatments 500 ac.		
Exclude Domestic Sheep[c]		
5073 Saddle Horse		(180)
Season of Use 7/1 to 11/4	180	220
Exclude Domestic Sheep[c]		
5074 Saleratus	1,843	1,843
Season of Use 11/16 to 3/15		
Allotment Management Plan		
5075 Salt Wash		(1,034)
Season of Use 11/5 to 1/4	1,034	2,995
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5076 San Rafael River		(815)
Season of Use 10/17 to 5/15	815	2,066
Allotment Management Plan		

(Continued)

APPENDIX I

TABLE I-2 (Continued)

Allotment/Action	5-year Average AUMs	Future[a] AUMs
5077 Saucer Basin[e]	879	0
Combine with Moonshine		
5079 Sorensen		(604)
Season of Use 12/1 to 3/31	604	630
Allotment Management Plan		
5080 South Ferron		(287)
Season of Use 11/1 to 12/10	287	743
5081 South Herring Flat	112	83
Season of Use 11/1 to 12/15		
5082 South Sid & Charley		(233)
Season of Use 11/16 to 3/15	223	952
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5083 South Sids Mountain		(179)
Season of Use 5/16 to 10/15	179	165
Exclude Domestic Sheep[c]		
5084 South Wolf Hollow	30	19
Season of Use 11/1 to 12/15		
Land Disposal 280 ac.		
5085 Straight Hollow	42	32
Season of Use 11/1 to 12/15		
5086 Sweetwater		(3,482)
Season of Use 3/1 to 12/31	3,482	4,446
Allotment Management Plan		
5087 Taylor Flat		(1,185)
Season of Use 11/1 to 4/30	1,185	2,016
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5088 T.D.J.	26	26
Season of Use 11/1 to 12/15		
5089 Temple Mountain		(201)
Season of Use 10/16 to 4/15	201	618
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5090 Tuttle	45	2
Season of Use 11/16 to 5/15		
Land Disposal 530 ac.		
5091 West Grimes		(254)
Season of Use 4/1 to 6/10	254	295
Allotment Management Plan		
5092 West Huntington		(639)
Season of Use 11/1 to 12/31	839	817
Allotment Management Plan		
Land Disposal 260 ac.		
5093 West Orangeville		(199)
Season of Use 3/11 to 5/31	199	230
5094 Wilberg		(106)
Season of Use 11/1 to 12/15	235	164
Allotment Management Plan		
Land Disposal 40 ac.		

(Continued)

APPENDIX I

TABLE I-2 (Concluded)

Allotment/Action	5-year Average AUMs	Future[a] AUMs
5102 Wildlife	0	0
0612 Willow Springs	304	228
Season of Use 12/1 to 3/15		
Allotment Management Plan		
Land Treatments 600 ac.		

Allotment/Action	5-year Average AUMs	Future[a] AUMs
5096 Wood Hollow		(421)
Season of Use 11/1 to 2/28	421	799
Allotment Management Plan		
Exclude Domestic Sheep[c]		
5101 Unallotted		
Parcel 1	0	0
Parcel 2	0	0
Parcel 3	0	0

[a]The number in parentheses is the 5-year average licensed use AUMs; the second number is the active preference AUMs.

[b]Allred and Cove Allotments would be combined in alternatives B through F and proposed RMP; see Cove Allotment for combined AUMs and actions under the alternatives.

[c]A change in kind from cattle to domestic sheep would not be permitted due to yearlong and crucial bighorn sheep habitat. Allotments currently being grazed by domestic sheep would not be required to change to cattle.

[d]The Buckhorn Wash area is currently excluded from livesock grazing with the exception of trailing.

[e]Moonshine and Saucer Basin Allotments would be combined under alternatives B through F and the proposed RMP. Saucer Basin acres and AUMs are shown in Moonshine Allotment.

[f]O.E.J. Allotment is used with private land under an exchange-of-use agreement dated May 30, 1970.

APPENDIX J, WILD AND SCENIC RIVER STUDY SEGMENTS AND POTENTIAL CLASSIFICATIONS

OVERVIEW

Appendix J presents the results of the Bureau of Land Management's (BLM's) preliminary study of three potential wild and scenic river segments in San Rafael Resource Area (SRRA): the Green River, the San Rafael River, and Muddy Creek (map 56 in volume 2). National Park Service (NPS) identified the Green and San Rafael Rivers in the 1982 Nationwide Rivers Inventory (NRI) [NPS, 1982b] as potential additions to the Wild and Scenic Rivers System under the Wild and Scenic Rivers Act. BLM resource specialists identified Muddy Creek as having potential for wild and scenic river status.

STUDY PROCESS

The wild and scenic river study process includes three steps:

(1) determine if potential river segments are eligible for wild and scenic river designation;

(2) determine the potential classification of the segment as wild, scenic, recreational, or any combination; and

(3) conduct a suitability study to determine if the segment is suitable for designation to the Wild and Scenic Rivers System.

The third step requires preparation of a legislative environmental impact statement (EIS).

The study procedures are found in the 1982 guidelines from the U.S. Departments of Agriculture and Interior (USDA and USDI) [Federal Register Vol. 7, No. 173, September 7, 1982].

BLM manual section 1623.4 contains requirements for studying NRI segments in the planning process to determine potential wild and scenic status; it also allows for the resource management plan (RMP) to propose other river segments, not included in the NRI, for study.

This appendix fulfills the first two steps of the wild and scenic river study, providing a description of the river areas, determinations of eligibility, and potential classifications for the portions of the two NRI segments and Muddy Creek administered by BLM and the State of Utah. Because all three segments flow through federal, state, and private lands, the suitability study could not be accomplished prior to the RMP and has been deferred, along with the legislative EIS requirement. The studies are scheduled to be completed within 5 years after completion of the final RMP; this does not necessarily include the time required to prepare, distribute, and review the subsequent legislative EIS.

After completion of the study, the Secretary of the Interior will report to the President whether a segment is suitable for designation. The President recommends to Congress whether a segment should be designated. Only Congress can designate a river segment to be included in the Wild and Scenic Rivers System.

STUDY CRITERIA

To be eligible for inclusion in the national system, a study segment must be free-flowing, and the river and its adjacent land area must possess at least one outstandingly remarkable

value. There are no specific requirements regarding the length or flow of an eligible river segment. Length and flow are sufficient if they sustain or complement the outstandingly remarkable values for which the river would be designated. The minimum study corridor includes the river and the adjacent lands to 0.25 mile from the riverbank. A wider corridor may be studied if inclusion could facilitate improved management of resources in the river area.

A segment's potential classification depends on the condition of the river and adjacent lands as they exist at the time of the study. The Act specifies three classification categories for eligible rivers: wild, scenic, and recreational.

To be classified as wild, a river segment must be free of impoundments. The area must show little evidence of human activity and be generally inaccessible except by trail. The watersheds or shorelines must be primitive, with no structures or modifications of the river course. The water must be unpolluted.

To be classified as scenic, a river segment must be free of impoundments. The area must not show substantial evidence of human activity. It may be accessible by roads in places or have occasional bridges. The watershed or shoreline must be largely primitive and undeveloped.

To be classified as recreational, a river segment may have been impounded or diverted in the past if its appearance remains generally natural. It may be readily accessible by road or railway or be crossed by bridges. It may have some development along the shoreline or show substantial evidence of human activity.

INTERIM MANAGEMENT

BLM guidance provides for interim protection of a river segment after it is determined eligible and subsequently classified as wild, scenic, and/or recreational. Management activities will not be allowed to damage the existing eligibility or classification. Outstandingly remarkable values of the river area must be protected, and to the extent practicable, enhanced. The free-flowing characteristics of the river segment cannot be modified.

GREEN RIVER

INTRODUCTION

The Green River, from Range Creek to the Colorado River, was identified in the NRI. This preliminary study included the segment from Green River, Utah to Canyonlands National Park (NP). The segment from Range Creek to Green River is in Price River Resource Area, Moab District, and will be studied at a later date (to mesh with BLM planning schedules). NPS will study the segment from the Canyonlands NP north boundary to the confluence with the Colorado River. The section covered by this study has been determined eligible for inclusion into the Wild and Scenic Rivers System. Portions of the river were determined to have the following potential classifications: segments 1 and 3, scenic; segment 2, wild.

The Green River was identified in the NRI as having outstandingly remarkable scenic, recreation, and geologic values. The area also provides habitat for federally listed endangered species.

REGIONAL SETTING

From its headwaters in the Wind River range of southwestern Wyoming, the Green River flows approximately 730 miles through Wyoming and Utah to its confluence with the Colorado River. This study segment is located entirely within Emery and Grand Counties in southeastern Utah.

ADMINISTRATION

The river corridor in the study segment is administered by BLM and the State of Utah. This river segment has been adjudicated and found navigable; therefore, the State of Utah controls the riverbed and use on the river. Activities outside the riverbed are controlled by the land managing agency and private land owners.

APPENDIX J

RIVER DESCRIPTION

The public land study corridor is 0.25 mile from the high-water line on each side of the river, or to the top edge of the canyon walls, whichever is greater. The river segment in this preliminary study begins at Green River State Park (mile 120) and terminates at the Canyonlands NP boundary (mile 47).

The main water quality concern related to primary recreation contact is bacteriologic concentrations. Environmental Protection Agency (EPA) STORET data show occasional violations of the fecal coliform standards at Mineral Bottom. Highly contaminated overland flows from storm events may result in nonpoint fecal contamination and an unacceptable status for full-body-contact recreation. There are also occasional violations in total coliform and residue for public water supply; total and fecal coliform and total phosphate for both primary and secondary recreation contact; turbidity and total phosphate for cold- and warm-water aquatic life; and fecal coliform and residue for irrigation.

The 73-mile study area has been divided into three segments based on shoreline development and accessibility:

(1) Green River State Park (mile 120) to the Ruby Ranch area (mile 96);

(2) mile 96 to Hey Joe Canyon (mile 76); and

(3) mile 76 to Canyonlands NP (mile 47).

Segment 1

From Green River State Park to Ruby Ranch, the river runs through fairly open country, with low buttes dominating the landscape. Much of the land in this segment is privately owned or managed by the State of Utah. Most of the shoreline development and evidence of human activity are found in this segment. Shoreline developments occur along the braided river channels until the river cuts into a shallow canyon at mile 119. The river bottom opens up again near Crystal Geyser (mile 115.5), a colorful mineral spring created by an unsuccessful oil or gas test well drilled in 1936. The next 4.5 miles pass through the Little Valley and Five Mile Wash areas, and signs of previous agricultural activity are evident. The canyon walls are closer to the riverbank for the next 9 miles, but they open up again near Dry Lake Wash (mile 102). The remaining 6 miles are open-bench areas with several agricultural developments present along the river's eastern bank (Ruby Ranch). Scenic and geologic features are outstanding. Cottonwood, tamarisk, and willow dominate the riparian areas of this river segment.

Segment 2

Below Ruby Ranch, the river begins to cut into the sheer red Wingate Sandstone walls. No human intrusions are found until Hey Joe Canyon (mile 76), where evidence of mining activity can be observed along the river. Tamarisk and willow predominate along the riverbanks. The variety of rock strata exposed offer outstanding scenic and geologic values.

Segment 3

Between mile 76 and Canyonlands NP, the canyon walls rise approximately 1,100 feet. On the river's east side, primitive jeep trails run from Hey Joe Canyon (mile 76) to Mineral Bottom (mile 52), and a county-maintained road follows the bench from mile 52 to the Canyonlands NP boundary (mile 47). Mining developments can be observed at Hey Joe Canyon and the river benches on the north and east sides of Bowknot Bend. Access to the mines along Bowknot Bend was by ferry from a spot near Hey Joe mine, assisted by a cable formerly strung across the river. These somewhat isolated developments are of historical interest and do not seriously detract from the significant scenic values found throughout the canyon. Cottonwood, tamarisk, and willow predominate near the river.

ELIGIBILITY

Since no impoundments or other modifications to the waterway exist between Green River State

Park to Canyonlands NP, the river meets the definition of a free-flowing stream. All three segments possess outstandingly remarkable scenic, geologic, and ecologic values. The Green River, from Green River State Park to Canyonlands NP, is determined eligible for inclusion in the Wild and Scenic Rivers System.

POTENTIAL CLASSIFICATION

Based on the existing situation, river segments 1 and 3 potentially meet the scenic criteria. The shorelines are largely primitive and undeveloped, the road access generally inconspicuous. Segment 2 potentially meets the wild criteria because it has primitive, undeveloped shorelines and is accessible only by trail.

SAN RAFAEL RIVER

INTRODUCTION

The San Rafael River, from the confluence of Cottonwood and Ferron Creeks (mile 111) to the confluence with the Green River (mile 0), was identified in the NRI. The section of river from the confluence of Cottonwood and Ferron Creeks (mile 111) to Tidwell Bottoms (mile 50.6) has been determined eligible for inclusion into the Wild and Scenic Rivers System. This part of the river was divided into five segments with the following potential classifications: segments 1 and 3, scenic; segments 2 and 4, wild. The remaining 50.6 miles of river below Tidwell Bottoms were determined ineligible for inclusion into the Wild and Scenic Rivers System because of cumulative impacts of roads, fencing, reservoirs, and diversions, and the lack of outstandingly remarkable features.

The San Rafael River was identified in the NRI as having outstandingly remarkable scenic, recreation, and geologic values, as well as providing habitat for federally listed endangered species.

REGIONAL SETTING

The San Rafael River begins just below the confluences of the Wasatch Plateau drainages (Huntington Creek, Cottonwood Creek, and Ferron Creek) and flows 111 miles to its confluence with the Green River. The study segment is located entirely within Emery County, Utah.

ADMINISTRATION

The river corridor in the study segment is administered by BLM, the State of Utah, and private land owners.

RIVER DESCRIPTION

The public land study corridor is 0.25 miles from the high-water line on each side of the river, or to the top edge of the canyon walls, whichever is greater. The river segments in this preliminary study flow between the confluence of Ferron and Cottonwood Creeks (mile 111) and the confluence with the Green River (mile 0).

The main water quality concern related to primary recreation contact is bacteriologic concentrations. EPA STORET data show occasional violations of the fecal coliform standards at the Highway U-24 crossing. Highly contaminated overland flows from storm events may result in nonpoint fecal contamination and an unacceptable status for full-body-contact recreation. Violations on the San Rafael River include residue, manganese, nickel, dissolved solids, and sulphate for public water supply; total phospate for primary recreation contact; total phospate for secondary recreation contact; turbidity, total phospate, and suspended sediment for cold- and warm-water aquatic life; and residue conductivity, sodium, and dissolved solids for irrigation.

Five stream segments were identified based on shoreline development and accessibility:

(1) confluence of Ferron and Cottonwood Creeks (mile 111) to lower Fullers Bottom (mile 103.7);

(2) lower Fullers Bottom (mile 103.7) to Johansen Cabin (mile 89.3), known as the Little Grand Canyon;

(3) Johansen Cabin (mile 89.3) to Lockhart Wash (mile 77.2);

(4) Lockhart Wash (mile 77.2) to Tidwell Bottoms (mile 50.6); and

(5) Tidwell Bottoms (mile 50.6) to the confluence with the Green River (mile 0).

Segments 1 through 4 possess outstanding recreation, scenic, and geologic values. The NRI discussed scenic and unique geologic values, excellent hiking opportunities, archaeologic values, and presence of bald and golden eagles. The river provides habitat for T/E species. Riparian vegetation in segments 1, 2, and 3 consists mainly of cottonwood, tamarisk, and willow. With the exception of Mexican Bend, segment 4 has little riparian vegetation because the watercourse is confined. Primary vegetation in the Mexican Bend area includes cottonwood, tamarisk, and willow.

Segment 1

From the confluence of Ferron and Cottonwood Creeks (mile 111) to lower Fullers Bottom (mile 103.7), the river canyon is generally open and wide. The exception is a 1-mile section through Cat Canyon, where steep canyon walls rise 200 to 300 feet. A county-maintained road enters Hambrick Bottom, leading to the site of an old gauging station and a substantially unnoticeable irrigation canal. A BLM-maintained road enters Fullers Bottom, and several fences can be seen in this area. Fullers Bottom is used as a boat launching access for the Little Grand Canyon segment of the San Rafael River.

Segment 2

The section of river from lower Fullers Bottom (mile 103.7) to Johansen Cabin (mile 89.3) is also known as the Little Grand Canyon. The river is deeply entrenched, with canyon walls rising over 1,000 feet in places. A historic mine shaft near mile 101 has reclaimed to the point of being substantially unnoticeable. Extreme topographic relief restricts access to the river canyon. Part of this segment, from mile 87.6 to mile 103.1, lies within the Sids Mountain Complex Wilderness Study Area (WSA).

Segment 3

From Johansen Cabin (mile 89.3) to Lockhart Wash (mile 77.2), the river canyon opens up, with wide benches above the meandering watercourse. A bladed road leads to the cabin and associated development near mile 101. A county road follows Buckhorn Draw, crossing the river on the swinging bridge. The San Rafael Campground, a semi-developed camp facility, lies adjacent to the swinging bridge on the south side of the river. A county-maintained road follows the north side of the river, and associated primitive jeep trails access the river in several places. A badly eroded jeep trail lies west of Lockhart Wash on the river's south side.

Segment 4

All of segment 4 lies within Mexican Mountain WSA. From Lockhart Wash (mile 77.2) to upper Mexican Bend (mile 66), the river is in a deeply entrenched canyon referred to as the Upper Black Box. The river cuts deeply into the Coconino Sandstone, forming sheer walls and steep talus slopes that rise 600 feet above the river to the first major bench. This section has no human intrusions. Access to the river is extremely difficult.

From upper Mexican Bend (mile 66) to Swasey Leap (mile 60), the river canyon becomes wider again, but is still confined by clifflines more than 1,500 feet above the river. A reclaimed access road to an abandoned drill hole parallels the river's north side for 3 miles in the Mexican Bend area. The road was closed to motorized use in 1986 to allow rehabilitation in compliance with wilderness interim management policy (IMP) requirements. Adjacent to the river's north side lies a reclaimed airstrip. Intrusions in the Mexican Bend area were determined substantially unnoticeable during the wilderness review process.

The area from Swasey Leap (mile 60) to Sulphur Springs (mile 56) is referred to as the Lower

Black Box. Its walls, only 15 feet wide in places, tower 200 to 300 feet to the first major bench. No human intrusions are found in the Lower Black Box, and access to the river is difficult.

From Sulphur Spring (mile 56) to Tidwell Bottoms (mile 50.6), the river continues to cut through San Rafael Reef, with 500- to 700-foot walls jutting up until the river breaks out of the reef. There are no human intrusions, and access to the river is difficult.

Segment 5

From Tidwell Bottoms (mile 50.6) to the mouth of the San Rafael River (mile 0), the river crosses the wide San Rafael Desert flats. Over 22 miles of this segment cross private lands, and human human intrusions are numerous. Roads or jeep trails occur along much of the river; two dams, several diversions, and two gauging stations are present. The area is intensively used by livestock, and several fences are visible.

Although this segment possesses scenic values, contains no outstandingly remarkable features.

ELIGIBILITY

The river meets the definition of a free-flowing stream from the confluence of Cottonwood and Ferron Creeks (mile 111) to the Hatt Reservoir (mile 39). The remaining stretch of river from Hatt Reservoir (mile 39) to the mouth of the San Rafael River (mile 0) contains two small dams, several Utah Power and Light Company diversions, jeep trails, fences, and two gauging stations.

Segments 1, 2, 3, and 4 have outstanding recreation, scenic, and geologic values. Segment 5, from Tidwell Bottoms to the mouth, does not contain unusual or outstandingly remarkable values. Therefore, Segments 1, 2, 3, and 4 are determined eligible for inclusion in the Wild and Scenic Rivers System.

POTENTIAL CLASSIFICATION

River segments 1 and 3 potentially meet the scenic criteria based on the existing situation. They are free of impoundments and essentially primitive, and road access is generally unnoticeable from the river, except in the immediate vicinity of the swinging bridge.

Based on existing conditions, river segments 2 and 4 potentially meet the wild criteria because they have primitive, undeveloped shorelines and are accessible only by trail.

MUDDY CREEK

INTRODUCTION

BLM resource specialists have identified Muddy Creek, from Highway I-70 (mile 76.6) to the Emery County line (mile 18.5), as having potential for wild and scenic river status. This segment is considered eligible for inclusion in the Wild and Scenic Rivers System. Muddy Creek was not included in the NRI study. The river is divided into segments with the following potential classifications: segments 1, 3, and 5, wild; segments 2, 4, and 6, scenic.

REGIONAL SETTING

Muddy Creek originates on the Wasatch Plateau above Emery, Utah and flows over 106 miles to its confluence with the Fremont River, where the two creeks join to form the Dirty Devil River. This study is concerned only with the portion of Muddy Creek within Emery County, Utah. The Dirty Devil River, from the confluence of Muddy Creek and the Fremont River to its confluence with the Green River, was identified in the NRI. This sgement will be studied by BLM's Richfield District, Henry Mountain Resource Area and NPS.

ADMINISTRATION

The river corridor in the Muddy Creek study segment is administered by BLM, the State of Utah, and private land owners.

RIVER DESCRIPTION

The public land study corridor is 0.25 miles from the high-water line on each side of the

river, or to the top edge of the canyon walls, whichever is greater.

The main water quality concern related to primary recreation contact is bacteriologic concentrations. No fecal coliform results were reported for Muddy Creek. Highly contaminated overland flows from storm events may result in nonpoint fecal contamination and an unacceptable status for full-body-contact recreation. Occasional violations reported on Muddy Creek include residue, manganese, nickel, dissolved solids, chloride, and sulphate for public water supply; turbidity and suspended sediments for cold-water aquatic life; turbidity for warm-water aquatic life; and residue, conductivity, sodium, and dissolved solids for irrigation.

In this preliminary study, the Muddy Creek river segment has been divided into six segments based on shoreline development and accessibility:

(1) Highway I-70 (mile 76.6) to the gauging station above Lone Tree Crossing (mile 65.6);

(2) mile 65.6 to South Salt Wash (mile 63.6);

(3) mile 63.6 to the north end of Tomsich Butte (mile 46);

(4) mile 46 to Penitentiary Canyon (mile 42.4);

(5) mile 42.4 to Hidden Splendor Mine (mile 30); and

(6) mile 30 to the Emery County boundary (mile 18.5).

Segment 1

From Highway I-70 to mile 65.6 near the Lone Tree gauging station, the stream meanders through a canyon 100 to 300 feet deep and 50 to 1,500 feet wide. A gauging station is situated about 200 yards downstream from the I-70 bridge. This segment has no human intrusions below the I-70 gauging station.

Recreational boating occurs in this segment during periods of high water. The area offers outstanding scenic and recreation values in a natural setting.

Primary vegetation adjacent to the stream includes greasewood and tamarisk.

Segment 2

At mile 65.6, the canyon opens up until the stream passes the confluence with South Salt Wash (mile 63.6). Below the Lone Tree gauging station, a county road crosses the river. The road and gauging station affect a small area and detract little from the outstanding scenery provided by rugged surrounding topography. This area serves as a put-in and take-out for recreational boaters.

Vegetation is similar to that found in segment 1.

Segment 3

From South Salt Wash (mile 63.6) to the north end of Tomsich Butte (mile 46), the river enters a narrow canyon, meandering sharply through extremely rugged topography. The canyon is approximately 400 feet deep in the upper reaches and over 1,400 feet deep below the Merry-Go-Round. The stream bottom varies in width from 100 feet to 0.25 mile. The only human intrusion found in this segment is a barbed-wire fence at The Big Bend. Access is difficult except by trail. The area receives recreational boating use when flows are sufficient and hiking use when flows are low. Bighorn sheep occupy the benches above the river.

Tamarisk occurs in the upper and lower reaches of segment 3, but overall there is little vegetation because of the scouring effect of flash floods through the constricted canyon.

Segment 4

The 3.6 miles of stream between Tomsich Butte and Penitentiary Canyon flow through open country, with a large flat east of the river. Signs of uranium mining activity in the 1950s are found along Tomsich Butte and on the slopes west of the stream. A county road is maintained to the southern end of Tomsich Butte.

This area has outstanding scenic and recreation values and is heavily used by off-road vehicle (ORV) recreationists and hiking enthusiasts in the spring. It also serves as a put-in and take-out for recreational boaters when flows are sufficient.

The primary vegetation in this segment consists of tamarisk, willow, and cottonwood.

Segment 5

Below Penitentiary Canyon, the streambed becomes as narrow as 7 feet wide in places and lies over 300 feet deep. A 4-mile-long box canyon known as The Chute provides a 100-foot-deep inner corridor of wall-to-wall water. The stream then flows past a badlands area known as Keesle Country, and the canyon becomes a little wider. No human intrusions are evident before the Hidden Splendor Mine.

The scenic, recreation, and geologic values are outstanding. The canyon offers an unusual and technical recreational boating opportunity. The Hidden Splendor Mine area serves as a put-in and take-out for recreational boating and hiking. Bighorn sheep can be observed on the benches above the narrow, steep-walled canyon.

Little vegetation grows in this segment because of the stream's scouring effect during periods of high flows.

Segment 6

Below Hidden Splendor Mine, the stream narrows and continues to cut through San Rafael Reef, finally breaking out at mile 26. The stream then flows for about 7.5 miles through wide-open areas to the Emery County line. Faint remnants of a washed-out jeep trail can be observed from the Hidden Splendor area to mile 23. The jeep trail no longer receives any use. A few fencelines are found close to the stream.

Views of San Rafael Reef provide spectacular scenic values. This area is also used as an access point for recreationists venturing into the reef and the Muddy Creek drainage.

Vegetation in this segment consists mainly of tamarisk and willow.

ELIGIBILITY

All of the Muddy Creek study area from Highway I-70 to the Emery County line meets the definition of a free-flowing stream. There are no impoundments or other modifications to the waterway. All six segments possess interesting and outstanding scenic and recreation values. Segments 3 through 6 also have outstanding and unusual geologic values. The entire segment is therefore eligible for inclusion in the Wild and Scenic Rivers System.

POTENTIAL CLASSIFICATION

Based on the existing situation, river segments 1, 3, and 5 meet the wild river criteria. The shorelines do not contain human intrusions, and road access is inconspicuous and generally limited by topography.

Segments 2 and 6 meet the scenic criteria. These segments are largely primitive and have retained a natural character overall. Neither section has any impoundments.

APPENDIX K, RECREATION OPPORTUNITY SPECTRUM CLASSES

OVERVIEW

Appendix K describes the opportunities available in each of the six recreation opportunity spectrum (ROS) classes. Table K-1 presents each ROS class in terms of experience opportunities, setting opportunities, and activity opportunities. These overview statements do not describe each class in detail, but rather provide a point of departure from which the planner or manager can develop more precise prescriptions for each class based on specific situations encountered in field operations.

The listing of activity opportunities is provided for illustration only and is not meant to include every activity possible in the area.

TABLE K-1

Recreation Opportunity Spectrum Class Descriptions

Opportunity Class	Experience Opportunity	Setting Opportunity	Activity Opportunity
Primitive	Opportunity for isolation from the sights and sounds of man, to feel a part of the natural environment, to have a high degree of challenge and risk, and to use outdoor skills.	Area is characterized by essentially unmodified natural environment of fairly large size. Concentration of users is very low and evidence of other users is minimal. The area is managed to be essentially free from evidence of man-induced restrictions and controls. Only facilities essential for resource protection are used. No facilities for comfort or convenience of the user are provided. Spacing of groups is informal and dispersed to minimize contacts between groups. Motorized use within the area is not permitted.	Camping, hiking, climbing, enjoying scenery or natural features, nature study, photography, spelunking, hunting (big game, small game, upland birds, waterfowl), ski touring, and snowshoeing, swimming, diving (skin and scuba), fishing, canoeing, sailing, and river running (non-motorized craft).
Semiprimitive Nonmotorized	Some opportunity for isolation from the sights and sounds of man, but not as important as for primitive opportunities. Opportunity to have high degree of interaction with the natural environment, to have moderate challenge and risk, and to use outdoor skills.	Area is characterized by a predominantly unmodified natural environment of moderate to large size. Concentration of users is low, but there is often evidence of other area users. Onsite controls and restrictions may be present, but are subtle. Facilities are provided for the protection of resource values and the safety of users only. Spacing of groups may be formalized to disperse use and limit contacts between groups. Motorized use is not permitted.	Camping, hiking, climbing, enjoying scenery or natural features, nature study, photography, spelunking, hunting (big game, small game, upland birds, waterfowl), ski touring and snowshoeing, swimming, diving (skin and scuba), fishing, canoeing, sailing, and river running (nonmotorized craft).

Semiprimitive Motorized	Some opportunity for isolation from the sights and sounds of man, but not as important as for primitive opportunities. Opportunity to have high degree of interaction with the natural environment, to have moderate challenge and risk, and to use outdoor skills. Explicit opportunity to use motorized equipment while in the area.	Same as above, except that motorized use is permitted.	Same as the above, plus the following: ORV use (4-wheel drive, dune buggy, dirt bike, snowmobile) and power boating.
Roaded Natural	About equal opportunities for affiliation with other user groups and for isolation from sights and sounds of man. Opportunity to have a high degree of interaction with the natural environment. Challenge and risk opportunities are not very important, except in specific challenging activities. Practice of outdoor skills may be important. Opportunities for both motorized and nonmotorized recreation are present.	Area is characterized by a generally natural environment with moderate evidence of the sights and sounds of man. Resource modification and utilization practices are evident, but harmonize with the natural environment. Concentration of users is low to moderate with facilities sometimes provided for group activity. Onsite controls and restrictions offer a sense of security. Rustic facilities are provided for user convenience, as well as for safety and resource protection. Conventional motorized use is provided for in construction standards and design of facilities.	All activities listed previously, plus the following: picnicking, rock collecting, wood gathering, auto touring, downhill skiing, snowplay, ice skating, water skiing and other water sports, hang gliding, interpretive use, rustic resorts, and organized camps.
Rural	Opportunities to experience affiliation with individuals and groups are prevalent, as is the convenience of sites and opportunities. These factors are generally more important than the natural setting. Opportunities for wildland challenges, risk-taking, and testing of outdoor	Area is characterized by substantially modified natural environment. Resource modification and utilization practices are obvious. Sights and sounds of man are readily evident, and the concentration of users is often moderate to high. A considerable number of facilities are designed for use by a large number of people. Facilities are	All activities listed previously, plus the following: competitive games, spectator sports, bicycling, jogging, outdoor concerts, and modern resorts.

