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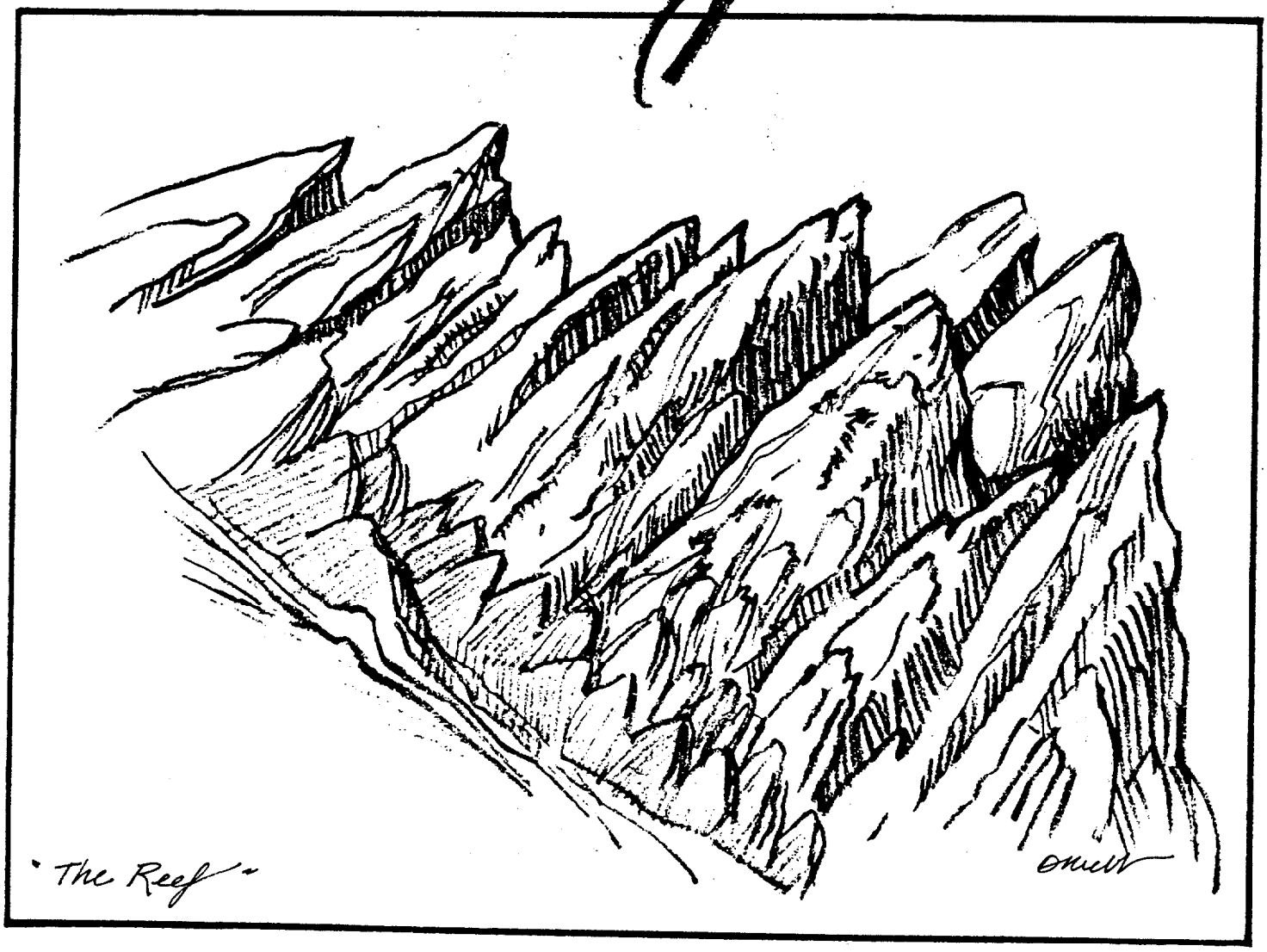

Proposed Resource Management Plan/ Final Environmental Impact Statement

U.S. Department of the Interior

Bureau of Land Management

Utah State Office

Moab District

San Rafael Resource Area

Volume Two

SAN RAFAEL PROPOSED RESOURCE MANAGEMENT PLAN

and

FINAL ENVIRONMENTAL IMPACT STATEMENT

VOLUME 2

Maps Reprinted from the Draft

Revised Draft Resource Management Plan and Environmental Impact Statement

Analysis of Impacts of the Proposed Plan

Public Comments on the Draft and BLM's Responses

HOW TO USE THIS DOCUMENT

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.

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.

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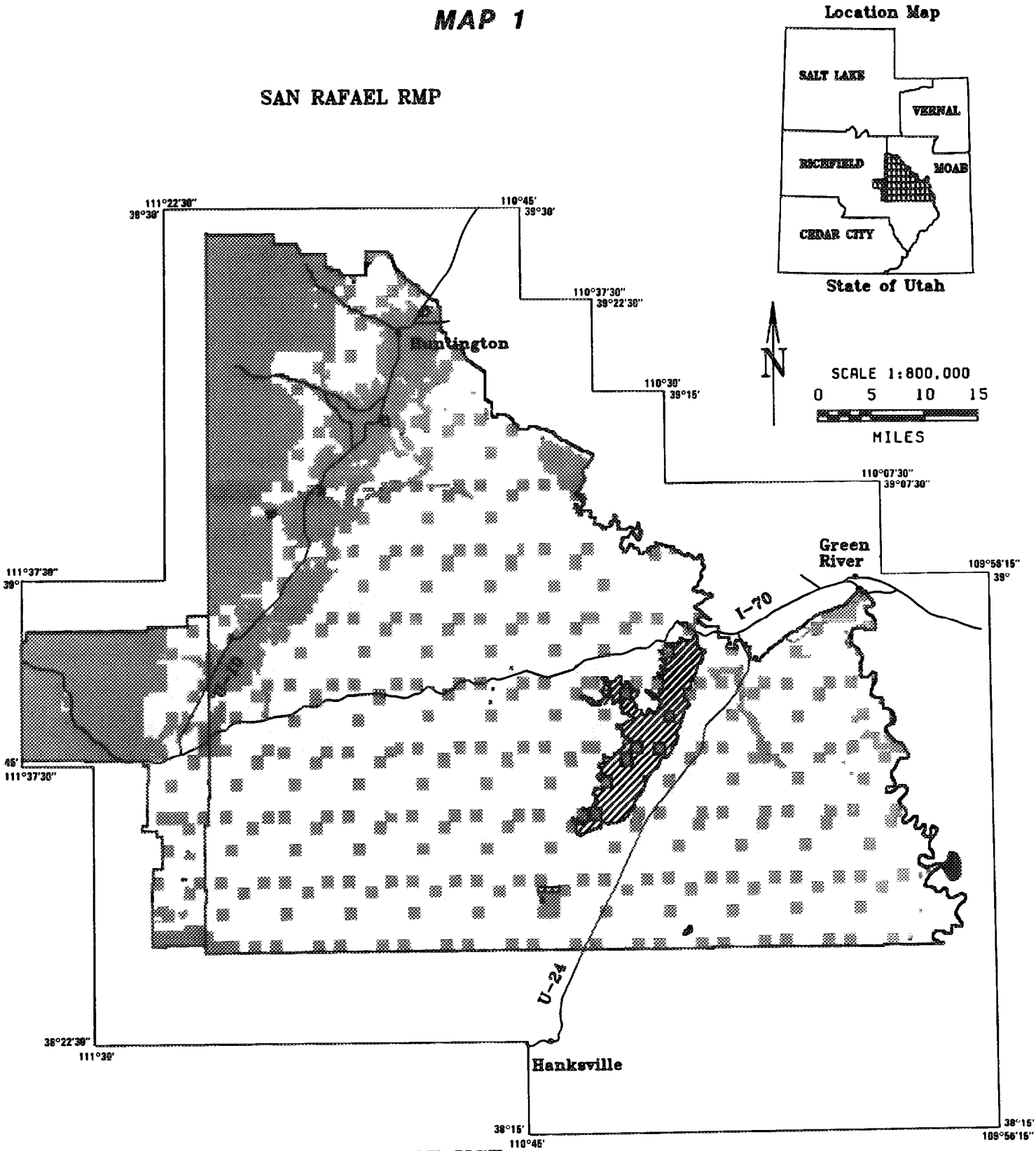
Figures in Volume 2

1 Relationship Between Planning Documents I-3
2 Correlation Chart, East-Central Utah 3-2

MAP 1

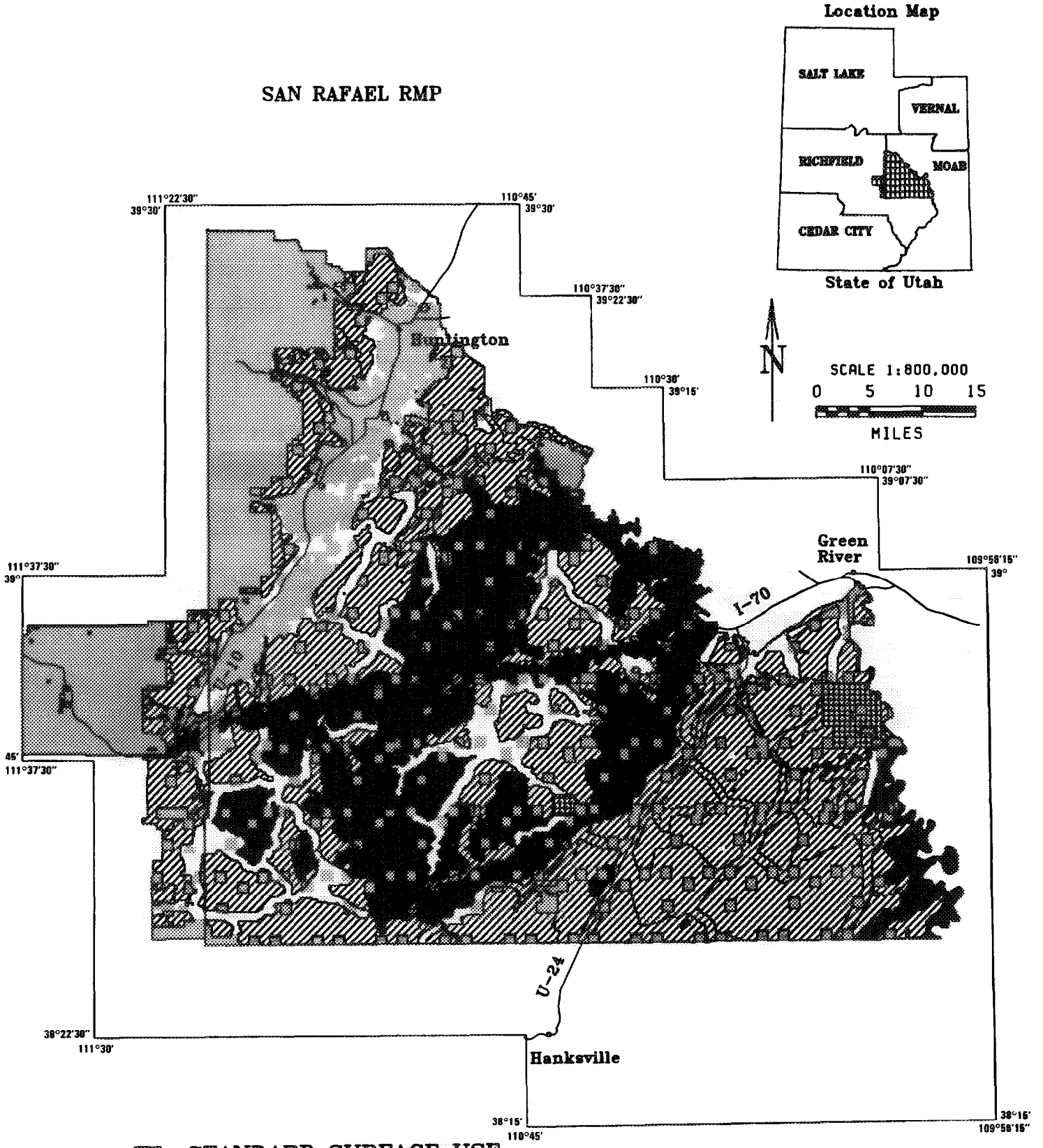
SAN RAFAEL RMP



STANDARD SURFACE USE
SPECIAL CONDITIONS ON SURFACE USE
NO SURFACE OCCUPANCY (NONE)
CLOSED TO PERMANENT RESOURCE USE OR PRODUCTION
PLANNING AREA BOUNDARY

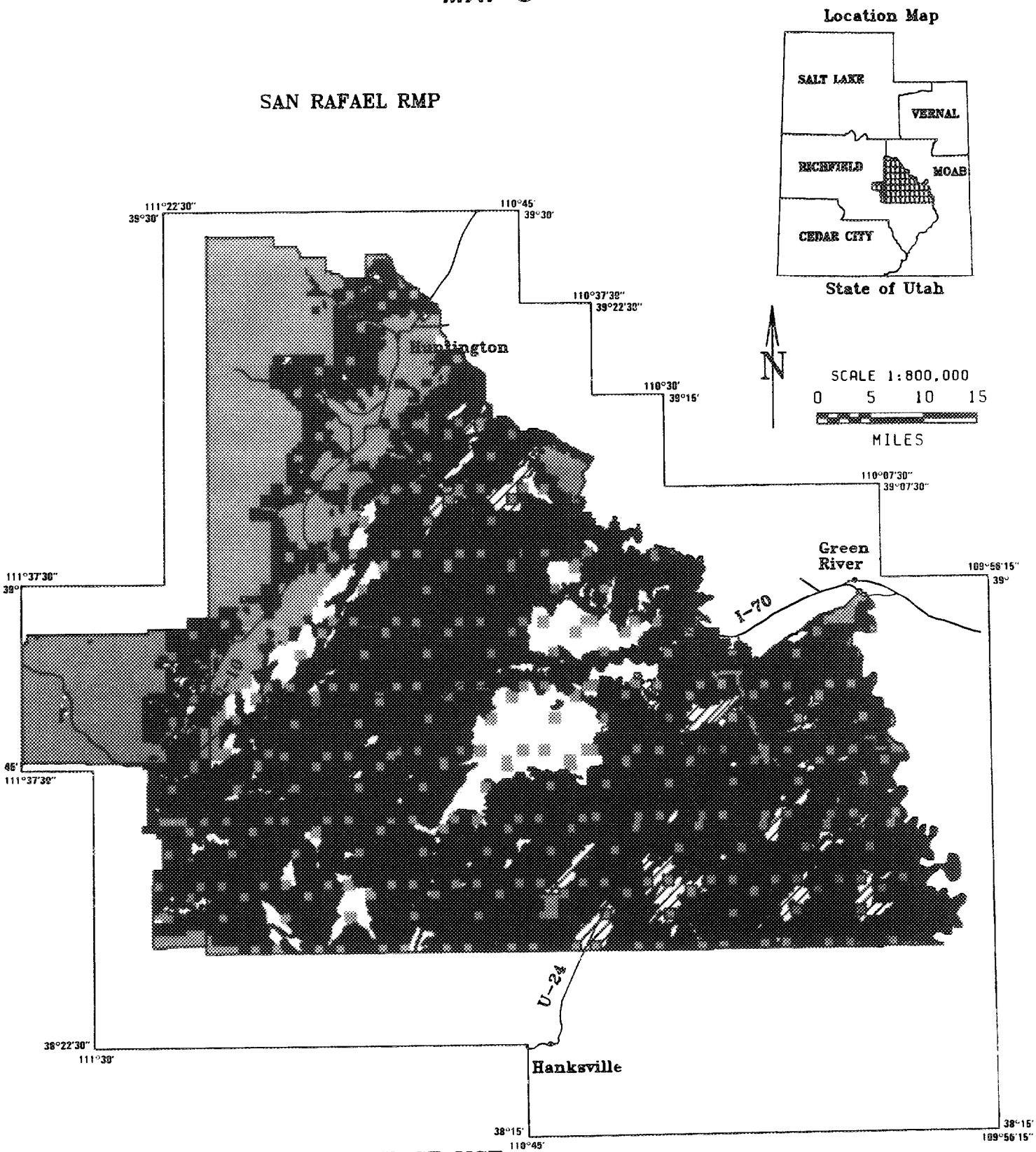
GENERALIZED LAND USE MANAGEMENT ZONES
ALTERNATIVE B

MAP 2



STANDARD SURFACE USE
SPECIAL CONDITIONS ON SURFACE USE
NO SURFACE OCCUPANCY
CLOSED TO PERMANENT RESOURCE USE OR PRODUCTION
PLANNING AREA BOUNDARY
GENERALIZED LAND USE MANAGEMENT ZONES
ALTERNATIVE C

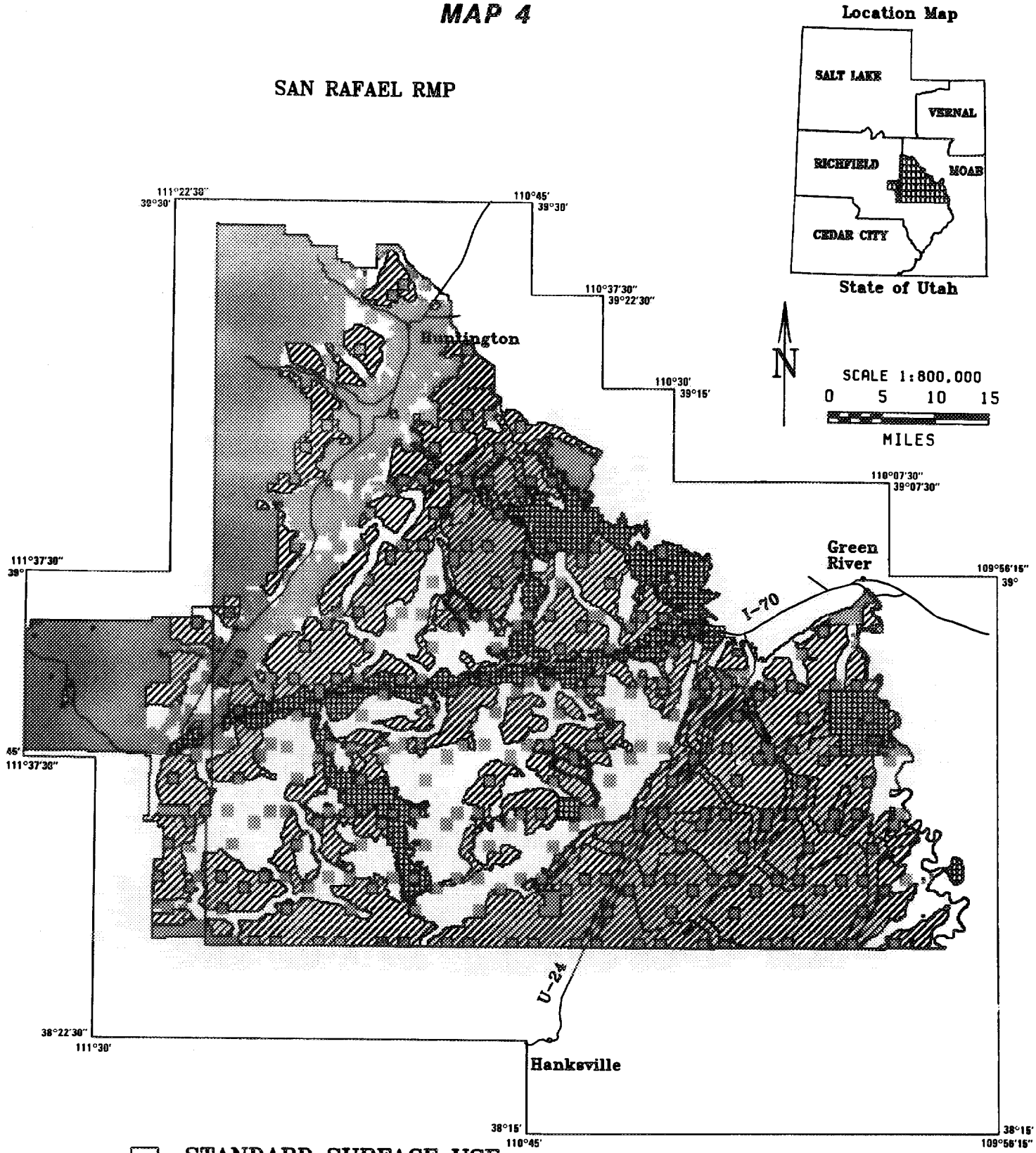
MAP 3



STANDARD SURFACE USE
SPECIAL CONDITIONS ON SURFACE USE
NO SURFACE OCCUPANCY (NONE)
CLOSED TO PERMANENT RESOURCE USE OR PRODUCTION
PLANNING AREA BOUNDARY
GENERALIZED LAND USE MANAGEMENT ZONES
ALTERNATIVE D

MAP 4

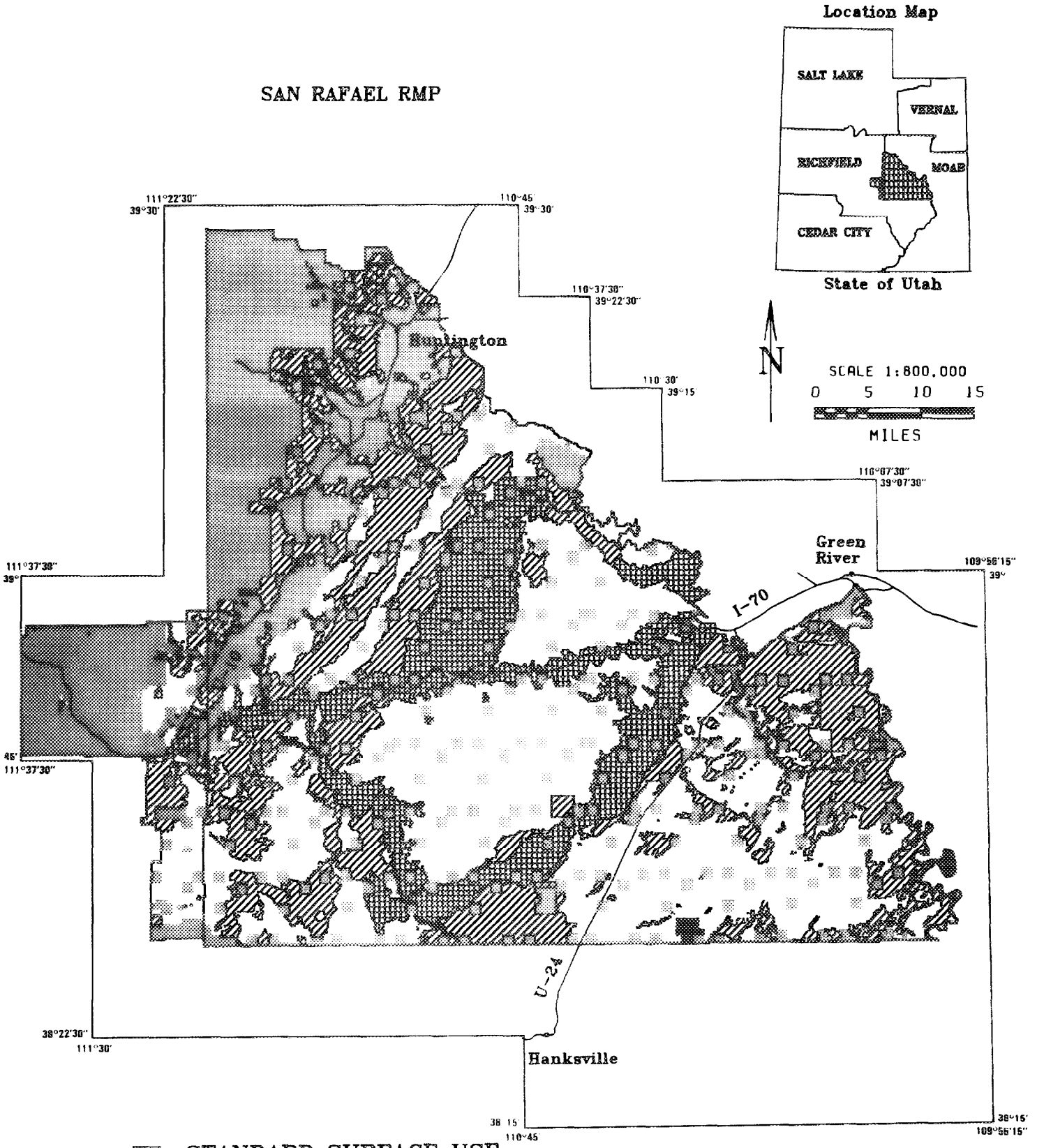
SAN RAFAEL RMP



STANDARD SURFACE USE
SPECIAL CONDITIONS ON SURFACE USE
NO SURFACE OCCUPANCY
CLOSED TO PERMANENT RESOURCE USE OR PRODUCTION
PLANNING AREA BOUNDARY

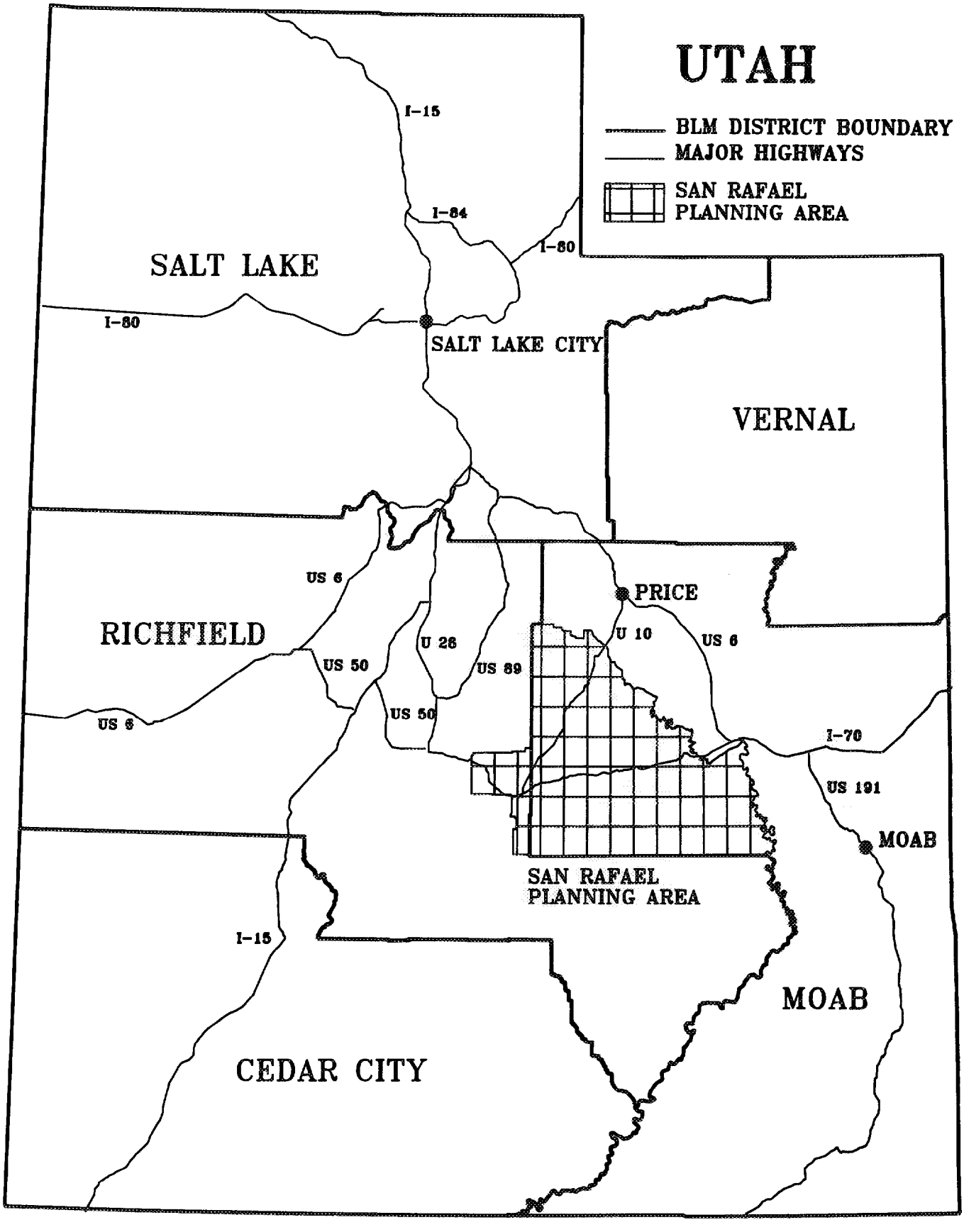
GENERALIZED LAND USE MANAGEMENT ZONES
ALTERNATIVE E

MAP 5



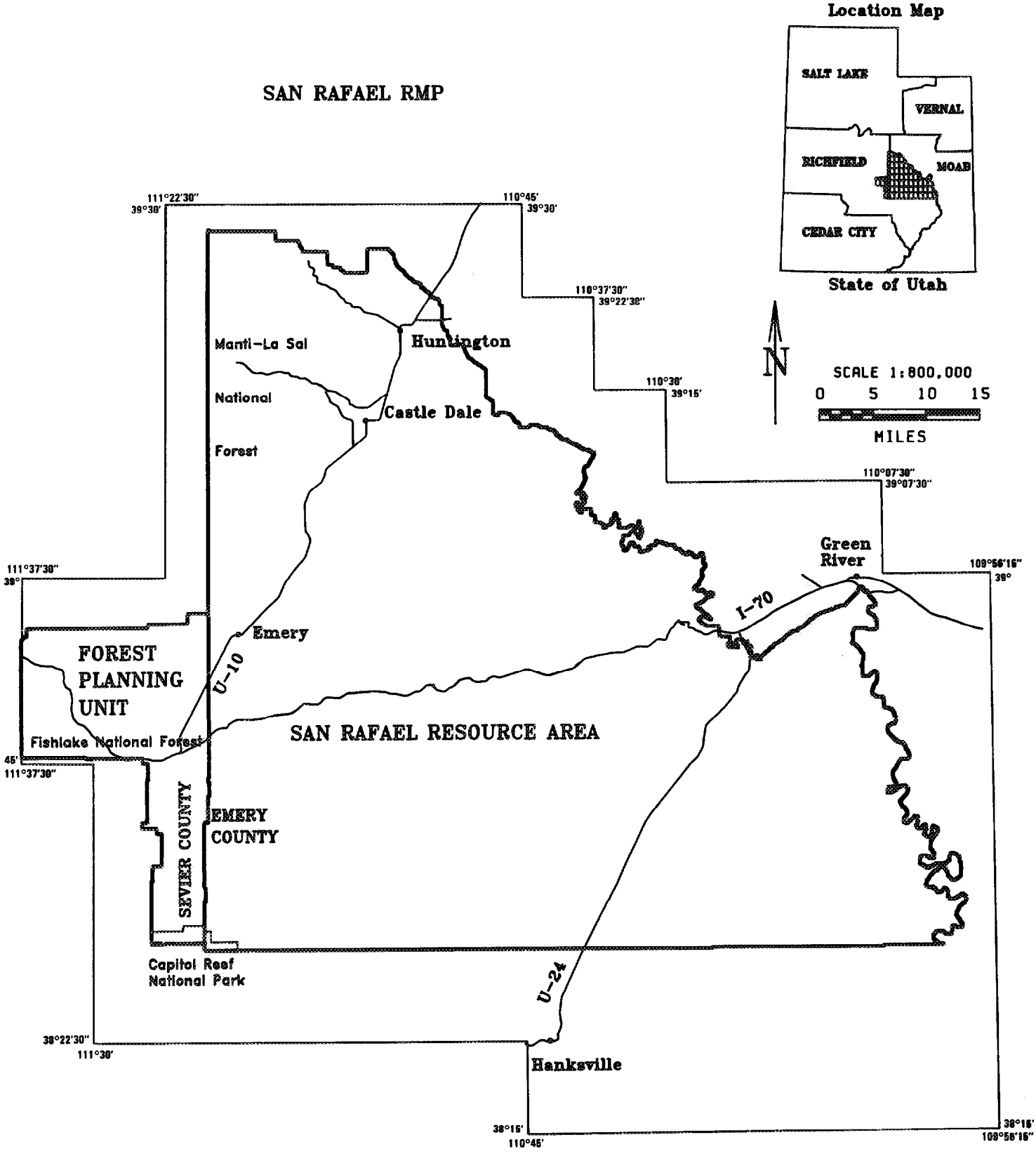
STANDARD SURFACE USE
SPECIAL CONDITIONS ON SURFACE USE
NO SURFACE OCCUPANCY
CLOSED TO PERMANENT RESOURCE USE OR PRODUCTION
PLANNING AREA BOUNDARY
GENERALIZED LAND USE MANAGEMENT ZONES
ALTERNATIVE F