(Continued)

TABLE K-1 (Concluded)

Opportunity Class	Experience Opportunity	Setting Opportunity	Activity Opportunity
Rural (Concluded)	skills are unimportant, except in those activities involving challenge and risk.	often provided for specific activities. Developed sites, roads, and trails, are designed for moderate to high use. Moderate densities are provided far away from developed sites. Facilities for intensive motorized use are available.	
Modern Urban	Opportunities to experience affiliation with individuals and groups are prevalent, as is the convenience of sites and opportunities. Experiencing the natural environment and the use of outdoor skills are largely unimportant.	Area is characterized by a highly modified environment, although the background may have natural elements. Vegetation is often exotic and manicured. Soil may be protected by surfacing. Sights and sounds of man, onsite, predominate. Large numbers of users can be expected. Modern facilities are provided for the use and convenience of large numbers of people. Controls and restrictions are obvious and numerous. Facilities for high-intensity motor use and parking are present, with forms of mass transit often available.	All activities listed previously.

APPENDIX L, CONDITIONS AND IMPLEMENTATION PROCEDURES FOR OFF-ROAD VEHICLE USE DESIGNATIONS

OVERVIEW

Appendix L provides information about Bureau of Land Management (BLM) policy and procedures for off-road vehicle (ORV) designations. Excerpts from the BLM 8341 and 8342 manuals explain ORV designations, procedures, implementation plans, designation orders, public involvement, and emergency closures. The manuals themselves contain a more complete discussion.

OBJECTIVES

All public lands must be designated as open, limited, or closed to ORV use to meet public demand or needs, to protect resources and the safety of public land users, and to minimize conflicts among the various public land users. Additionally, existing ORV designations are evaluated and revised, if necessary, whenever existing management framework plans (MFPs) are amended or when resource management plans (RMPs) are prepared, revised, or amended.

POLICY

ORV designations are completed as an integral part of the BLM planning system unless problems or conflicts preclude adhering to the planning schedules.

Notices of ORV designations are published in the Federal Register within 1 year after completion of decisions allocating ORV use.

Designations apply to all ORVs as defined at 43 CFR 8340.0-5(a), regardless of how the vehicles are being used. Only vehicles excluded from that definition are allowed in closed or limited areas where ORV use is prohibited by designation order. Necessary nonemergency use associated with BLM licenses, leases, permits, or sales may be authorized as an exclusion from that definition (43 CFR 8340.0-5(a)(3)) only if feasible alternatives have been exhausted and the use is compatible with established resource management objectives. The authorization may reasonably restrict the routes, types of vehicles, and times or amounts of use. Requests for mineral exploration or development access under the 1872 mining law are allowed subject to 43 CFR 3802 and 3809.

Open designations are used for intensive ORV use areas without special restrictions or areas where no compelling resource protection needs, user conflicts, or public safety issues warrant limiting cross-country travel.

Areas or trails are designated closed if closure to all vehicular use is necessary to protect resources, promote visitor safety, or reduce use conflicts.

The limited designation is used where ORV use must be restricted to meet specific resource management objectives. Examples of limitations include the numbers or types of vehicles; the time or season of use; permitted or licensed use only; use limited to existing roads and trails; use limited to designated roads and trails; or other limitations necessary to meet resource management objectives (including certain competitive or intensive use areas which have special limitations).

BLM informs users of ORV opportunities and restrictions through brochures, maps, news

releases, articles, group talks, environmental education, etc. Signs marking specific problem areas and major entry points supplement these tools. Not all closed areas are to be signed; signs are placed where needed to solve specific problems.

DESIGNATION METHODS

Table L-1 lists the steps in making ORV designations through the BLM planning system. The necessary resource disciplines must be represented to provide an interdisciplinary approach to ORV allocations (43 CFR 1601.3).

IMPLEMENTATION PLAN GUIDELINES

The implementation plan is an internal BLM document providing guidance to district and resource area managers on how to implement designation decisions. It defines and documents a specific course of action necessary to reach ORV designation decisions.

By definition, the implementation plan is brief and more concise than an activity plan. It identifies only those actions that are essential to implement the ORV designation decisions. As activity plans are developed, they incorporate information from ORV implementation plans. However, the ORV implementation plan remains as a separate entity to provide continuity for management programming, budgeting, etc. Copies are maintained at the district and resource area offices. Machine copies may be made as necessary for programming and budgeting and to respond to public requests.

The plan should contain the following:

- a map and narrative clearly showing the area's designations, the reasons for the designations, and any additional information needed to ensure public knowledge and understanding of those reasons;
- brochures and maps needed to notify the public of the ORV designations;
- the strategy for boundaries, general information, and directional signing, along with the number, type, and location of signs;
- the number, type, and location of physical constraints, such as barriers, fences, gates, ditches, etc.;
- public notices needed to inform the public about details of designations;
- an installation schedule for signs and physical constraints;
- methods and schedules for supervising ORV use, such as field patrols, aerial reconnaissance, volunteer monitoring, or cooperative agreements;
- the resources, methods, and schedules for conducting environmental monitoring;
- field procedures and arrangements needed to enforce compliance with ORV designation decisions including cooperative agreements, user group assistance, trespass notices, citations, arrests, or other actions;
- maintenance standards for signs and physical constraints; and
- estimates of all costs, work months, and personnel needed to meet implementation requirements.

The map design, scale, and format are optional, but the 1:100,000 scale base-map series should be utilized wherever possible.

The need for brochures and maps should be identified when inventory data and other types of information are being collected in the standard process and when problems are being identified in the interim process, so that appropriate actions can be taken to have the basic brochure and map materials developed when the implementation plan is written.

Public notices may include news releases, spot announcements on radio or television, newsletters, letters to key interest groups, and public meetings.

Signs must be provided at intersections and access points as needed.

APPENDIX L

TABLE L-1

Off-Road Vehicle Use Designations

Planning Step	Action
Identification of issues	Define the nature and extent of problems relating to ORV use.
Development of planning criteria	Where ORV use is an issue, the planning criteria must refer to the protection, user safety, and conflict resolution requirements.
Inventory data and information collection	Assemble data necessary to determine protection, user safety, and conflict resolution requirements. New inventory data are collected only when existing data are insufficient to resolve significant issues.
Analysis of the management situation	Utilizing the designation criteria for (1) resource protection (cultural and natural resources, wildlife, endangered species, and wilderness), (2) user access requirements (operational needs, state and private land), and (3) public safety (hazards and safety factors), analyze the capability of the public land resources to sustain ORV use.
Formulation of alternatives	Develop proposed ORV allocation and include in alternative RMPs.
Selection of preferred alternative	Address ORV allocations as part of the draft RMP/EIS.
Selection of resource management plan	Decide on the resource allocation for ORV use.
Implementation plan	Develop an implementation plan to define and document a specific course of action needed to implement the ORV allocation decision.
Predesignation actions	Publish brochures and maps and prepare press release and other informational materials.
Designation	Complete the designation order and publish in the Federal Register.
Post-designation	Distribute brochures and maps. Phase in other implementation actions as defined in the implementation plan if these are within funding and workforce capability.

APPENDIX L

DESIGNATION ORDERS

Normally all public review must be completed prior to publishing the designation order in the Federal Register. However, if extreme public controversy is anticipated, the designation order may be published as a proposed notice, allowing for a formal public review period.

APPEALS

Standard BLM procedures for administrative appeals apply to designation decisions (43 CFR Part 4). The procedure for appeals should be described in each designation order. For designations published as final decisions, a 30-day appeal period immediately follows publication. The designation becomes final after 30 days if no appeals have been filed.

EMERGENCY LIMITATIONS OR CLOSURES

Limitations of use or closure of areas and trails on public lands to ORV use under the authority of 43 CFR 8341.2 are not ORV designations. Whenever the authorized officer determines that ORV use would cause or is causing considerable adverse effects on resources (soil, vegetation, wildlife or their habitat, cultural, historic, scenic, recreation, or other resources), the area must be immediately closed to the type of use causing the adverse effects (43 CFR 8341.2).

Emergency limitations or closures are not used if there is sufficient time to complete standard or interim designations. They must remain in force only until one of those designations can be made or until the adverse effects are eliminated and measures implemented to prevent their recurrence (whichever occurs first). The steps in emergency closure are listed in table L-2.

APPENDIX L

TABLE L-2

Steps in the Emergency Off-Road Vehicle Closure Process

Step	Responsibility	Action
Problem identification	As assigned	Identify and briefly document the problem that is causing considerable adverse effect.
Analysis	As assigned	Briefly document the adverse effects.
Decision	District Manager	Complete and publish the emergency order in the Federal Register.
Implementation	As assigned	Post the affected area and notify the affected publics at the earliest date possible, using the most effective means available.

NOTE: The actions noted above should be completed in a very short time, a matter of hours, if necessary.

A record of the problem identification, analysis, closure order, and action taken to inform the public is maintained in the district office and is available for public review. The closure or limitation is entered in the District Designation Order register.

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APPENDIX M, VISUAL RESOURCE MANAGEMENT CLASSES

OVERVIEW

Appendix M describes the process by which visual resources are classified and the visual impacts of proposed projects are assessed. The lands within the planning area have been inventoried and placed into visual resource management (VRM) classes. This appendix also describes how the classes are assigned.

ESTABLISHING VISUAL RESOURCE MANAGEMENT CLASSES

The VRM classification process includes (1) outlining and numerical evaluation of scenic quality; (2) outlining visual sensitivity levels; (3) delineating distance zones; and (4) assigning VRM classes.

SCENIC QUALITY

The first step is accomplished by outlining similar scenery on a topographic map. Numerical values are then given to the area's key factors (landform, color, water, vegetation, uniqueness, and intrusions). The total of these values determines whether the area is a class A, B, or C scenery unit.

Class A scenery combines the most outstanding characteristics of each rating factor. Class B scenery combines some outstanding features and some that are fairly common to the physiographic region. Class C scenery combines features that are fairly common to the physiographic region.

VISUAL SENSITIVITY LEVELS

Sensitivity levels indicate the relative degree of user interest in visual resources and concern for changes in the existing landscape character. This section is designed to bring input from area and district management to the weighing of the two sensitivity criteria: (1) vehicular and pedestrian use volume and (2) expressed user attitudes toward change. These criteria are evaluated from a matrix, and a final sensitivity rating of high, medium, or low is given. The sensitivity rating will figure into the final VRM classification.

DISTANCE ZONES

Three distance zones are outlined on topographic maps: foreground/middleground, background, and seldom seen. The foreground/middleground zone is a distance of from zero to 3 to 5 miles away, where activities can be viewed in detail. The background is the remaining area up to 15 miles distant, and seldom seen is that area beyond 15 miles or not seen at all from any corridor of travel.

VRM CLASSES

After classification as to scenic quality, visual sensitivity, and distance zones, areas are assigned to one of four management classes. These management classes, designed to maintain or enhance visual quality, describe allowable degrees of change to the basic landscape elements.

ANALYZING VISUAL IMPACTS

For activities proposed on public lands, impacts are evaluated with the visual resource contrast

rating system. This system is a method of evaluating the visual contrast of a proposed activity to the existing landscape character.

The landscape is separated into its major features (land and water surface, vegetation, and structures), and the degree of change that would occur in contrast of form, line, color and texture of each feature is predicted. This assessment indicates the amount of contrast that would result from a proposed activity (the severity of impact) and serves as a guide to determine what would be required to reduce the contrast enough to meet the VRM class's requirements for the area. Objectives for the VRM classes are listed below:

I The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

II The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

III The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the casual observer's view. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

IV The objective of this class is to provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

Existing VRM classes established for the planning area were shown in map 82; their approximate acreages were shown in chapter 3, table 40.

APPENDIX N, METHODOLOGY FOR ANALYZING IMPACTS TO SOILS

OVERVIEW

Appendix N shows the methodology and rationale for anticipated impacts to the soil resource in the planning area set forth in chapter 4.

Calculations of estimated sediment and salt yield are based on the best available information. As estimates, they are meant to serve only as a basis of comparison among alternatives and between the relative amounts contributed from various management activities.

References used include specific research on sedimentation in the San Rafael Swell [King and Mace, 1953]; current BLM studies on sediment yield in the same general area as the 1953 studies; the 20-year Badger Wash hydrologic study of grazed and ungrazed watersheds [Lusby, et al. 1971]; BLM Technical Note 373 on diffuse-source salinity of mancos shale terrain [Schumm and Gregory, 1987]; a 1982 report on runoff and water quality from mancos shale in the Price River Basin [Jackson and Julander, 1982]; and universal soil loss equation (USLE) factor data [Dissmeyer, 1981].

The 1953 and current sedimentation studies on San Rafael Swell drainage basins were used to calculate total sediment yield resulting from both geologic and man-caused accelerated erosion. The USLE was used only to calculate sedimentation under bare soil conditions and even then was modified using the site specific studies. These bare soil conditions exist when areas are drastically disturbed by activities such as ORV use and mineral development. Sediment yield attributed to disturbance from livestock grazing and changes in sediment yield resulting from alterations in grazing management were based on Lusby, et al., 1971 and Schumm and Gregory, 1987.

Critical Watersheds and Critical Soil Areas

Critical watersheds are areas subject to severe wind and water erosion, frequent flooding, and high runoff; areas that have a potential for vegetation loss when disturbed; and saline soils. Areas subject to severe wind erosion, but which are in late seral stage or better, and rock outcrop areas were not included.

The designation of the critical soils area was based on the salinity issue identified in the scoping process, the Colorado River Basin Salinity Control Act of 1974, the Federal Water Pollution Control Act of 1972, Executive Order 11738 of September 19, 1973; and Executive Order 12088, Federal Compliance with Pollution Control Standards, October 24, 1978. Executive Order 12088 requires all federal agencies to comply with local standards and limitations relating to water quality. Each federal agency is bound to recognize and adopt the policies, goals, and standards of approved Section 208 areawide water quality management plans in regard to those federal lands under its jurisdiction and to implement plan standards to the maximum extent feasible in its own planning process and management activities. BLM believes that these critical soils areas are contributing more salt and sediment to the Colorado River basin than normal geologic erosion. Some segments within the critical soils area are in exceedance of state water quality standards. The main objective of the area chosen as critical soils is to reduce sediment and salt contributions to the Colorado River drainage. BLM will manage these critical soils with that as its main objective during the activity planning level. If changes in grazing systems are effective in reducing the salt and sediment load, then these may be the actions taken.

APPENDIX N

RATIONALE, ASSUMPTIONS, AND CALCULATIONS FOR CURRENT AND POTENTIAL SEDIMENT, SOIL LOSS AND SALT LOADING

Use of the USLE was avoided to the extent possible because

(1) There is a lack of confidence in values determined for average surface conditions and slope lengths over broad, complex areas.

(2) The USLE accounts only for sheet erosion; rill and gully erosion are known to be significant contributors to sediment yields in the planning area.

The USLE was used only to transform sedimentation rates under current management conditions to sedimentation rates under bare soil conditions.

Sedimentation rates under current management were determined using field data from King and Mace [1953] and Soil Conservation Service (SCS) soil mapping unit descriptions. King and Mace studied 15 drainage basins in the San Rafael Swell that were located in geologic formations ranging from shales and soft gypsum beds to friable sandstones, limestones, conglomerates, and resistant sandstones. Their sedimentation rates reflected erosion resulting from both man-induced and natural causes, including wind erosion.

The following assumptions were made:

1. The King and Mace study [1953] generally reflects current planning area conditions. Current field data, though limited in extent, support this assumption. These data produced the following sedimentation rates.

   a. Shale and soft gypsum bed groupings apply to the "high potential for contributing sediment and salt" category. Sedimentation rates for this category range from 1.0 to 5.0 acre-feet per square mile.

   b. Friable sandstones through the shale and soft gypsum bed groupings apply to the "high susceptibility to water or wind erosion when disturbed" and "high runoff potential" categories. Sedimentation rates for these categories range from 0.5 to 5.0 acre-feet per square mile.

   c. The limestone, conglomerates, and resistant sandstone grouping and the lower end of the friable sandstone groupings apply to the "potential for vegetation manipulation" category. Sedimentation rates for this category range from 0.1 to 1.2 acre-feet per square mile.

3. Average mapping unit slopes range up to 32.5 percent for all categories except "potential for vegetation manipulation," where the slopes range up to 12 percent. These figures were obtained from weighting mapping unit slopes by acreage.

4. Average soil bulk density is 1.35 grams per cubic centimeter.

Sedimentation under bare soil conditions was calculated using USLE as well as cover and reconsolidation factors obtained from graphs presented by Dissmeyer [1981]. Because there was no accurate way to convert from soil loss (given by USLE) to sediment yield, sediment yields from the site-specific sedimentation studies were always used in USLE equations and then modified using USLE factors. Modifications considered differences in USLE factors between undisturbed and disturbed conditions.

The USLE is used to estimate soil lost from a site. This equation is based on climate, vegetation cover, soil factors, and slope characteristics. It was originally developed in the Midwest using field trials on cropland and has only recently been applied to rangelands or other wildlands. Studies using this equation and actual field trials indicate that the USLE provides good estimates of soil loss from erosion on croplands. Further work is being done both to evaluate the effectiveness of the USLE on rangeland and to identify corrections to the equation to make it more effective for use on rangeland. Therefore, the calculations made (explanation follows) are estimates and can be updated when these techniques are revised.

Bare soil (loosened soil where crusts and pavements are destroyed and all vegetation is removed) is given a USLE factor of 1.0. The factor for cover is some fraction, depending on the type and amount of cover, so that its use in the USLE reduces total soil loss.

Mapping units subject to severe wind or water erosion were characterized by the following three major vegetation types that have direct effects on erosion rates:

- 25 percent pinyon-juniper with 20 percent pavement and 40 percent canopy;
- 15 percent saltbush and greasewood with 5 percent pavement and 10 percent canopy;
- 60 percent desert shrub and grass with 20 percent pavement and 25 percent canopy.

These major vegetation types were weighted by area to give the following mixes:

The "high potential for contributing salt and sediment category" has 5 percent rock fragments and 10 percent 0.5-meter-high conopy cover over bare ground. This gives corresponding USLE factors of 0.8 and 0.9.

The "high susceptibility to water or wind erosion" and "high runoff potential" categories have 15 percent rock fragments and 25 percent 2-meter-high conopy cover over bare ground. This gives corresponding USLE factors of 0.7 and 0.9 (0.8 and 0.85 were used for the Forest Planning Unit (FPU)).

Reconsolidation is a USLE factor used to account for the amount of natural soil surface healing that will take place after a site is disturbed. A reconsolidation factor of 0.6 has been used based on the assumption that the average disturbed soil condition is comparable to having its entire surface area loosened and then healed over a 4-year period. This attempts to take into account that some areas are rarely disturbed, others are disturbed in drastic ways, such as from roads or oil pads, while still others have regular but less drastic disturbance, such as from livestock grazing.

Using USLE, bare soil sedimentation is then equal to sedimentation under current management divided by the factors for current soil conditions. Examples of such a calculation are given in table N-1.

Soil loss in the San Rafael Resource Area (SRRA) is estimated to be one to four times higher than the sediment delivery, according to soil scientists familar with the planning area [SCS soil scientists, personal communications, May 1988]. Therefore, soil losses were calculated based on sediment yield figures multiplied by 2.5, the average value.

Salinity yield rates were determined using the following values:

1. Sediment from badlands in high salt potential areas is composed of 3.5 percent salt. This is based on the 3.8 percent given for three Badger Wash drainage basins and the 3.0 percent given for Mancos Shale sediments by Jackson and Julander [1982]

2. Soils with high salt levels (other than badlands) have 1.46 percent salt. This percentage is derived from the following ratio, knowing that Mancos Shale badlands have an electrical conductivity of about 12 millimhos per centimeter (mmhos/cm) and surface mancos soil has an average conductivity of about 5.0 mmhos/cm.

$$\frac{3.5\ \%}{12\ \text{mmhos/cm}} = \frac{X}{5\ \text{mmhos/cm}} \qquad 12X=17.5;\ X=1.46\%$$

3. Soils low in salt have an average electrical conductivity of 1 mmhos/cm giving a 0.292 percent salt content.

$$\frac{3.5\ \%}{12\ \text{mmhos/cm}} = \frac{X}{1\ \text{mmhos/cm}} \qquad 12X=3.5;\ X=0.292\%$$

Sample calculations using SRRA soils in the "high susceptibility to water or wind erosion" category are shown in table N-1.

METHODS AND ASSUMPTIONS FOR IMPACT ANALYSIS CALCULATIONS

All soils in the planning area were divided into four categories based on soil type. These

APPENDIX N

TABLE N-1

Sample Calculations of Sedimentation and Soil Loss Using the San Rafael Resource Area High Wind and Water Erosion Category

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1. Calculations of sedimentation under current management

Given: soil bulk density is $\frac{1.35g}{cm} = \frac{2.87 \text{ tons} \times \text{mile}^2}{\text{acre}^2 \times \text{ft}}$

Weighted average slope = 12.4%
Upper range of average slopes = 32.5%

Sedimentation rate x bulk density:

$\frac{0.5 \text{ acre-ft}}{\text{mile}^2} \times \frac{2.87 \text{ tons} \times \text{mile}^2}{\text{acre}^2 \times \text{ft}}$ = 1.4 tons/acre sedimentation (low value)

$\frac{5.0 \text{ acre-ft}}{\text{mile}^2} \times 2.87$ = 14.35 (15) tons/acre sedimentation (high value)

By direct ratio:

$\frac{12.38\%}{32.5\%} = \frac{X}{14.35 \text{ tons per acre}}$ = 5.5 tons/acre (average sedimentation)

2. Calculations for sedimentation under bare soil conditions

According to the USLE, A=RKLSCP, average annual soil loss (A) is equal to the product of factors affecting erosion and soil loss. Most of these factors remain constant. Cover and reconsolidation factors will change with disturbance. In these equations, "A" is the sediment yield calculated above and is divided by cover and reconsolidation factors that represent undisturbed conditions. The result is the sediment yield that will occur without the benefit of those undisturbed conditions.

$\frac{1.4 \text{ tons/acre}}{(0.7)(0.9)(0.6)}$ = 3.7 tons/acre (low value)

$\frac{14.35 \text{ tons/acre}}{(0.8)(0.9)(0.6)}$ = 34 tons/acre (high value)

where 0.7 and 0.8 are cover factors for rock fragments.

0.9 is the cover factor for canopy cover.

0.6 is the soil reconsolidation factor.

By Direct Ratio:

$\frac{5.5 \text{ tons/acre}}{14.35 \text{ tons/acre}} = \frac{X}{34}$ X=13 tons/acre (average value)

(Continued)

3. Calculations for salinity under current management

There are 1,193,610 acres of soil mapping units subject to severe wind or water erosion. From this acreage there are 557,000 acres of high salt potential areas and 636,610 acres of low salt potential areas. These two catagories are broken down in the following way:

557,000 acres high salt potential areas	636,610 acres low salt potential areas
440,080 acres soils	545,100 acres soils
83,060 acres badlands	0 acres badlands
33,860 acres rock outcrop and rubbleland	91,510 acres rock outcrop and rubbleland

Given: badland sediment is composed of 3.5 percent salt. Highly saline soils are composed of 1.46 percent salt. Soils low in salt are composed of 0.292 percent salt. Rock outcrop and rubbleland areas are not considered sediment producers and are excluded from the calculations.

Salt Concentration of Sediment in Low Salt Potential Areas with Low Erosion Rates

(1.4 tons/acre sedimentation) (0.00292) = 0.0041 tons/acre salt.

Salt Concentration of Sediment in High Salt Potential Areas with High Erosion Rates

From the above breakdowns, 84.1% of this area is composed of soils and 15.9% is composed of badlands

Therefore, $\frac{0.841\ (1.46) + 0.159\ (3.5)}{1.00} = 1.78\%$ (weighted salinity coversion ratio for high salt potential areas)

and, (14.35 tons/acre sedimentation) (0.0178) = 0.26 tons/acre salt.

Average Salt Concentration for High Erosion Area Sediments

There are 1,068,240 acres of soils and badlands in the high erosion areas(440,080 + 83,060 + 545,100). Of this total:

41.2% = soils in high salt potential area
7.8% = badlands in high salt potential area
51.0% = soils in low salt potential area

Therefore, $\frac{41.2\ (1.46) + 7.8\ (3.5) + 51\ (0.292)}{100} = 1.02\%$ (weighted salinity coversion ratio for high erosion areas)

and, (5.5 tons/acre average sedimentation) (0.0102) = 0.056 tons/acre salt.

(Continued)

TABLE N-1 (Concluded)

4. Calculations for salinity under bare soil conditions

(3.7 tons/acre sedimentation) (0.00292) = 0.011 tons/acre salt in low salt potential areas with low erosion rates.

(34 tons/acre sedimentation) (0.0178) = 0.61 tons/acre salt in high salt potential areas with high erosion rates.

(13 tons/acre average sedimentation) (0.0102) = 0.13 tons/acre salt as an average.

Calculations were made for the other sedimentation categories and the entire planning area in the same manner as explained above.

categories and the values used to calculate soil loss, sediment, and salinity are shown in in chapter 3, table 24 and in table N-2 in this appendix. The base value was calculated using the numbers under current management in table 24 (chapter 3).

Because these values were generated from sediment ponds in areas that had management actions taking place, it was assumed that this base value includes all current management actions and reflects conditions 35 years ago (1953). ORV use, however, was added to the base value under the assumption that ORVs were not used for recreation at the time of the study, and that ORVs presently have a substantial impact on soils and water.

The values estimated for ORV disturbance were based on an assumption that 10 percent of the acres open to ORVs would lose their vegetation. Loss of vegetation was the only thing considered, although the actual values may be higher. Other ORV effects on soil and water resources are discussed in chapter 4 under alternative A.

Based on the Badger Wash Study, the changes due to livestock grazing were selected as follows:

1. Complete elimination of livestock was found to reduce runoff by between 25 and 40 percent. A 30 percent reduction in soil loss was used because this was the average value found in the Badger Wash Study. This value considers all soil types found in the study area ranging from mancos- to sandstone-derived soils. This was equated directly to soil loss in this analysis.

   Complete elimination of livestock was found to reduce sediment yield from 35 to 63 percent. A 45 percent reduction in sediment was used because this was the average value found in the study.

   High salt concentrations have a direct correlation to areas with high sediment production. Therefore, the same percentages were used to calculate changes in salt yield.

2. Changing the season of use from spring to winter was shown to reduce sediment and therefore salt yield by 20 percent. The study also showed that this reduction would be accompanied by an almost equal reduction in runoff. Soil loss was also estimated to decrease by 20 percent.

3. Changing the season of use from spring to summer was assumed to reduce soil loss, sediment, and salt yield by 8 percent. This was based on professional judgment of the area's range staff.

All other figures from surface-disturbing activities were calculated using the values for disturbed sites. When a management action was proposed with no specific location, the average value for disturbed sites was used.

SOIL LOSS THRESHOLD

In order to identify the impacts from other program activities on soil and water, it is necessary to establish an acceptable level of disturbance from those activities. As always, BLM must balance the development of natural resources with protection of environmental quality. To do this, a threshold was established to indicate the acceptable level of site disturbance.

The critical threshold used in this analysis is the SCS published soil loss tolerance. Lamar Mason, Utah State SCS Range Conservationist, used the USLE coupled with his professional judgment to prepare these critical threshold values. Associated with the critical threshold, SCS established a minimum ecological status that is required to maintain enough vegetation cover so as not to exceed the soil loss tolerance.

The prime concern of the SCS with regard to soil erosion is to keep soil losses below the allowable soil loss tolerance or the critical soil loss threshold. SCS defines this threshold on rangeland and woodland as the maximum rate of soil loss beyond which soil erosion will reduce the land's capability to produce potential native vegetation.

Soil loss tolerance is expressed in terms of tons of soil loss per acre per year. Maximum allowable soil loss is shown for each soil in

APPENDIX N

TABLE N-2

Potential Soil Loss with Surface Disturbance; Sediment Loading; and Salt Loading

Soils Category	Soil Loss	Sedimentation (tons per acre per year)	Salinity
High potential for contributing salt and sediment	1.2 to 29.8	6.7 to 34	0.12 to 0.61
High susceptibility to wind or water erosion when disturbed	1.2 to 28.4	3.7 to 34	0.011 to 0.61
High runoff potential	1.2 to 33.5	3.4 to 34	0.010 to 0.61
High potential for loss in vegetation productivity under high rates of wind or water erosion	1.4 to 11.2	0.8 to 9.8	0.0024 to 0.029

Utah in tons per acre per year in "Soil Erodibility and Soil Loss Factors for Utah Soils" [SCS, 1974]. The maximum soil loss tolerance for even the deepest soil is 5 tons per acre per year, with losses as low as 1 ton per acre per year on some shallow soils.

SOIL LOSSES BY RANGE SITES

Computations were made for ecological sites in Utah to determine potential and present soil losses by the SCS in Soil Losses from Utah Rangeland and Forestland, Mason, SCS, June, 1978. Using USLE, soil losses were computed in tons per acre per year when vegetation is in its climax or potential natural community (PNC), in late seral stage (good condition), in mid seral stage (fair condition), and in early seral stage (poor condition). The average soils or most typical soils were used to determine the soil loss tolerance for each site.

Soil loss associated with a particular ecological status depends on slope. However, since slope for these sites was not immediately available on BLM's geographic information system (GIS), an average slope for the critical soils area was assumed to be greater than 20 percent based on BLM staff knowledge of these areas.

Planning Area Determinations

Each ecological site within the critical soil area was evaluated. If 30 percent or more of an allotment was within the critical soil area, the full analysis was done. If 29 percent or less of an allotment was within the critical soil area, no further analysis was made in this phase. These breaks were chosen arbitrarily.

Procedure

Ecological sites were evaluated in the following way. If the status for an ecological site was lower than the SCS recommendation for maintaining the soil loss tolerance, the total ecological site acreage was recorded as exceeding the critical soil loss threshold. If the site status was equal to or better than the SCS recommendation, the acres of that site were considered as non-exceedance areas. The acres for all sites in each allotment were totaled.

Table N-3 shows the ecological status needed at each site to avoid exceeding the critical soil loss threshold. Badlands, gypsumlands, talus slopes, rock outcrops, riverwashes and sand dunes were not included because they are not classified as range sites. They may be grazed, but are not allocated any animal unit months (AUMs). Vegetation in these areas is minimal, and grazing should have little effect.

The following three options were the most likely actions: (1) change season of use from spring to winter; (2) reduce licensed use; (3) redistribute livestock through individual AMPs.

Any one or any combination of the above is possible. However, the following are the most likely actions and therefore were used in the analysis:

When the evaluation was complete, the planning team worked to identify actions needed. If an allotment exceeded the critical soil loss threshold in 50 percent or more of its area, they recommended changing the season of use from spring to winter. If an allotment exceeded the critical threshold in 25 to 49 percent of its area, the recommendation was to reduce licensed use by 25 percent. If less than 25 percent of an allotment exceeded the critical soil loss threshold, it was suggested that individual allotment management plans (AMPs) address the problem through livestock redistribution.