MAP 6



VICINITY MAP

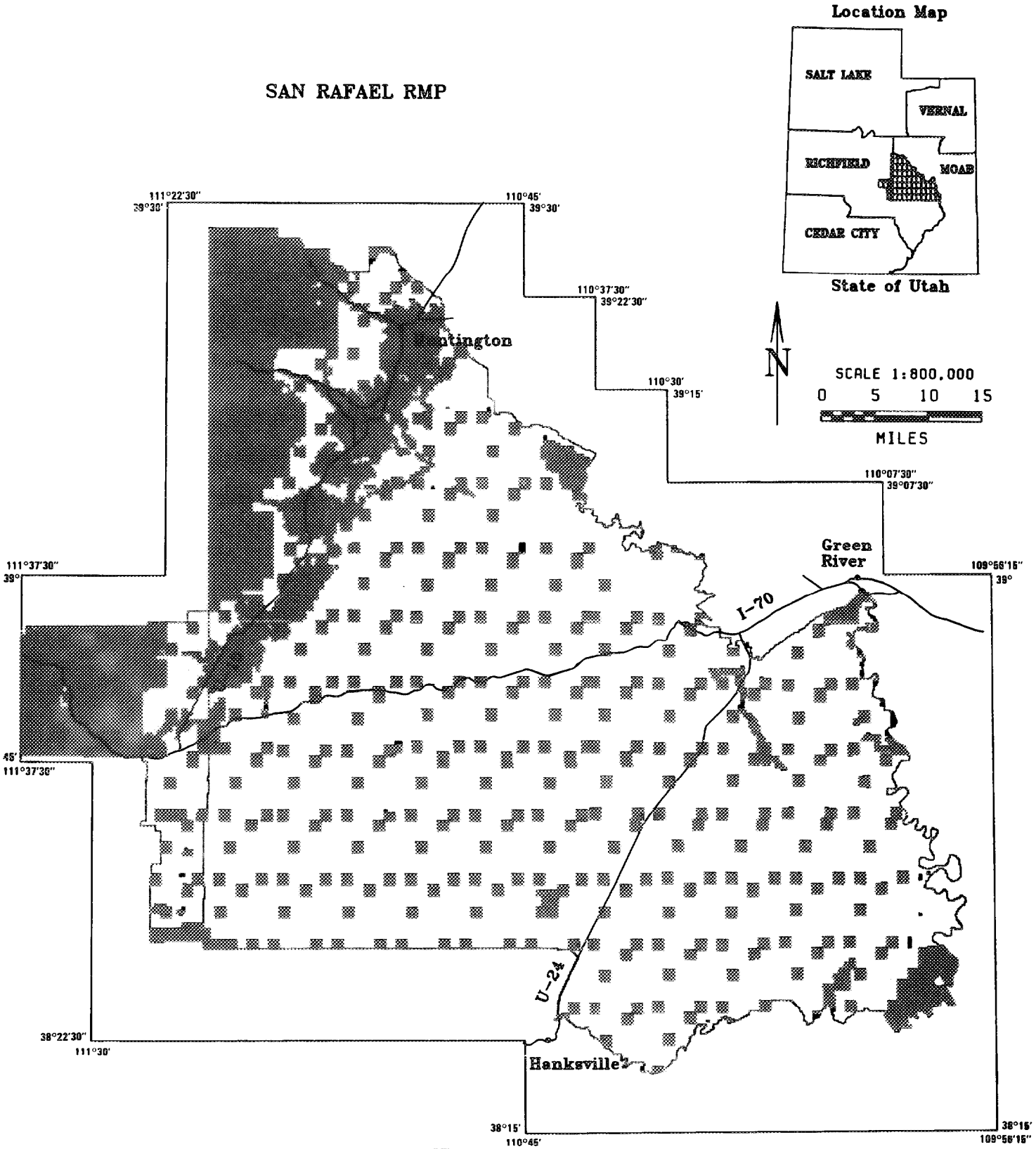
MAP 7



— PLANNING AREA BOUNDARY

SAN RAFAEL PLANNING AREA BOUNDARY

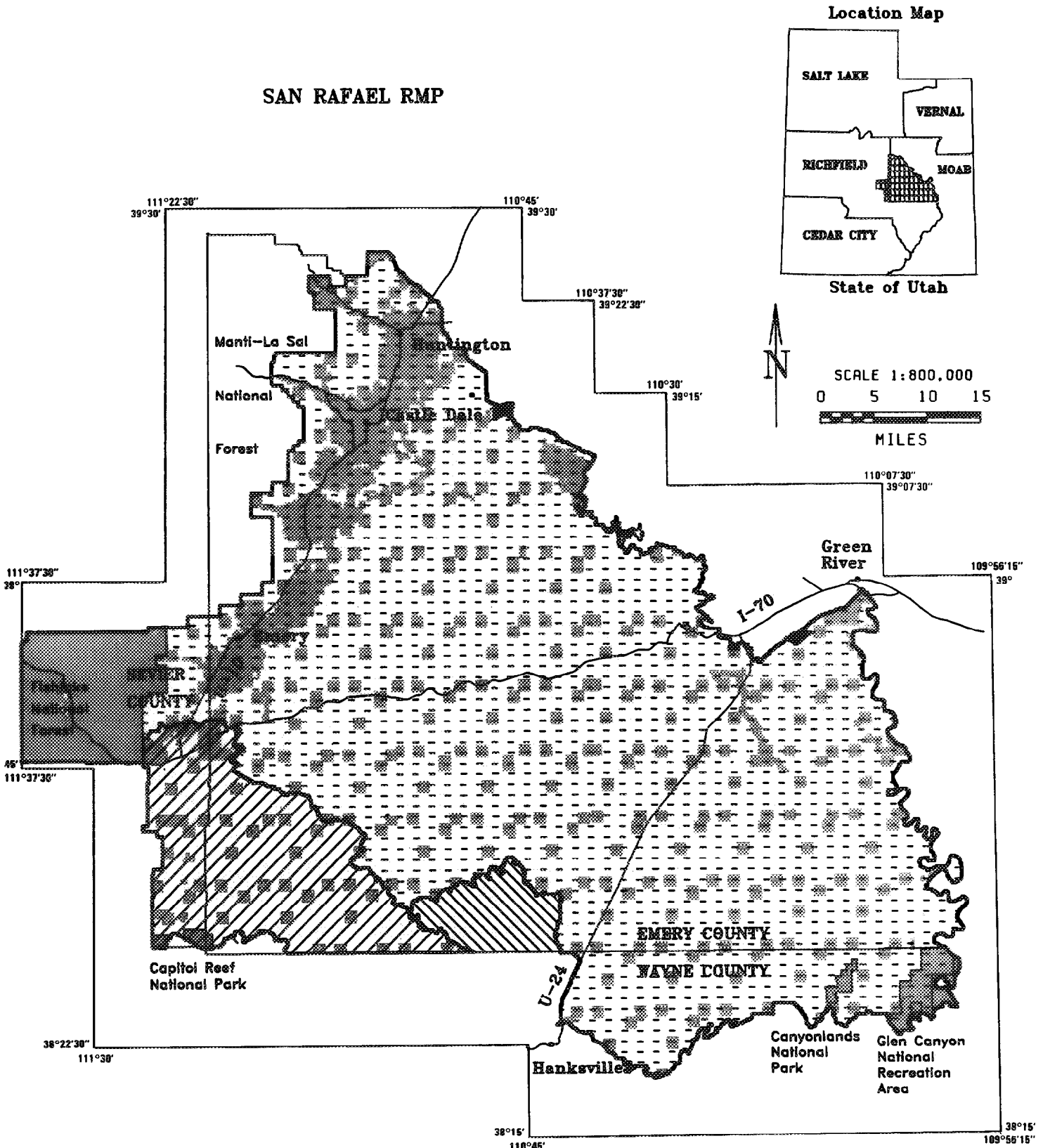
MAP 8



PUBLIC LAND
OTHER LANDS
PLANNING AREA/GRAZING EIS BOUNDARY

LAND OWNERSHIP

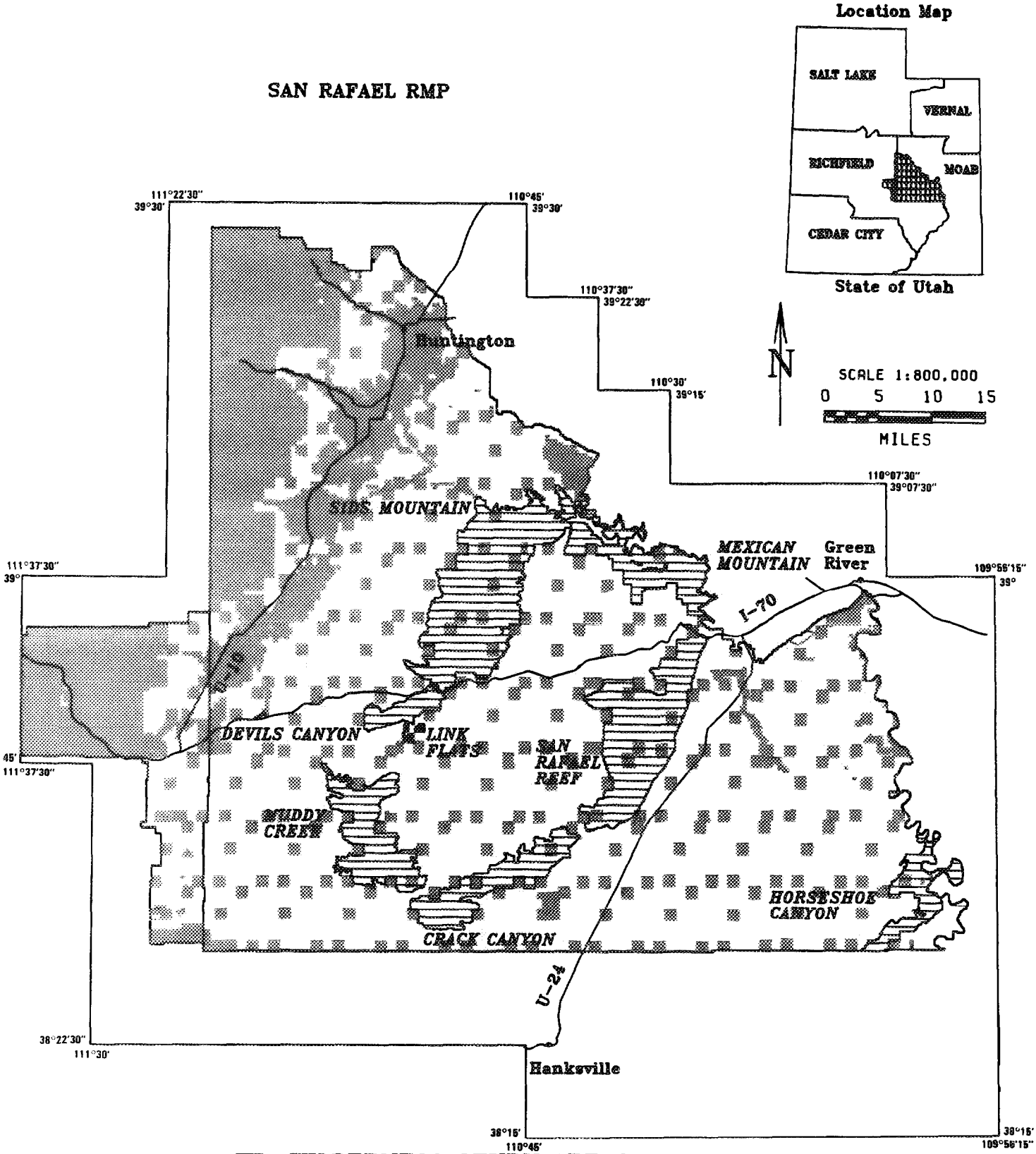
MAP 9



GRAZING ADMINISTERED BY SAN RAFAEL RESOURCE AREA
GRAZING ADMINISTERED BY SEVIER RIVER RESOURCE AREA
GRAZING ADMINISTERED BY HENRY MOUNTAIN RESOURCE AREA
GRAZING ADMINISTERED BY PRICE RIVER RESOURCE AREA
GRAZING AREA BOUNDARY

SAN RAFAEL GRAZING AREA BOUNDARY

MAP 10



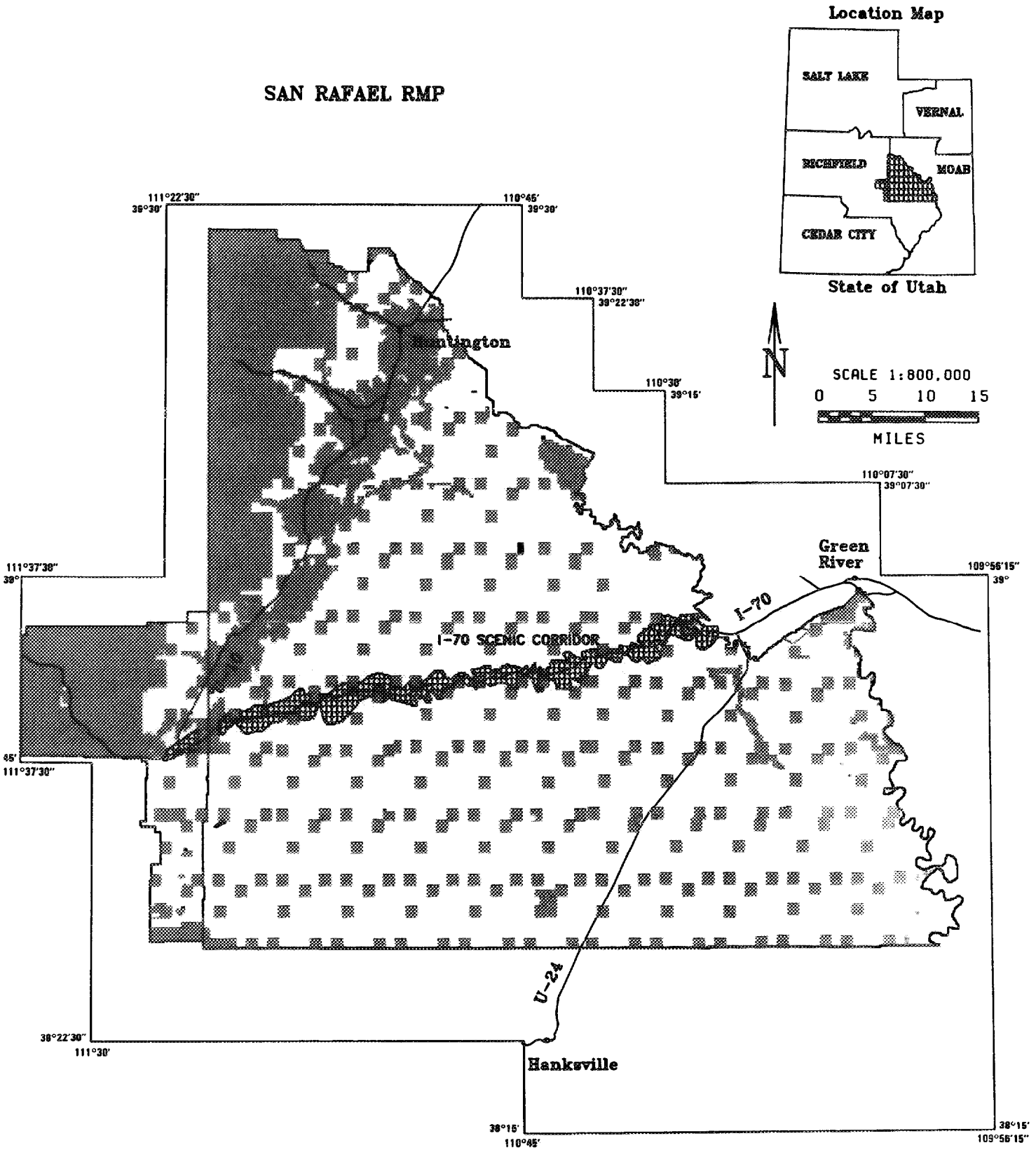
WILDERNESS STUDY AREAS

INSTANT STUDY AREA

PLANNING AREA BOUNDARY

AREAS UNDER WILDERNESS REVIEW

MAP 11

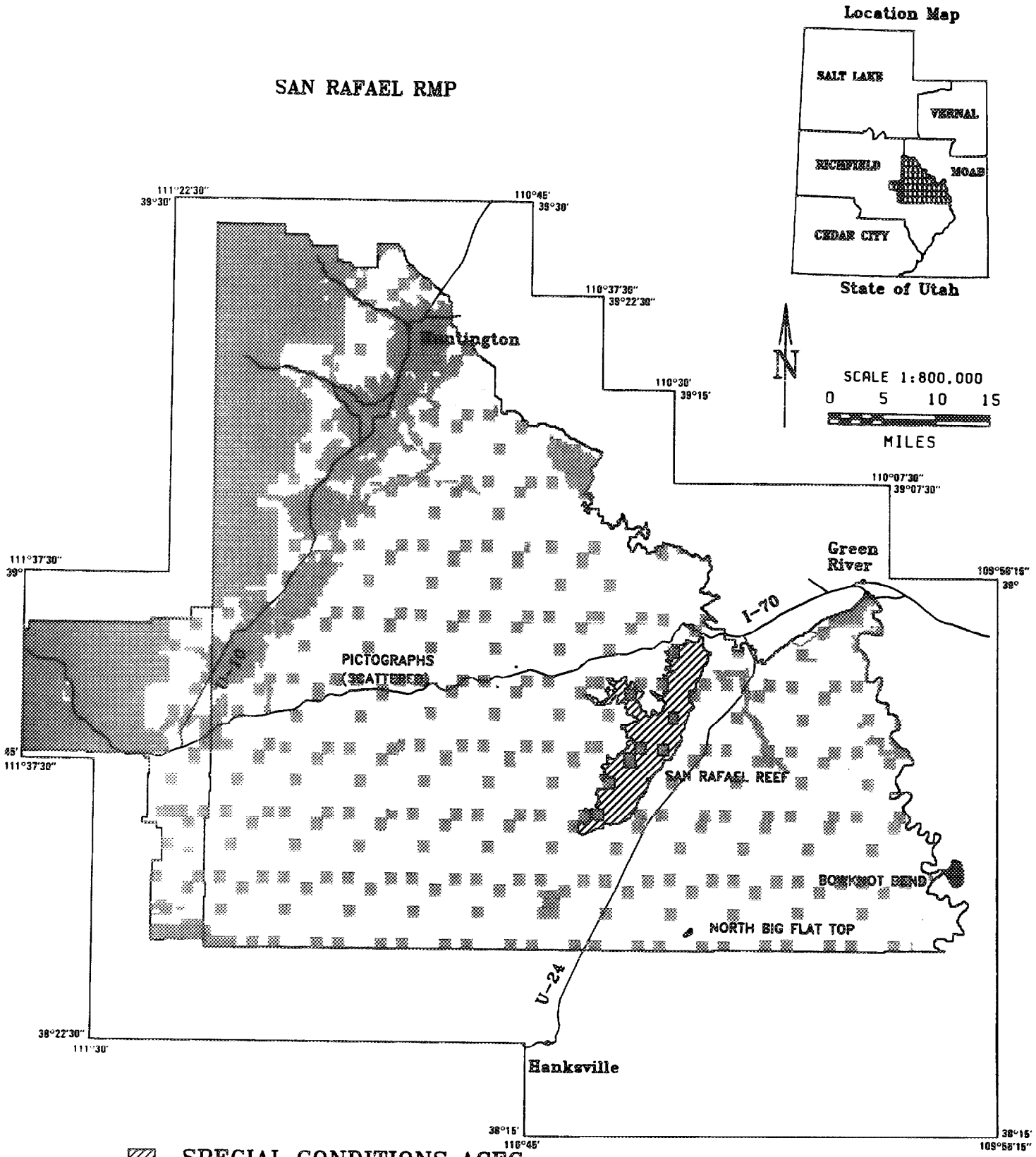


ACEC

— PLANNING AREA BOUNDARY

AREAS OF CRITICAL ENVIRONMENTAL CONCERN
ALTERNATIVE A

MAP 12



SPECIAL CONDITIONS ACEC

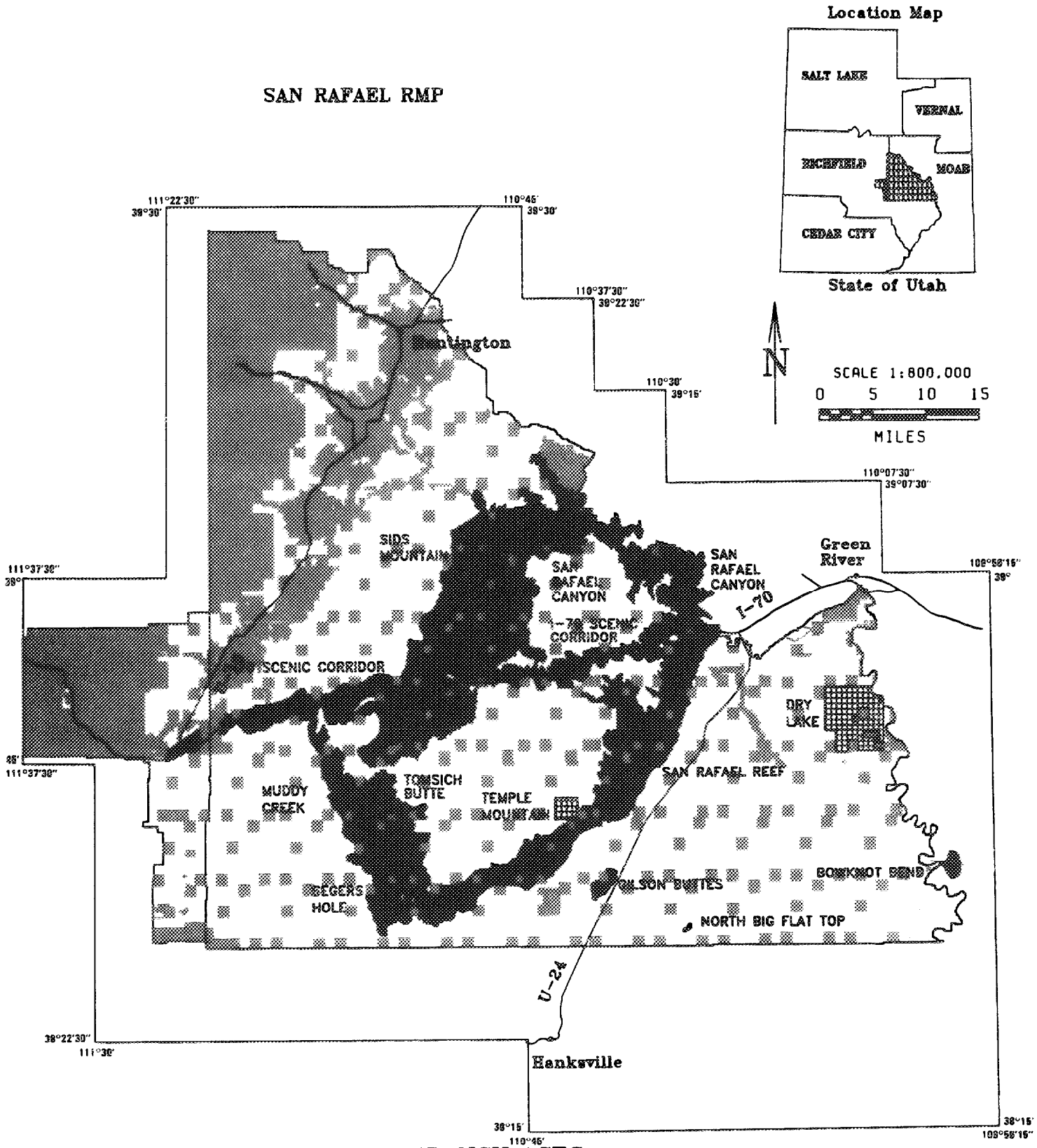
CLOSED TO PERMANENT RESOURCE USE OR PRODUCTION ACECs

PLANNING AREA BOUNDARY

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

ALTERNATIVE B

MAP 13



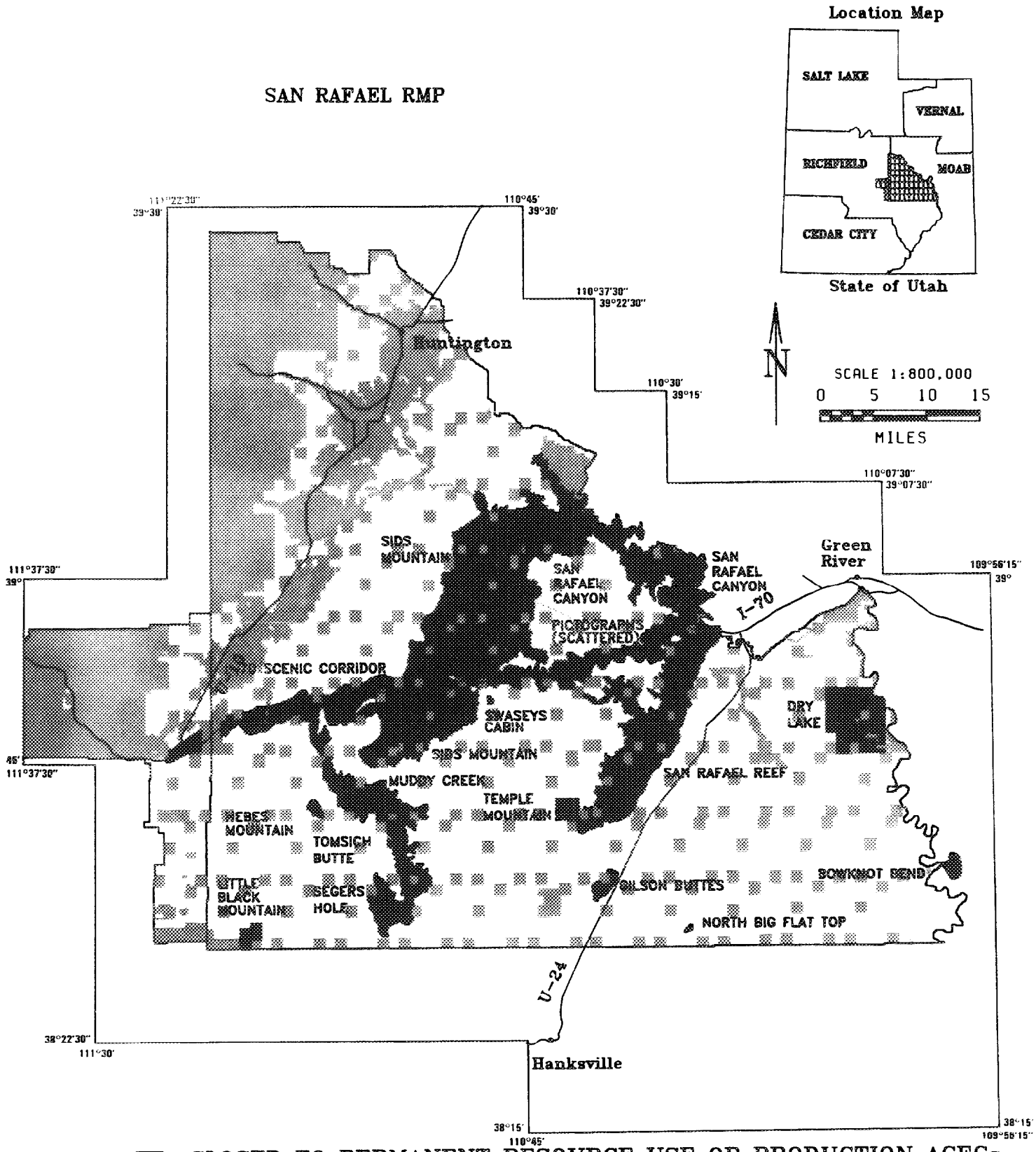
NO SURFACE OCCUPANCY ACECs

CLOSED TO PERMANENT RESOURCE USE OR PRODUCTION ACECs

— PLANNING AREA BOUNDARY

AREAS OF CRITICAL ENVIRONMENTAL CONCERN
ALTERNATIVE C

MAP 14

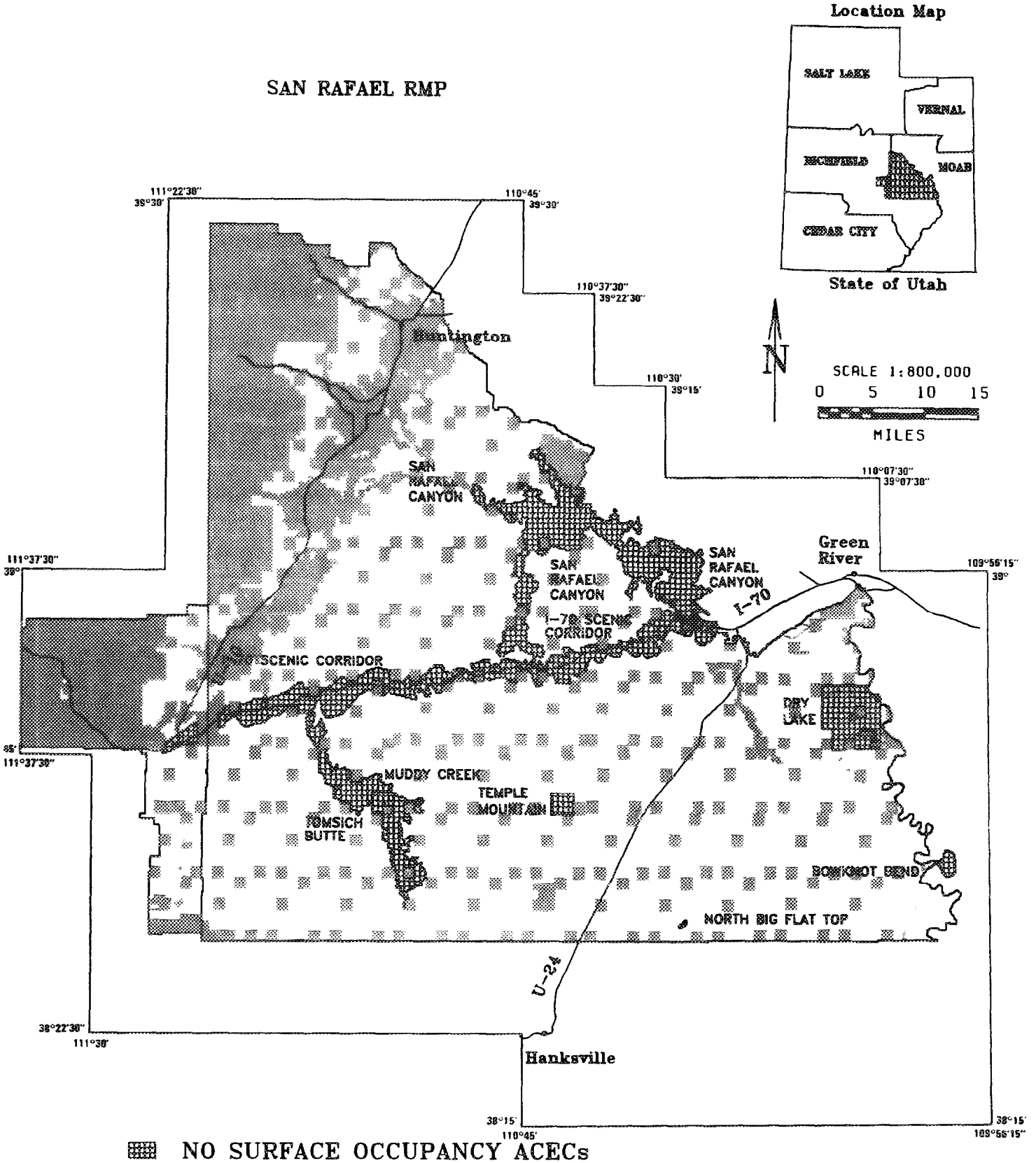


CLOSED TO PERMANENT RESOURCE USE OR PRODUCTION ACECs

— PLANNING AREA BOUNDARY

AREAS OF CRITICAL ENVIRONMENTAL CONCERN
ALTERNATIVE D

MAP 15

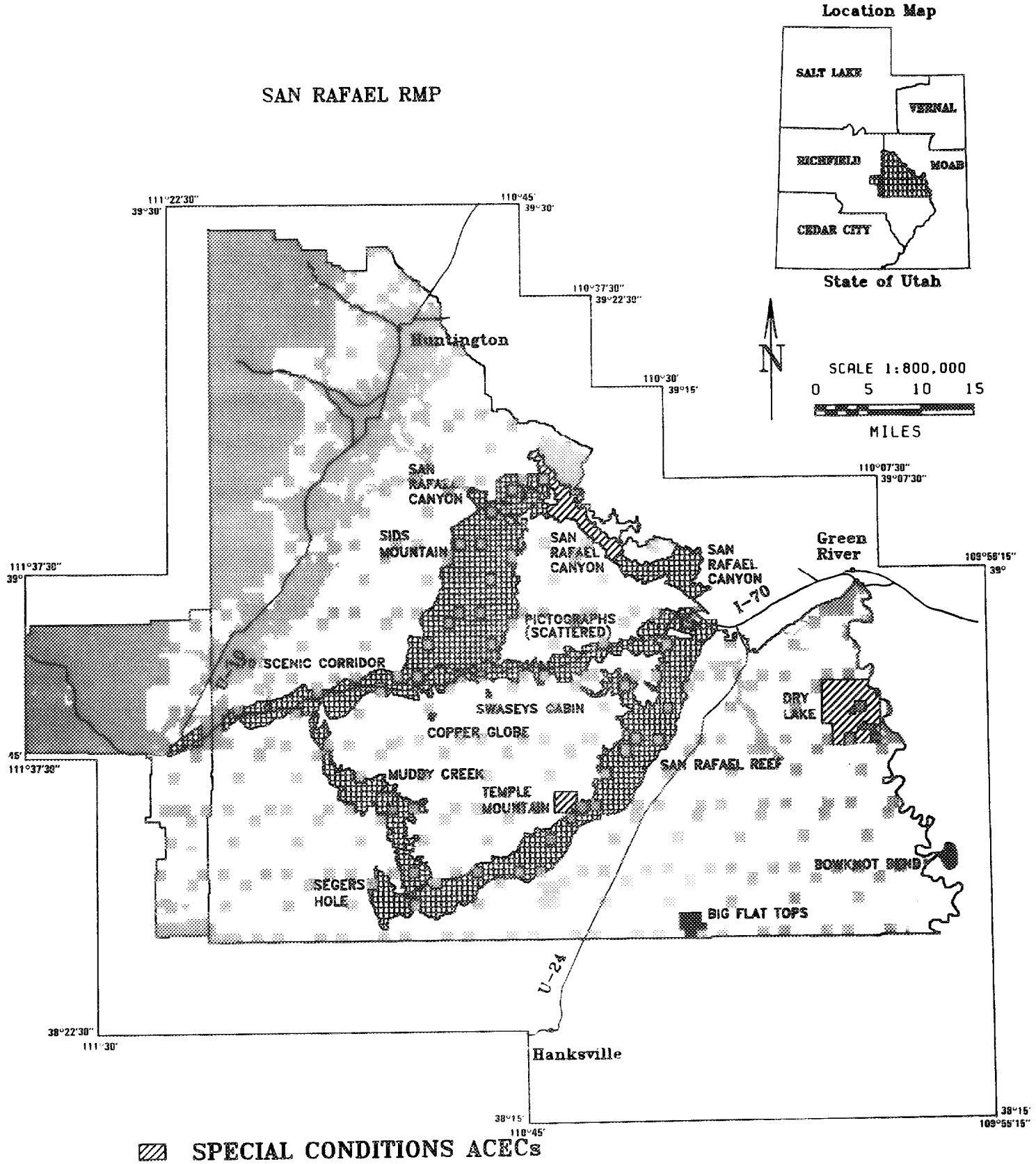


NO SURFACE OCCUPANCY ACECs

— PLANNING AREA BOUNDARY

AREAS OF CRITICAL ENVIRONMENTAL CONCERN
ALTERNATIVE E

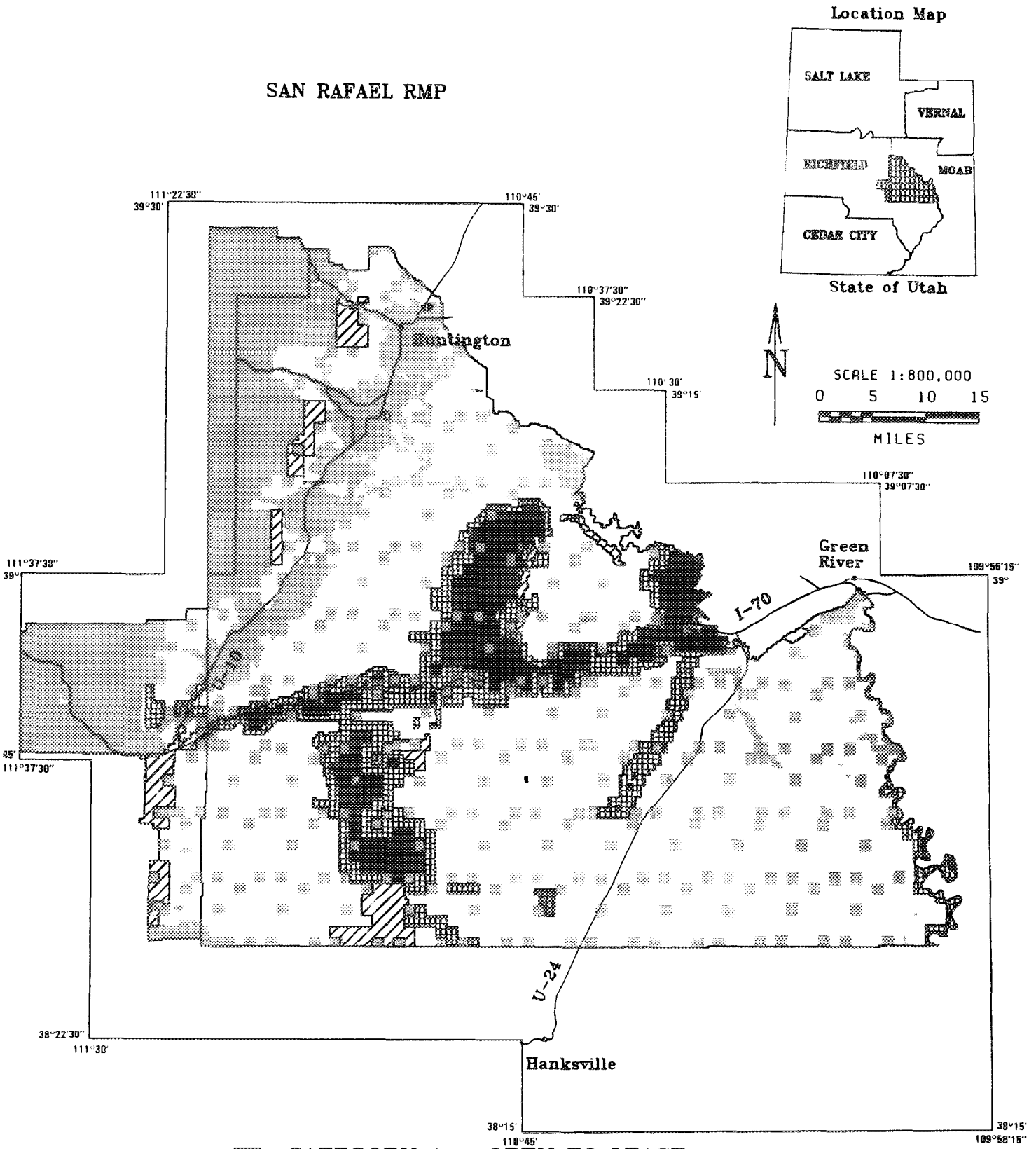
MAP 16



SPECIAL CONDITIONS ACECs
NO SURFACE OCCUPANCY ACECs
CLOSED TO PERMANENT RESOURCE USE OR PRODUCTION ACECs
PLANNING AREA BOUNDARY