These recommendations are based on the recorded range site conditions from the Ecological Site Inventory completed in 1985. Before decisions to actually change the grazing practices on an allotment can take place, all available monitoring data must be analyzed. Cover data will be used to determine whether the critical soils objective is being met. When the present ecological site condition is determined with a field investigation, the need to change the current range practice will be assessed. A decision for change in range management may be made.

MONITORING

Five years after a range management action has taken place, another field assessment will be

APPENDIX N

TABLE N-3

Ecological Sites and Ecologic Status Needed
to Avoid Exceeding the Critical Soil Loss Threshold

Ecological Site Number	Ecological Site Name	Ecological Status Needed to Avoid Exceeding Threshold
UTD34-002	Alkalai Bottom	Late
UTD34-003	Alkalai Fan	Late
UTD34-006	Alkalai Flat	Late
UTD34-009	Loamy Bottom	Early
UTD34-011	River Floodplain	Early
UTD34-012	Sandy Bottom	Early
UTD34-026	Wet Salt Streambank	Early
UTD34-101	Desert Alkalai Bench	Late
UTD34-103	Desert Clay	PNC
UTD34-104	Desert Clay (Shadscale)	PNC
UTD34-105	Desert Shallow Loam	Late
UTD34-106	Desert Loam	Early
UTD34-109	Desert Loamy Clay	Late to PNC
UTD34-112	Desert Sand	Early
UTD34-115	Desert Sandy Loam	Early
UTD34-116	Desert Very Shallow Gypsum	Late
UTD34-117	Desert Shallow Clay	PNC
UTD34-118	Desert Shallow Loam (Black Sagebrush)	Late
UTD34-121	Desert Shallow Loam (Pygmy Sagebrush)	Late
UTD34-130	Desert Shallow Sandy Loam	Late
UTD34-133	Desert Very Steep Shallow Loam	Late
UTD34-202	Semidesert Bouldery Loam	Late
UTD34-206	Semidesert Gravelly Sandy Loam	Late
UTD34-212	Semidesert Loam (Wyoming Big Sagebrush)	Early
UTD34-216	Semidesert Sandy Loam	Early
UTD34-225	Semidesert Shallow Loam (Wyoming Big Sagebrush)	Late to PNC
UTD34-227	Semidesert Shallow Loam (Black Sagebrush)	Late to PNC
UTD34-230	Semidesert Shallow Loam (Salina Wildrye)	Mid
UTD34-233	Semidesert Shallow Loam (Utah P/J)	Mid
UTD34-240	Semidesert Silt Loam	Early
UTD34-244	Semidesert Stony Loam (Salina Wildrye)	Late
UTD34-247	Semidesert Stony Loam (Utah P/J)	Late
UTD34-248	Semidesert Very Steep Loam (Shadscale)	Early
UTD34-306	Upland Loam (Basin Big Sagebrush)	Early
UTD34-320	Upland Shallow Loam (Black Sagebrush)	Late to PNC
UTD34-330	Upland Stony Loam	Mid
UTD34-338	Upland Very Steep (P/J)	Mid
UTD34-342	Upland Very Steep Shallow Loam (P/J)	Late to PNC
UTD35-012	Semiwet Salt Streambank	Early
UTD35-015	Sandy Bottom	Early
UTD35-115	Desert Sand	Early

(Continued)

APPENDIX N

TABLE N-3 (Concluded)

Ecological Site Number	Ecological Site Name	Ecological Status Needed to Avoid Exceeding Threshold
UTD35-118	Desert Sandy Loam	Early
UTD35-121	Desert Sandy Loam (Black Brush)	Early
UTD34-125	Desert Shallow Clay (Shadscale)	PNC
UTD35-130	Desert Shallow Sandy Loam	Late
UTD35-133	Desert Shallow Sandy Loam (Blackbrush)	Late
UTD35-142	Desert Very Shallow Gypsum	Late
UTD35-215	Semidesert Sandy Loam	Early
UTD35-218	Semidesert Sandy Loam (Blackbrush)	Early
UTD35-230	Semidesert Shallow Sandy Loam	Mid
UTD35-233	Semidesert Shallow Sandy Loam (Blackbrush)	Mid
UTE35-121	Desert Sandy Loam (Blackbrush)	Early
UTE48-475	Mountain Very Steep Stony Loam	Late to PNC

NOTE: PNC = potential natural community, or climax; P/J = pinyon-juniper.

made. If the vegetation cover shows improvement in the direction of the SCS critical soil loss threshold, no other changes in management will be recommended. However, if the objective of obtaining the status needed to meet the SCS critical threshold is not being met, another change may be implemented.

The threshold presently in use will be updated and adapted to specific areas during plan implementation as time and resources allow.

The modified USLE will be used as updating progresses. If a better method of evaluating soil loss in Western rangelands is developed, that method will be used in the updating process. This process will be accomplished by an interdisciplinary team.

APPENDIX O, KEY FORAGE SPECIES BY GRAZING ALLOTMENT

OVERVIEW

This appendix designates the key forage species for each grazing allotment in the San Rafael Resource Area (SRRA). Key species are monitored to determine whether management objectives are being met and may be changed if necessary.

KEY SPECIES AND COMMON NAMES

GRASS SPECIES

Following is a list of grass species and their symbols.

Alkali sacaton	SPAI
Blue grama	BOGR
Crested wheatgrass	AGCR
Curlygrass	HIJA
Indian ricegrass	ORHY
Needle-and-thread	STCO
Sand dropseed	SPCR
Squirrel tail	SIHY

BROWSE SPECIES

Following is a list of browse species and their symbols.

Black sagebrush	ARNO
Fourwing saltbush	ATCA
Gardner saltbush	ATGA
Nuttal saltbush	ATCU or ATNU
Shadscale	ATCO
Winterfat	EULA or CELA

KEY SPECIES BY GRAZING ALLOTMENT

Following is a list of the grazing allotments in SRRA and the key species found on each allotment.

Allotment Number	Allotment Name	Key Forage Species Symbol
5001	Allred	ORHY, SIHY
5002	Big Pond	ORHY, ATCA, ARNO
5003	Black	ORHY, SIHY
5004	Black Dragon	ORHY, ATCA
5005	Buckhorn	ORHY, SIHY, CELA, ATGA
5006	Bunderson	ORHY
5007	Case	ORHY, SIHY
5008	Clawson Dairy	ORHY, ATNU
5009	Coal Wash	ORHY, STCO, SPAI, ATCA
5010	Cove	ORHY, SIHY
5013	Cowley	ORHY, SIHY, ATNU
5011	Cox (Don)	ORHY, ATNU
5012	Cox (John)	ORHY, ATNU
5014	Crawford	ORHY, ATNU
5015	Day	ORHY, SIHY
5016	Deep Wash	CELA, ORHY
0602	Deer Peak	ATCA, HIJA, ORHY
5017	Dry Wash	ORHY, ATNU
5018	Dugout	ORHY, ATCA
5020	East Grimes	ORHY, ATNU
5021	Ferron Mills	ORHY, ATNU
5023	Fullers Bottom	ORHY, ATCA, CELA
5024	Georges Draw	ORHY, ATCA, CELA, ARNO
5025	Globe Link	ORHY, ATCA, SPCR
5026	Hambrick Bottoms	ORHY, ATCA, CELA
5027	Head of Sinbad	BOGR, ORHY, ATCA
5099	Hondo	ORHY, CELA
5028	Horse Bench	ORHY, ATCA
5029	Horseshoe North	ORHY, ATCA
5100	Horseshoe South	ORHY, ATCA
5030	Humphrey	ORHY, SIHY
5031	Iron Wash	ORHY, CELA, SPCR
5032	Jacobson	ORHY, ATNU
5033	Jeffery Well	SPCR, ATCA, ORHY
5034	Jensen	ORHY, ATNU
5035	Johnson	ORHY, SIHY
5036	Jorgensen	ORHY, SIHY

APPENDIX O

Allotment Number	Allotment Name	Key Forage Species Symbol
5037	Justensen	ORHY, ATNU
0605	Last Chance	HIJA, SPCA, ATCA, ORHY
5038	Link Canyon	ORHY, SIHY
5039	Little Holes	ORHY, ATNU
5040	Little Valley	ORHY, ATNU
5041	Lone Tree	ORHY, SPCR, ATCA
0607	M & O	HIJA, ORHY, SPCR, ATCA
5042	McCarty Canyon	ORHY, CELA, ATCA
5043	McKay Flat	ORHY, CELA
5097	Mervin	CELA, ORHY
5044	Mesquite Wash	ORHY, CELA, ATCA
5045	Mexican Bend	ORHY, SPCR, ATCA
5046	Miller Canyon	ORHY, SPCR, ATCA
5047	Molen Pasture	ORHY, ATNU
5048	Molen Tanks	ORHY, ATNU
5049	Moonshine	ORHY, ATCA
0608	Mussentuchit	SPCR, ORHY, ATCA
5050	Neva	ORHY, SIHY
5051	N. Ferron	ORHY, ATCA
5052	N. Herring Flat	ORHY, ATNU
5053	N. Huntington	ORHY, AGCR, ATCO, ARNO
5054	N. Sid & Charley	ORHY, ATCA
5055	N. Sids Mountain	ORHY, CELA, ATCA
5056	N. Sinbad	ORHY, SIHY, ATCA
5057	Northwest Ferron	ORHY, ATNU
5058	N. Wolf Hollow	ORHY, SIHY
5098	O.E.J.	ORHY, SIHY
5059	Oil Dome	ORHY, SIHY
5060	Oil Well Flat	ORHY, SIHY, ATCA
5061	Olsen (E.)	ORHY, SIHY
5062	Olsen (G.L.)	ORHY, AGCR
5063	Pasture Canyon	ORHY, ATCA
5064	Peacock	ORHY, ATNU
5065	Price (Vic)	CELA, ORHY
5067	Red Canyon	ORHY, CELA
5068	Red Seeps	ORHY, CELA, ATCA
5069	Reid	ORHY, ATNU
5066	R.J.	ORHY, SIHY
5071	Rochester	HIJA, ATNU, CELA, ARNO
5072	Rock Canyon	ORHY, ATNU
0611	Rock Springs	SPCR, ORHY, ATCA
5073	Saddle Horse	ORHY, STCO, SPAI
5074	Saleratus	HIJA, ORHY, SPCR, ATCA
5075	Salt Wash	SPCR, ORHY, ATNU, ATCA
5076	San Rafael River	ORHY, ATCA
5077	Saucer Basin	ORHY, ATCA
5079	Sorensen	ORHY, SPCR, ATCA
5080	S. Ferron	ORHY, ATCA
5081	S. Herring Flat	ORHY, ATCA
5082	S. Sid & Charley	ORHY, ATCA
5083	S. Sids Mountain	ORHY, CELA, ATCA
5084	S. Wolf Hollow	ORHY, SIHY
5085	Straight Hollow	ORHY, ATNU
5086	Sweetwater	ORHY, ATCA, CELA
5087	Taylor Flat	ORHY, ATCA, ARNO
5088	T.D.J.	ORHY, SIHY
5089	Temple Mountain	ORHY, ATCA
5090	Tuttle	CELA, ORHY
5091	West Grimes	ORHY, ATNU
5092	West Huntington	ORHY, AGCR, CELA, ARNO
5093	West Orangeville	ORHY, ATNU
5094	Wilberg	ORHY, HIJA, ATCA
0612	Willow Springs	ORHY, HIJA, ATCA
5096	Wood Hollow	ORHY, ATCA

APPENDIX P, METHODOLOGY FOR ANALYZING ECONOMIC IMPACTS

OVERVIEW

The purpose of this appendix is to describe the methods used for analyzing the local economic importance of Bureau of Land Management (BLM) programs. The local economic importance of each program is defined by the effect each program has on local sales, employment, earnings, wealth, and taxing district revenues. Some economic methodologies were used for all resource uses, and some were specific to a particular resource use.

GENERAL METHODOLOGIES

Most resource management programs either regulate or affect economic activities. Whenever possible, statistics for the local employment, earnings, and personal income generated by these activities were obtained from secondary sources such as the Bureau of Economic Analysis (BEA) and the Utah Department of Employment Security (UDES) [UDES, 1986; USDC, 1985a; USDC, 1985b; USDC, 1985c; USDC, 1985d; USDC, 1985e; USDC, 1985f; USDC, 1985g; USDC, 1985h]. When such statistics were not available for a particular activity, estimates were based on conversations with persons having particular knowledge of these activities.

A U.S. Forest Service (USFS) economic input-output model of each county was used to estimate the indirect and induced local importance of these activities and employment. The economic model used a 1977 data base [USFS, 1982]. Important economic sectors were updated using 1982 employment/output and sales/output ratios and 1985 employment statistics [USDC, 1984b; USDC, 1984c; USDC, 1984d; USDC, 1985]. The data used by the economic model are not strictly comparable with BEA statistics.

For consistency, BEA statistics were used whenever possible. Only employment multipliers were used from the county economic model. Earnings and personal income estimates were derived from BEA earnings/employment ratios.

Often the place of employment differs from the place of residence. In these cases, the local economic effects of employee expenditures were calculated for the place of residence and separated from the local economic effects derived only by that business's activity, which were calculated by place of employment.

Economic activities can affect the revenues and costs of local taxing jurisdictions. The fiscal importance calculations quantified all taxing district revenues generated directly from an activity and the related indirect and induced activity. For example, the sales and property taxes paid by a mine employee were accounted for in the fiscal importance calculations of that mine. Revenues directly generated by an activity were calculated based on the activity's related sales. Indirect and induced revenues were derived from indirect and induced employment and average revenues and employment for each revenue source. The accounting systems used by local taxing jurisdictions did not allow for a similar fiscal breakdown of the costs associated with identified activities.

SOIL, WATER, AND AIR

Sediment damage calculations were based on the value loss of electrical, recreational, water storage, and flood control benefits to Lake Powell and sediment removal cost for other capital investments (table P-1). The analysis

assumed that 99 percent of the sediment yielded from the planning area would end up in Lake Powell with a value loss of $0.05 per cubic yard, and that 1 percent of the sediment would end up in some other structure with an average sediment removal cost of $2.50 per cubic yard.

TABLE P-1

Sediment Removal Cost and Capital Investment Depreciation

Capital Improvement	1985 Dollars per Cubic Yard		
Streets	13	to	16
Buildings	140	to	150
Sewers	250	to	300
Reservoirs and ditches			
offsite removal	1.80	to	4.80
onsite removal	1.10	to	1.50
Lake Powell[a]	0.03	to	0.06

[a]The figures for Lake Powell do not represent sediment removal costs, but rather the gradual deterioration of the lake's electrical, recreational, water storage, and flood control benefits.

Sources: BLM records; USFS, 1979; EPA, 1973.

Salinity damages were calculated based on studies by Kleinman, et al. [1974], Kleinman and Brown [1980], and the Bureau of Reclamation (BOR) [1980]. Damage estimates were updated using the gross national product (GNP) implicit price deflator (tables P-2 and P-3). The analysis assumes that salt loading would be affected with no change in water yield. BOR is currently updating salinity economic damage estimates; those updates will probably yield smaller salinity damage estimates because of (1) lower baseline salinity projections in the lower Colorado River basin, and (2) elimination of the indirect and induced damages currently included in its damage estimates.

Neither sediment nor salinity damage estimates account for the lag between sediment and salt loading and the eventual damage it causes downstream.

LIVESTOCK

The analysis used livestock enterprise budgets prepared specifically for the Price River Resource Area (tables P-4 through P-9) [Gee, et al., 1986]. These budgets are believed representative of the San Rafael Grazing Area based on (1) its proximity to the Price River Resource Area, (2) the number of common enterprises between the two resource areas, and (3) the similar nature of many livestock operations. The budgets used 1982 as a base year. The budgets used an historical average for beef prices; recent price increases and the resulting increases in profitability were not accounted for.

The budgets stratified producers according to herd size and season of use. A linear programming model was developed for each rancher stratum. The models maximized net income with the level of public rangeland forage as one of the constraints. The models were used to show how ranchers would respond to forage increases and decreases. The abbreviated results are displayed in tables P-4 through P-9.

Livestock operators would probably respond to spring exclusions through a combination of feeding more hay and reducing herd size. The analysis assumes operators would respond to spring exclusions by feeding hay costing $20 per animal unit month (AUM). This response usually reduces net revenues more than does a combined response of feeding hay and reducing herd size.

Forage dependency estimates were based on BLM, USFS, and State of Utah grazing records, private leases recorded during the grazing fee appraisal, and census estimates of privately produced forage [USDC, 1984a; Tittman and Brownell, 1984].

TABLE P-2

Procedures for Converting Salt Loading and Water Yield to Salt Concentrations

Year 1990

$$mg/l = 6{,}630 \frac{9{,}710 + X}{8{,}129 + Y} - 7{,}919.5 \times 0.1306$$

Year 2000

$$mg/l = 6{,}627 \frac{9{,}655 + X}{7{,}509 + Y} - 8{,}529.8 \times 0.1310$$

NOTE: X = salt loading in tons; Y = water yield in acre-feet; mg/l = salinity change at Imperial Dam in milligrams per litre.

Source: BOR, 1982

TABLE P-3

Increased Water-User Cost of Increasing Salinity at Imperial Dam by 1 Milligram per Litre

Dollar Year	GNP Implicit Price Deflator	Direct Incremental Impact	Indirect Incremental Impact	Total Incremental Impact
1976	133.7	$257,300	$ 85,700	$343,000
1977	141.7	272,600	90,900	363,500
1978	152.0	292,425	97,475	389,900
1979	165.5	318,500	106,100	424,600
1980	174.5	335,800	111,900	447,700
1981	185.1	356,000	119,000	475,000
1982	201.7	338,000	129,000	517,000
1983	210.3	405,000	135,000	540,000
1984	218.2	420,000	140,000	560,000
1985	226.1	435,000	145,000	580,000

Source: Kleinman and Brown, 1980; BOR, 1985.

TABLE P-4

Rancher Sales, Costs, and Returns per Cow
(Winter/Spring; Herd Size 1 to 99)

Unit	Baseline	With 25% Increase SRRA Forage	With 25% Decrease SRRA Forage
Sales	$236.63	$236.63	$236.63
Variable Costs[a]	$143.02	$128.28	$157.75
Returns above Variable Costs	$93.61	$108.35	$78.80
Fixed Cost[a]	$103.21	$95.09	$111.33
Returns to Labor and Investment	-$9.60	$13.26	-$32.53
Returns to Risk and Management[c]	-$509.73	-$356.44	-$663.02
Herd Size	1	1.23	0.77

[a]Includes forage, veterinary services, trucking, marketing, maintenance and repair of machinery and equipment, fuel, libricants, interest on operating capital, and hired labor.

[b]Includes ownership cost of machinery and equipment, land taxes, and general farm overhead.

[c]Returns to labor and investment less family labor and normal rates of return to land and investments.

Source: Gee, et al., 1986.

TABLE P-5

Rancher Sales, Costs, and Returns per Cow
(Spring/Summer/Fall; Herd Size 1 to 99)

Unit	Baseline	With 25% Increase SRRA Forage	With 25% Decrease SRRA Forage
Sales	$250.45	$250.45	$250.45
Variable Costs[a]	$157.12	$140.94	$173.30
Returns above Variable Costs	$93.30	$109.51	$77.15
Fixed Cost[a]	$99.00	$89.68	$108.32
Returns to Labor and Investment	-$5.67	$19.83	-$31.17
Returns to Risk and Management[c]	-$534.09	-$365.60	-$702.58
Herd Size	1	1.25	0.75

[a]Includes forage, veterinary services, trucking, marketing, maintenance and repair of machinery and equipment, fuel, libricants, interest on operating capital, and hired labor.

[b]Includes ownership cost of machinery and equipment, land taxes, and general farm overhead.

[c]Returns to labor and investment less family labor and normal rates of return to land and investments.

Source: Gee, et al., 1986.

TABLE P-6

Rancher Sales, Costs, and Returns per Cow
(Yearlong; Herd Size 100 to 299)

Unit	Baseline	With 25% Increase SRRA Forage	With 25% Decrease SRRA Forage
Sales	$226.59	$226.59	$226.59
Variable Costs[a]	$127.20	$110.58	$88.20
Returns above Variable Costs	$99.39	$110.58	$88.20
Fixed Cost[a]	$92.73	$85.13	$100.33
Returns to Labor and Investment	$6.66	$25.45	-$12.10
Returns to Risk and Management[c]	-$492.60	-$354.66	-$554.51
Herd Size	1	1.24	0.76

[a]Includes forage, veterinary services, trucking, marketing, maintenance and repair of machinery and equipment, fueld, libricants, interest on operating capital, and hired labor.

[b]Includes ownership cost of machinery and equipment, land taxes, and general farm overhead.

[c]Returns to labor and investment less family labor and normal rates of return to land and investments.

Source: Gee, et al., 1986.

TABLE P-7

Rancher Sales, Costs, and Returns per Cow
(Spring/Summer/Fall; Herd Size 100 to 299)

Unit	Baseline	With 25% Increase SRRA Forage	With 25% Decrease SRRA Forage
Sales	$219.99	$219.99	$219.99
Variable Costs[a]	$135.43	$121.21	$149.65
Returns above Variable Costs	$84.56	$98.78	$70.34
Fixed Cost[a]	$90.77	$82.17	$99.37
Returns to Labor and Investment	-$6.21	$16.60	-$29.03
Returns to Risk and Management[c]	-$448.54	-$327.73	-$476.10
Herd Size	1	1.25	0.75

[a]Includes forage, veterinary services, trucking, marketing, maintenance and repair of machinery and equipment, fueld, libricants, interest on operating capital, and hired labor.

[b]Includes ownership cost of machinery and equipment, land taxes, and general farm overhead.

[c]Returns to labor and investment less family labor and normal rates of return to land and investments.

Source: Gee, et al., 1986.

TABLE P-8

Rancher Sales, Costs, and Returns per Cow
(Herd Size Greater than 300)

Unit	Baseline	With 25% Increase SRRA Forage	With 25% Decrease SRRA Forage
Sales	$222.38	$222.38	$222.38
Variable Costs[a]	$117.10	$103.05	$131.15
Returns above Variable Costs	$105.28	$119.33	$91.23
Fixed Cost[a]	$85.09	$78.32	$91.86
Returns to Labor and Investment	$20.19	$41.01	-$0.63
Returns to Risk and Management[c]	-$411.10	-$288.93	-$490.41
Herd Size	1	1.24	0.76

[a]Includes forage, veterinary services, trucking, marketing, maintenance and repair of machinery and equipment, fuels, lubricants, interest on operating capital, and hired labor.

[b]Includes ownership cost of machinery and equipment, land taxes, and general farm overhead.

[c]Returns to labor and investment less family labor and normal rates of return to land and investments.

Source: Gee, et al., 1986.

TABLE P-9

Rancher Sales, Costs, and Returns per Cow
(All Operations)

Unit	Baseline	With 25% Increase SRRA Forage	With 25% Decrease SRRA Forage
Sales	$71.59	$71.59	$71.59
Variable Costs[a]	$26.33	$24.27	$28.39
Returns above Variable Costs	$45.26	$47.32	$43.20
Fixed Cost[a]	$12.91	$11.50	$14.32
Returns to Labor and Investment	$32.35	$35.82	$28.88
Returns to Risk and Management[c]	-$36.51	-$14.98	$51.09
Herd Size	1	1.25	0.75

[a]Includes forage, veterinary services, trucking, marketing, maintenance and repair of machinery and equipment, fuels, lubricants, interest on operating capital, and hired labor.

[b]Includes ownership cost of machinery and equipment, land taxes, and general farm overhead.

[c]Returns to labor and investment less family labor and normal rates of return to land and investments.

Source: Gee, et al., 1986.

Estimated total herd size for ranchers using San Rafael Grazing Area was based on BLM records and on responses to a mail-back questionnaire. Local ranch herd sizes and budget production data were used to estimate local sales due to those ranching operations that use San Rafael Grazing Area. Sales figures were entered into the county economic models to derive indirect and induced effects.

RECREATION

Although tourist-related sales can generate a significant amount of local income and employment, the recreation industry is not delineated by standard economic statistics. Numerous surveys on recreation trips and expenditures were conducted during the 1970s and early 1980s by the Institute of Outdoor Recreation and Tourism (IORT) [IORT, 1984; Dalton, 1982]. (NOTE: IORT, which was formerly the Institute for the Study of Outdoor Recreation and Tourism (ISORT), no longer exists.) Results were usually published for broad geographic regions.

Statistics published for the geographic region including Emery County usually included Carbon County, and sometimes included Grand and San Juan Counties as well. Separate studies are usually conducted for out-of-state tourists and those who reside in Utah. In order to estimate the local importance of recreation activities in Emery County, it was necessary to apportion trips and revenues by county and to aggregate the out-of-state and in-state recreation statistics.

Using the previous IORT studies, it was possible to separate the recreation statistics for the Grand and San Juan County area from those for the Emery and Carbon County area. Recreation statistics were further apportioned between Carbon and Emery Counties based on county acreages. Visits and expenditures due to recreation in the planning area were based on BLM visitation estimates and average expenditures per user day [IORT, 1984]. The local expenditure estimates were entered into the county economic model to derive the direct, indirect, and induced employment generated.

GOVERNMENT EXPENDITURES

The cost of managing BLM programs generates local employment and income through direct manpower requirements and local purchases of supplies and materials. The 1986 budget for the Moab District was used to estimate the manpower and procurement expenditures required by program.

The effect of government employment on local sales was estimated based on national average propensities to consume, broken out by industrial sector. For the sectors that occur in the local economy, it was assumed that residents made those purchases locally; purchases from sectors that do not exist locally were assumed to have been made outside the local economy. The resulting local sales estimates were used in conjunction with the county model to estimate the indirect and induced effects of government employment.

All BLM 1986 procurement expenditures were reviewed to determine the percentage of purchases made locally. This proportion (35 percent) was applied to all procurement expenditures by program. These local expenditure estimates were then entered into the county economic models to derive the direct, indirect, and induced employment generated. The procurement figures were adjusted slightly to account for support programs and the discretionary allocation of fixed cost.

SOCIAL ANALYSIS

San Rafael Resource Area (SRRA) resource specialists live in and around the affected area an have worked and dealt with people who have a major interest in management of public lands. The specialists were responsible for identifying the attitudes of various user groups toward each planning issue. Precise representation of user groups and communities was not possible through this information-gathering technique; however, major social concerns and effects were identified.

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APPENDIX Q, COMPARISON OF POTENTIAL FOR MINERAL OCCURRENCE WITH DEVELOPMENT LIMITATIONS UNDER THE ALTERNATIVES

OVERVIEW

The purpose of Appendix Q is to aid in understanding impacts of the various alternatives upon mineral resources in the planning area. The tables correlate known or projected mineral potential with mineral development limitations under each alternative. Separate tables were prepared for oil and gas, coal, mineral materials, uranium, and gypsum.

OIL AND GAS

Table Q-1 compares acres available under the different oil and gas leasing categories for each alternative with areas of high, moderate, and low potential for fluid mineral occurrence. In San Rafael Resource Area (SRRA), 106,310 acres have been classified as high potential, 936,540 acres as moderate potential, and 420,990 acres as low potential. All of Forest Planning Unit's (FPU's) 75,350 acres have been classified as moderate potential. SRRA and FPU together have 106,310 acres high potential, 1,011,890 acres moderate potential, and 420,990 acres low potential.

COAL

Table Q-2 compares acres available for coal leasing under each alternative, assuming that mineral potential is limited to the Wasatch and Emery known recoverable coal resource areas (KRCRAs), and that coal development would occur only in these areas. Lease acreage is less than exploration acreage by 4,100 acres due to the unsuitability study (appendix F). Only these areas would be subject to leasing conditions developed in the RMP.

Coal leasing would be allowed in varying degrees by alternatives. An unsuitability study has been completed (appendix F). Leasing would occur only in areas designated suitable. Before mining operations take place, a full mining and reclamation plan must be approved under the Surface Mining Control and Reclamation Act (SMCRA), which could further limit mining.

MINERAL MATERIAL

Table Q-3 assumes that the potential for occurrence of mineral material deposits is uniform across the planning area. No attempt has been made to assess the quality or quantity of mineral material in place. The table compares areas available for mineral material disposal such as free use and sales, with different levels of restrictions as described for each alternative in chapter 2.

LOCATABLE MINERALS

Tables Q-4 and Q-5 compare the potential for occurrence of locatable minerals (uranium and gypsum) with the acres open to entry under each alternative, assuming that locatable mineral potential is limited to the areas shown on maps 79 and 80. For uranium, high-potential areas include the Morrison and Chinle Formations under fewer than 1,000 feet of overburden. The areas of high potential for gypsum include the Summerville and Carmel Formations under fewer than 1,000 feet of overburden and contain gypsum beds nearby. Moderate potential for gypsum includes the Summerville and Carmel formations under less than 1,000 feet of cover where occurrence of gypsum has not been reported.

TABLE Q-1

Fluid Mineral Classification, by Alternative

Oil and Gas Potential and Leasing Category			Acres Available, by Alternative						
			A	B	C	D	E	F	Proposed Plan
High Potential	Category 1	SRRA	89,010	105,580	31,840	9,350	47,110	18,640	18,740
		FPU	0	0	0	0	0	0	0
		Total	89,010	105,580	31,840	9,350	47,110	18,640	18,740
	Category 2	SRRA	16,980	730	73,420	4,180	59,200	87,390	86,530
		FPU	0	0	0	0	0	0	0
		Total	16,980	730	73,420	4,180	59,200	87,390	86,530
	Category 3	SRRA	320	0	1,050	0	0	280	1,040
		FPU	0	0	0	0	0	0	0
		Total	320	0	1,050	0	0	280	1,040
	Category 4	SRRA	0	0	0	92,780	0	0	0
		FPU	0	0	0	0	0	0	0
		Total	0	0	0	92,780	0	0	0
Moderate Potential	Category 1	SRRA	797,320	917,290	91,840	50,910	224,700	429,180	425,280
		FPU	51,770	75,350	12,260	3,820	29,080	50,850	45,270
		Total	849,090	992,640	104,100	54,730	253,780	480,030	470,550
	Category 2	SRRA	17,650	17,220	603,180	70,720	655,970	376,420	359,340
		FPU	18,270	0	58,270	7,600	43,570	21,210	27,930
		Total	35,920	17,220	661,450	78,320	699,540	397,630	387,270
	Category 3	SRRA	85,840	0	24,490	0	55,870	126,440	127,460
		FPU	5,310	0	2,120	0	2,700	3,290	2,150
		Total	91,150	0	26,610	0	58,570	129,730	129,610
	Category 4	SRRA	35,730	2,030	217,030	814,910	0	4,500	24,460
		FPU	0	0	2,700	63,930	0	0	0
		Total	35,730	2,030	219,730	878,840	0	4,500	24,460

(Continued)

TABLE Q-1 (Continued)

Oil and Gas Potential and Leasing Category			Acres Available, by Alternative						
			A	B	C	D	E	F	Proposed Plan
Low Potential	Category 1	SRRA	243,950	393,180	57,770	108,250	170,920	263,100	258,370
		FPU	0	0	0	0	0	0	0
		Total	243,950	393,180	57,770	108,250	170,920	263,100	258,370
	Category 2	SRRA	8,500	27,780	107,420	3,090	149,820	41,620	22,800
		FPU	0	0	0	0	0	0	0
		Total	8,500	27,780	107,420	3,090	149,820	41,620	22,800
	Category 3	SRRA	83,160	0	2,710	0	98,340	115,800	97,400
		FPU	0	0	0	0	0	0	0
		Total	83,160	0	2,710	0	98,340	115,800	97,400
	Category 4	SRRA	85,380	30	253,090	309,650	1,910	470	42,420
		FPU	0	0	0	0	0	0	0
		Total	85,380	30	253,090	309,650	1,910	470	42,420

TABLE Q-2

Coal Development Limitation by Alternative, Wasatch and Emery Coal Fields

Area Available for Exploration		Acres Available, by Alternative						
		A	B	C	D	E	F	Proposed Plan
Standard conditions	SRRA	32,280	33,560	11,900	15,550	27,080	23,120	20,620
	FPU	25,870	28,570	7,580	2,540	17,550	13,070	10,480
	Total	58,150	62,130	19,480	18,090	44,630	36,190	31,100
Special conditions	SRRA	160	160	20,330	380	5,360	9,320	11,080
	FPU	0	0	18,220	0	8,320	12,800	17,240
	Total	160	160	38,550	380	13,680	22,120	28,320
No surface occupancy	SRRA	1,280	0	210	0	1,280	1,280	2,130
	FPU	2,700	0	70	0	2,700	2,700	730
	Total	3,980	0	280	0	3,980	3,980	2,860
Total available	SRRA	33,720	33,720	32,440	15,930	33,720	33,710	33,710
	FPU	28,570	28,570	25,870	2,540	28,570	28,570	28,570
	Total	62,290	62,290	58,310	18,470	62,290	62,280	62,280
Area Available for Leasing								
Standard conditions	SRRA	28,340	29,620	7,800	11,450	22,980	19,010	16,520
	FPU	25,870	28,570	7,580	2,540	17,550	13,070	10,480
	Total	54,210	58,190	15,380	13,990	40,530	32,080	27,000
Special conditions	SRRA	0	0	20,330	380	5,360	9,320	11,080
	FPU	0	0	18,220	0	8,320	12,800	17,240
	Total	0	0	38,550	380	13,680	22,120	28,320
No surface occupancy	SRRA	1,280	0	210	0	1,280	1,280	2,130
	FPU	2,700	0	70	0	2,700	2,700	730
	Total	3,980	0	280	0	3,980	3,980	2,860
Total available	SRRA	29,620	29,620	28,340	11,830	29,620	29,610	29,610
	FPU	28,570	28,570	25,870	2,540	28,570	28,570	28,570
	Total	58,190	58,190	58,190	14,370	58,190	58,180	58,180

TABLE Q-3

Mineral Material Development Limitations by Alternative

Development Limitations		Acres Available, by Alternative						
		A	B	C	D	E	F	Proposed Plan
Standard conditions	SRRA	1,369,480	1,416,050	177,600	168,510	442,530	710,920	702,390
	FPU	51,770	75,350	12,260	3,820	29,080	50,850	45,270
	Total	1,421,250	1,491,400	189,060	172,330	471,610	761,770	747,660
Special conditions	SRRA	94,360	45,730	784,020	77,990	865,190	505,430	468,670
	FPU	23,580	0	58,270	7,600	43,570	21,210	27,930
	Total	117,940	45,730	842,290	85,590	908,760	526,640	496,600
Total open to disposal	SRRA	1,463,840	1,461,780	961,620	246,500	1,307,720	1,216,350	1,171,060
	FPU	75,350	75,350	70,530	11,420	72,650	72,060	73,200
	Total	1,539,190	1,537,130	1,032,150	257,920	1,380,370	1,288,410	1,244,260
Closed to disposal	SRRA	0	2,060	502,220	1,217,340	156,120	247,490	292,780
	FPU	0	0	4,820	63,930	2,700	3,290	2,150
	Total	0	2,060	507,040	1,281,270	158,820	250,780	294,930
TOTAL	SRRA	1,463,840	1,463,840	1,463,840	1,463,840	1,463,840	1,463,840	1,463,840
	FPU	75,350	75,350	75,350	75,350	75,350	75,350	75,350
	Total	1,539,190	1,539,190	1,539,190	1,539,190	1,539,190	1,539,190	1,539,190

TABLE Q-4

Uranium Development Limitations, by Alternative

Uranium Potential and Development Limitations		Acres Available, by Alternative						
		A	B	C	D	E	F	Proposed Plan
Open to Entry								
High Potential	SRRA	359,090	357,230	181,820	30,940	359,060	356,940	335,280
	FPU	7,200	7,200	7,200	490	7,200	7,200	7,200
	Total	366,290	364,430	189,020	31,430	366,260	364,140	342,480
Medium to No Potential	SRRA	1,102,970	1,102,770	810,120	214,760	1,101,090	1,100,150	1,059,900
	FPU	68,150	68,150	65,450	10,930	68,150	68,150	68,150
	Total	1,171,120	1,170,920	875,570	225,690	1,169,240	1,168,300	1,128,050
	Subtotal	1,537,410	1,535,350	1,064,590	257,120	1,535,500	1,532,440	1,470,530
Closed to Entry								
High Potential	SRRA	0	1,860	177,270	328,150	30	2,150	23,810
	FPU	0	0	0	6,710		0	0
	Total	0	1,860	177,270	334,860	30	2,150	23,810
Moderate to No Potential	SRRA	1,780	1,980	294,630	889,990	3,660	4,600	43,070
	FPU	0	0	2,700	57,220	0	0	0
	Total	1,780	1,980	297,330	947,210	3,660	4,600	43,070
	Subtotal	1,780	3,840	474,600	1,282,070	3,690	6,750	66,880
TOTAL		1,539,190	1,539,190	1,539,190	1,539,190	1,539,190	1,539,190	1,539,190

TABLE Q-5

Gypsum Development Limitations, by Alternative

Gypsum Potential and Development Limitations			Acres Available, by Alternative						
			A	B	C	D	E	F	Proposed Plan
Open to Entry	High potential	SRRA	293,760	293,170	175,970	27,250	293,360	293,320	290,620
		FPU	6,900	6,900	6,900	670	6,900	6,900	6,900
		Total	300,260	300,070	182,870	27,920	300,260	300,120	297,520
	Moderate potential	SRRA	473,010	473,010	457,680	70,830	473,010	473,010	469,780
		FPU	14,360	14,360	14,360	2,730	14,360	14,360	14,360
		Total	487,370	487,370	472,040	73,560	487,370	487,370	484,140
	Low to no potential	SRRA	695,690	693,820	358,290	147,460	693,780	690,760	634,780
		FPU	54,090	54,090	51,390	8,020	54,090	54,090	54,090
		Total	749,780	747,910	409,680	155,640	747,870	744,850	688,870
		Subtotal	1,537,410	1,535,350	1,064,590	257,120	1,535,500	1,532,440	1,470,530
Closed to Entry	High potential	SRRA	10	200	117,400	266,120	10	50	2,750
		FPU	0	0	0	6,230	0	0	0
		Total	10	200	117,400	272,350	10	50	2,750
	Moderate potential	SRRA	710	710	16,040	402,890	710	710	3,940
		FPU	0	0	0	11,630	0	0	0
		Total	710	710	16,040	414,520	710	710	3,940
	Low to no potential	SRRA	1,060	2,930	338,460	549,130	2,970	5,990	61,970
		FPU	0	0	2,700	46,070	0	0	0
		Total	1,060	2,930	341,160	595,200	2,970	5,990	61,970
		Subtotal	1,780	3,840	474,600	1,282,070	3,690	6,750	68,660
		TOTAL	1,539,190	1,539,190	1,539,190	1,539,190	1,539,190	1,539,190	1,539,190

APPENDIX Q

Different areas would remain open to entry under the various alternatives. Mining claim location in open areas would not be subject to stipulations or categorical restrictions as mineral leases are. The tables compare potential with areas available for mining claim location and with areas segregated from entry.

APPENDIX R, ECOLOGICAL CONDITION OF GRAZING ALLOTMENTS, BY ALTERNATIVE

OVERVIEW

The purpose of this appendix is to estimate changes to ecological condition of the range that would result from different methods and intensities of range management. Table R-1 compares the management levels set forth in the alternatives, and table R-2 shows the same information for the proposed plan. The ecological condition listed under any of the alternatives for an allotment is not necessarily the condition the allotment would be managed for. The desired ecological condition would be determined on a site-by-site basis in conjunction with rangeland monitoring. This appendix includes changes caused by such actions as implementation of allotment management plans (AMPs) and changes in season of use as presented under the different alternatives in chapter 2.

ASSUMPTIONS

It was assumed that new AMPs would not begin to be implemented until the year 1990; therefore, changes to ecological condition would be analyzed over a period of 10 or fewer years.

It was assumed that management of a grazing allotment under an AMP could improve ecological condition by two percent of the acres in each ecological condition class, and that the absence of an AMP could cause a decline of 5 percent of the acres in each ecological condition class. Generally, it was assumed that the ecological condition of smaller allotments (those in the custodial (C) management category) would remain static.

Elimination of spring grazing after March 15 is assumed to improve ecological condition by 2 percent of the acres in each ecological condition class on allotments not under an AMP or intensive grazing management system. The exception to this would be under alternative E where 50 percent or more of an allotment is within a high-use area for off-road vehicles (the semi-primitive motorized recreation opportunity spectrum class); in these cases, ecological condition would remain static.

Where spring grazing after March 15 would be eliminated and grazing would also be reduced, it is assumed that ecological condition would improve by 4 percent of the acres in each ecological condition class.

APPENDIX R

TABLE R-1

Ecological Status by Percentage of Livestock Grazing Allotments, by Alternative

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Allred (5001)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	0	0	0	0	0	0	0
Early Seral	100	100	100	100	100	100	100
Rock Outcrop/Badland	0	0	0	0	0	0	0
Big Pond (5002)							
PNC	57	52	59	59	61	59	59
Late Seral	11	11	11	11	11	11	11
Mid Seral	29	29	29	29	27	29	29
Early Seral	2	7	0	0	0	0	0
Rock Outcrop/Badland	1	1	1	1	1	1	1
Black (5003)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Black Dragon (5004)							
PNC	36	31	38	38	40	36	38
Late Seral	24	24	24	24	24	24	24
Mid Seral	34	34	34	34	34	34	34
Early Seral	6	11	4	4	2	6	4
Rock Outcrop/Badland	0	0	0	0	0	0	0
Buckhorn (5005)							
PNC	1	0	3	3	5	3	3
Late Seral	12	8	12	12	12	12	12
Mid Seral	66	66	66	66	66	66	66
Early Seral	21	26	19	19	17	19	19
Rock Outcrop/Badland	0	0	0	0	0	0	0
Bunderson (5006)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Case (5007)							
PNC	25	25	25	25	25	25	25
Late Seral	0	0	0	0	0	0	0
Mid Seral	75	75	75	75	75	75	75
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Clawson Dairy (5008)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	2	2	4	0	4
Mid Seral	77	72	75	75	73	77	73
Early Seral	0	5	0	0	0	0	0
Rock Outcrop/Badland	23	23	23	23	23	23	23
Coal Wash (5009)							
PNC	71	73	73	73	75	73	75
Late Seral	1	1	1	1	1	1	1
Mid Seral	1	1	1	1	1	1	1
Early Seral	5	3	3	3	1	3	1
Rock Outcrop/Badland	22	22	22	22	22	22	22
Cove (5010)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	58	58	58	58	58	58	58
Early Seral	42	42	42	42	42	42	42
Rock Outcrop/Badland	0	0	0	0	0	0	0
Cowley (5013)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Cox (Don) (5011)							
PNC	78	78	78	78	78	78	78
Late Seral	0	0	0	0	0	0	0
Mid Seral	18	18	18	18	18	18	18
Early Seral	4	4	4	4	4	4	4
Rock Outcrop/Badland	0	0	0	0	0	0	0

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Cox (John) (5012)							
PNC	0	0	0	0	0	0	0
Late Seral			2	2	4	2	4
Mid Seral	99	94	98	98	96	98	96
Early Seral	1	6	0	0	0	0	0
Rock Outcrop/Badland							
Crawford (5014)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	2	2	4	2	4
Mid Seral	100	95	98	98	96	98	96
Early Seral	0	5	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Day (5015)							
PNC	0	0	0	0	0	0	0
Late Seral	18	18	18	18	18	18	18
Mid Seral	82	82	82	82	82	82	82
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Deep Wash (5016)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	2	0	4	0	0
Mid Seral	100	95	98	95	96	95	95
Early Seral	0	5	0	5	0	5	5
Rock Outcrop/Badland	0	0	0	0	0	0	0
Deer Peak (0602)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	2	2	4	0	4
Mid Seral	71	66	71	71	71	71	71
Early Seral	29	34	27	27	25	29	25
Rock Outcrop/Badland	0	0	0	0	0	0	0
Dry Wash (5017)							
PNC	0	0	2	2	2	0	2
Late Seral	20	15	20	20	20	15	20
Mid Seral	23	23	23	23	23	23	23
Early Seral	17	22	15	15	15	22	15
Rock Outcrop/Badland	40	40	40	40	40	40	40

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Dugout (5018)							
PNC	0	0	2	2	4	0	4
Late Seral	17	12	17	17	17	17	17
Mid Seral	78	78	77	77	75	78	78
Early Seral	1	6	0	0	0	1	0
Rock Outcrop/Badland	4	4	4	4	4	4	4
East Grimes (5020)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	15	10	10	17	19	15	10
Early Seral	85	90	90	83	81	85	90
Rock Outcrop/Badland	0	0	0	0	0	0	0
Ferron Mills (5021)							
PNC	0	0	2	2	4	2	2
Late Seral	30	25	30	30	30	30	30
Mid Seral	30	30	30	30	30	30	30
Early Seral	40	45	38	38	36	38	38
Rock Outcrop/Badland	0	0	0	0	0	0	0
Fullers Bottom (5023)							
PNC	10	5	12	12	14	12	12
Late Seral	10	10	10	10	10	10	10
Mid Seral	28	28	28	28	28	28	28
Early Seral	46	51	44	44	42	42	42
Rock Outcrop/Badland	6	6	6	6	6	6	6
Georges Draw (5024)							
PNC	48	43	50	50	50	50	50
Late Seral	0	0	0	0	0	0	0
Mid Seral	44	44	44	44	44	44	44
Early Seral	4	9	2	2	2	2	2
Rock Outcrop/Badland	4	4	4	4	4	4	4
Globe-Link (5025)							
PNC	0	0	2	2	4	0	2
Late Seral	58	53	58	58	58	58	58
Mid Seral	22	22	20	20	18	22	20
Early Seral	0	5	0	0	0	0	0
Rock Outcrop/Badland	20	20	20	20	20	20	20

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Hambrick Bottoms (5026)							
PNC	0	0	2	2	4	0	4
Late Seral	18	13	18	18	18	18	18
Mid Seral	81	81	80	80	78	81	78
Early Seral	1	6	0	0	0	1	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Head of Sinbad (5027)							
PNC	0	2	2	2	4	2	2
Late Seral	48	48	48	48	48	48	48
Mid Seral	29	27	27	27	25	27	27
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	23	23	23	23	23	23	23
Hondo (5099)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	2	0	2	0	0
Mid Seral	26	21	24	21	24	21	21
Early Seral	0	5	0	5	0	5	5
Rock Outcrop/Badland	74	74	74	74	74	74	74
Horse Bench (5028)							
PNC	0	0	2	2	4	0	2
Late Seral	28	23	28	28	28	28	28
Mid Seral	61	61	61	61	61	61	61
Early Seral	10	15	8	8	6	10	8
Rock Outcrop/Badland	1	1	1	1	1	1	1
Horseshoe North (5029)							
PNC	0	0	2	2	4	2	2
Late Seral	27	22	27	27	27	27	27
Mid Seral	70	70	69	69	67	69	69
Early Seral	1	6	0	0	0	0	0
Rock Outcrop/Badland	2	2	2	2	2	2	2
Horseshoe South (5100)							
PNC	2	0	4	4	6	4	4
Late Seral	29	26	29	29	29	29	29
Mid Seral	55	55	53	53	51	53	53
Early Seral	0	5	0	0	0	0	0
Rock Outcrop/Badland	14	14	14	14	14	14	14

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Humphrey (5030)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Iron Wash (5031)							
PNC	0	2	2	2	4	0	4
Late Seral	33	33	33	33	33	33	33
Mid Seral	47	47	47	47	47	47	47
Early Seral	12	10	10	10	8	12	8
Rock Outcrop/Badland	8	8	8	8	8	8	8
Jacobson (5032)							
PNC	0	0	0	0	0	0	0
Late Seral	58	58	58	58	58	58	58
Mid Seral	42	42	42	42	42	42	42
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Jeffery Well (5033)							
PNC	0	0	2	2	4	2	2
Late Seral	20	15	20	20	20	20	20
Mid Seral	61	61	61	61	61	61	61
Early Seral	17	22	15	15	13	15	15
Rock Outcrop/Badland	2	2	2	2	2	2	2
Jensen (5034)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Johnson (5035)							
PNC	0	0	0	0	0	0	0
Late Seral	1	1	1	1	1	1	1
Mid Seral	30	30	30	30	30	30	30
Early Seral	69	69	69	69	69	69	69
Rock Outcrop/Badland	0	0	0	0	0	0	0

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Jorgensen (5036)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	74	74	74	74	74	74	74
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	26	26	26	26	26	26	26
Justesen (5037)							
PNC	0	0	0	0	0	0	0
Late Seral	54	54	54	54	54	54	54
Mid Seral	6	6	6	6	6	6	6
Early Seral	40	40	40	40	40	40	40
Rock Outcrop/Badland	0	0	0	0	0	0	0
Last Chance (0605)							
PNC	0	0	2	2	4	0	2
Late Seral	5	0	5	5	5	5	5
Mid Seral	61	61	61	61	61	61	61
Early Seral	7	12	5	5	3	7	5
Rock Outcrop/Badland	27	27	27	27	27	27	27
Link Canyon (5038)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	2	0	2	0	0
Mid Seal	100	95	98	95	98	95	95
Early Seral	0	5	0	5	0	5	5
Rock Outcrop/Badland	0	0	0	0	0	0	0
Little Holes (5039)							
PNC	1	1	1	1	1	1	1
Late Seral	32	32	32	32	32	32	32
Mid Seral	60	66	60	60	60	60	60
Early Seral	7	7	70	70	70	70	70
Rock Outcrop/Badland	0	0	0	0	0	0	0
Little Valley (5040)							
PNC	0	0	0	0	0	0	0
Late Seral	27	22	27	27	27	27	27
Mid Seral	57	57	57	57	57	57	57
Early Seral	16	21	16	16	16	16	16
Rock Outcrop/Badland	0	0	0	0	0	0	0

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Lone Tree (5041)							
PNC	1	0	3	3	5	3	5
Late Seral	8	4	8	8	8	8	8
Mid Seral	38	38	38	38	38	38	38
Early Seral	4	9	2	2	0	2	0
Rock Outcrop/Badland	49	49	49	49	49	49	49
M & O (0607)							
PNC	11	6	13	13	15	13	15
Late Seral	32	32	32	32	32	32	32
Mid Seral	48	48	48	48	48	48	48
Early Seral	4	9	2	2	0	2	0
Rock Outcrop/Badland	5	5	5	5	5	5	5
McCarty Canyon (5042)							
PNC	99	94	100	100	100	94	100
Late Seral	1	6	0	0	0	6	0
Mid Seral	0	0	0	0	0	0	0
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Mckay Flat (5043)							
PNC	11	6	13	13	15	13	15
Late Seral	13	13	13	13	13	13	13
Mid Seral	32	37	30	30	28	30	28
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	44	44	44	44	44	44	44
Mervin (5097)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Mesquite Wash (5044)							
PNC	99	94	100	100	100	94	100
Late Seral	1	6	0	0	0	6	0
Mid Seral	0	0	0	0	0	0	0
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Mexican Bend (5045)							
PNC	5	0	7	7	9	7	9
Late Seral	25	25	25	25	25	25	25
Mid Seral	55	55	55	55	55	55	55
Early Seral	15	20	13	13	11	13	11
Rock Outcrop/Badland	0	0	0	0	0	0	0
Miller Canyon (5046)							
PNC	90	85	91	91	91	90	85
Late Seral	1	6	0	0	0	1	6
Mid Seral	0	0	0	0	0	0	0
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	9	9	9	9	9	9	9
Molen Pasture (5047)							
PNC	88	88	88	88	88	88	88
Late Seral	0	0	0	0	0	0	0
Mid Seral	12	12	12	12	12	12	12
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Molen Tanks (5048)							
PNC	54	54	54	54	54	54	54
Late Seral	39	39	39	39	39	39	39
Mid Seral	0	0	0	0	0	0	0
Early Seral	1	1	1	1	1	1	1
Rock Outcrop/Badland	6	6	6	6	6	6	6
Moonshine (5049)							
PNC	0	0	2	2	4	0	2
Late Seral	16	11	16	16	16	16	16
Mid Seral	72	72	72	72	72	72	72
Early Seral	9	14	7	7	5	9	7
Rock Outcrop/Badland	3	3	3	3	3	3	3
Mussentuchit (0608)							
PNC	2	0	4	4	6	4	4
Late Seral	25	22	25	25	25	25	25
Mid Seral	35	35	35	35	35	35	35
Early Seral	10	15	8	8	6	8	8
Rock Outcrop/Badland	28	28	28	28	28	28	28

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Neva (5050)							
PNC	0	0	0	0	0	0	0
Late Seral	50	50	50	50	50	50	50
Mid Seral	50	50	50	50	50	50	50
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
North Ferron (5051)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	2	2	4	0	4
Mid Seral	72	67	72	72	72	72	72
Early Seral	4	9	2	2	0	4	0
Rock Outcrop/Badland	24	24	24	24	24	24	24
North Herring Flat (5052)							
PNC	0	0	2	2	4	2	4
Late Seral	43	58	43	43	43	43	43
Mid Seral	57	62	55	55	53	55	53
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
North Huntington (5053)							
PNC	36	31	38	38	40	38	40
Late Seral	0	0	0	0	0	0	0
Mid Seral	40	40	40	40	40	40	40
Early Seral	10	15	8	8	6	8	6
Rock Outcrop/Badland	14	14	14	14	14	14	14
North Sid & Charley (5054)							
PNC	11	6	13	13	15	13	13
Late Seral	0	0	0	0	0	0	0
Mid Seral	53	53	53	53	51	53	53
Early Seral	2	7	0	0	0	0	0
Rock Outcrop/Badland	34	34	34	34	34	34	34
North Sids Mountain (5055)							
PNC	100	100	100	100	100	100	100
Late Seral	0	0	0	0	0	0	0
Mid Seral	0	0	0	0	0	0	0
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
North Sinbad (5056)							
PNC	6	1	8	8	10	6	8
Late Seral	32	32	32	32	32	32	32
Mid Seral	49	49	49	49	49	49	49
Early Seral	4	9	2	2	0	4	0
Rock Outcrop/Badland	9	9	9	9	9	9	9
Northwest Ferron (5057)							
PNC	0	0	0	2	4	0	2
Mid Seral	27	22	22	27	27	27	27
Mid Seral	73	78	78	71	69	73	71
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
North Wolf Hollow (5058)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
OEJ (5098)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	38	38	38	38	38	38	38
Early Seral	0	0	0	0	0	0	0
Rock Outcrop Seral	62	62	62	62	62	62	62
Oil Dome (5059)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Oil Well Flat (5060)							
PNC	10	5	12	12	14	10	14
Late Seral	39	39	39	39	39	39	39
Mid Seral	26	26	26	26	26	26	26
Early Seral	21	26	19	19	17	21	17
Rock Outcrop/Badland	4	4	4	4	4	4	4

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Olsen, E. (5061)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Olsen, G.L. (5062)							
PNC	9	4	4	9	9	9	4
Late Seral	0	5	5	2	4	0	5
Mid Seral	91	91	91	89	87	91	91
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Pasture Canyon (5063)							
PNC	2	0	4	4	6	4	4
Late Seral	7	4	7	7	7	7	7
Mid Seral	70	70	70	70	70	70	70
Early Seral	20	25	18	18	16	18	18
Rock Outcrop/Badland	1	1	1	1	1	1	1
Peacock (5064)							
PNC	29	29	29	29	29	29	29
Late Seral	0	0	0	0	0	0	0
Mid Seral	30	30	30	30	30	30	30
Early Seral	41	41	41	41	41	41	41
Rock Outcrop/Badland	0	0	0	0	0	0	0
Price (Vic) (5065)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Red Canyon (5067)							
PNC	46	41	48	48	50	48	48
Late Seral	3	3	3	3	3	3	3
Mid Seral	40	45	38	38	36	38	38
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	11	11	11	11	11	11	11

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Red Seeps (5068)							
PNC	0	0	2	2	4	2	2
Late Seral	10	5	10	10	10	10	10
Mid Seral	79	79	79	79	79	79	79
Early Seral	5	10	3	3	1	3	3
Rock Outcrop/Badland	6	6	6	6	6	6	6
Reid (5069)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
R.J. (5066)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Rochester (5071)							
PNC	0	2	2	2	4	0	4
Late Seral	9	9	9	9	9	9	9
Mid Seral	91	89	89	89	87	91	87
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Rock Canyon (5072)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	2	4	0	4
Mid Seral	100	95	95	98	96	100	96
Early Seral	0	5	5	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Rock Springs (0611)							
PNC	0	2	2	2	4	0	4
Late Seral	39	39	39	39	39	39	39
Mid Seral	21	21	21	21	21	21	21
Early Seral	14	12	12	12	10	14	10
Rock Outcrop/Badland	26	26	26	26	26	26	26

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Saddle Horse (5073)							
PNC	0	0	2	2	4	0	0
Late Seral	96	91	96	96	96	96	91
Mid Seral	4	9	2	2	0	4	9
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Saleratus (5074)							
PNC	31	26	33	33	35	33	35
Late Seral	13	13	13	13	13	13	13
Mid Seral	38	38	38	38	38	38	38
Early Seral	17	22	15	15	13	15	13
Rock Outcrop/Badland	1	1	1	1	1	1	1
Salt Wash (5075)							
PNC	7	9	9	9	11	9	11
Late Seral	25	25	25	25	25	25	25
Mid Seral	51	50	50	50	48	50	48
Early Seral	1	0	0	0	0	0	0
Rock Outcrop/Badland	16	16	16	16	16	16	16
San Rafael (5076)							
PNC	0	0	2	2	4	0	2
Late Seral	22	17	22	22	22	22	22
Mid Seral	70	70	70	70	70	70	70
Early Seral	6	11	4	4	2	6	4
Rock Outcrop/Badland	2	2	2	2	2	2	2
Saucer Basin (5077)							
PNC	0	0	2	2	4	2	2
Late Seral	19	14	19	19	19	19	19
Mid Seral	22	22	20	20	18	20	20
Early Seral	1	6	0	0	0	0	0
Rock Outcrop/Badland	58	58	58	58	58	58	58
Sorensen (5079)							
PNC	88	88	88	88	88	88	88
Late Seral	6	6	6	6	6	6	6
Mid Seral	0	0	0	0	0	0	0
Early Seral	6	6	6	6	6	6	6
Rock Outcrop/Badland	0	0	0	0	0	0	0

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
South Ferron (5080)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	2	4	0	2
Mid Seral	92	87	87	90	88	92	90
Early Seral	0	5	5	0	0	0	0
Rock Outcrop/Badland	8	8	8	8	8	8	8
South Herring Flat (5081)							
PNC	0	0	0	2	4	2	4
Late Seral	22	17	17	22	22	22	22
Mid Seral	28	28	28	28	28	28	28
Early Seral	50	55	55	48	46	48	46
Rock Outcrop/Badland	0	0	0	0	0	0	0
South Sid & Charley (5082)							
PNC	32	27	34	34	36	34	36
Late Seral	0	0	0	0	0	0	0
Mid Seral	50	50	50	50	50	50	50
Early Seral	5	10	3	3	1	3	1
Rock Outcrop/Badland	13	13	13	13	13	13	13
South Sids Mountain (5083)							
PNC	50	45	52	52	54	52	48
Late Seral	0	0	0	0	0	0	0
Mid Seral	8	8	8	8	8	8	8
Early Seral	11	16	9	9	7	9	13
Rock Outcrop/Badland	31	31	31	31	31	31	31
South Wolf Hollow (5084)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Straight Hollow (5085)							
PNC	0	0	0	2	4	0	2
Late Seral	6	1	1	6	6	6	6
Mid Seral	94	99	99	92	90	94	92
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Sweetwater (5086)							
PNC	0	0	2	2	4	2	0
Late Seral	15	10	15	15	15	15	15
Mid Seral	63	63	63	63	63	63	63
Early Seral	16	21	14	14	12	14	14
Rock Outcrop/Badland	6	6	6	6	6	6	6
Taylor Flat (5087)							
PNC	0	0	2	2	4	0	2
Late Seral	68	63	68	68	68	68	68
Mid Seral	32	37	30	30	28	32	30
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
T.D.J. (5088)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Temple Mountain (5089)							
PNC	6	1	8	8	10	8	8
Late Seral	48	48	48	48	48	48	48
Mid Seral	44	44	44	44	42	44	44
Early Seral	2	7	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Tuttle (5090)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	100	100	100	100	100	100	100
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
West Grimes (5091)							
PNC	0	0	2	2	4	0	2
Late Seral	30	25	30	30	30	30	30
Mid Seral	54	54	54	54	54	54	54
Early Seral	16	21	14	14	12	16	14
Rock Outcrop/Badland	0	0	0	0	0	0	0

(Continued)

APPENDIX R

TABLE R-1 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
West Huntington (5092)							
PNC	34	29	36	36	38	34	38
Late Seral	1	1	1	1	1	1	1
Mid Seral	28	28	28	28	28	28	28
Early Seral	37	42	35	35	33	37	33
Rock Outcrop/Badland	0	0	0	0	0	0	0
West Orangeville (5093)							
PNC	68	68	70	70	72	70	63
Late Seral	0	0	0	0	0	0	0
Mid Seral	26	26	26	26	26	26	26
Early Seral	6	6	4	4	2	4	11
Rock Outcrop/Badland	0	0	0	0	0	0	0
Wilberg (5094)							
PNC	0	0	0	0	0	0	0
Late Seral	5	5	5	5	5	5	5
Mid Seral	77	77	77	77	77	77	77
Early Seral	18	18	18	18	18	18	18
Rock Outcrop/Badland	0	0	0	0	0	0	0
Wildlife (5102)							
PNC	0	0	0	0	0	0	0
Late Seral	100	100	100	100	100	100	100
Mid Seral	0	0	0	0	0	0	0
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Willow Springs (0612)							
PNC	0	0	2	2	4	0	4
Late Seral	86	81	86	86	86	86	86
Mid Seral	8	8	8	8	8	8	8
Early Seral	6	11	4	4	2	6	2
Rock Outcrop/Badland	0	0	0	0	0	0	0
Wood Hollow (5096)							
PNC	0	2	2	2	4	2	4
Late Seral	53	53	53	53	53	53	53
Mid Seral	26	24	24	24	22	24	22
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	21	21	21	21	21	21	21