AREAS OF CRITICAL ENVIRONMENTAL CONCERN
ALTERNATIVE F

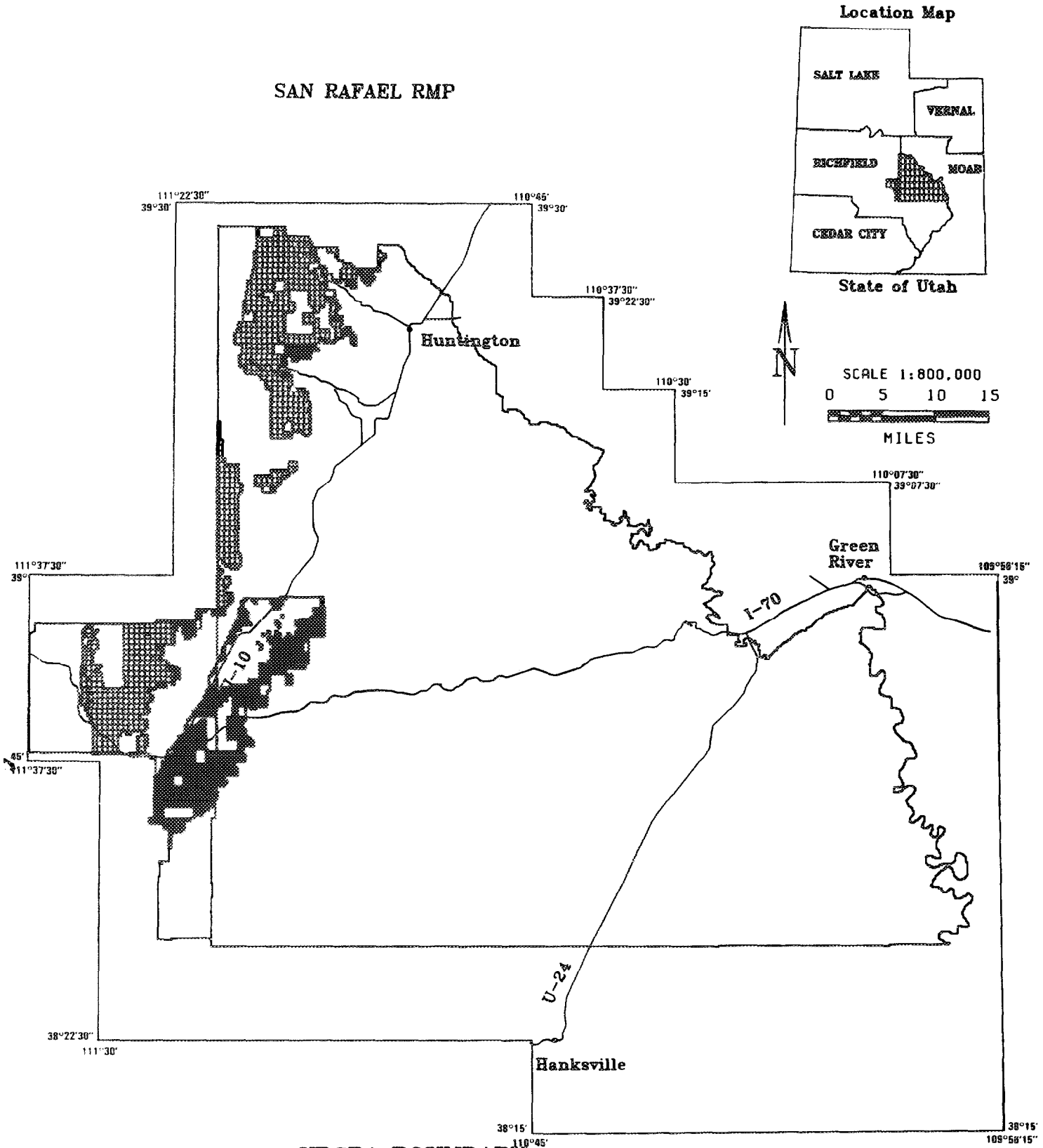
MAP 17



CATEGORY 1 – OPEN TO LEASE
CATEGORY 2 – SPECIAL CONDITIONS
CATEGORY 3 – NO SURFACE OCCUPANCY
CATEGORY 4 – CLOSED TO LEASE
PLANNING AREA BOUNDARY

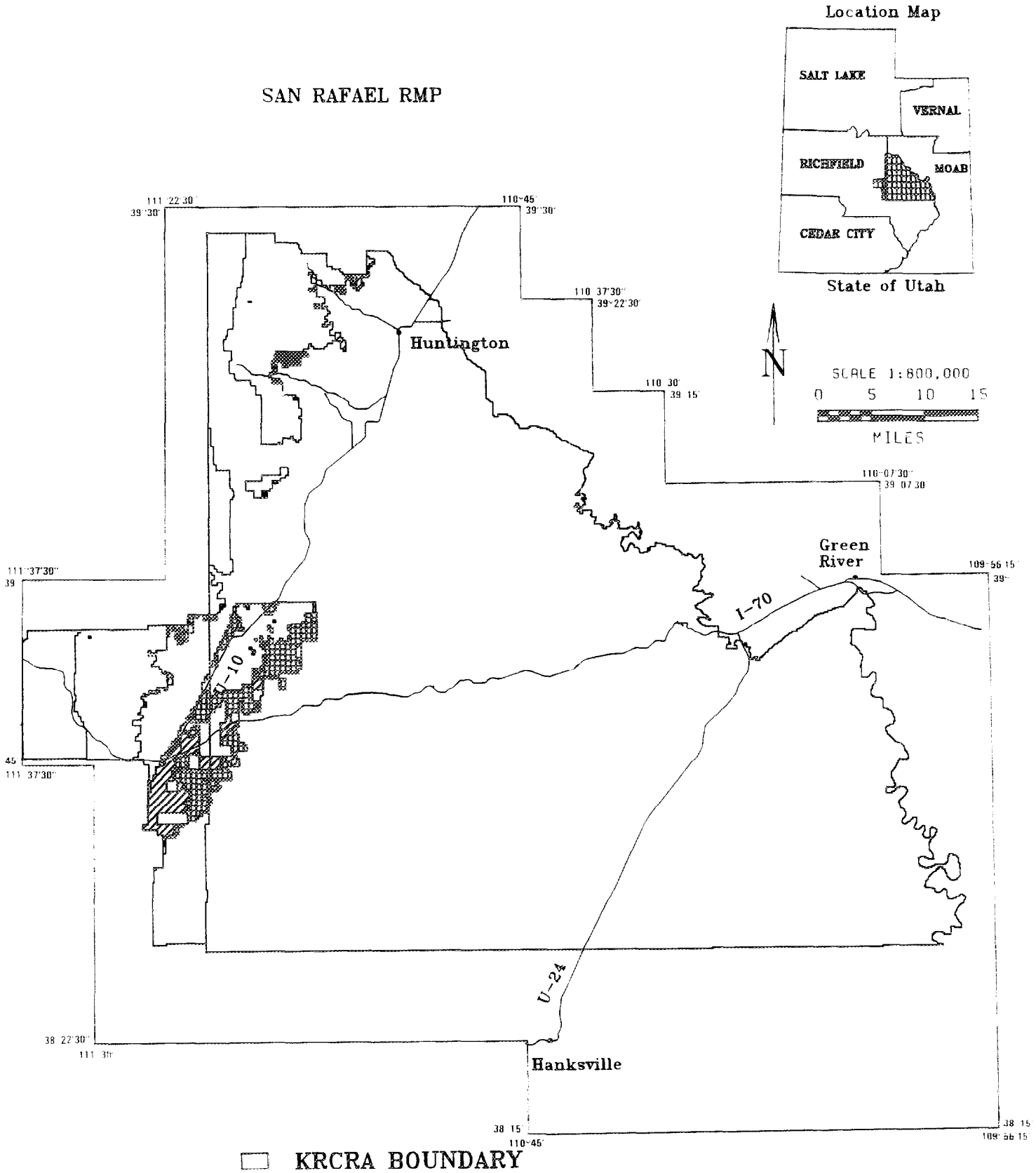
OIL AND GAS LEASING CATEGORIES

MAP 18



KRCRA BOUNDARY
PUBLIC LAND WITHIN KRCRA
NATIONAL FOREST WITHIN KRCRA
PLANNING AREA BOUNDARY
KNOWN RECOVERABLE COAL RESOURCE AREAS