(Continued)

APPENDIX R

TABLE R-1 (Concluded)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment, by Alternative						
	Current	A	B	C	D	E	F
Glen Canyon NRA (5015)							
PNC	0	0	0	0	0	0	0
Late Seral	0	0	0	0	0	0	0
Mid Seral	0	0	0	0	0	0	0
Early Seral	100	100	100	100	100	100	100
Rock Outcrop/Badland	0	0	0	0	0	0	0
Buckhorn Unallotted (5101)							
PNC	3	3	3	3	3	3	3
Late Seral	41	41	41	41	41	41	41
Mid Seral	53	53	53	53	53	53	53
Early Seral	3	3	3	3	3	3	3
Rock Outcrop/Badland	0	0	0	0	0	0	0
Buckhorn Draw (5105)							
PNC	85	85	85	85	85	85	85
Late Seral	0	0	0	0	0	0	0
Mid Seral	15	15	15	15	15	15	15
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	0	0	0	0	0	0	0
Canyonlands (5104)							
PNC	0	0	0	0	0	0	0
Late Seral	28	28	28	28	28	28	28
Mid Seral	0	0	0	0	0	0	0
Early Seral	0	0	0	0	0	0	0
Rock Outcrop/Badland	72	72	72	72	72	72	72

APPENDIX R

TABLE R-2

Ecological Status by Percentage of Livestock Grazing Allotments Under the Proposed Plan

Grazing Allotment and Ecological Condition Class	Percentage of Allotment Current	Future
Allred (5001)		
PNC	0	0
Late Seral	0	0
Mid Seral	0	0
Early Seral	100	100
Rock Outcrop/Badland	0	0
Big Pond (5002)		
PNC	57	59
Late Seral	11	11
Mid Seral	29	29
Early Seral	2	0
Rock Outcrop/Badland	1	1
Black (5003)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	100
Early Seral	0	0
Rock Outcrop/Badland	0	0
Black Dragon (5004)		
PNC	36	38
Late Seral	24	24
Mid Seral	34	34
Early Seral	6	4
Rock Outcrop/Badland	0	0
Buckhorn (5005)		
PNC	1	3
Late Seral	12	12
Mid Seral	66	66
Early Seral	21	19
Rock Outcrop/Badland	0	0
Buckhorn Draw (5105)		
PNC	85	85
Late Seral	0	0
Mid Seral	15	15
Early Seral	0	0
Rock Outcrop/Badland	0	0

Grazing Allotment and Ecological Condition Class	Percentage of Allotment Current	Future
Buckhorn Unalloted (5101)		
PNC	3	3
Late Seral	41	41
Mid Seral	53	53
Early Seral	3	3
Rock Outcrop/Badland	0	0
Bunderson (5006)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	100
Early Seral	0	0
Rock Outcrop/Badland	0	0
Canyonlands (5104)		
PNC	0	0
Late Seral	28	28
Mid Seral	0	0
Early Seral	0	0
Rock Outcrop/Badland	72	72
Case (5007)		
PNC	25	25
Late Seral	0	0
Mid Seral	75	75
Early Seral	0	0
Rock Outcrop/Badland	0	0
Clawson Dairy (5008)		
PNC	0	0
Late Seral	0	4
Mid Seral	77	73
Early Seral	0	0
Rock Outcrop/Badland	23	23
Coal Wash (5009)		
PNC	71	75
Late Seral	1	1
Mid Seral	1	1
Early Seral	5	1
Rock Outcrop/Badland	22	22

(Continued)

APPENDIX R

TABLE R-2 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment Current	Future
Cove (5010)		
PNC	0	0
Late Seral	0	0
Mid Seral	58	58
Early Seral	42	42
Rock Outcrop/Badland	0	0
Cowley (5013)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	100
Early Seral	0	0
Rock Outcrop/Badland	0	0
Cox (Don) (5011)		
PNC	78	78
Late Seral	0	0
Mid Seral	18	18
Early Seral	4	4
Rock Outcrop/Badland	0	0
Cox (John) (5012)		
PNC	0	0
Late Seral		4
Mid Seral	99	96
Early Seral	0	0
Rock Outcrop/Badland		
Crawford (5014)		
PNC	0	0
Late Seral	0	4
Mid Seral	100	96
Early Seral	0	0
Rock Outcrop/Badland		
Day (5015)		
PNC	0	0
Late Seral	18	18
Mid Seral	82	82
Early Seral	0	0
Rock Outcrop/Badland	0	0
Deep Wash (5016)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	95
Early Seral	0	5
Rock Outcrop/Badland	0	0
Deer Peak (0602)		
PNC	0	0
Late Seral	0	4
Mid Seral	71	71
Early Seral	29	25
Rock Outcrop/Badland	0	0
Dry Wash (5017)		
PNC	0	2
Late Seral	20	20
Mid Seral	23	23
Early Seral	17	15
Rock Outcrop/Badland	40	40
Dugout (5018)		
PNC	0	4
Late Seral	17	17
Mid Seral	78	78
Early Seral	1	0
Rock Outcrop/Badland	4	4
East Grimes (5020)		
PNC	0	0
Late Seral	0	0
Mid Seral	15	10
Early Seral	85	90
Rock Outcrop/Badland	0	0
Ferron Mills (5021)		
PNC	0	2
Late Seral	30	30
Mid Seral	30	30
Early Seral	40	38
Rock Outcrop/Badland	0	0

(Continued)

APPENDIX R

TABLE R-2 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment Current	Future
Fullers Bottom (5023)		
PNC	10	12
Late Seral	10	10
Mid Seral	28	28
Early Seral	46	42
Rock Outcrop/Badland	6	6
Georges Draw (5024)		
PNC	48	50
Late Seral	0	0
Mid Seral	44	44
Early Seral	4	2
Rock Outcrop/Badland	4	4
Glen Canyon NRA (5015)		
PNC	0	0
Late Seral	0	0
Mid Seral	0	0
Early Seral	100	100
Rock Outcrop/Badland	0	0
Globe-Link (5025)		
PNC	0	2
Late Seral	58	58
Mid Seral	22	20
Early Seral	0	0
Rock Outcrop/Badland	20	20
Hambrick Bottoms (5026)		
PNC	0	4
Late Seral	18	18
Mid Seral	81	78
Early Seral	1	0
Rock Outcrop/Badland	0	0
Head of Sinbad (5027)		
PNC	0	2
Late Seral	48	48
Mid Seral	29	27
Early Seral	0	0
Rock Outcrop/Badland	23	23
Hondo (5099)		
PNC	0	0
Late Seral	0	0
Mid Seral	26	21
Early Seral	0	5
Rock Outcrop/Badland	74	74
Horse Bench (5028)		
PNC	0	2
Late Seral	28	28
Mid Seral	61	61
Early Seral	10	8
Rock Outcrop/Badland	1	1
Horseshoe North (5029)		
PNC	0	2
Late Seral	27	27
Mid Seral	70	69
Early Seral	1	0
Rock Outcrop/Badland	2	2
Horseshoe South (5100)		
PNC	2	4
Late Seral	29	29
Mid Seral	55	53
Early Seral	0	0
Rock Outcrop/Badland	14	14
Humphrey (5030)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	100
Early Seral	0	0
Rock Outcrop/Badland	0	0
Iron Wash (5031)		
PNC	0	4
Late Seral	33	33
Mid Seral	47	47
Early Seral	12	8
Rock Outcrop/Badland	8	8

(Continued)

APPENDIX R

TABLE R-2 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment Current	Future
Jacobson (5032)		
PNC	0	0
Late Seral	58	58
Mid Seral	42	42
Early Seral	0	0
Rock Outcrop/Badland	0	0
Jeffery Well (5033)		
PNC	0	2
Late Seral	20	20
Mid Seral	61	61
Early Seral	17	15
Rock Outcrop/Badland	2	2
Jensen (5034)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	100
Early Seral	0	0
Rock Outcrop/Badland	0	0
Johnson (5035)		
PNC	0	0
Late Seral	1	1
Mid Seral	30	30
Early Seral	69	69
Rock Outcrop/Badland	0	0
Jorgensen (5036)		
PNC	0	0
Late Seral	0	0
Mid Seral	74	74
Early Seral	0	0
Rock Outcrop/Badland	26	26
Justesen (5037)		
PNC	0	0
Late Seral	54	54
Mid Seral	6	6
Early Seral	40	40
Rock Outcrop/Badland	0	0
Last Chance (0605)		
PNC	0	2
Late Seral	5	5
Mid Seral	61	61
Early Seral	7	5
Rock Outcrop/Badland	27	27
Link Canyon (5038)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	95
Early Seral	0	5
Rock Outcrop/Badland	0	0
Little Holes (5039)		
PNC	1	2
Late Seral	32	32
Mid Seral	60	60
Early Seral	7	70
Rock Outcrop/Badland	0	0
Little Valley (5040)		
PNC	0	0
Late Seral	27	27
Mid Seral	57	57
Early Seral	16	16
Rock Outcrop/Badland	0	0
Lone Tree (5041)		
PNC	1	5
Late Seral	8	8
Mid Seral	38	38
Early Seral	4	0
Rock Outcrop/Badland	49	49
M & O (0607)		
PNC	11	15
Late Seral	32	32
Mid Seral	48	48
Early Seral	4	0
Rock Outcrop/Badland	5	5

(Continued)

APPENDIX R

TABLE R-2 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment Current	Future
McCarty Canyon (5042)		
PNC	99	100
Late Seral	1	0
Mid Seral	0	0
Early Seral	0	0
Rock Outcrop/Badland	0	0
McKay Flat (5043)		
PNC	11	15
Late Seral	13	13
Mid Seral	32	28
Early Seral	0	0
Rock Outcrop/Badland	44	44
Mervin (5097)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	100
Early Seral	0	0
Rock Outcrop/Badland	0	0
Mesquite Wash (5044)		
PNC	99	100
Late Seral	1	0
Mid Seral	0	0
Early Seral	0	0
Rock Outcrop/Badland	0	0
Mexican Bend (5045)		
PNC	5	9
Late Seral	25	25
Mid Seral	55	55
Early Seral	15	11
Rock Outcrop/Badland	0	0
Miller Canyon (5046)		
PNC	90	85
Late Seral	1	6
Mid Seral	0	0
Early Seral	0	0
Rock Outcrop/Badland	9	9
Molen Pasture (5047)		
PNC	88	88
Late Seral	0	0
Mid Seral	12	12
Early Seral	0	0
Rock Outcrop/Badland	0	0
Molen Tanks (5048)		
PNC	54	54
Late Seral	39	39
Mid Seral	0	0
Early Seral	1	1
Rock Outcrop/Badland	6	6
Moonshine (5049)		
PNC	0	2
Late Seral	16	16
Mid Seral	72	72
Early Seral	9	7
Rock Outcrop/Badland	3	3
Mussentuchit (0608)		
PNC	2	4
Late Seral	25	25
Mid Seral	35	35
Early Seral	10	8
Rock Outcrop/Badland	28	28
Neva (5050)		
PNC	0	0
Late Seral	50	50
Mid Seral	50	50
Early Seral	0	0
Rock Outcrop/Badland	0	0
North Ferron (5051)		
PNC	0	0
Late Seral	0	4
Mid Seral	72	72
Early Seral	4	0
Rock Outcrop/Badland	24	24

(Continued)

APPENDIX R

TABLE R-2 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment Current	Future
North Herring Flat (5052)		
PNC	0	4
Late Seral	43	43
Mid Seral	57	53
Early Seral	0	0
Rock Outcrop/Badland	0	0
North Huntington (5053)		
PNC	36	40
Late Seral	0	0
Mid Seral	40	40
Early Seral	10	6
Rock Outcrop/Badland	14	14
North Sid & Charley (5054)		
PNC	11	13
Late Seral	0	0
Mid Seral	53	53
Early Seral	2	00
Rock Outcrop/Badland	34	34
North Sids Mountain (5055)		
PNC	100	100
Late Seral	0	0
Mid Seral	0	0
Early Seral	0	0
Rock Outcrop/Badland	0	0
North Sinbad (5056)		
PNC	6	8
Late Seral	32	32
Mid Seral	49	49
Early Seral	4	0
Rock Outcrop/Badland	9	9
Northwest Ferron (5057)		
PNC	0	2
Late Seral	27	27
Mid Seral	73	71
Early Seral	0	0
Rock Outcrop/Badland	0	0

Grazing Allotment and Ecological Condition Class	Percentage of Allotment Current	Future
North Wolf Hollow (5058)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	100
Early Seral	0	0
Rock Outcrop/Badland	0	0
O.E.J. (5098)		
PNC	0	0
Late Seral	0	0
Mid Seral	38	38
Early Seral	0	0
Rock Outcrop Seral	62	62
Oil Dome (5059)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	100
Early Seral	0	0
Rock Outcrop/Badland	0	0
Oil Well Flat (5060)		
PNC	10	14
Late Seral	39	39
Mid Seral	26	26
Early Seral	21	17
Rock Outcrop/Badland	4	4
Olsen, E. (5061)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	100
Early Seral	0	0
Rock Outcrop/Badland	0	0
Olsen, G.L. (5062)		
PNC	9	4
Late Seral	0	5
Mid Seral	91	91
Early Seral	0	0
Rock Outcrop/Badland	0	0

(Continued)

APPENDIX R

TABLE R-2 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment Current	Future
Pasture Canyon (5063)		
PNC	2	4
Late Seral	7	7
Mid Seral	70	70
Early Seral	20	18
Rock Outcrop/Badland	1	1
Peacock (5064)		
PNC	29	29
Late Seral	0	0
Mid Seral	30	30
Early Seral	41	41
Rock Outcrop/Badland	0	0
Price (Vic) (5065)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	100
Early Seral	0	0
Rock Outcrop/Badland	0	0
Red Canyon (5067)		
PNC	46	48
Late Seral	3	3
Mid Seral	40	38
Early Seral	0	0
Rock Outcrop/Badland	11	11
Red Seeps (5068)		
PNC	0	2
Late Seral	10	10
Mid Seral	79	79
Early Seral	5	3
Rock Outcrop/Badland	6	6
Reid (5069)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	100
Early Seral	0	0
Rock Outcrop/Badland	0	0
R.J. (5066)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	100
Early Seral	0	0
Rock Outcrop/Badland	0	0
Rochester (5071)		
PNC	0	4
Late Seral	9	9
Mid Seral	91	87
Early Seral	0	0
Rock Outcrop/Badland	0	0
Rock Canyon (5072)		
PNC	0	0
Late Seral	0	4
Mid Seral	100	96
Early Seral	0	0
Rock Outcrop/Badland	0	0
Rock Springs (0611)		
PNC	0	4
Late Seral	39	39
Mid Seral	21	21
Early Seral	14	10
Rock Outcrop/Badland	26	26
Saddle Horse (5073)		
PNC	0	0
Late Seral	96	91
Mid Seral	4	9
Early Seral	0	0
Rock Outcrop/Badland	0	0
Saleratus (5074)		
PNC	31	35
Late Seral	13	13
Mid Seral	38	38
Early Seral	17	13
Rock Outcrop/Badland	1	1

(Continued)

APPENDIX R

TABLE R-2 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment Current	Future
Salt Wash (5075)		
PNC	7	11
Late Seral	25	25
Mid Seral	51	48
Early Seral	1	0
Rock Outcrop/Badland	16	16
San Rafael (5076)		
PNC	0	2
Late Seral	22	22
Mid Seral	70	70
Early Seral	6	4
Rock Outcrop/Badland	2	2
Saucer Basin (5077)		
PNC	0	2
Late Seral	19	19
Mid Seral	22	20
Early Seral	1	0
Rock Outcrop/Badland	58	58
Sorensen (5079)		
PNC	88	88
Late Seral	6	6
Mid Seral	0	0
Early Seral	6	6
Rock Outcrop/Badland	0	0
South Ferron (5080)		
PNC	0	0
Late Seral	0	2
Mid Seral	92	90
Early Seral	0	0
Rock Outcrop/Badland	8	8
South Herring Flat (5081)		
PNC	0	4
Late Seral	22	22
Mid Seral	28	28
Early Seral	50	46
Rock Outcrop/Badland	0	0
South Sid & Charley (5082)		
PNC	32	36
Late Seral	0	0
Mid Seral	50	50
Early Seral	5	1
Rock Outcrop/Badland	13	13
South Sids Mountain (5083)		
PNC	50	48
Late Seral	0	0
Mid Seral	8	8
Early Seral	11	13
Rock Outcrop/Badland	31	31
South Wolf Hollow (5084)		
PNC	0	0
Late Seral	0	0
Mid Seral	100	100
Early Seral	0	0
Rock Outcrop/Badland	0	0
Straight Hollow (5085)		
PNC	0	2
Late Seral	6	6
Mid Seral	94	92
Early Seral	0	0
Rock Outcrop/Badland	0	0
Sweetwater (5086)		
PNC	0	0
Late Seral	15	15
Mid Seral	63	63
Early Seral	16	14
Rock Outcrop/Badland	6	6
Taylor Flat (5087)		
PNC	0	2
Late Seral	68	68
Mid Seral	32	30
Early Seral	0	0
Rock Outcrop/Badland	0	0

(Continued)

APPENDIX R

TABLE R-2 (Continued)

Grazing Allotment and Ecological Condition Class	Percentage of Allotment Current	Future	Grazing Allotment and Ecological Condition Class	Percentage of Allotment Current	Future
T.D.J. (5088)			West Orangeville (5093)		
PNC	0	0	PNC	68	63
Late Seral	0	0	Late Seral	0	0
Mid Seral	100	100	Mid Seral	26	26
Early Seral	0	0	Early Seral	6	11
Rock Outcrop/Badland	0	0	Rock Outcrop/Badland	0	0
Temple Mountain (5089)			Wilberg (5094)		
PNC	6	8	PNC	0	0
Late Seral	48	48	Late Seral	5	5
Mid Seral	44	44	Mid Seral	77	77
Early Seral	2	0	Early Seral	181	18
Rock Outcrop/Badland	0	0	Rock Outcrop/Badland	0	0
Tuttle (5090)			Wildlife (5102)		
PNC	0	0	PNC	0	0
Late Seral	0	0	Late Seral	100	100
Mid Seral	100	100	Mid Seral	0	0
Early Seral	0	0	Early Seral	0	0
Rock Outcrop/Badland	0	0	Rock Outcrop/Badland	0	0
West Grimes (5091)			Willow Springs (0612)		
PNC	0	2	PNC	0	4
Late Seral	30	30	Late Seral	86	86
Mid Seral	54	54	Mid Seral	8	8
Early Seral	16	14	Early Seral	6	2
Rock Outcrop/Badland	0	0	Rock Outcrop/Badland	0	0
West Huntington (5092)			Wood Hollow (5096)		
PNC	34	38	PNC	0	4
Late Seral	1	1	Late Seral	53	53
Mid Seral	28	28	Mid Seral	26	22
Early Seral	37	33	Early Seral	0	0
Rock Outcrop/Badland	0	0	Rock Outcrop/Badland	21	21

APPENDIX S, VEGETATION IMPACT ANALYSIS ASSUMPTIONS

OVERVIEW

Appendix S presents the assumptions that were used to project the amount of disturbance to vegetation resources under the various alternatives described in chapter 2.

VEGETATION COVER

The assumptions used to determine the loss to the general vegetation cover are given for both short- and long-term losses, in acres, by alternative (table S-1). No attempt has been made to project where the disturbance would actually occur, or what type of vegetation would be lost.

For determining general vegetation disturbance, it was assumed that impacts from private and commercial woodland product harvest would be insignificant.

It was assumed that 3 percent of the acres open for off-road vehicle (ORV) use would actually be disturbed.

It was assumed that impacts from maintenance and construction of watershed control structures would be insignificant, since only about 20 acres would be involved.

TABLE S-1

Assumptions for Vegetation Disturbance and Loss Under the Alternatives

Cause of Disturbance	Acres of Permanent Loss or Temporary Disturbance, by Alternative													
	A		B		C		D		E		F		Proposed RMP	
	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp
Oil and gas producing wells and access	0	230	0	240	0	230	0	40	0	230	0	230	0	230
Geophysical exploration	0	480	0	600	0	480	0	120	0	480	0	480	0	480
Coal exploration	0	8	0	8	0	3	0	3	0	8	0	8	0	8
Mineral material sites	0	200	0	200	0	200	0	40	0	200	0	200	0	200
Mineral exploration	0	90	0	130	0	70	0	70	0	70	0	90	0	90
Rights-of-way for roads, pipelines, and transmission lines	0	50	0	50	0	50	0	7	0	50	0	50	0	50
Livestock range improvements	0	80	0	360	0	0	0	0	0	80	0	80	0	80
Off-road vehicle use	0	46,180	0	15,390	0	17,230	0	6,310	0	38,770	0	30,490	0	20,410
Land disposals	6,820	0	0	0	6,970	0	1,420	0	7,810	0	7,730	0	7,730	0
Wildfire (13 acres per year)	0	156	0	156	0	156	0	156	0	156	0	156	0	156
Green River scenic loop	250	0	250	0	250	0	250	0	250	0	250	0	250	0
Developed recreation sites	0	0	0	0	0	60	0	0	0	60	0	60	0	60
	7,070	47,474	250	17,134	7,220	18,479	1,670	6,746	8,060	40,104	7,980	31,844	7,980	21,764

APPENDIX T, LIVESTOCK FORAGE IMPACT ANALYSIS ASSUMPTIONS

OVERVIEW

Appendix T presents the assumptions and formulas used to estimate changes in animal unit months (AUMs) of livestock forage that would result from management actions under the alternatives described in chapter 2.

ALTERNATIVE A

Based on the following assumptions and calculations, there would be a net decrease of 710 AUMs to a total of 56,161 AUMs at the level of the past 5 years average licensed use and 87,542 active preference AUMs by the year 2000.

Under alternatives A, C, E, F, and the proposed RMP, the Wildlife Allotment (630 acres), Buckhorn Draw (4,520 acres), and unallotted lands (1,730 acres) would be excluded from livestock grazing.

Currently, operator demand is at the 5 years average licensed use level of 56,871 AUMs, but not equal to the allowable active preference level of 88,252 AUMs. It is assumed that operator demand will remain at the 5 years average licensed use level, but may increase up to allowable active preference. Therefore, a range is used for analysis purposes.

Currently, little or no forage is reserved for big game grazing the public lands. Specific allocations of forage for these animals will be made on the activity plan level or in conjunction with grazing decisions to be issued upon completion of 5 years of monitoring, if rangeland monitoring shows forage to be competitive. Protection of riparian areas will also be addressed at the activity plan level in areas where such action is deemed necessary.

It is assumed that all isolated tracts offered for disposal would be disposed of by the year 2000, amounting to approximately 325 AUMs in 23 allotments.

Oil and gas production (12 AUMs); seismic exploration (24 AUMs); mineral material sites (20 AUMs); mineral exploration (5 AUMs); and losses from wildfire (8 AUMs), rights-of-way (3 AUMs), and the Green River scenic loop (13 AUMs) would result in a loss of only 85 AUMs. This is insignificant for analysis purposes in alternatives A through F, because the affected areas are scattered throughout the planning area and are not concentrated in any specific area or allotment. All of the above losses would be residual, except that for the Green River scenic loop, with the majority of this loss regained following reclamation or natural succession. The Green River scenic loop would be a long-term loss of 13 AUMs spread over seven allotments.

Disturbance from off-road vehicles (ORVs) is estimated to be 3 percent of the entire area open to ORV use, causing the loss of 385 AUMs. The majority of this disturbance would be regained through natural succession.

ALTERNATIVE B

Based on the following assumptions, there could be an increase to 96,006 AUMs, an increase of 39,845 AUMs from 5 years average licensed use and an increase of 8,464 AUMs from active preference by the year 2000.

Under alternative B, the Bowknot Bend (1,830 acres) and North Big Flat Top (190 acres) Areas of Critical Environmental Concern (ACECs) and the relict vegetation portion of the San Rafael

Reef ACEC (2,000 acres) would be closed to livestock grazing. However, no AUMs were subtracted in the analysis because these relict vegetation communities are inaccessible to livestock.

Currently, operator demand is at the 5 years average licensed use level of 56,871 AUMs; operator demand is not equal to the allowable active preference level of 88,252 AUMs. It is assumed under this alternative that operator demand would increase up to allowable active preference.

Livestock forage AUMs could increase under this alternative due to the construction of livestock water developments, which would enable currently unusable areas to be grazed by livestock. It is assumed that one livestock water would service 2 square miles (approximately 1,280 acres) and that the average stocking rate for the planning area is 20 acres per AUM. Therefore, each livestock water would allow an additional 60 AUMs to be grazed.

Currently, little or no forage is reserved for big game grazing the public lands. Specific forage allocations for these animals will be made on the activity plan level or in conjunction with grazing decisions to be issued upon completion of 5 years of monitoring, if forage is considered to be competitive, based on rangeland monitoring. Protection of riparian areas will also be addressed at the activity plan level in areas where such action is deemed necessary.

Oil and gas production (13 AUMs); seismic exploration (30 AUMs); mineral material sites (20 AUMs); mineral exploration (13 AUMs); and losses from from wildfire (8 AUMs), rights-of-way (3 AUMs), and the Green River scenic loop (13 AUMs) would result in a loss of only 100 AUMs. This is insignificant for analysis purposes, because the affected areas are scattered throughout the planning area and are not concentrated in any specific area or allotment. All of the above losses would be residual, except that for the Green River scenic loop, and the majority of this loss would be regained following reclamation. The Green River scenic loop would be a long-term loss of 13 AUMs spread over seven allotments.

In order to maximize the livestock industry, no land disposals are identified under this alternative.

Disturbance from ORV use is estimated to be 3 percent of the entire area open to ORV use. The majority of this disturbance would be regained through natural succession.

An additional 435 AUMs would be available for livestock grazing through the opening of areas previously closed to grazing (unallotted lands, Buckhorn Draw, and the Wildlife Allotment).

ALTERNATIVE C

Based on the following assumptions, there could be a net decrease in the 5 years average licensed use of 10,781 AUMs (for a total of 45,380 AUMs) and a net decrease in active preference of 14,784 AUMs (for a total of 72,758 AUMs) by the year 2000.

Under alternative C, the Bowknot Bend (1,830 acres) and North Big Flat Top (190 acres) ACECs would be excluded from livestock grazing. However, no AUMs were subtracted in the analysis because these relict vegetation communities are inaccessible to livestock.

Currently, operator demand is at the 5 years average licensed use level of 56,871 AUMs; operator demand is not equal to the allowable active preference level of 88,252 AUMs. It is assumed that operator demand would remain at the 5 years average licensed use level, but may increase up to allowable active preference. Therefore, a range is used for analysis purposes.

Grazing seasons would be changed from spring (March 15 to June 15) and fall (September 1 to November 1) to winter use in areas where potential conflicts may exist between livestock and recreationists (high-use areas such as primitive (P), semiprimitive nonmotorized (SPNM), and semiprimitive motorized (SPM) recreation opportunity spectrum (ROS) classes). Livestock AUMs were adjusted downward in allotments where potential conflicts may exist between livestock and wildlife (areas with deer, elk, antelope and bighorn sheep habitat). In some areas with winter livestock use and large populations of wildlife, allotments may be closed to livestock

grazing (current wildlife AUMs were subtracted from total 5 years average licensed use and active preference).

Currently, little or no forage is reserved for big game grazing the public lands. Specific forage allocations for these animals will be made on the activity plan level or in conjunction with grazing decisions to be issued upon completion of 5 years of monitoring, if forage is considered to be competitive, based on rangeland monitoring. Protection of riparian areas will also be addressed at the activity plan level in areas where such action is deemed necessary.

Oil and gas production (12 AUMs); seismic exploration (24 AUMs); mineral material sites (20 AUMs); mineral exploration (1 AUM); and losses from wildfire (8 AUMs), rights-of-way (3 AUMs), developed recreation sites (3 AUMs), and the Green River scenic loop (13 AUMs) would result in a loss of only 84 AUMs. This is insignificant for analysis purposes because the affected areas are scattered throughout the planning area and are not concentrated in any specific area or allotment. All of the above losses would be residual, except for those from developed recreation sites and the Green River scenic loop). The developed recreation sites (long-term loss of 3 AUMs) would be in three different allotments, and the Green River scenic loop (long-term loss of 13 AUMs) would be spread over seven allotments.

It was assumed that 357 AUMs would be lost on 26 allotments because of land disposals.

Disturbance from ORV use is estimated to be 3 percent of the entire area open to ORV use. The majority of this disturbance would be regained through natural succession.

ALTERNATIVE D

Based on the following assumptions, there could be a net decrease in the 5 years average licensed use of 27,479 AUMs (for a total of 28,682 AUMs) and a net decrease in active preference of 43,284 AUMs (for a total of 44,258 AUMs) by the year 2000.

Under alternative D, the Bowknot Bend (1,830 acres), North Big Flat Top (190 acres), and Hebes Mountain (960 acres) ACECs would be closed to livestock grazing. However, no AUMs were subtracted in the analysis because these areas are inaccessible to livestock. Dry Lake Archaeological District (16,990 acres), Tomsich Butte Historic District (2,040 acres), and Temple Mountain Historic District (2,660 acres) ACECs would also be closed to livestock grazing.

Currently, operator demand is at the 5 years average licensed use level of 56,871 AUMs; operator demand is not equal to the allowable active preference level of 88,252 AUMs. It is assumed that operator demand would remain at the 5 years average licensed use level, but may increase up to allowable active preference. Therefore, a range is used for analysis purposes.

In critical watershed areas, grazing seasons would be changed from spring (March 1 to May 31) to winter use to help alleviate soil disturbance during peak runoff periods. This change would also allow for an increase in vegetation cover, which would decrease erosion as well. In addition, licensed use would decrease by 50 percent of the current 5 years average licensed use and active preference in an effort to maintain 25 percent utilization by livestock in these areas. Utilization studies would be necessary to determine if the initial reduction of 50 percent is adequate and if further adjustments (up or down) are needed. It is assummed that these changes would help to protect critical watersheds in the planning area.

Currently, little or no forage is reserved for big game grazing the public lands. Specific forage allocations for these animals will be made on the activity plan level or in conjunction with grazing decisions to be issued upon completion of 5 years of monitoring, if forage is considered to be competitive, based on rangeland monitoring. Livestock AUMs may be adjusted following rangeland monitoring and riparian habitat inventory. Protection of riparian areas will also be addressed at the activity plan level in areas where such action is deemed necessary.

It was assumed that 86 AUMs would be lost on three allotments because of land disposals.

Oil and gas production (2 AUMs); seismic exploration (6 AUMs); mineral material sites (8 AUMs); mineral exploration (1 AUM); and losses from wildfire (8 AUMs), rights-of-way (1 AUM), and the Green River scenic loop (13 AUMs) would result in a loss of only 39 AUMs. This is insignificant for analysis purposes because the affected areas are scattered throughout the planning area and are not concentrated in any specific area or allotment. All of the above losses would be residual, except for those from developed recreation sites and the Green River scenic loop. The Green River scenic loop long-term loss of 13 AUMs would be spread over seven allotments.

Disturbance from ORV use is estimated to be 3 percent of the entire area open to ORV use. The majority of this disturbance would be regained through natural succession.

ALTERNATIVE E

Based on the following assumptions, there could be a net decrease in the 5 years average licensed use of 1,059 AUMs (for a total of 55,102 AUMs) and a net decrease in active preference of 1,014 AUMs (for a total of 86,528 AUMs) by the year 2000.

Under alternative E, the Bowknot Bend (1,830 acres) and North Big Flat Top (190 acres) ACECs would be excluded from livestock grazing. However, no AUMs were subtracted in the analysis because these relict vegetation communities are inaccessible to livestock. The Temple Mountain Motorcycle Trail would also be excluded from livestock grazing.

Currently, operator demand is at the 5 years average licensed use level of 56,871 AUMs; operator demand is not equal to the allowable active preference level of 88,252 AUMs. It is assumed that operator demand would remain at the 5 years average licensed use level, but may increase up to allowable active preference. Therefore, a range is used for analysis purposes.

Grazing seasons would be changed from spring (March 15 to June 15) and fall (September 1 to November 1) to winter use in areas where potential conflicts may exist between livestock and ORV use (high-use areas such as the SPM ROS class) to provide maximum recreation opportunities during heavy use periods.

Currently, little or no forage is reserved for big game grazing the public lands. Specific forage allocations for these animals will be made on the activity plan level or in conjunction with grazing decisions to be issued upon completion of 5 years of monitoring, if forage is considered to be competitive, based on rangeland monitoring. Protection of riparian areas will also be addressed at the activity plan level in areas where such action is deemed necessary.

It is assumed that 2,647 AUMs would be lost on 26 allotments because of land disposals.

Oil and gas production (12 AUMs); seismic exploration (24 AUMs); mineral material sites (20 AUMs); mineral exploration (1 AUM); and losses from wildfire (8 AUMs), rights-of-way (3 AUMs), developed recreation sites (3 AUMs), and the Green River scenic loop (13 AUMs) would result in a loss of only 85 AUMs. This is insignificant for analysis purposes because the affected areas are scattered throughout the planning area and are not concentrated in any specific area or allotment. All of the above losses would be residual, except for those from developed recreation sites and the Green River scenic loop. The Green River scenic loop long-term loss of 13 AUMs would be over seven allotments, and the developed recreation site loss would occur on three allotments.

Disturbance from ORV use is estimated to be 3 percent of the entire area open to ORV use. The majority of this disturbance would be regained through natural succession.

ALTERNATIVE F

Based on the following assumptions, there could be a net decrease in the 5 years average licensed use of 410 AUMs (for a total of 55,751 AUMs) and a net decrease in active preference of 1,398 AUMs (for a total of 86,198 AUMs) by the year 2000.

Under alternative F, the Bowknot Bend (1,830 acres) and Big Flat Tops (2,640 acres) ACECs would be excluded from livestock grazing. However, no AUMs were subtracted in the analysis because these areas are inaccessible to livestock. The Swasey Cabin ACEC (220 acres) would also be excluded from livestock grazing except for trailing; this area is largely unsuitable for livestock grazing except for animals trailing into Eagle Canyon.

Currently, operator demand is at the 5 years average licensed use level of 56,871 AUMs; operator demand is not equal to the allowable active preference level of 88,252 AUMs. It is assumed that operator demand would remain at the 5 years average licensed use level, but may increase up to allowable active preference. Therefore, a range is used for analysis purposes.

On 43 allotments (for analysis purposes only), the grazing season would be changed from spring (March 1 to June 15) to winter use because 50 percent or more of the allotment exceeds the Soil Conservation Service (SCS) critical soil loss threshold (appendix N). Of these 43 allotments, 16 would be analyzed with a 25 percent reduction for crucial wildlife habitat protection. On three allotments, where 49 percent of the allotment exceeds the SCS critical soil loss threshold, a 25 percent reduction in 5 years average licensed use and active preference AUMs would be analyzed with no change in grazing season.

At this time (1989), it is not known whether the allotments are exceeding the SCS critical soil loss threshold. This determination would be made on an allotment-by-allotment basis in conjunction with current rangeland monitoring methods. If it is determined that the allotments are exceeding the SCS critical soil loss threshold, and the rangeland trend is down, then changes in livestock management are necessary. These could include changes in grazing season, reductions in numbers, implementation of grazing systems, or other agreements that would provide some protection for these areas. If changes are necessary, range use agreements with the operators would be sought.

On allotments exceeding the SCS critical soil loss threshold, but in an upward trend, no changes in management would be made as long as the areas are improving and heading toward the individual site goals.

All changes in season and numbers discussed above are strictly for analysis purposes and represent a possible management scenario. Additional monitoring information, not gathered at this time, is needed to determine where actual changes in season and livestock AUMs are needed to protect critical soils. Therefore, any changes based on exceedance of the SCS critical soil loss threshold would be made in conjunction with grazing decisions to be issued following 5 years of rangeland monitoring.

The analysis assumptions above are made solely to measure the possible impacts from such changes.

Currently, little or no forage is reserved for big game grazing the public lands. Specific forage allocations for these animals will be made on the activity plan level or in conjunction with grazing decisions to be issued upon completion of 5 years of monitoring, if forage is considered to be competitive, based on rangeland monitoring. Protection of riparian areas will also be addressed at the activity plan level in areas where such action is deemed necessary. Riparian habitat management plans and allotment management plans will be written and implemented to protect riparian areas from overutilization by livestock.

It is assumed that 4,549 AUMs would be lost from 29 allotments because of land disposals.

Oil and gas production (12 AUMs); seismic exploration (24 AUMs); mineral material sites (20 AUMs); mineral exploration (5 AUM); and losses from wildfire (8 AUMs), rights-of-way (3 AUMs), developed recreation sites (3 AUMs), and the Green River scenic loop (13 AUMs) would result in a loss of only 89 AUMs. This is insignificant for analysis purposes because the affected areas are scattered throughout the planning area and are not concentrated in any specific area or allotment. All of the above losses would be residual, except for those from developed recreation sites and the Green River scenic loop. The Green River scenic loop long-term loss of 13 AUMs would be spread over seven

allotments, and the developed recreation site loss would occur on three allotments.

Disturbance from ORV use is estimated to be 3 percent of the entire area open to ORV use. The majority of this disturbance would be regained through natural succession.

PROPOSED RMP

Based on the following assumptions, there could be a net increase in the 5 years average licensed use of 46 AUMs (for a total of 56,207 AUMs) and a net decrease in active preference of 888 AUMs (for a total of 86,654 AUMs) by the year 2000.

Under alternative F, the Bowknot Bend (1,830 acres) and Big Flat Tops (2,640 acres) ACECs would be excluded from livestock grazing. However, no AUMs were subtracted in the analysis because these areas are inaccessible to livestock. The Swasey Cabin ACEC (220 acres) would also be excluded from livestock grazing except for trailing; this area is largely unsuitable for livestock grazing except for animals trailing into Eagle Canyon.

Currently, operator demand is at the 5 years average licensed use level of 56,871 AUMs; operator demand is not equal to the allowable active preference level of 88,252 AUMs. It is assumed that operator demand would remain at the 5 years average licensed use level, but may increase up to allowable active preference. Therefore, a range is used for analysis purposes.

On 43 allotments (for analysis purposes only), the grazing season would be changed from spring (March 1 to June 15) to winter use because 50 percent or more of the allotment exceeds the Soil Conservation Service (SCS) critical soil loss threshold (appendix N). Of these 43 allotments, 16 would be analyzed with a 25 percent reduction for crucial wildlife habitat protection. On three allotments, where 49 percent of the allotment exceeds the SCS critical soil loss threshold, a 25 percent reduction in 5 years average licensed use and active preference AUMs would be analyzed with no change in grazing season.

At this time (1989), it is not known whether the allotments are exceeding the SCS critical soil loss threshold. This determination would be made on an allotment-by-allotment basis in conjunction with current rangeland monitoring methods. If it is determined that the allotments are exceeding the SCS critical soil loss threshold, and the rangeland trend is down, then changes in livestock management are necessary. These could include changes in grazing season, reductions in numbers, implementation of grazing systems, or other agreements that would provide some protection for these areas. If changes are necessary, range use agreements with the operators would be sought.

On allotments exceeding the SCS critical soil loss threshold, but in an upward trend, no changes in management would be made as long as the areas are improving and heading toward the individual site goals.

All changes in season and numbers discussed above are strictly for analysis purposes and represent a possible management scenario. Additional monitoring information, not gathered at this time, is needed to determine where actual changes in season and livestock AUMs are needed to protect critical soils. Therefore, any changes based on exceedance of the SCS critical soil loss threshold would be made in conjunction with grazing decisions to be issued following 5 years of rangeland monitoring.

The analysis assumptions above are made solely to measure the possible impacts from such changes.

Currently, little or no forage is reserved for big game grazing the public lands. Specific forage allocations for these animals will be made on the activity plan level or in conjunction with grazing decisions to be issued upon completion of 5 years of monitoring, if forage is considered to be competitive, based on rangeland monitoring. Protection of riparian areas will also be addressed at the activity plan level in areas where such action is deemed necessary. Riparian habitat management plans and allotment management plans will be written and implemented to protect riparian areas from overutilization by livestock.

It is assumed that 4,549 AUMs would be lost from 29 allotments because of land disposals.

Oil and gas production (12 AUMs); seismic exploration (24 AUMs); mineral material sites (20 AUMs); mineral exploration (5 AUM); and losses from wildfire (8 AUMs), rights-of-way (3 AUMs), developed recreation sites (3 AUMs), and the Green River scenic loop (13 AUMs) would result in a loss of only 89 AUMs. This is insignificant for analysis purposes because the affected areas are scattered throughout the planning area and are not concentrated in any specific area or allotment. All of the above losses would be residual, except for those from developed recreation sites and the Green River scenic loop. The Green River scenic loop long-term loss of 13 AUMs would be spread over seven allotments, and the developed recreation site loss would occur on three allotments.

Disturbance from ORV use is estimated to be 3 percent of the entire area open to ORV use. The majority of this disturbance would be regained through natural succession.

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APPENDIX U, CULTURAL RESOURCE IMPACT ANALYSIS ASSUMPTIONS

OVERVIEW

Appendix U describes the methods and assumptions used to determine the number of cultural resources that could be impacted or available for use under the alternatives.

SITE DENSITY METHODOLOGY

The planning area has neither a complete cultural resource inventory nor an areawide random sampling. Although it is known that sites are not randomly located, information on where they are is not available. Therefore, in order to develop a site density, it had to be assumed that site location is random. Numbers in the impact analysis are not to be construed as exact, but they can be used for comparison and indications of what may happen to the planning area's archaeological data base under the various alternatives.

It is assumed that 18 sites per square mile (0.05 sites per acre) are located within the planning area. The number of sites within an affected area can be calculated by multiplying 0.05 by the number of acres involved.

IMPACT ASSUMPTIONS

In order to differentiate between the effect of various types of activities, the following assumptions are made:

- Projects subject to the standard operating procedures will avoid or mitigate the impacts to 9 out of 10 sites within their affected area. Impacts are expected to occur in 1 out of 10 sites despite mitigation measures. This could be due to inadvertent destruction of sites not identified during inventory, secondary impacts, or illegal activities such as artifact collecting, carried on by people associated with the project activity.

- Nonproject dispersed activities (recreation, grazing, etc.) are generally not subject to the standard operating procedures, and impacts are not mitigated. These activities generally do not impact the total area available for them.

- About 50 percent of the sites impacted by a dispersed activity are in areas impacted by other dispersed activities.

- Impacts are expected to 1 out of 10 sites in areas available to motorized recreation. Although motorized recreation may not impact 10 percent of the area available to off-road vehicles (ORVs), the concentration of people in the probable locations of cultural resources could cause 1 in 10 sites to be impacted.

- Impacts are expected to 1 out of 100 sites in the area open to grazing. Most areas open to grazing would be subject to some trampling, but major impacts are in areas of animal concentrations, such as sheltered areas and water sources.

- Impacts are expected to 1 out of 100 sites in areas available to nonmotorized recreation. This activity is very dispersed, but cultural resources are intentionally looked for and visited, thus causing an effect as great as that of grazing.

APPENDIX U

Impacts of dispersed activities were assumed to be made on acres available for that use. It is recognized that increase or decrease in numbers of users does have an effect, even though the acres remain the same. Changes in the number of users and the acres upon which these changes will occur are not determined and will not be reflected in the analysis.

Cultural resources available for use are only those sites that are recorded. This includes about 1,500 sites presently recorded and those sites recorded during standard operating procedures, inventories, and the study of Dry Lake Archaeological District.

APPENDIX V, VISUAL RESOURCE IMPACT ANALYSIS ASSUMPTIONS

OVERVIEW

Appendix V describes the assumptions used to determine the number of contrast rating scores that would exceed visual resource management (VRM) objectives under the various alternatives. That number would depend on the acres subject to or protected from surface disturbance, the type of development proposed, and the VRM class in which the project would be located (for example, class II is more restrictive than class IV). In all tables, the abbreviation gen. incomp. means generally incompatible.

ASSUMPTIONS

In order to quantify impacts to visual resources, the total number of management actions for each activity was calculated to estimate impacts to the year 2000. The areas identified for potential development under each alternative were then evaluated to determine the precentage of the area covered by each VRM class. It was assumed that management actions would take place uniformly across the potential development area.

It was then determined, based on professional judgment, which activities (such as oil and gas leasing, mineral material disposal, etc.) and their resultant levels of development (locations, exploration, production, etc.) would be compatible with the VRM class objectives.

Short term impacts, less than 5 years, were not considered in the analysis of impacts to visual resources.

The following assumptions were made for specific resource management programs.

4111 OIL AND GAS LEASING

General

The potential oil and gas development area is divided among areas of high, moderate, and low potential for occurrence of fluid minerals. These areas of varying potential relate to the VRM classes as shown here.

	Oil and Gas Potential		
	High (20%)	Moderate (50%)	Low (30%)
Class II	10%	25%	25%
Class III	50%	35%	40%
Class IV	40%	40%	35%

Typical oil and gas wells in production or reclamation would not meet class II objectives, but those in production and those that have been reclaimed would be compatible with class III and class IV objectives.

It was assumed that 10 wells per year would be drilled over the next 12 years (until the year 2000), for a total of 120 wells.

Alternatives A, C, and E

Of the 10 wells per year, it was assumed that five would be in the high-potential area and that the other five would be scattered over the remaining area of development potential. It was assumed that 1.8 of the wells drilled in the high-potential area would be producers and that 0.2 of those drilled outside the high-potential area would be producers. A total of 10 acres surface disturbance was assumed, 5 acres in the high-potential area and 5 acres outside.

It was assumed that eight of the wells would be reclaimed within 5 years, seven successfully and one unsuccessfully. Therefore, 5 acres of surface disturbance were considered in the analysis of impacts to visual resources from oil and gas activities.

It was assumed that two wells would remain in production through the year 2000 and therefore that only 1 acre of the 5 would be reclaimed, leaving 8 acres unreclaimed, for a total of 13 acres per year (130 acres in 10 years), plus 100 acres for the last 2 years, for a grand total at year 2000 of 230 acres unreclaimed.

Of the 60 wells that would be drilled, an estimated 21 wells would occur in VRM class II areas, where oil and gas activities would be incompatible with VRM objectives.

High Potential: 5 wells per year x 12 years
= 60 wells total
Class II = 60 x 10% = 6 gen. incomp.
Class III = 60 x 50% = 30
Class IV = 60 x 40% = 24
60

Moderate Potential: 3 wells per year x 12 years
= 36 wells total
Class II = 36 x 25% = 9 gen. incomp.
Class III = 36 x 35% = 13
Class IV = 36 x 40% = 14
36

Low Potential: 2 wells per year x 12 years
= 24 wells total
Class II = 24 x 25% = 6 gen. incomp.
Class III = 24 x 40% = 10
Class IV = 24 x 35% = 8
24

Alternative B

Of the 11 wells per year, it was assumed that six would be in the high-potential area and that the other five would be scattered over the remaining area of development potential. It was assumed that two of the wells would be producers. It was assumed that there would be a total of 240 unreclaimed acres by the year 2000.

An estimated 22 wells would occur in VRM class II areas, where oil and gas activities would be incompatible with VRM objectives.

High Potential: 6 wells per year x 12 years
= 72 wells total
Class II = 72 x 10% = 7 gen. incomp.
Class III = 72 x 50% = 36
Class IV = 72 x 40% = 29
72

Moderate potential: 3 wells per year x 12 years
= 36 wells total
Class II = 36 x 25% = 9 gen. incomp.
Class III = 36 x 35% = 13
Class IV = 36 x 40% = 14
36

Low Potential: 2 wells per year x 12 years
= 24 wells total
Class II = 24 x 25% = 6 gen. incomp.
Class III = 24 x 40% = 10
Class IV = 24 x 35% = 8
24

Alternative D

Of the two wells per year, it was assumed that all would be drilled within the high-potential area and that 0.5 would be producers. A total of 40 acres was assumed to remain unreclaimed at the year 2000, with 1 acre reclaimed per producing well.

Of the 24 wells that would be drilled, an estimated two wells would occur in VRM class II areas, where oil and gas activities would be incompatible with VRM objectives.

High Potential: 2 wells per year x 12 years
= 24 wells total
Class II = 24 x 10% = 2 gen. incomp.
Class III = 24 x 50% = 12
Class IV = 24 x 40% = 10
24

Alternative F and Proposed RMP

Of the 120 wells that would be drilled, an estimated 21 wells would occur in VRM class II

areas, where oil and gas activities would be incompatible with VRM objectives.

High Potential: 5 wells per year x 12 years
= 60 wells total
Class II = 60 x 10% = 6 gen. incomp.
Class III = 60 x 50% = 30
Class IV = 60 x 40% = 24
60

Moderate Potential: 3 wells per year x 12 years
= 36 wells total
Class II = 60 x 25% = 9 gen. incomp.
Class III = 60 x 35% = 13
Class IV = 60 x 40% = 14
36

Low Potential: 2 wells per year x 12 years
= 24 wells total
Class II = 24 x 25% = 6 gen. incomp.
Class III = 24 x 40% = 10
Class IV = 24 x 35% = 8
24

4121 COAL MANAGEMENT

All coal-related surface disturbance was assumed to occur in Emery County, in the Emery Known Recoverable Coal Resource Area (KRCRA). No new disturbance is anticipated from current coal production facilities. Surface disturbance from coal exploration under all alternatives is believed insignificant (three holes at 0.3 acres each), all reclaimed within 2 years. Access roads for coal exploration were assumed to disturb 3 acres per year, all reclaimed within 2 years, for a total of 7.8 acres disturbed at year 2000.

The KRCRA is divided among the VRM classes as follows: Class II 20 percent, Class III 50 percent, Class IV 30 percent. It was assumed that no coal exploration would occur in class I areas, and that both coal exploration and any needed road construction would occur on flat topography; therefore, coal exploration would be compatible with the objectives of all three applicable VRM classes.

4131 MINERAL MATERIALS MANAGEMENT

General

It was assumed that mineral material site development would not be compatible with VRM class II objectives, and that such sites would be located along county roads uniformly across the planning area (none in areas of critical environmental concern (ACECs), that are VRM class I). It was assumed that each material site development would involve 5 acres.

Alternatives A, B, E, F, and Proposed RMP

Assuming 5 actions per year (25 acres per year), mineral material site development would affect 300 acres by the year 2000. It was assumed that 10 acres would be reclaimed per year, leaving 200 acres (40 actions) unreclaimed at year 2000.

Class II = 40 x 32% = 13 gen. incomp.
Class III = 40 x 25% = 10
Class IV = 40 x 43% = 17
40

Alternative C

It was assumed that 40 actions would remain unreclaimed at year 2000. However, special management designations under alternative C would alter the assumed uniform scattering of material disposal sites across the planning area, changing the percentages of actions occurring in each of the VRM class areas. No development would be allowed in VRM class I areas.

Class II = 40 x 44% = 18 gen. incomp.
Class III = 40 x 19% = 8
Class IV = 40 x 37% = 15
40

Alternative D

It was assumed that 5 acres per year would be disturbed for mineral material disposals, for a total of 50 acres at the end of 10 years. It was assumed that 2 acres per year would remain unclaimed, for a total of 40 acres (8 actions) unreclaimed at year 2000.

Class II = 8 x 20% = 2 gen. incomp.
Class III = 8 x 30% = 2
Class IV = 8 x 50% = 4
8

4132 MINING LAW ADMINISTRATION

General

It was assumed that only exploration (no mining for gypsum or uranium) would take place. Typical exploration activities (roads, shafts, and some drilling) may not be compatible with the objectives of VRM class I or class II.

The potential uranium development area makes up 66 percent of the area with potential for locatable mineral activity; the area with potential for gypsum development makes up the other 33 percent. The areas with potential for uranium and gypsum relate to the VRM classes as shown here.

	Uranium	Gypsum
Class II	65%	50%
Class III	15%	20%
Class IV	20%	30%

It was assumed that roads would be the primary unreclaimed activities.

Alternative A

It was assumed that one plan of operations would be received each year, for a total of 12 plans by the year 2000. It was assumed that seven notices of intent per year would be received (84 by the year 2000), each action disturbing 5 acres. Surface disturbance for assessment work was assumed to be 20 acres per year, 5 of which would be reclaimed, leaving 90 acres unreclaimed by the year 2000.

Uranium activity: 66% x 12 plans = 8 plans
66% x 84 notices = 55 notices
Class II = 5 plans, 36 notices gen. incomp.
Class III = 1 plans, 8 notices
Class IV = 2 plans, 11 notices
8 plans, 55 notices

Gypsum activity: 33% x 12 plans = 4 plans
33% x 84 notices= 28 notices
Class II = 2 plans, 14 notices gen. incomp.
Class III = 1 plan, 5 notices
Class IV = 1 plan, 9 notices
4 plans, 28 notices

Alternative B

It was assumed that one plan of operations would be received each year for the 12 years until year 2000, for a total of 12 plans. The number of notices of intent per year was assumed to be 10, for a total of 120. Surface disturbance would be about 30 acres per year, 7 per year of which would not be reclaimed, leaving a total of 130 acres unreclaimed by the year 2000.

Uranium activity: 66% x 12 plans = 8 plans
66% x 120 notices = 79 notices
Class II = 5 plans, 51 notices gen. incomp.
Class III = 1 plan, 12 notices
Class IV = 2 plans, 16 notices
8 plans, 79 notices

Gypsum activity: 33% x 12 plans = 4 plans
33% x 120 notices = 40 notices
Class II = 2 plans, 20 notices gen. incomp.
Class III = 1 plan, 8 notices
Class IV = 1 plan, 12 notices
4 plans, 40 notices

Alternative C

It was assumed that two plans of operation per year would be received, for a total of 24 by the year 2000. The number of notices of intent received per year was assumed to be 4, for a total of 48 at year 2000. Surface disturbance was assumed to be 15 acres per year, of which 4 acres per year would remain unreclaimed, for a total of 70 acres unreclaimed by the year 2000. It was assumed that 90 percent of the plans of operation would be in ACECs (VRM class I), for a total of 22 plans of operation in class I areas.

Uranium activity: 66% x 12 plans = 16 plans
66% x 48 notices = 32 notices

Class I = 16 plans gen. incomp.
Class II = 14 notices gen. incomp.
Class III = 14 notices gen. incomp.
Class IV = 4 notices
16 plans, 32 notice

Gypsum activity: 33% x 24 plans = 8 plans
33% x 48 notices = 16 notices
Class I = 8 plans gen. incomp.
Class II = 6 notices gen. incomp.
Class III = 6 notices
Class IV = 4 notices
8 plans, 16 notices

Alternative D

It was assumed that six plans of operations per year would be received, for a total of 72 plans by the year 2000, and that surface disturbance would be 15 acres per year, 4 acres per year of which would remain unreclaimed, leaving a total of 70 acres unreclaimed by 2000.

Uranium activity (66% x 72 plans = 48 plans)

Class I = 24 plans, gen. incomp.
Class II = 10 plans, gen. incomp.
Class III = 4 plans
Class IV = 10 plans
48 plans

Gypsum activity (33% x 72 plans = 24 plans)

Class I = 12 plans, gen. incomp.
Class II = 5 plans, gen. incomp.
Class III = 2 plans, gen. incomp.
Class IV = 5 plans
24 plans

Alternative E

It was assumed that three plans of operations per year would be received, for a total of 36 plans by the year 2000. It was assumed that four notices of intent per year would be received, for a total of 48 notices by the year 2000. Surface disturbance was assumed to be 15 acres per year, of which 4 acres per year would remain unreclaimed, for a total of 70 acres unreclaimed by the year 2000. It was assumed that all of the plans of operation would be in ACECs (VRM class I).

Uranium activity: 66% x 36 plans = 24 plans
66% x 48 notices = 32 notices
Class I = 24 plans, gen. incomp.
Class II = 13 notices, gen. incomp.
Class III = 13 notices, gen. incomp.
Class IV = 6 notices
24 plans, 32 notices

Gypsum activity: 33% x 36 = 12 plans
33% x 48 = 16 notices
Class I = 12 plans, gen. incomp.
Class II = 16 notices, gen. incomp.
Class III = 6 notices
Class IV = 4 notices
12 plans, 16 notices

Alternative F and Proposed RMP

It was assumed that three plans of operations and three notices of intent per year would be received, for a total of 36 plans and 36 notices by the year 2000.

Uranium activity: 66% x 36 plans = 24 plans
66% x 36 notices = 24 notices
Class I = 24 plans, gen. incomp.
Class II = 10 notices, gen. incomp.
Class III = 10 notices
Class IV = 4 notices
24 plans, 24 notices

Gypsum activity: 33% x 36 plans = 12 plans
33% x 36 notices = 12 notices
Class I = 12 plans, gen. incomp.
Class II = 5 notices, gen. incomp.
Class III = 5 notices, gen. incomp.
Class IV = 2 notices
12 plans, 12 notices

4211 RIGHTS-OF-WAY

General

Surface disturbance from rights-of-way was assumed to be linear, such as for roads, powerlines, and pipelines. Right-of-way actions were assumed to occur across the planning area,

except in ACECs (VRM class I areas). It was assumed that 75 percent of right-of-way actions would exceed class II objectives after reclamation, and that each action would disturb 5 acres.

Alternatives A, B, C, and E

It was assumed that 10 rights-of-way per year would be granted, and that a total of 24 actions (2 per year x 12 years) would occur. Surface disturbance was estimated at 10 area acres per year (two actions disturbing 5 acres each), of which 6 acres per year would be reclaimed, leaving residual disturbance on 4 acres per year, for a total of (4 x 10) + (5 x 2) = 50 acres at year 2000.

Class II = 4 (32% x 12) x 75%, gen. incomp.
Class III = 3 (25% x 12)
Class IV = 5 (43% x 12)
12

Alternative D

It was assumed that two rights-of-way per year would be granted, for a total of 24 rights-of-way by the year 2000, and that 1 acre per year would be disturbed, of which 0.5 acre per year would be reclaimed, leaving residual surface disturbance on 0.5 acre per year, for a total of (10 x 0.5) + (2 x 1) = 7 acres at year 2000.

Class I = None
Class II = 4 (15% x 12) x 75% = 3, gen. incomp.
Class III = 7 (31% x 12)
Class IV = 13 (54% x 12)
24

Alternative F and Proposed RMP

Class I = None
Class II = 5 (22% x 24) x 75% = 4, gen. incomp.
Class III = 7 (28% x 24)
Class IV = 12 (50% x 24)
24

4322 GRAZING MANAGEMENT

General

Fences and reservoirs are not compatible in class I areas. Fences are compatible with the objectives of VRM classes III and IV and compatible 75 percent of the time in class II areas. Reservoirs are not compatible 50 percent of the time in class II areas, but are compatible in class III and IV areas. Uniform distribution of development activities was assumed.

Alternatives A and E

It was assumed that two livestock waters per year (one SRRA, one FPU), for a total of 24 livestock waters by the year 2000. Surface disturbance was estimated at 6 acres per year. It was assumed that 2 miles of fence per year would be constructed (1 each in SRRA and FPU), disturbing 4 acres per year, for a total at year 2000 of 80 acres. It was assumed that all fence disturbance would be reclaimed.

Class II = 8 (32% x 24) x 50% = 4 reservoirs gen. incomp.
8 (32% x 24) x 25% = 2 fences gen. incomp.
6

Class III = Compatible
Class IV = Compatible

Alternative B

It was assumed that 10 livestock waters per year would be developed beginning in 1991, each disturbing 3 acres, of which none would be reclaimed. It was assumed that livestock water developments would total 101 in SRRA and 9 in FPU by the year 2000. It was assumed that 1 percent would be slickrock tanks (1 in SRRA, 0 in FPU); 9 percent would be reservoirs (9 in SRRA, 1 in FPU); and that 90 percent would be guzzlers (91 in SRRA, 8 in FPU). Guzzlers are

assumed to be compatible with class II, III, and IV objectives.

Class II = 11 x 32% x 50% (success)
= 2 reservoirs, gen. incomp.
Class III = Compatible
Class IV = Compatible

It was assumed that 70 miles of fence would be constructed in SRRA, 10 miles in FPU, for a total of 80 miles of fence (80 fences, 1 mile each) by the year 2000. Surface disturbance from fence construction is estimated at 1.9 acres per mile, for a total of 15 acres disturbed per year, all of which would be reclaimed. The total unreclaimed surface disturbance at year 2000 was assumed to be 300 acres for water developments and 30 acres for fence construction, for a total of 360 acres unreclaimed at year 2000.

Class II = 26 (32% x 80) x 25% = 7, gen. incomp.
Class III = 20 (20% x 80)
Class IV = 34 (43% x 80)
80

Alternatives C and D

It was assumed that there would be no development and therefore no impact on visual resources.