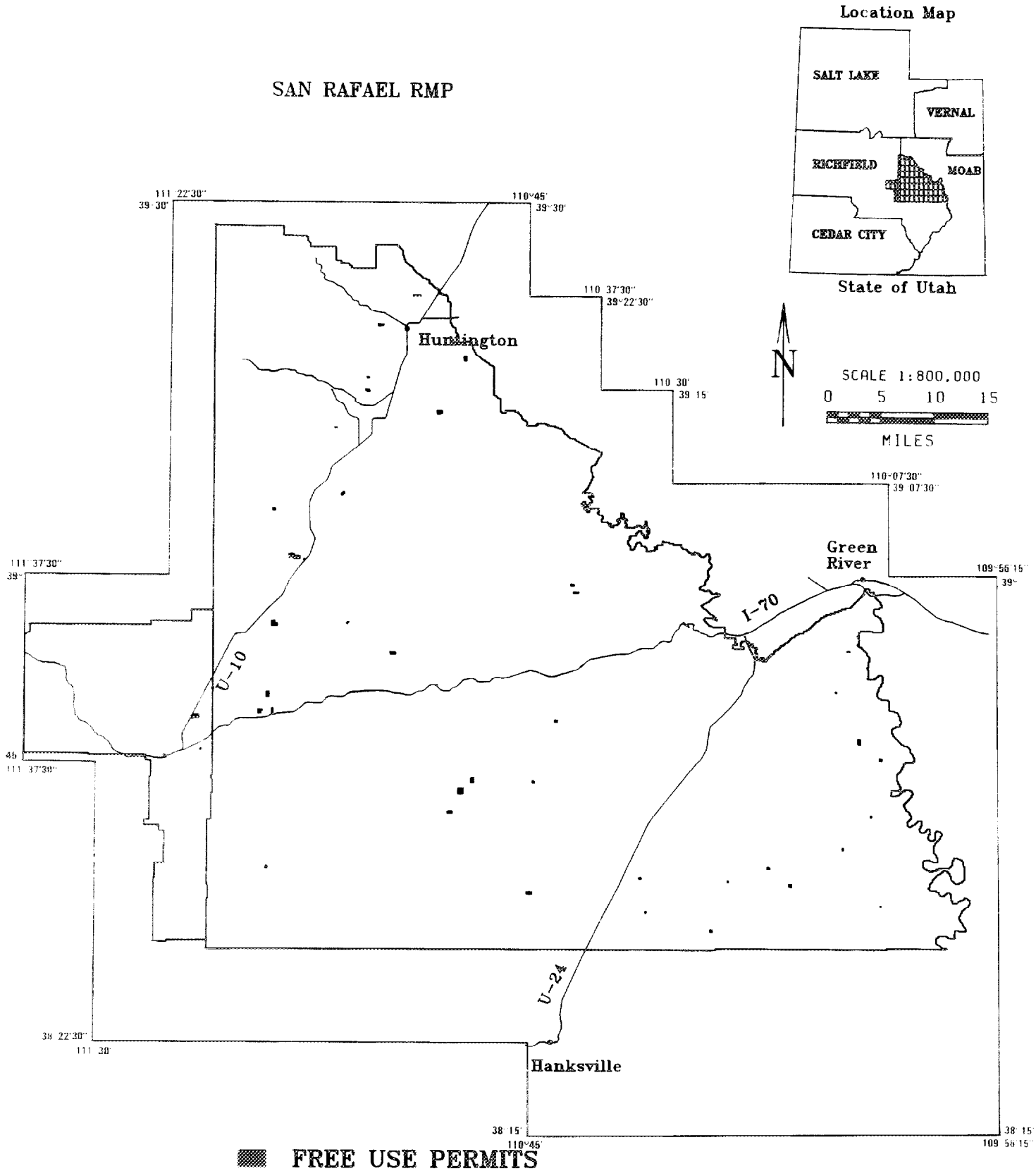
MAP 19



KRCRA BOUNDARY
SUITABLE FOR COAL DEVELOPMENT
SENSITIVE FOR COAL DEVELOPMENT
UNSUITABLE FOR COAL DEVELOPMENT
RMP BOUNDARY

COAL SUITABILITY

MAP 20

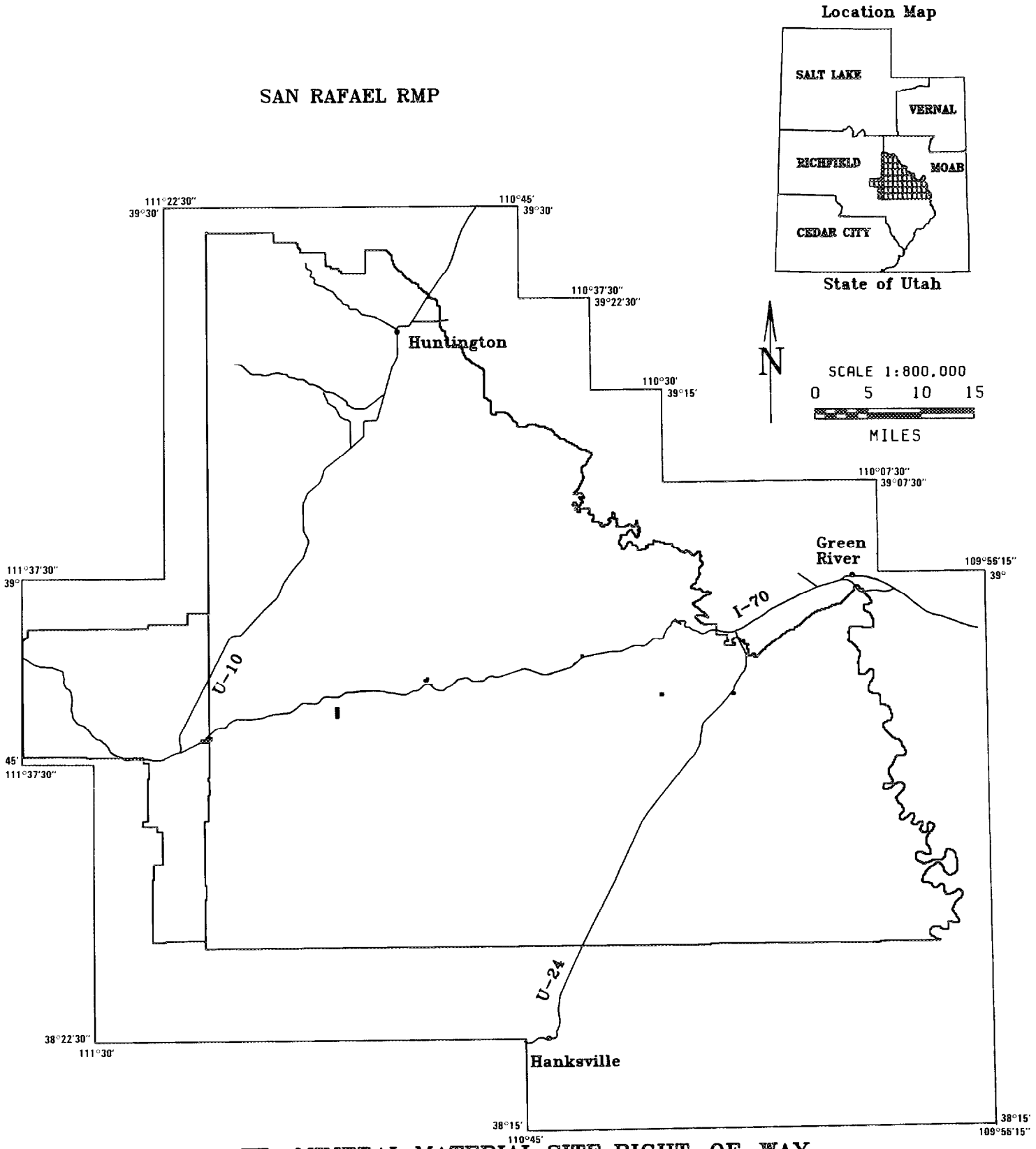


FREE USE PERMITS

PLANNING AREA BOUNDARY

FREE USE PERMITS FOR MINERAL MATERIALS

MAP 21



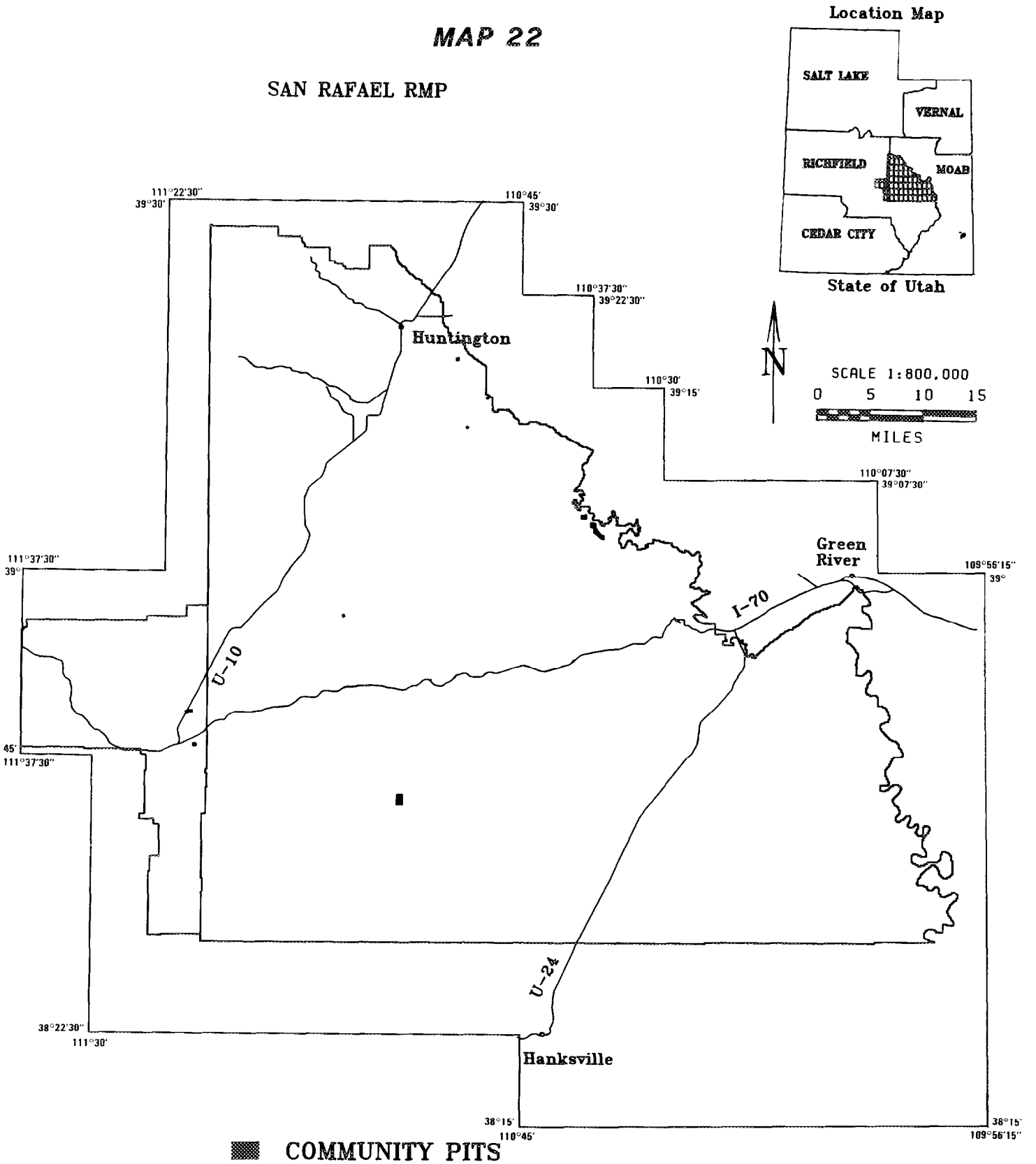
MINERAL MATERIAL SITE RIGHT-OF-WAY

— PLANNING AREA BOUNDARY

MINERAL MATERIAL SITE RIGHTS-OF-WAY

MAP 22

SAN RAFAEL RMP

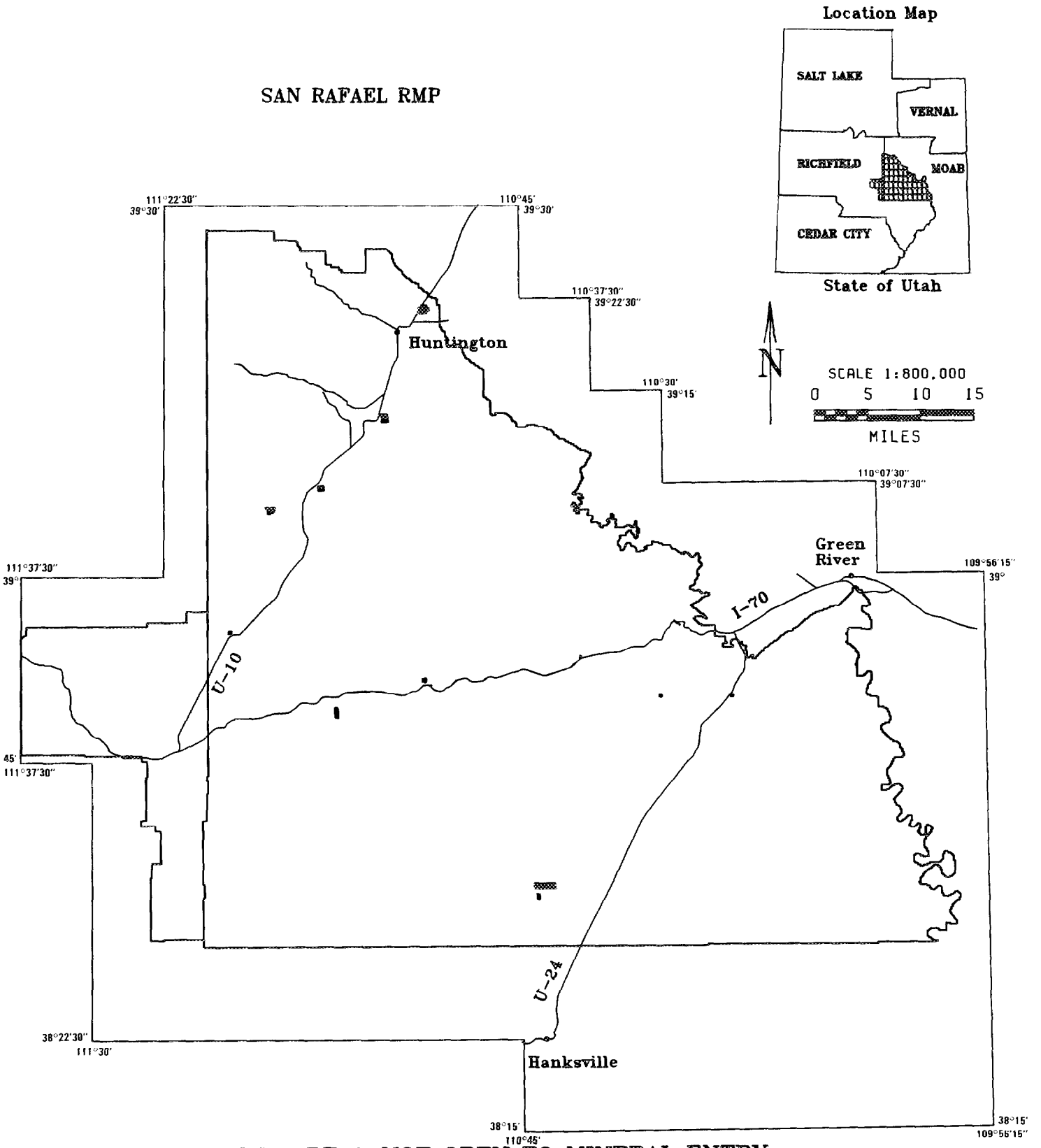


COMMUNITY PITS

PLANNING AREA BOUNDARY

COMMUNITY PITS FOR MINERAL MATERIALS

MAP 23

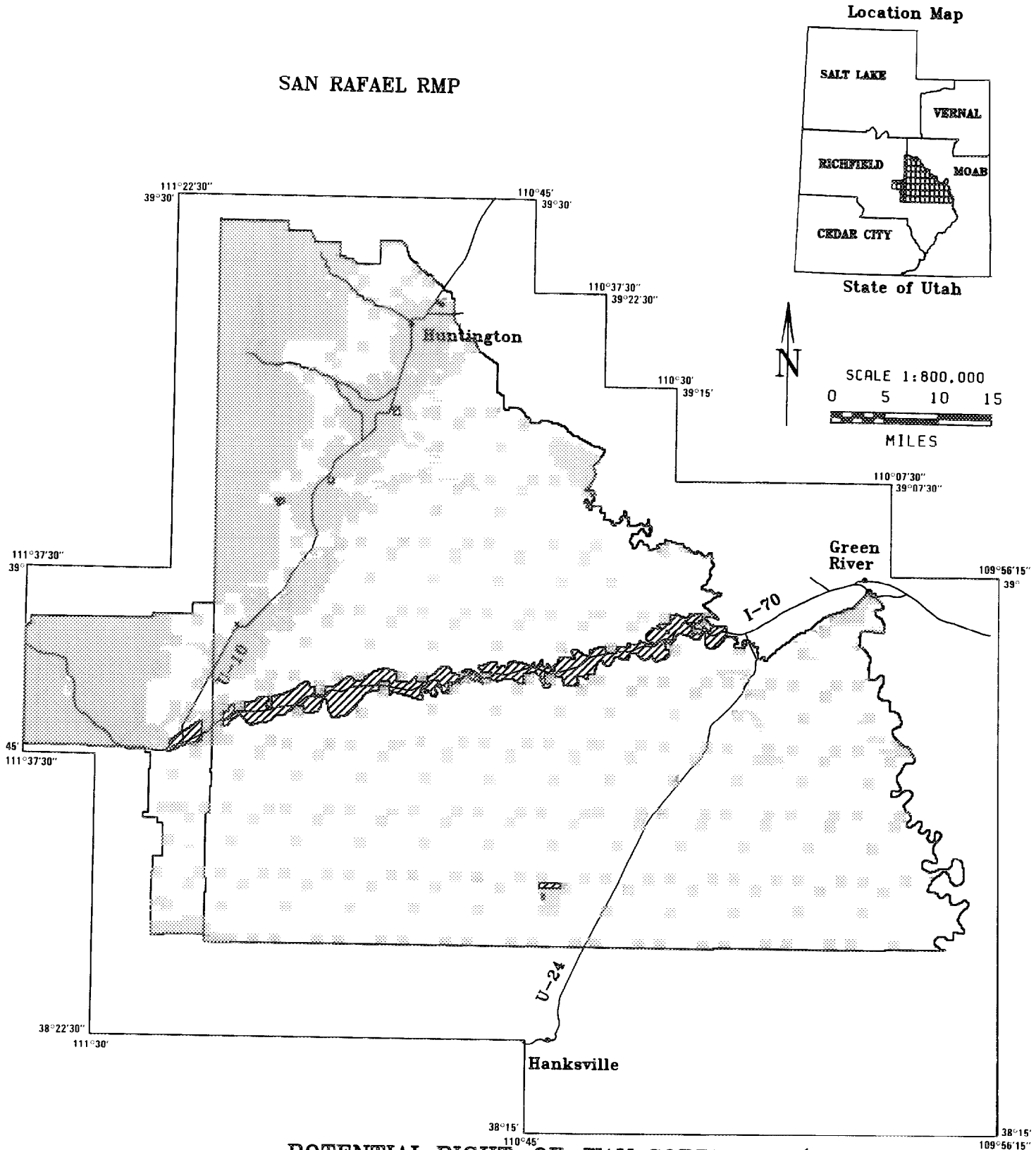


AREAS NOT OPEN TO MINERAL ENTRY

— PLANNING AREA BOUNDARY

AREAS NOT OPEN TO MINERAL ENTRY

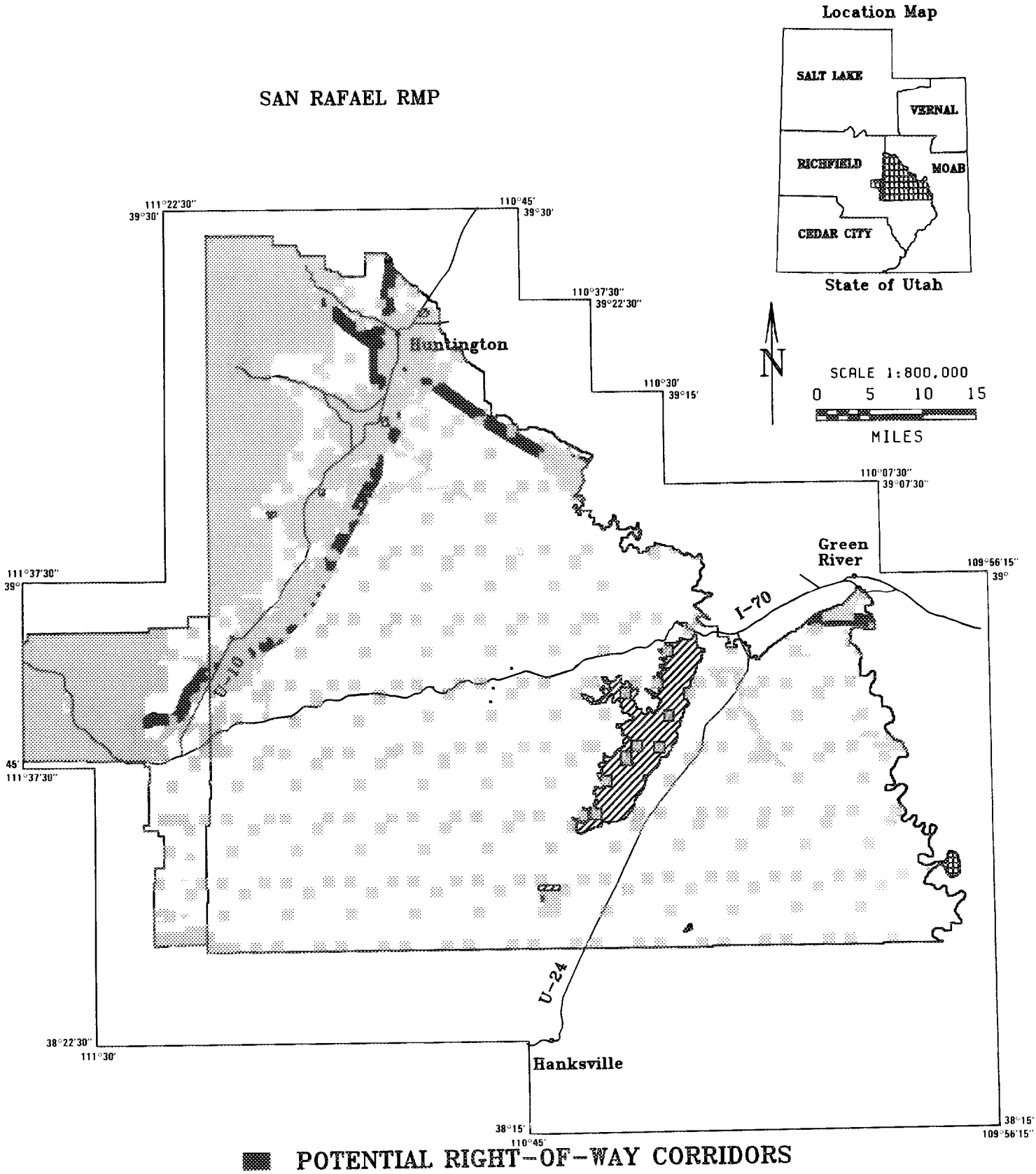
MAP 24



POTENTIAL RIGHT-OF-WAY CORRIDORS (NONE)
AVOIDANCE AREAS
EXCLUSION AREAS (NONE)
PLANNING AREA BOUNDARY

RIGHT-OF-WAY CORRIDORS AND AVOIDANCE/EXCLUSION AREAS
ALTERNATIVE A

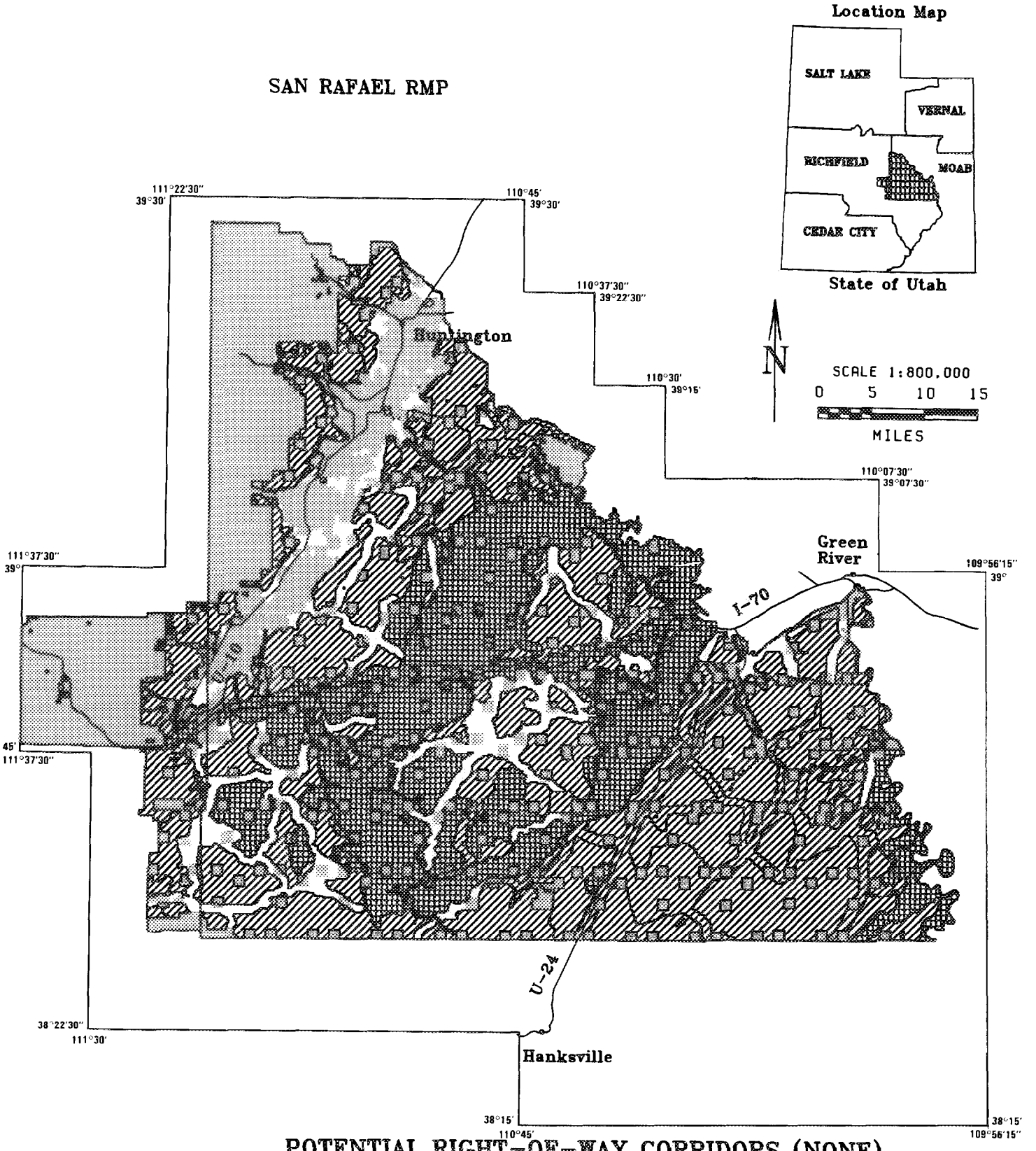
MAP 25



POTENTIAL RIGHT-OF-WAY CORRIDORS
AVOIDANCE AREAS
EXCLUSION AREAS
PLANNING AREA BOUNDARY

RIGHT-OF-WAY CORRIDORS AND AVOIDANCE/EXCLUSION AREAS
ALTERNATIVE B

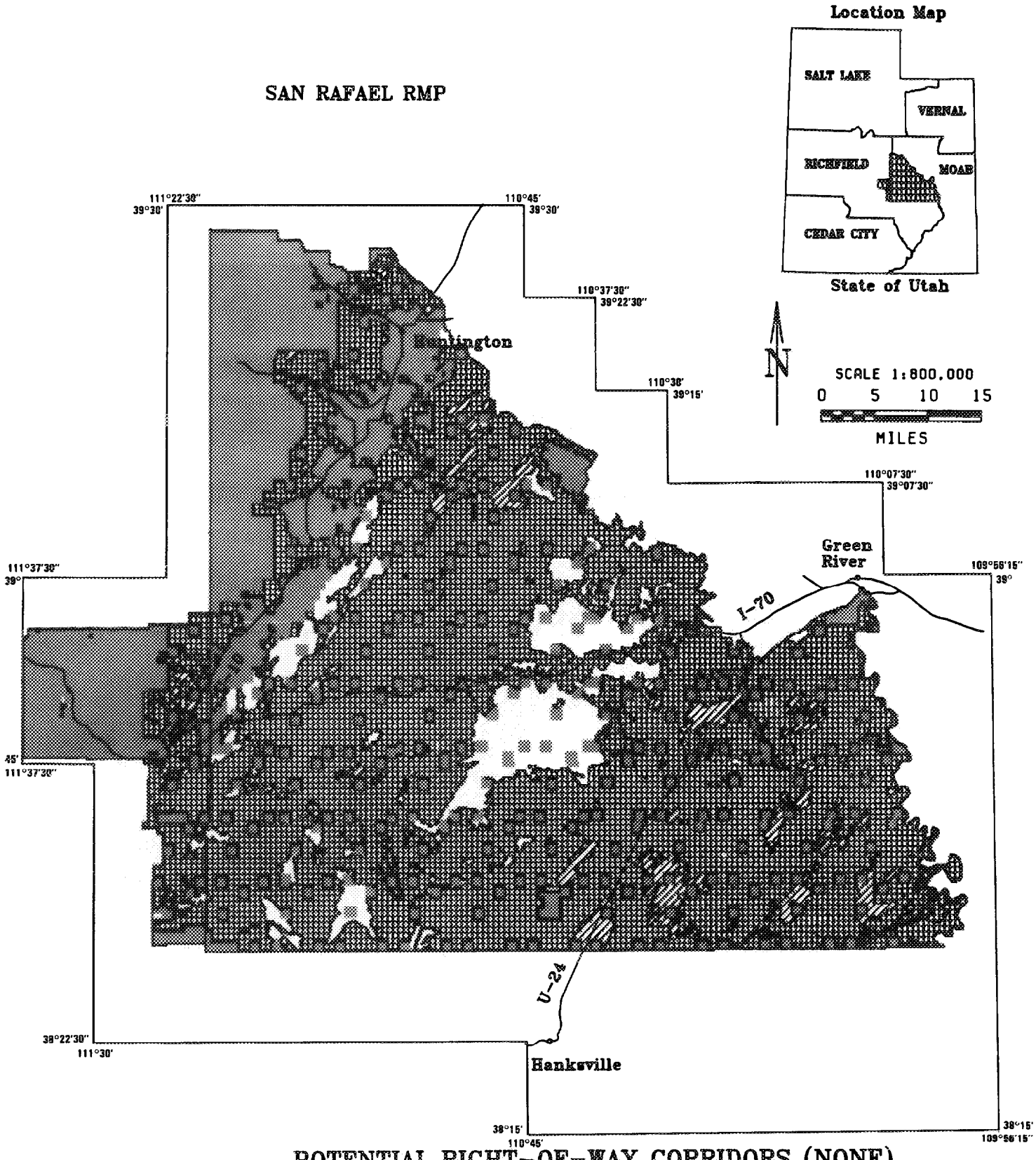
MAP 26



POTENTIAL RIGHT-OF-WAY CORRIDORS (NONE)
AVOIDANCE AREAS
EXCLUSION AREAS
PLANNING AREA BOUNDARY

RIGHT-OF-WAY CORRIDORS AND AVOIDANCE/EXCLUSION AREAS
ALTERNATIVE C

MAP 27



POTENTIAL RIGHT-OF-WAY CORRIDORS (NONE)