Alternative F and Proposed RMP

Class I = 4 (15% x 24) 4 fences
4 reservoirs
8 - gen. incomp.
Class II = 4 (18% x 24) 1 fence
2 reservoirs
3 - gen. incomp.
Class III = 6 (24% x 24)
Class IV = 10 (43% x 24)
24

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APPENDIX W, POSSIBLE SPECIAL DESIGNATIONS FOR THE SAN RAFAEL SWELL

OVERVIEW

During the public comment period on the San Rafael Draft Resource Management Plan and Environmental Impact Statement (RMP/EIS), the Bureau of Land Management (BLM) received many comments regarding recognition of the values of the San Rafael Swell. Commentors suggested several types of designations, but the main theme of all comments was that the swell has unique values worthy of a more structured or special emphasis management. This appendix discusses and evaluates these requests in light of the management options generally available to BLM.

BLM, like most federal agencies, has an array of special designations available through departmental, presidential, or congressional authorities. BLM presently can apply for Congressional or Secretarial designation of either a national conservation areas (NCA) or a national recreation area (NRA).

The concept of such a designation is compatible with the management schemes identified in the proposed RMP. The remainder of this appendix outlines the resource values unique to the swell, which could qualify the area for NCA or NRA designation. The primary information sources include the San Rafael Management Situation Analysis (MSA), the San Rafael Proposed RMP and Final EIS, and the Multiple Use Management Plan for National Resources Lands, San Rafael Swell [BLM, 1973].

INTRODUCTION

For the purpose of this discussion, the special management area consists primarily of the San Rafael Swell Special Recreation Management Area (SRMA), expanded as necessary to include other relevant areas. Depending on the perspective of an individual or group, "proper" boundaries could vary considerably. One possible boundary outlined by BLM is shown here (map W-1).

The SRMA was recognized in the San Rafael Resource Area (SRRA) Management Framework Plan (MFP) [BLM, 1979a]. To date no detailed management plan has been specifically developed for the swell. As the number of visitors to the area increases, it becomes more imperative to concentrate effort on planning for future management of the area. Construction of Interstate Highway 70 and the resulting influx of travelers into this area has created new and increasing impacts on the land resources; conversely, resource management activities also affect the travelers. Recognition of these problems led to public input into the RMP, suggesting the need for a comprehensive land-use plan to minimize or resolve the potential conflicts among resources, uses, and users.

THE SPECIAL MANAGEMENT DESIGNATION CONCEPT

PURPOSE

The swell lies mainly in Emery County, Utah. The entire county's small rural population (11,600) relies principally on agriculture and mining for its economic base. The decline in numbers of workers needed for these industries has caused a general out-migration over the past two decades. Though many residents realize the economic advantage of developing tourism, some have been reluctant to encourage the intrusion on their daily lives that is associated with transient recreationists. Residents love their country and tend to want its beauties preserved for their personal well-being.

These factors make require a program of orderly use development and environmental protection in the San Rafael Swell, Emery County's most aesthetic land area. Establishing a special designation of approximately 876,000 acres may facilitate orderly, planned management under the principles of multiple use. The fact that this large area has very little private land (2,310 acres) makes it ideal for large-scale planning and management.

RATIONALE

DIVERSITY OF VALUES

Much of the interest in the swell is attracted by the great diversity of values found throughout the area. Of particular interest are its history, archaeology, scenery, recreation opportunities, and wildlife. Following is a synopsis of the many aspects of public land management found in the area.

Antiquitites

The swell contains a variety of archaeological, historic, and paleontological features, which are valuable for scientific, educational, and recreation purposes. A complete survey or inventory of these features has never been conducted.

The archaeological values are the most significant of the antiquities features. Evidence of occupation by the Desert Archaic Culture in the area was discovered during the excavation of a cave on a tributary of Salt Wash during the summer of 1970. A projectile point of a type estimated to be 6,000 years old was found just west of the study site in the fall of 1972. A variety of petroglyph and pictograph sites are located in the study area.

The Morrison Formation, which contains fossil remains in other areas, is exposed along the western edge of the swell. Although extensive fossil deposits may exist, no inventory or study has been completed. Petrified wood has been found in limited amounts near the head of Eagle Canyon.

Historic sites, primarily of local significance, are associated with early livestock and mining operations. Swasey Cabin is listed on the State Register of Historical Sites.

To highlight management needs for archaeological and historic values, the proposed RMP bring about designation of six areas of critical environmental concern (ACECs): Dry Lake Archaeological District, Copper Globe mine area, the Pictographs, Swasey Cabin, and the Temple Mountain and Tomsich Butte Historic (mining) Districts.

Mining

Uranium

The most significant locatable mineral in terms of past production and potential is uranium. The Delta (Hidden Splendor) Mine, located in the southern end of the swell north of the Muddy River, produced more than 100,000 tons of 0.4 percent ore. The uranium for the first atomic bombs reportedly came from Temple Mountain. Other mines in the area have produced up to 10,000 tons of ore. Deposits have been discovered both north and south of I-70, but no ore is being mined today. When uranium prices increase, these deposits may become economically workable. As mentioned earlier, two historic mining areas have been proposed for ACEC designation.

Gypsum

Large deposits of gypsum extend throughout the western and southern portions of the SRMA, but have not been mined to date. When compared with more suitable gypsum deposits, this area may be too remotely situated with respect to market areas to be economically attractive.

Recreation

The San Rafael Swell's exceptional variety of colorful canyons, spectacular monoliths (massive stone blocks), arches, cliffs, buttes, and mesas, intermingled with placid grassy parks and woodlands, creates scenery equal or superior to that of the national parks of southern Utah. The swell's value is in its variety rather than in single, unique features. Visitors have described the views as "pastoral," "interesting," and "breathtaking."

APPENDIX W

The influx of travelers on Highway I-70 has created people-management problems. People sometimes camp along the right-of-way, cutting the fences, indiscriminately using the country with off-road vehicles, (ORVs) littering, and generally causing safety hazards and sanitation problems which deteriorate the aesthetic and environmental values.

Traveler convenience and safety must also be considered. These people presently must travel 106 miles from Green River to Salina without any automotive, restaurant, or overnight services. No developed campsites exist along this part of Highway I-70. Projections indicate that, without planned development and use supervision, severe environmental deterioration will occur.

There are approximately 80,000 visitor days of recreation use in the San Rafael Swell each year. (A visitor day is a visit by one person for 12 hours.) Most of the use occurs during the spring and fall, although people can be found enjoying the area throughout the year.

Because of the importance of the historic and scenic qualities, a need for additional management protection has been identified in several areas. The RMP proposes such management through the ACEC nomination process. Seven scenic ACECs are proposed: Highway I-70 Scenic Corridor, Muddy Creek, the north and south (Crack Canyon area) portions of San Rafael Reef, San Rafael River Canyon, Segers Hole, and Sids Mountain.

Livestock Grazing

Livestock grazing played a significant role in the settlement of Emery County, as in many other parts of the western United States, with grazing use being known for well over 100 years. Early use of the swell is evidenced by several historic sites: Swasey Cabin (ACEC), Sids Cabin (within Sids Mountain ACEC), and the Cowboy Grave (within Copper Globe ACEC).

The SRMA currently contains 40 allotments used by 68 licensees; additional animal unit months (AUMs) of forage may be produced by development of scientific grazing management plans. Such plans have been prepared for five allotments and are in various stages of implementation.

Recent estimates indicate that 114 wild horses and 70 wild burros may be in the area. Feral goats have been reported in the Spring Canyon-Mexican Mountain area. These horses, burros, and goats are competing with domestic livestock for forage.

Wildlife

Wildlife species constitute an important, attractive part of the area's natural environment.

Desert Bighorn Sheep

Approximately 225 desert bighorn sheep inhabit about 500,930 acres year-round in the San Rafael Swell. According to the Utah Division of Wildlife Resources (UDWR), the prior stable population of this species is 2,920.

Under present management, the desert bighorn sheep population is expected to increase, and the extent of habitat is expected to remain sufficient. Current competition is generally not a problem.

Several transplants of desert bighorn sheep into the planning area have been undertaken since 1978. Desert bighorn sheep were removed from Canyonlands National Park (NP) and public lands west of Moab, Utah and placed in the San Rafael Reef and San Rafael Swell. UDWR has used radio telemetry to monitor them.

Two permits were issued to hunt desert bighorn sheep within the planning area for the 1988 season.

Mule Deer

The other big game species in the area is mule deer. Its habitat is primarily limited to the San Rafael and Muddy Rivers and their tributaries. Before Highway I-70 was opened, hunting pressure was light, and trophy bucks were taken. I-70 access increased hunting pressure and reduced the number of trophies taken. Because of the desert habitat's low productivity, hunting pressure must be carefully controlled to sustain the herd.

APPENDIX W

Migratory and Upland Game Birds

Mourning doves, waterfowl, and chukars are found in the area. Because of limited populations they have not been, nor are they expected to be, important hunting resources. They are, however, of interest to travelers and recreationists.

Nongame Species

A large variety of nongame species exists here, including the rare peregrine falcon and other raptors, predators, small furbearing animals, reptiles, amphibians, songbirds, and small nongame fish. Table W-1 lists some of the area's 84 known species.

TABLE W-1

Known Nongame Wildlife Species
Found in the SRMA

Raptors	Furbearers	Reptiles
Eagle	Beaver	Blue Racer
Hawk	Cottontail	Gopher Snake
Peregrine falcon	Rabbit	Horned toad
Prairie falcon	Jackrabbit	Lizard
Vulture	Mink	Rattlesnake
	Muskrat	
	Skunk	
	Various rodents	
	Weasel	

Predators	Amphibians	Fish
Bobcat	Frog	Carp
Coyote	Salamander	Dace
Fox	Toad	Utah chub
Mountain Lion (rarely)		Various suckers

MANAGEMENT PARAMETERS

Action plans require fundamental management direction. The following basic management assumptions and goals provide the needed control of this plan.

BASIC MANAGEMENT ASSUMPTIONS

- BLM has a responsibility to manage the public lands within acceptable environmental limits for all their resource values of historic importance, scenic qualities, and recreation enjoyment. Concurrently, the management of these resources also is a necessity for their contribution to the economic stability and social well-being of the local communities, the State of Utah, and the nation.

- Any management proposal developed for the area must recognize the needs of the millions of visitors who travel Highway I-70 through San Rafael Swell but once, and who confine their use of the area to the scenic corridor.

- Foreseeably, the various resource needs and uses may be competitive or incompatible; periodically, after obtaining public participation, BLM will be required to resolve such conflicts.

- Management must be flexible in order to adjust to new uses and demands emerging from changing lifestyles of the public. Such changes cannot be foreseen.

- The SRRA final RMP would be the principal document for management prescriptions for the area.

Although specific management objectives may be developed in a special management plan, the following pertinent objectives can be found in the proposed RMP:

- Protect and interpret the archaeological, paleontological, geologic, and other historic and natural features of the San Rafael Swell.

- Protect and maintain significant aesthetic values of the general San Rafael area.

- Protect and maintain the natural scenery visible from Highway I-70.

- Provide, where environmentally acceptable, for the accommodation of land uses necessary for the orderly development of the immediate area and adjacent communities.

- Provide for a variety of quality recreation uses, including solitude, where compatible with the natural attributes and resource potentials of the area.

- Provide for visitor safety and protection.

- Provide for orderly development of renewable and nonrenewable resources in an environmentally acceptable manner when the need is demonstrated.

- Improve and restore the natural vegetation cover throughout the San Rafael area to enhance aesthetic quality, minimize wind and water erosion of fragile soils, continue to improve productivity of forage and native wildlife habitat, and provide a sustained yield of all resource products to meet resource-use demands.

GENERAL MANAGEMENT PLAN

BLM bases its management actions on the varying resources and use needs found in an area. Some actions apply to management of the total area, while others would apply, for example, only to the scenic corridor and to primitive areas.

Discussions of these actions are, therefore, divided into general actions that would apply to the total area and specific actions that would apply only to specific areas.

MANAGEMENT ACTIONS FOR THE WHOLE AREA

+ Consider the San Rafael Swell for designation as a NCA or NRA. (This will require secretarial or congressional action.)

The area has considerable potential for recreation, which is considered the dominant use because of the number of users. Considering recreation use alone, San Rafael Swell has the qualities and types of uses found in the nation's great park lands. However, the area is also potentially valuable for development of energy-related and other minerals; it has historical significance to the local area as well.

The local economy depends in part on the grazing resource. The area has a potential for woodland-related products (especially pinyon and juniper). Desert bighorn sheep have become a locally and nationally significant resource value. Hunting of trophy desert mule deer in the San Rafael Swell is a quality experience desired by some sportsmen. The area's agate and petrified wood are actively sought by lapidaries and other collectors of gems and minerals. Because of these complex social and economic demands, the area should be conserved and managed for multiple use rather than for any single use. An act designating this area as an NCA could provide BLM the public commitment and legislative direction necessary to undertake planned management of the multiple uses.

+ To protect aesthetic qualities, carefully consider all changes in the natural setting on the basis of need for the action.

Of those actions that involve a change in aesthetics, only those considered absolutely necessary will be allowed, and then only in a carefully controlled manner, to minimize environmental impact and meet management objectives.

RESOURCE-SPECIFIC MANAGEMENT ACTIONS

Recreation and Archaeology Management

+ Develop and implement a comprehensive interpretive program for the historic, archaeological, ecological, and geologic features of the San Rafael Swell. Establish and build a visitor center adjacent to Highway I-70.

An interpretive program would help the visitor to understand the various features of the area, which in turn would enhance the quality of the recreation experience and make the visit more enjoyable. Devices for disseminating the information could include short-range radio broadcasts, pamphlets, brochures, signs, and maps. An interpretive center along Highway I-70

could greatly enhance visitor awareness of the area. Information and interpretation for the northern area of the swell could be enhanced by expansion of services at the Cleveland-Lloyd Dinosaur Quarry.

+ Conduct extensive archaeological, paleontological, and historical surveys of the swell and protect sites found valuable for scientific and public purposes.

There has never been a formal archaeological survey of the San Rafael Swell. An inventory of archaeological sites and an assessment of their relative values is needed in order to determine the impact of other resource uses and demands on these values. Major paleontological finds have been made near the area, and because the same geologic formations are located in the swell, the potential for further discovery is high. Swasey Cabin, a historical site designated by the Utah State Historical Society, requires additional stabilization and other preparation for public enjoyment. Other sites of historical significance may also require additional work.

+ Establish a uniformed BLM desert ranger force to provide visitor protection, information, and management and to gather visitor-use data.

A great number of people are using this desert area in a variety of ways. Many are unfamiliar with the area's attractions, the rules of conduct required to preserve these values, or the pitfalls of desert travel. Because the large influx of users has come only in recent years, factual information concerning their use patterns and habits is limited. A ranger-type patrol force could provide visitors with information and interpretive services, assist persons in trouble, enforce rules and regulations, provide initial attack in fire suppression, and gather needed resource-use data.

+ Provide for orderly recreation use throughout the area.

Many users will be self-sufficient in exploring the area's recreation values. However, a unique opportunity also exists to provide for commercial tour guides, dude ranch facilities, and related services whereby the inexperienced and others so desiring can be helped to take in a desert experience. The location, extent of development, and type of accommodations such operations would provide should be closely controlled.

+ Provide publicly-owned camping facilities.

There is a demonstrated need for overnight camping facilities at the present time, as well as a potential need for facilities to handle destination-oriented recreation use. The Swasey Cabin area is ideally suited to serve as the focal point or center for recreation use and development in the southern portion of the San Rafael Swell. Additional sites worthy of consideration include the Wedge Overlook and Tomsich Butte area.

Access

+ Upgrade or construct designated roads to better support traffic and reduce erosion caused by poor alignment and construction features.

Because gypsum soils undulate with weather changes and will not support a hard-surfaced road, area roads in gypsum soils may need to be surfaced with gravel to minimize maintenance costs.

+ Confine all vehicle traffic to designated roads and trails to prevent erosion and scarring due to overland travel.

Many abandoned roads and trails should be oblitereated and revegetated. The fragile soils are highly erosive. Many of the most prominent examples of accelerated soil erosion began in ruts left by vehicles. Gullies left by accelerated erosion tend to drain adjacent soils, leaving them less able to sustain a protective vegetation cover.

Mineral Management

+ Restrict oil and gas leases by stipulations designed to develop the resource in an environmentally acceptable manner.

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The potential for mineral development in the area is limited. Any development to meet the energy needs of the nation and provide economic benefits to Emery County should be constrained to meet the area's environmental requirements.

The need for pipeline and access road rights-of-way must be carefully evaluated; if such rights-of-way are needed, they would be located as unobtrusively as possible, and would enter the scenic corridor only along the rights-of-way for established roads.

Exploratory seismic activity, which has the potential to disrupt the environment, will be closely controlled in aesthetic areas.

+ Restrict disposal of sand, gravel, and building stone, except as needed for Highway I-70, county, and BLM road construction and maintenance.

Materials needed for road construction and maintenance will be mined outside scenic ACECs. Generally, these materials are in low demand and are found in abundance outside the SRMA. Development of gravel pits and quarries is not consistent with maintaining the area's aesthetic quality.

Livestock Management

+ Manage livestock grazing to protect and improve the natural vegetation cover by evaluating all grazing use to determine whether existing grazing systems, carrying capacity, and seasons of use should be modified; implement scientific grazing systems on all allotments in the area.

Vegetation is the primary protector of soils from wind and water erosion. Through livestock use, it also contributes to Emery County's agricultural economy. Grazing-use modifications and allotment management plans (AMPs) could reduce any significant losses from the watershed resources.

+ Consider and provide for the needs of wildlife as well as livestock in any future water developments, fences, or allotment management systems.

Range improvements and scientific management systems must consider all of the needs in the area in order to provide maximum economic return.

Wild Horses and Burros

+ Determine wild horse and burro habitat needs and possible conflicts with domestic livestock. Consider designating a wild horse and burro area and other possible alternatives to avoid competition for forage.

Although approximate numbers of animals are known, sound management decisions cannot be made without data on territory, reproduction and herd maintenance capabilities, and direct livestock conflicts. A wild horse and burro habitat management area plan (HMAP) will be completed to assess the needs of these animals.

Woodland Management

+ Inventory woodland resources to determine stand condition, volumes, reproduction potential, and plant and animal dependence.

BLM plans to gather additional information concerning volumes, growth rates, and reproductive capabilities of the woodland stands in this area. A concurrent inventory of woodland wildlife species is needed. Such additional detailed information would aid in managing for sustained yield of woodland products.

+ Restrict the sale of woodland products to dead and downed material.

To protect aesthetic values, such sales would be made only under close supervision. Protection of this resource requires conservative use until resource base is determined.

Wildlife Management

+ Inventory wildlife species and habitats and develop habitat management plans (HMPs).

General data are available on the ecological niche of the nongame wildlife in the area, but additional studies are needed. For example, the pinyon jay is found in pinyon-juniper stands,

but its ecological relationship to this woodland is unclear. Identification of critical species and habitat needs would help in future decisions concerning woodland and livestock forage management.

+ Inventory the aquatic wildlife in the San Rafael and Muddy Rivers.

More detailed information on the aquatic wildlife in these streams would be useful, including further investigation of rare species that may occur in the highly mineralized waters.

+ Limit wildlife introductions to native species and allow such introductions only when suitable habitat is available.

The primitive nature of much of this area can be better preserved by staying with the native wildlife species that once inhabited this or nearby areas. No species will be introduced until sufficient forage to sustain them is definitely found or made available.

Watershed Protection

+ Prohibit mechanical watershed improvement or vegetation manipulation projects within the San Rafael Swell.

Poor soils and low rainfall indicate a small chance of success for this type of activity. The associated land scarring is incompatible with the objective of maintaining the area's natural character.

Fire Protection

Because vegetation is sparse over most of the area, fire control is not expected to be a major management problem. The proposed ranger patrol would provide initial attack on any fire with backup from the BLM Moab District's regular fire-control force.

Rights-of-Way

+ Stipulate that future powerlines, telephone lines, and pipelines in the area be buried; confine their locations to the rights-of-way for Highway I-70 and other existing and future roads.

This would ensures the objective of maintaining the natural scenery viewed from Highway I-70.

Primitive Zone

+ Designate and manage all recreation opportunity spectrum (ROS) primitive areas as outlined in the proposed RMP.

Few, if any, desert areas are designated and managed for primitive values. One or both of these ROS primitive-class (P-class) areas are truly primitive in character. Their close proximity to Highway I-70 affords many persons an unusual opportunity to experience a primitive environment without undertaking a major expedition to reach the area.

Wild and Scenic Rivers

+ Complete study to determine suitability of the San Rafael River and Muddy Creek for inclusion in the Wild and Scenic Rivers System.

These rivers appear to meet the criteria for inclusion in the system. A study is needed to fully evaluate their merits. If qualified, they would subsequently be proposed for inclusion in the system.

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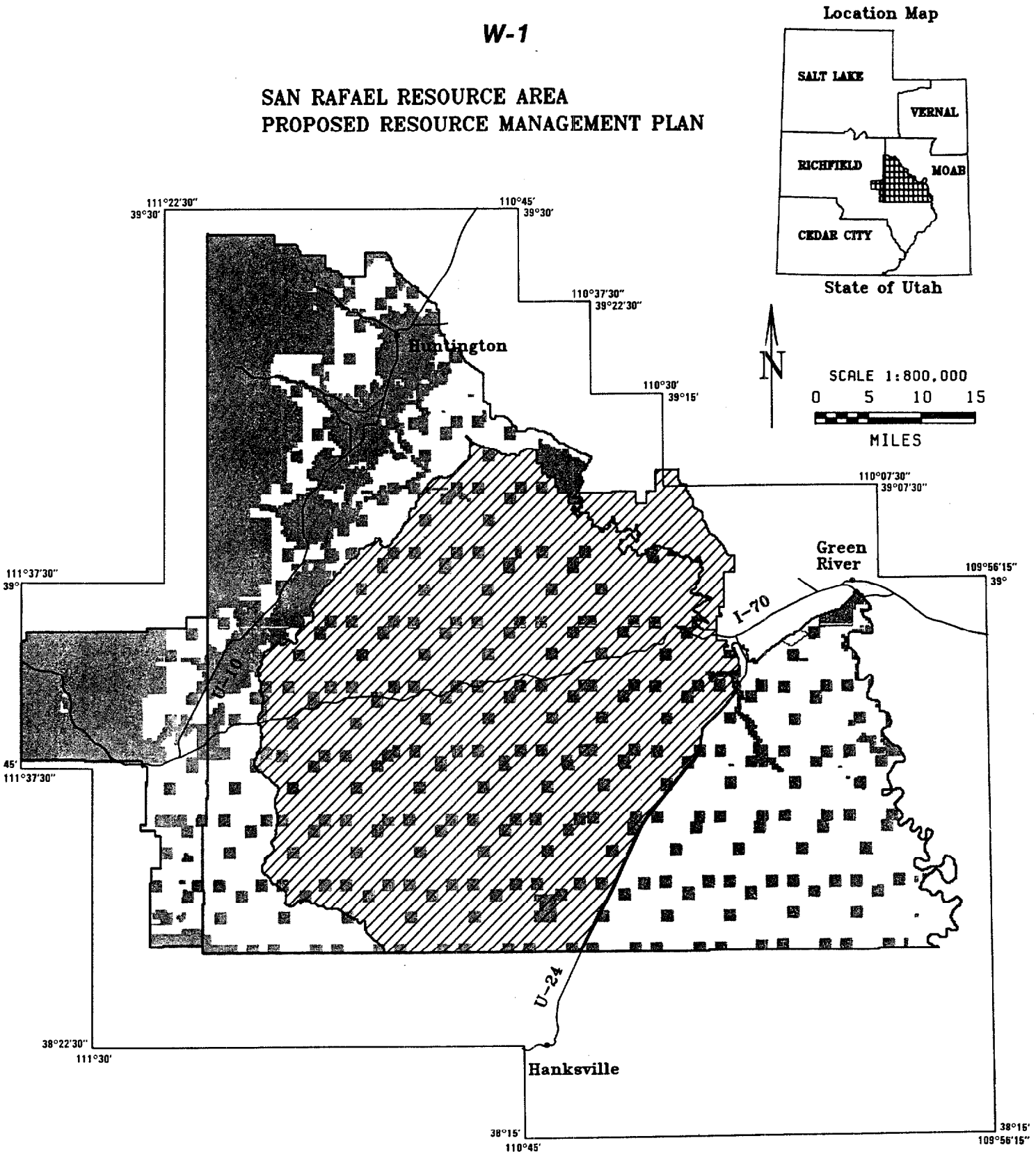
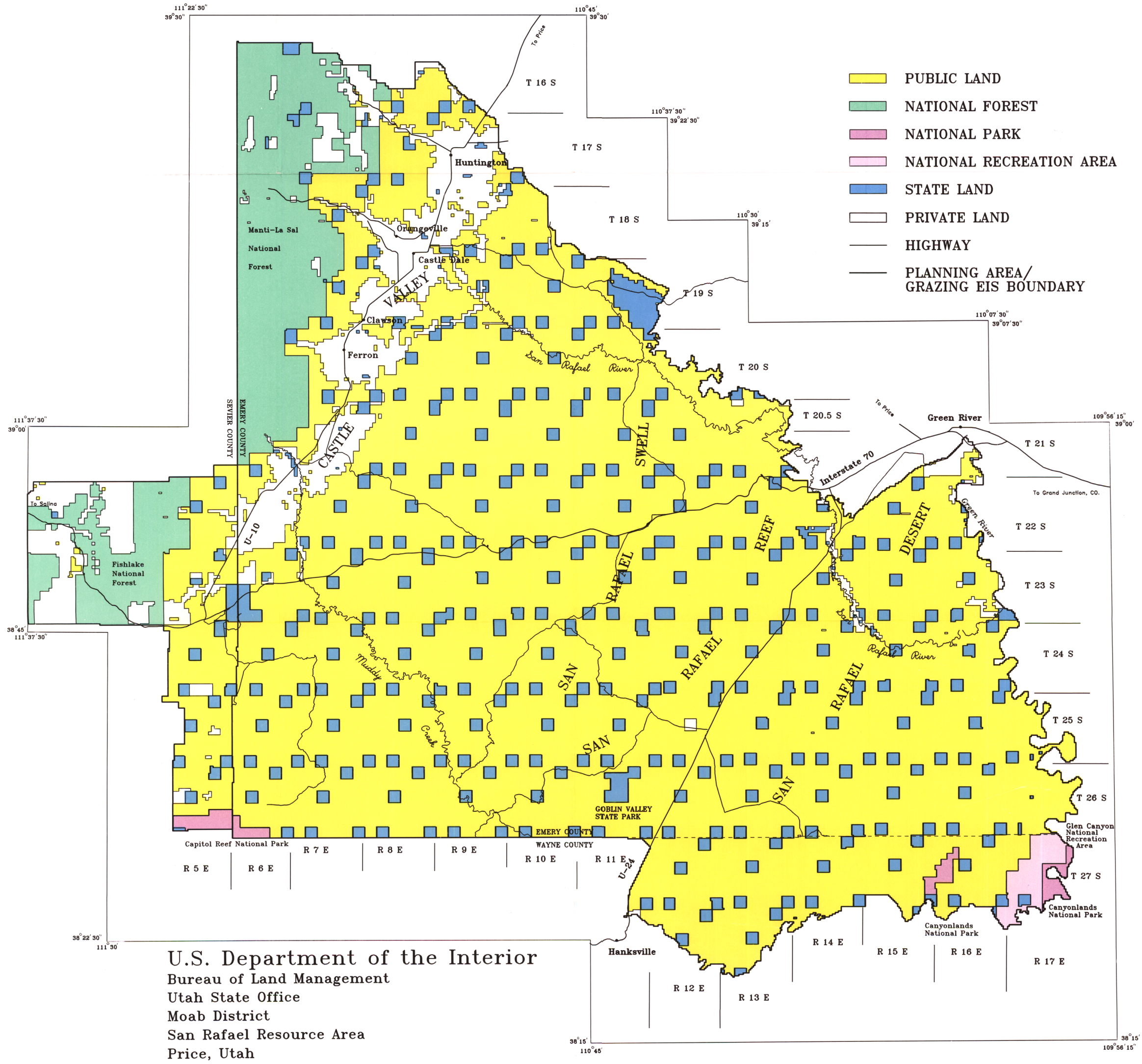
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



▨ SAN RAFAEL SWELL
SPECIAL RECREATION MANAGEMENT AREA
— PLANNING AREA BOUNDARY

POTENTIAL NATIONAL DESIGNATION

SAN RAFAEL RESOURCE AREA
RESOURCE MANAGEMENT PLAN
LAND OWNERSHIP



PUBLIC LAND
NATIONAL FOREST
NATIONAL PARK
NATIONAL RECREATION AREA
STATE LAND
PRIVATE LAND
HIGHWAY
PLANNING AREA/
GRAZING EIS BOUNDARY

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Utah State Office
Moab District
San Rafael Resource Area
Price, Utah

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SCALE 1:250,000
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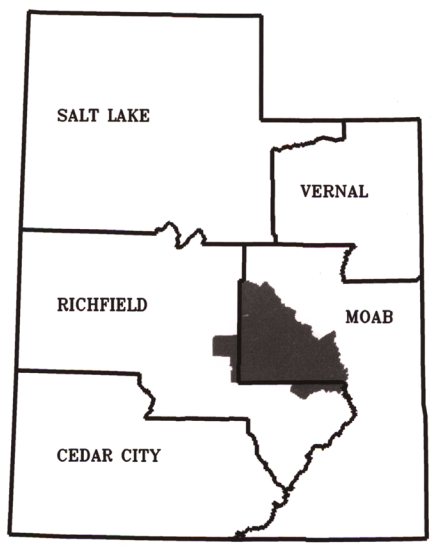
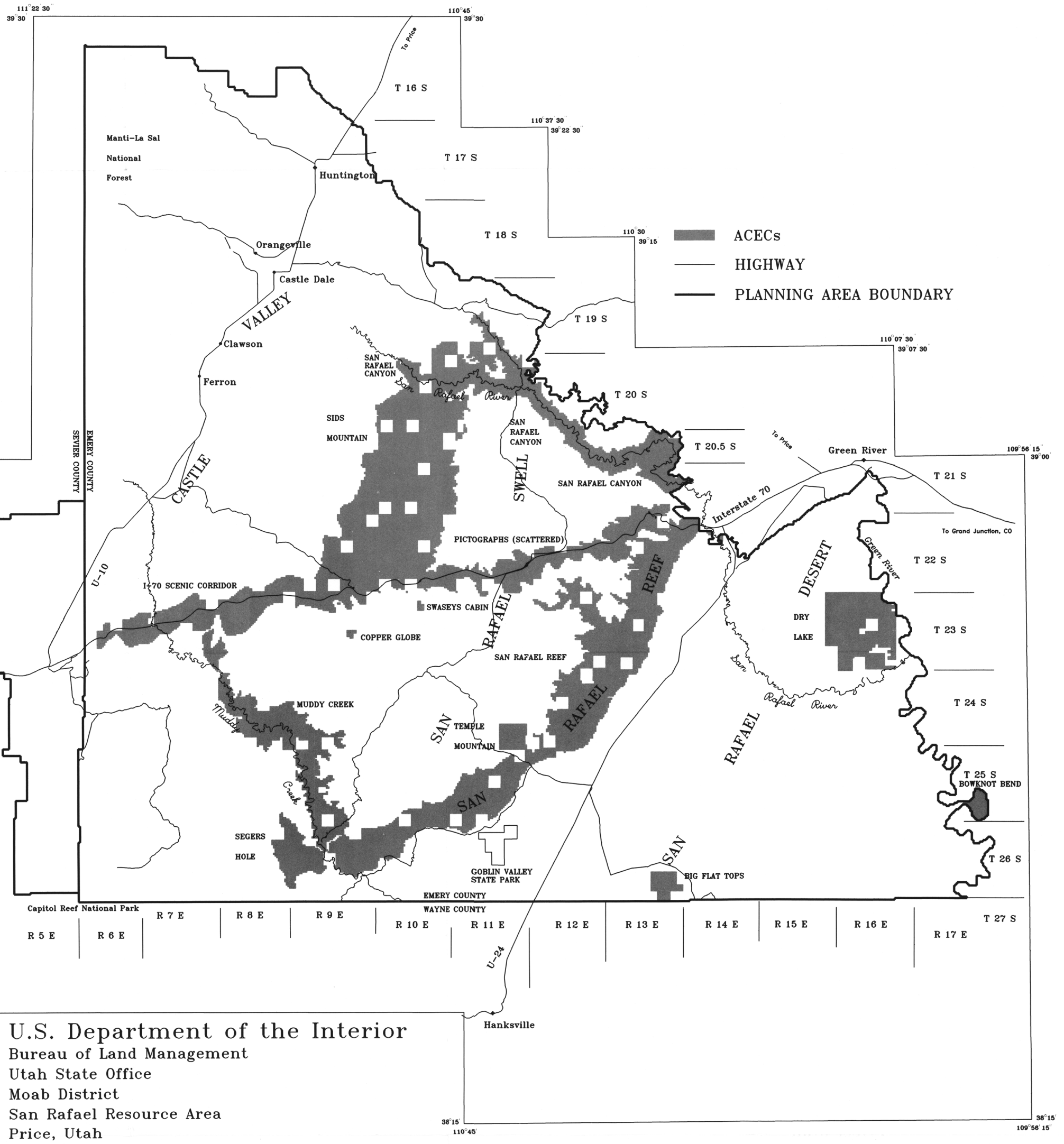
MILES

Location Map



State of Utah

AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACECs)
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



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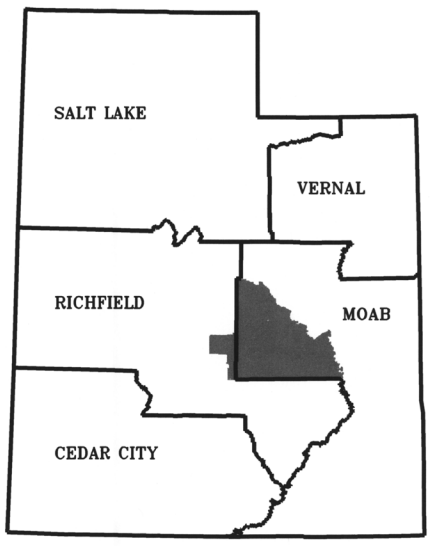
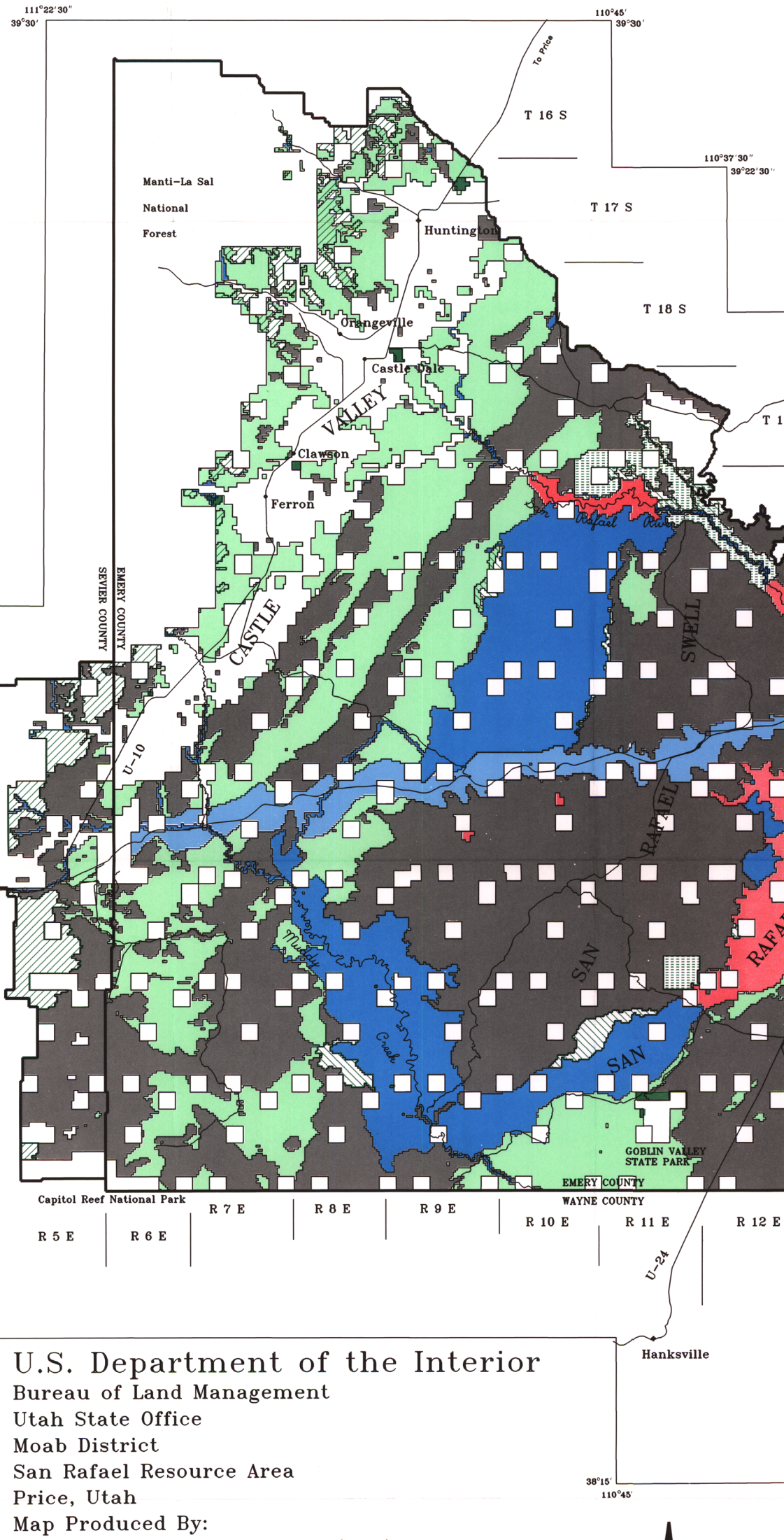


State of Utah

OIL AND GAS LEASING CATEGORIES
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



CATEGORY 1

OPEN WITH STANDARD CONDITIONS

CATEGORY 2 OPEN WITH SPECIAL CONDITIONS

EXISTING LAND LEASES

CRUCIAL MULE DEER AND ELK HABITAT

CRUCIAL DESERT BIGHORN SHEEP HABITAT

CRITICAL SOIL

ACECs

CATEGORY 3 NO SURFACE OCCUPANCY

AREAS WITH EXCEPTIONS

AREAS WITHOUT EXCEPTIONS

CATEGORY 4 NO LEASE

ACECs AND DEVELOPED RECREATION SITES

HIGHWAY

PLANNING AREA BOUNDARY

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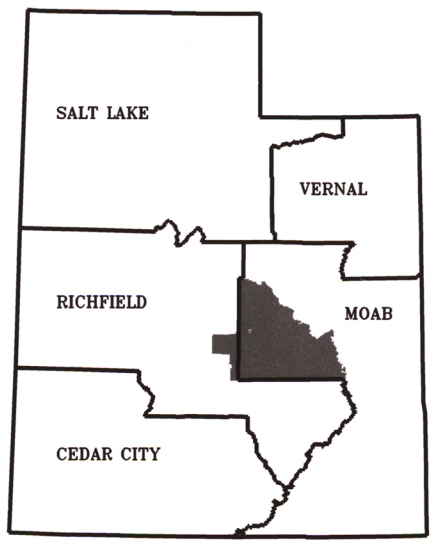
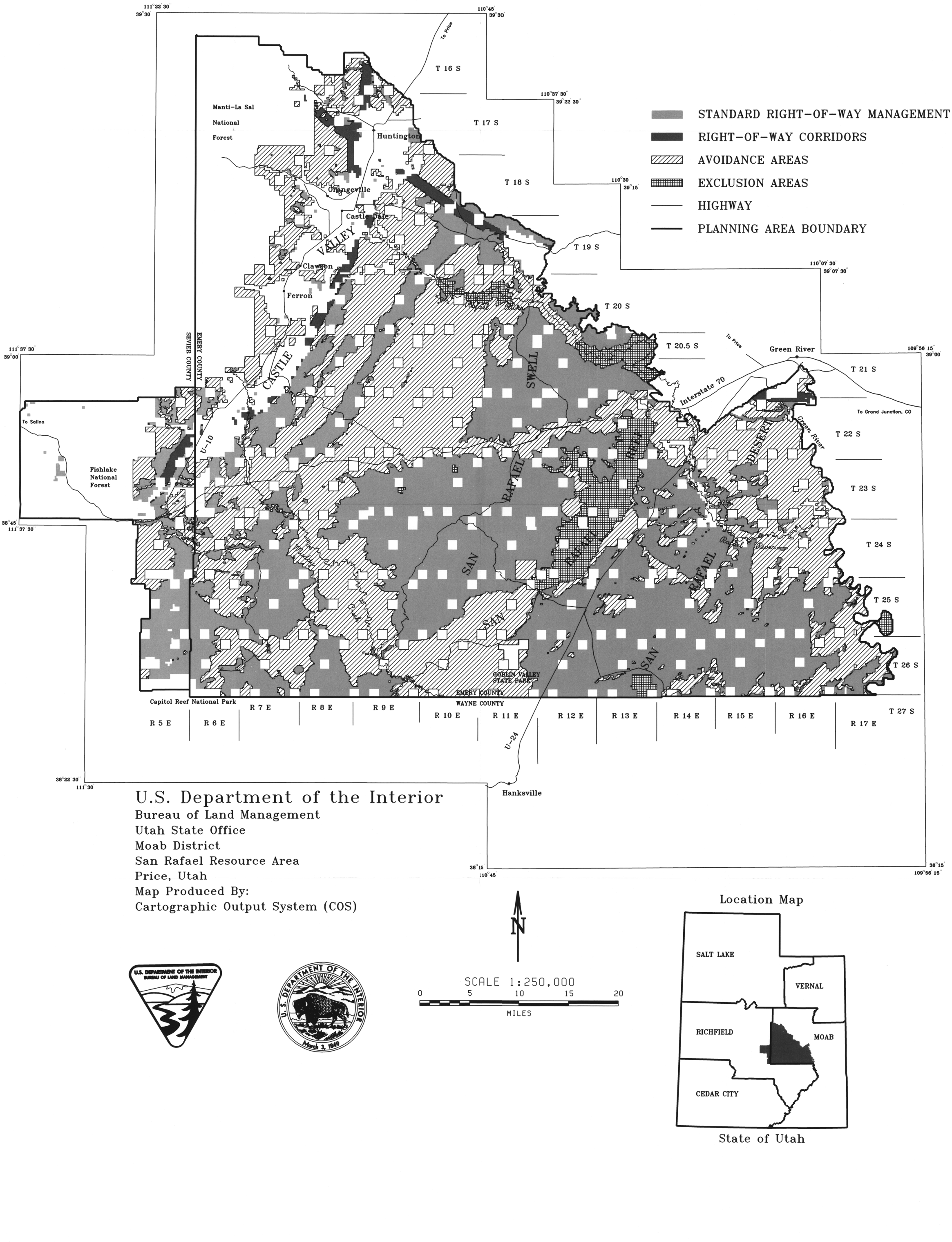


State of Utah

RIGHTS-OF-WAY MANAGEMENT
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



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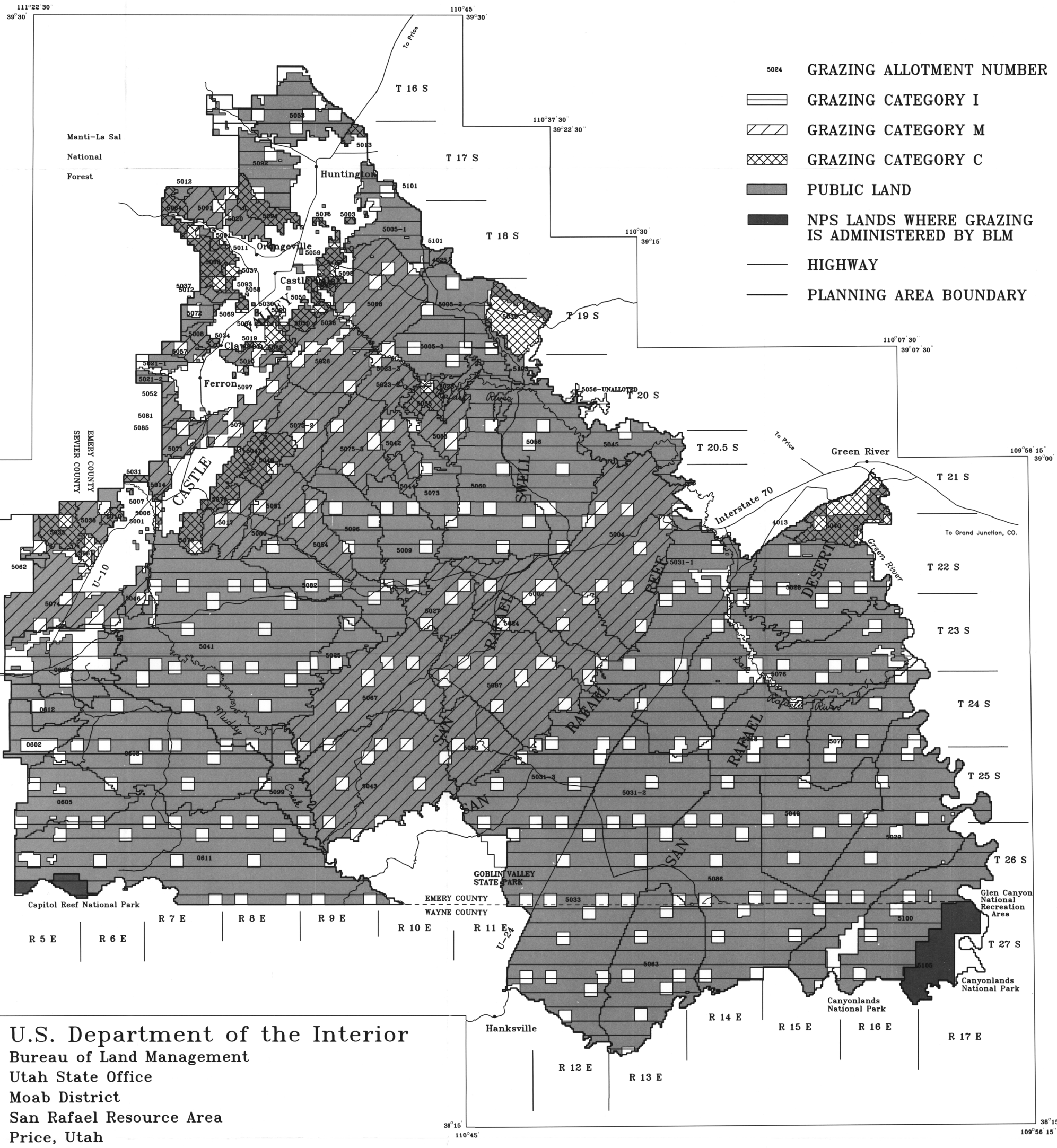
MILES

Location Map

State of Utah

EXISTING LIVESTOCK GRAZING MANAGEMENT
SAN RAFAEL RESOURCE AREA
RESOURCE MANAGEMENT PLAN



5024 GRAZING ALLOTMENT NUMBER

GRAZING CATEGORY I

GRAZING CATEGORY M

GRAZING CATEGORY C

PUBLIC LAND

NPS LANDS WHERE GRAZING IS ADMINISTERED BY BLM

HIGHWAY

PLANNING AREA BOUNDARY

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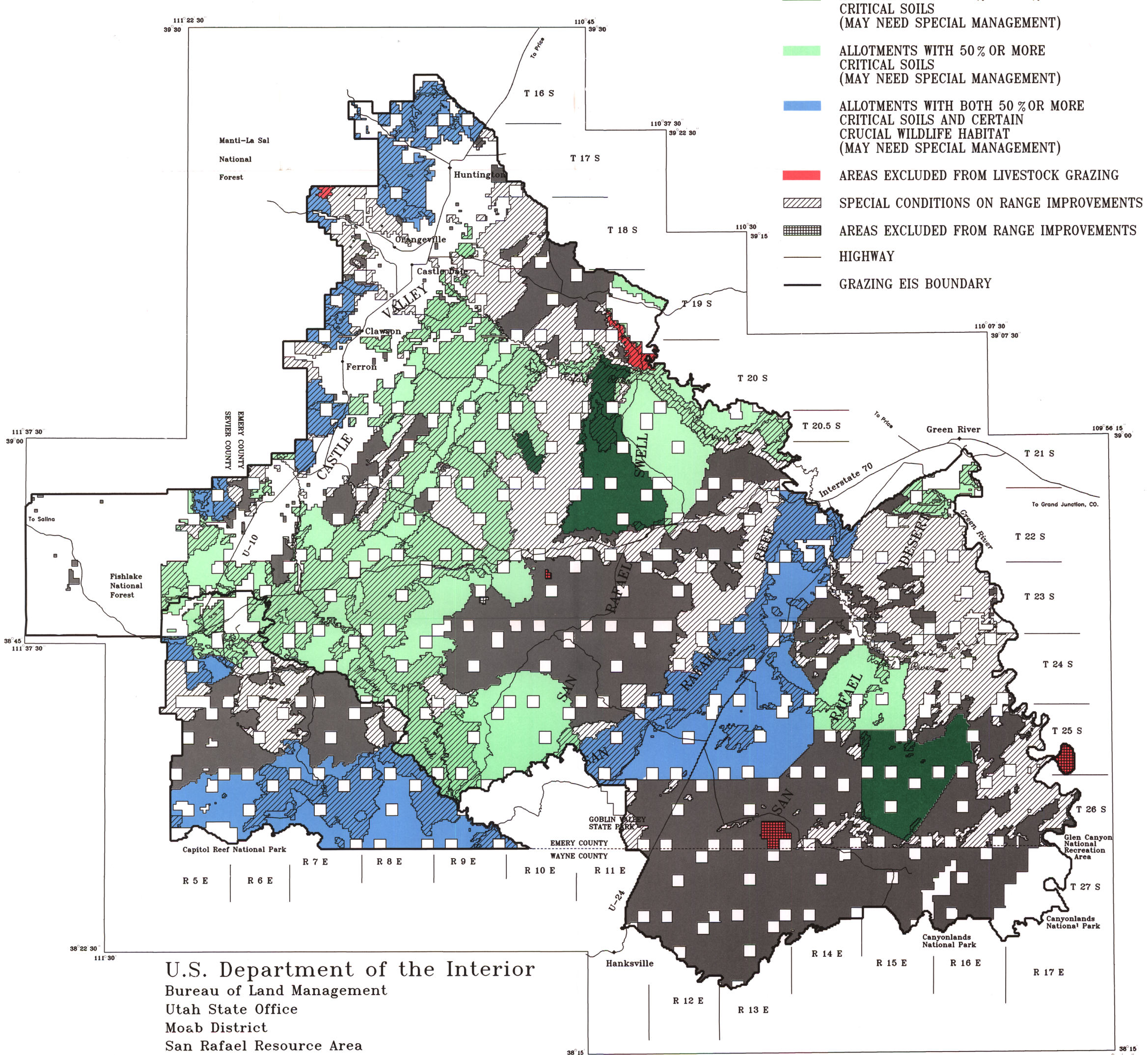
MILES

Location Map

State of Utah

GRAZING ACTIONS AND RANGE IMPROVEMENT LIMITATIONS
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



STANDARD GRAZING MANAGEMENT

ALLOTMENTS WITH 25% TO 50 % CRITICAL SOILS (MAY NEED SPECIAL MANAGEMENT)

ALLOTMENTS WITH 50% OR MORE CRITICAL SOILS (MAY NEED SPECIAL MANAGEMENT)

ALLOTMENTS WITH BOTH 50% OR MORE CRITICAL SOILS AND CERTAIN CRUCIAL WILDLIFE HABITAT (MAY NEED SPECIAL MANAGEMENT)

AREAS EXCLUDED FROM LIVESTOCK GRAZING

SPECIAL CONDITIONS ON RANGE IMPROVEMENTS

AREAS EXCLUDED FROM RANGE IMPROVEMENTS

HIGHWAY

GRAZING EIS BOUNDARY

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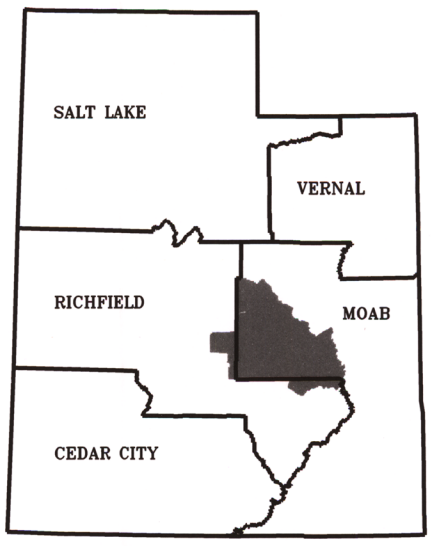
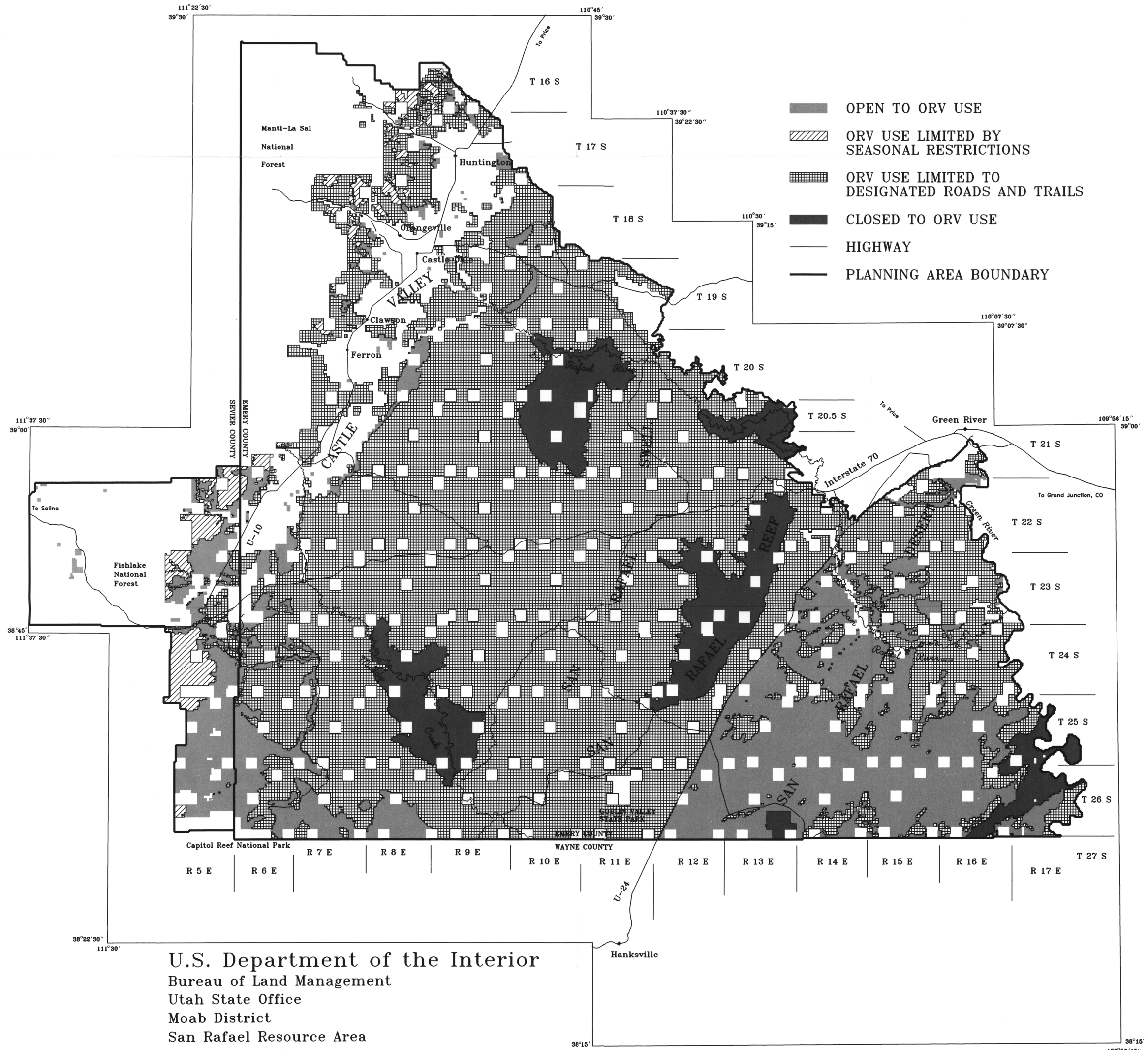


State of Utah

OFF-ROAD VEHICLE USE DESIGNATIONS
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



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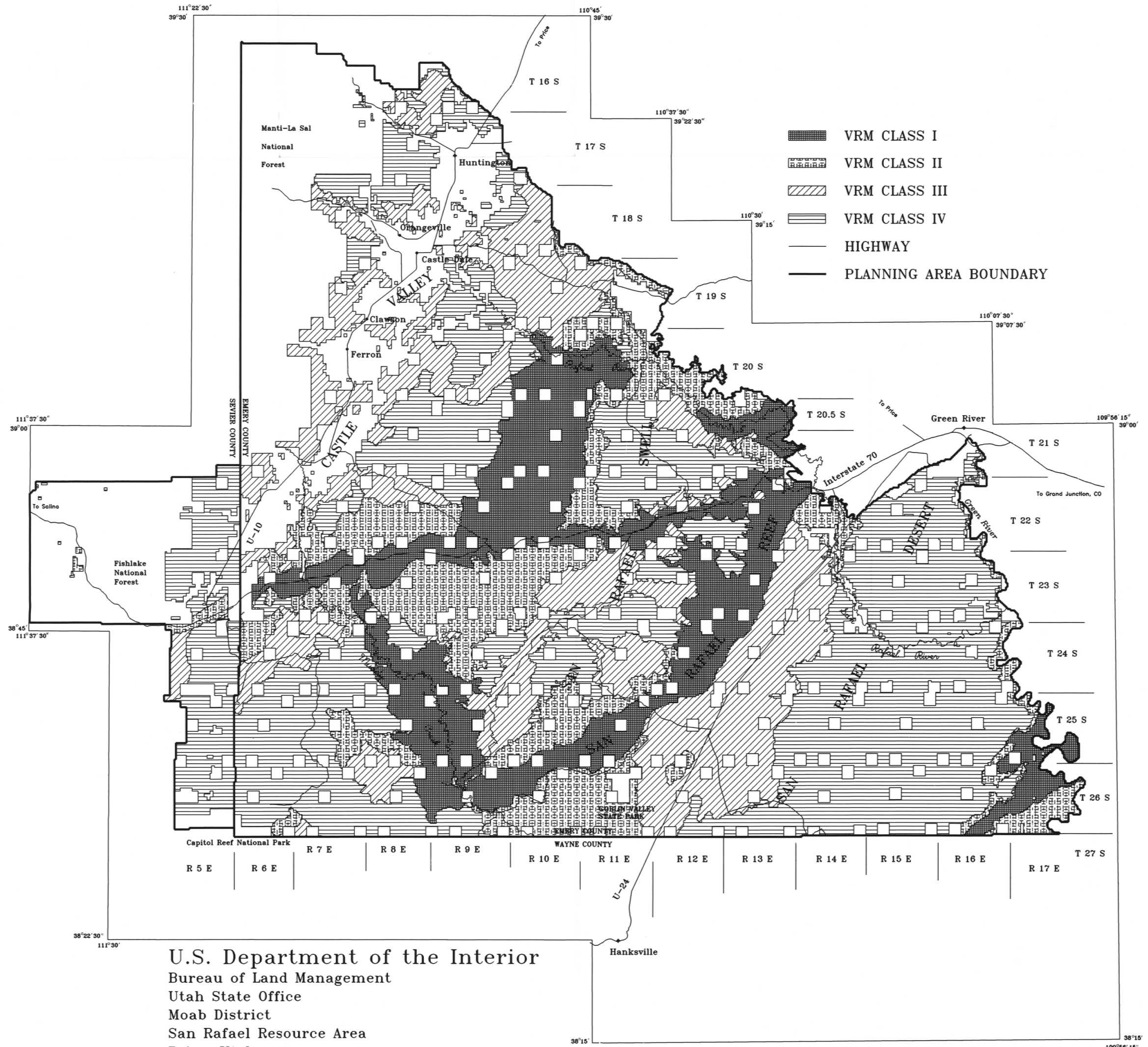
MILES

Location Map

State of Utah

VISUAL RESOURCE MANAGEMENT
SAN RAFAEL RESOURCE AREA
PROPOSED RESOURCE MANAGEMENT PLAN



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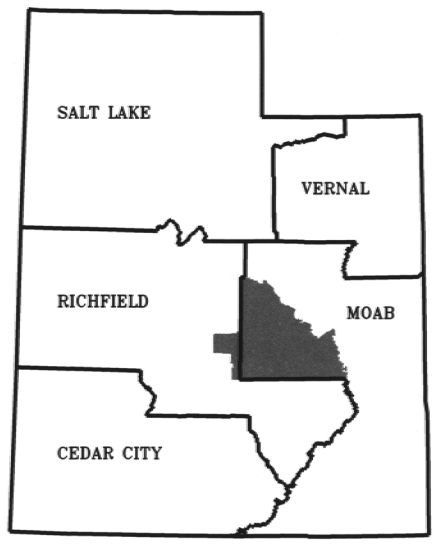

State of Utah