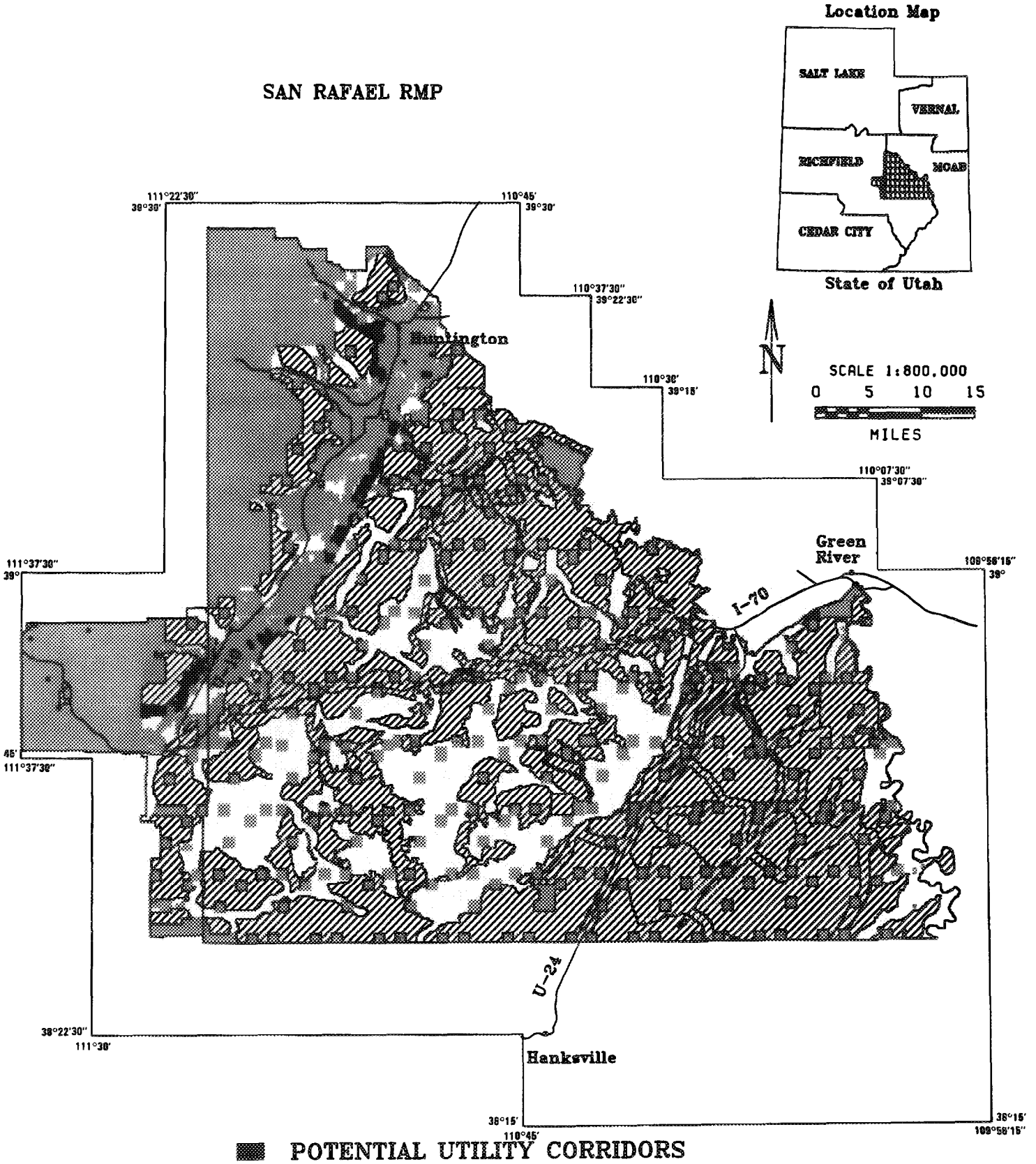
AVOIDANCE AREAS

EXCLUSION AREAS

PLANNING AREA BOUNDARY

RIGHT-OF-WAY CORRIDORS AND AVOIDANCE/EXCLUSION AREAS
ALTERNATIVE D

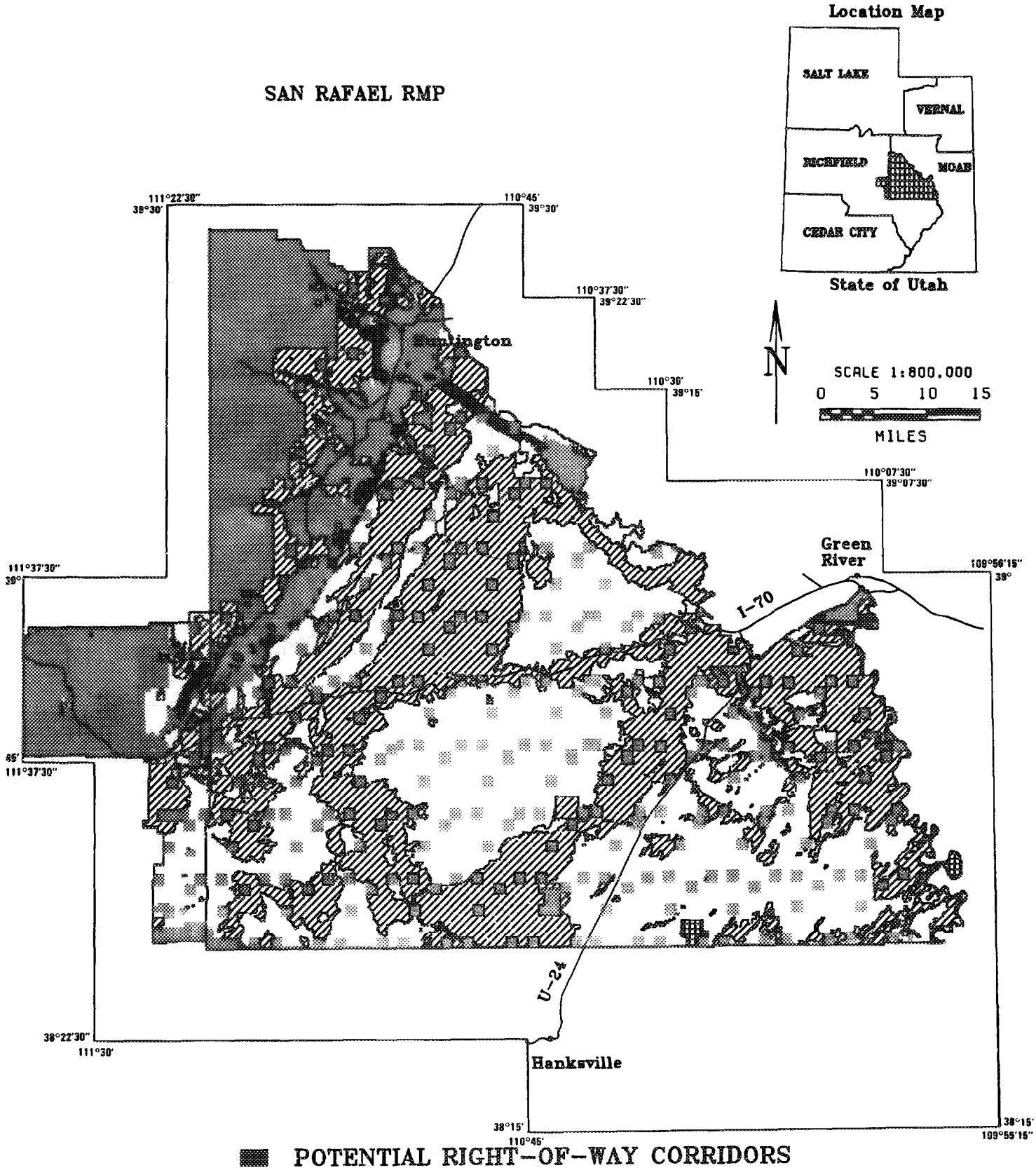
MAP 28



POTENTIAL UTILITY CORRIDORS
AVOIDANCE AREAS
EXCLUSION AREAS
PLANNING AREA BOUNDARY

RIGHT-OF-WAY CORRIDORS AND AVOIDANCE/EXCLUSION AREAS
ALTERNATIVE E

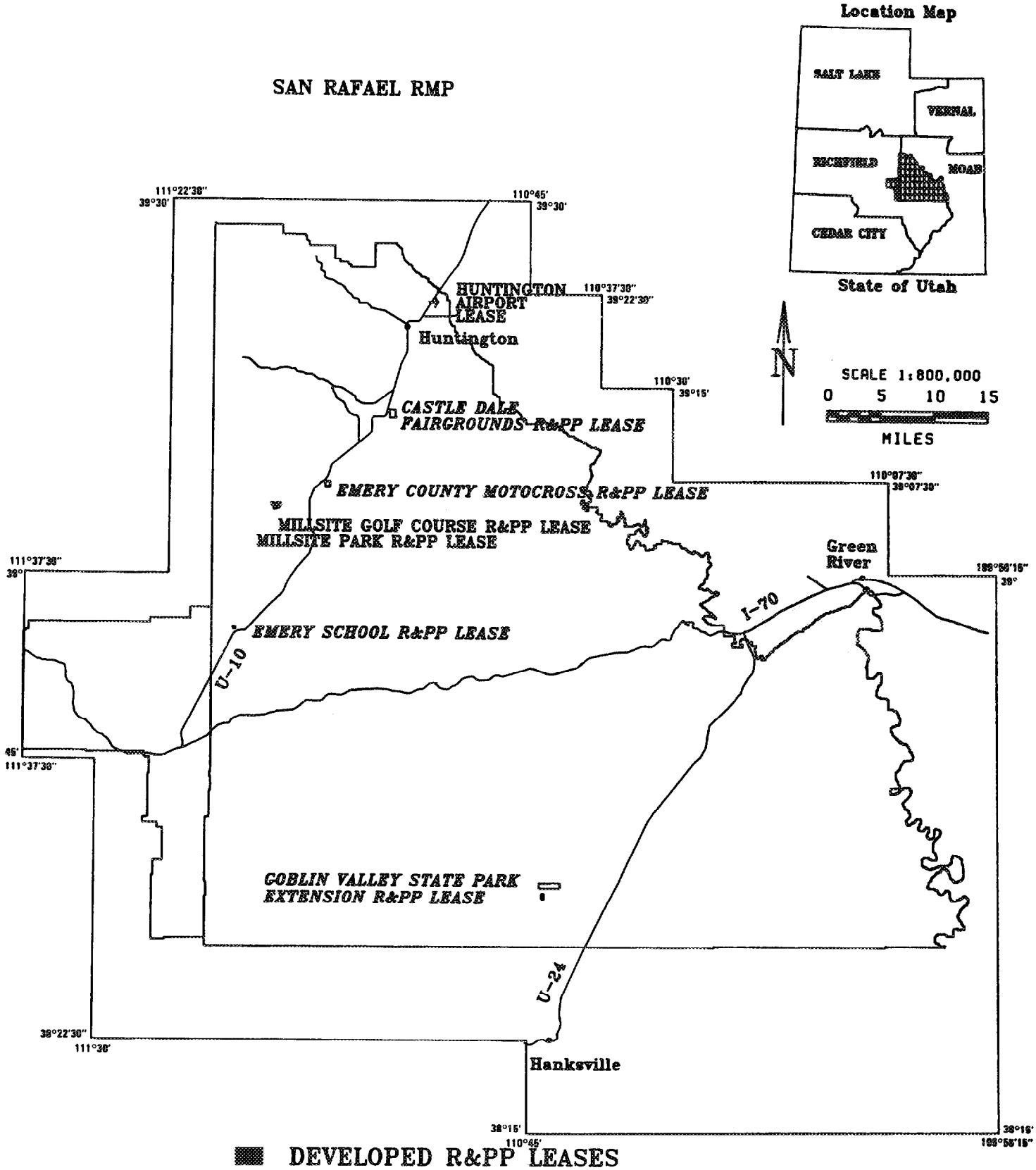
MAP 29



POTENTIAL RIGHT-OF-WAY CORRIDORS
AVOIDANCE AREAS
EXCLUSION AREAS
PLANNING AREA BOUNDARY

RIGHT-OF-WAY CORRIDORS AND AVOIDANCE/EXCLUSION AREAS
ALTERNATIVE F

MAP 30



DEVELOPED R&PP LEASES

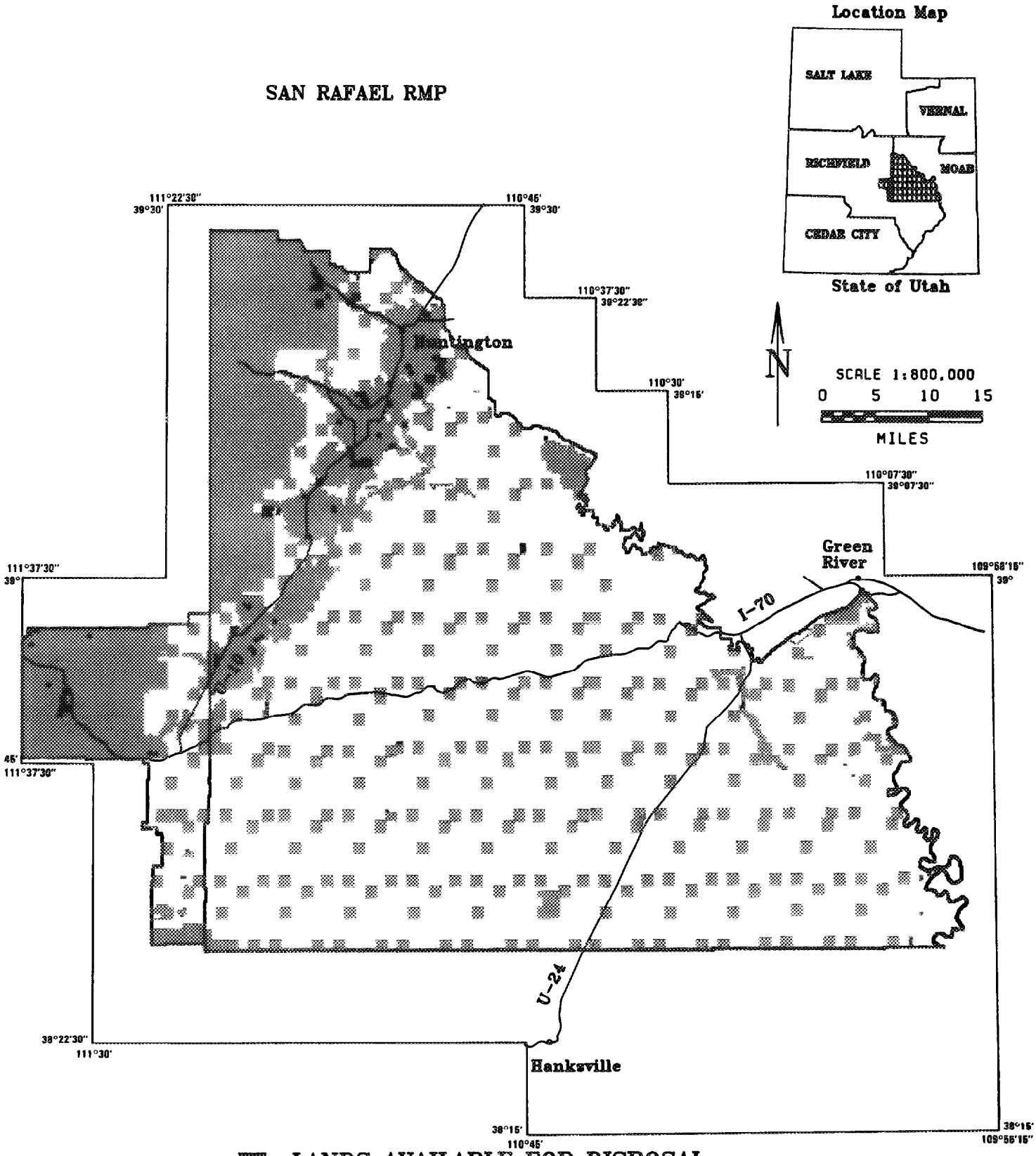
UNDEVELOPED R&PP LEASES

AIRPORT LEASE

PLANNING AREA BOUNDARY

LAND USE LEASES

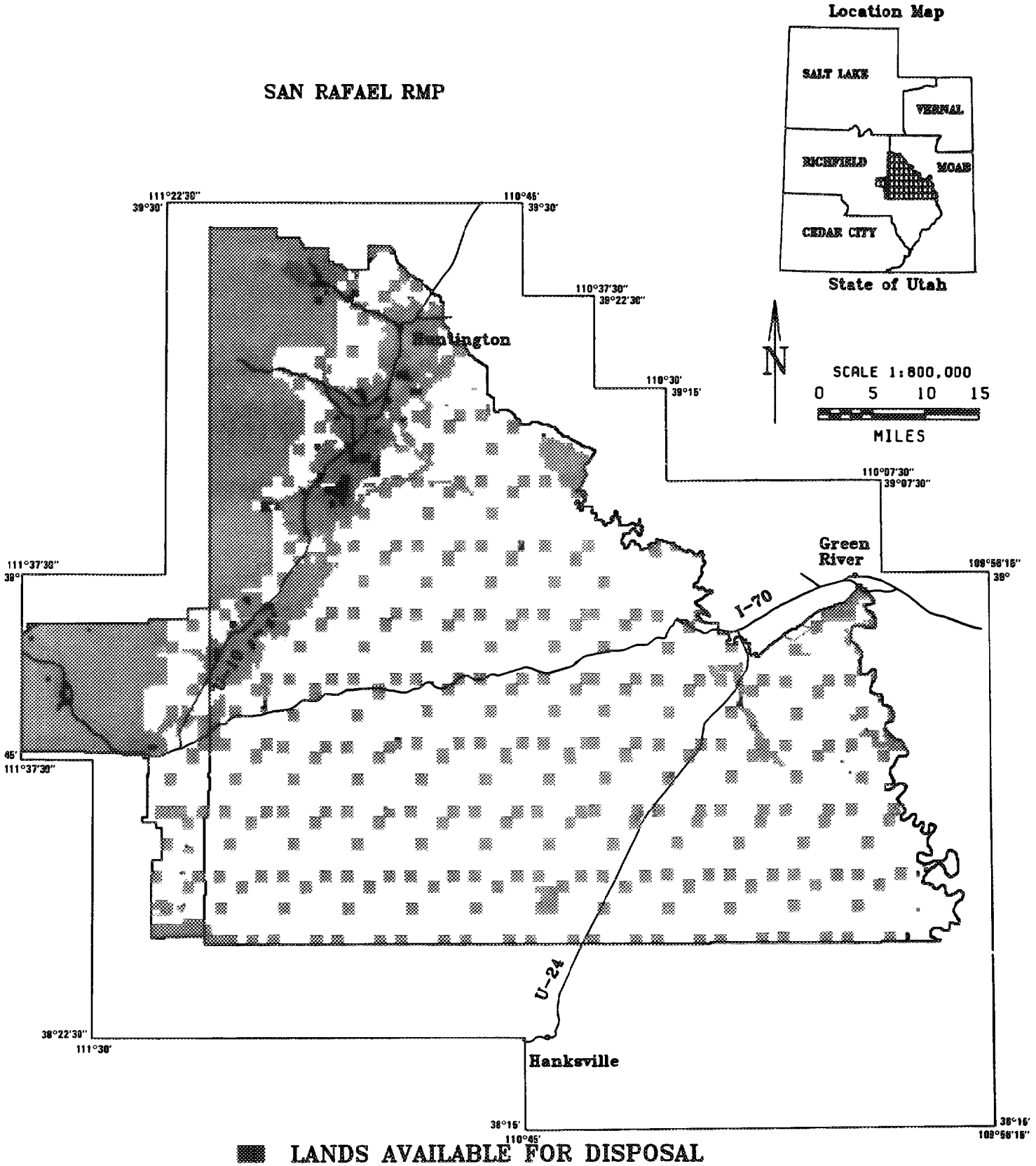
MAP 31



LANDS AVAILABLE FOR DISPOSAL
PLANNING AREA BOUNDARY

LAND DISPOSALS ALTERNATIVE A

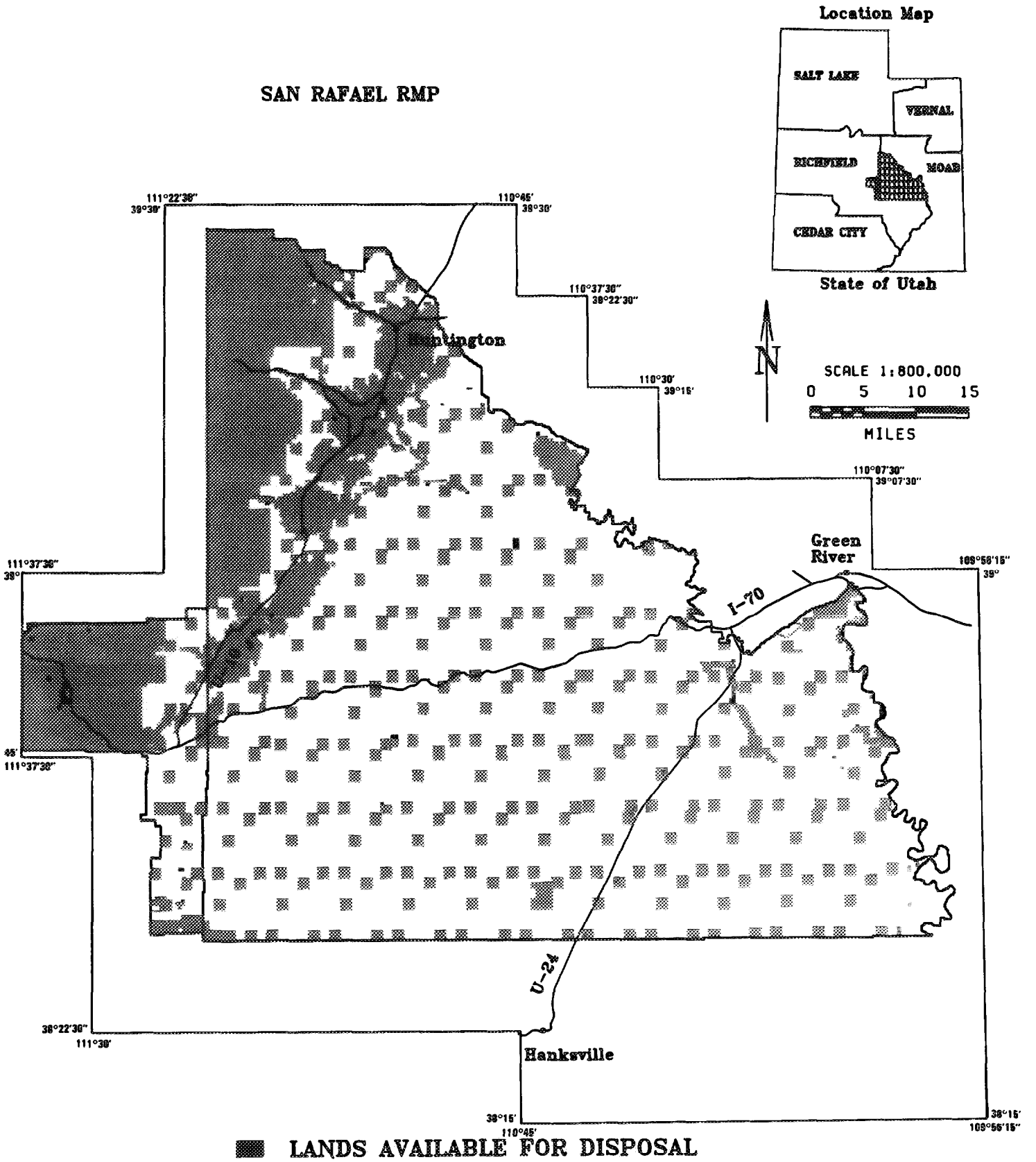
MAP 32



LANDS AVAILABLE FOR DISPOSAL
PLANNING AREA BOUNDARY

LAND DISPOSALS
ALTERNATIVE C

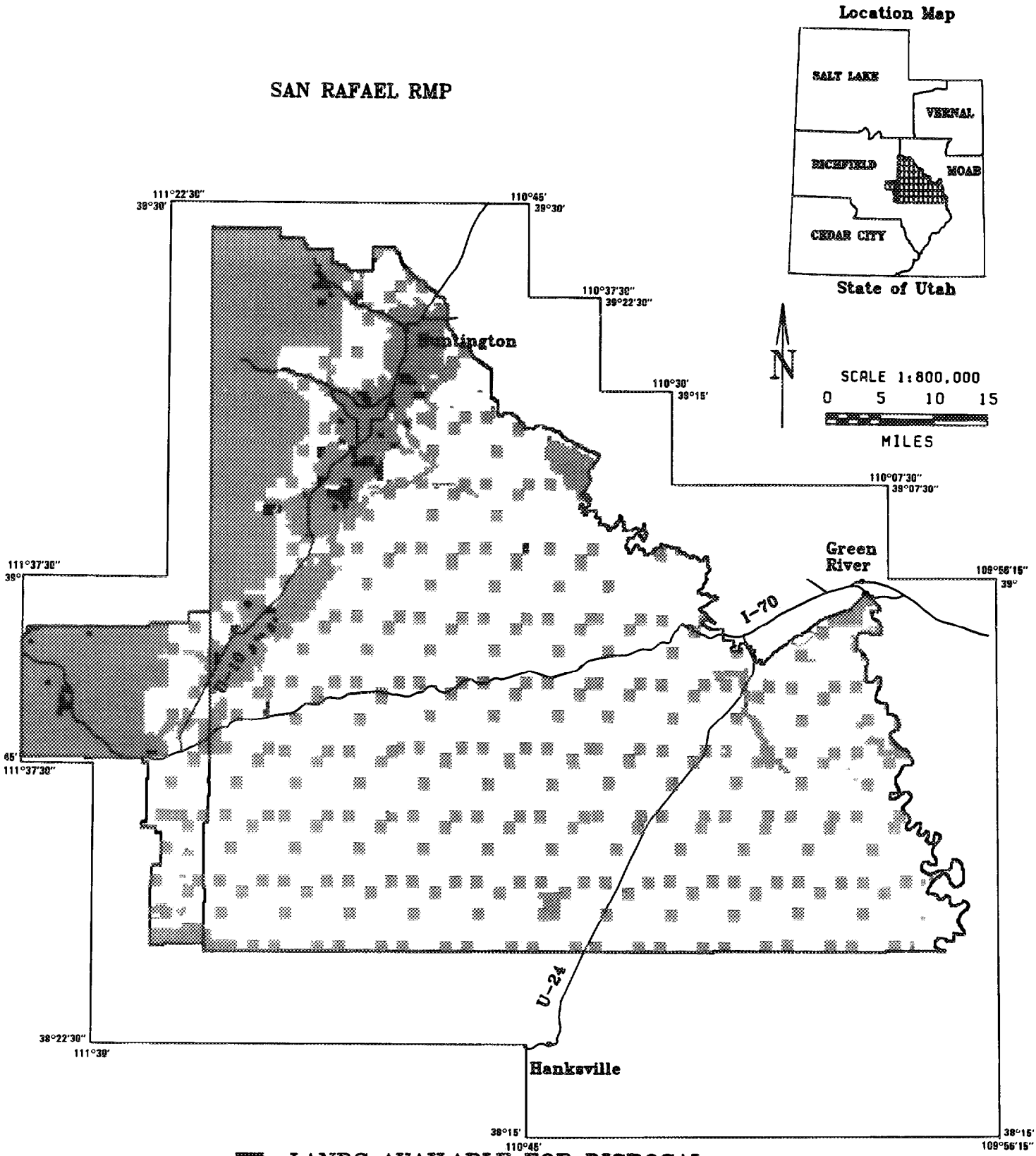
MAP 33



LANDS AVAILABLE FOR DISPOSAL
PLANNING AREA BOUNDARY

LAND DISPOSALS
ALTERNATIVE D

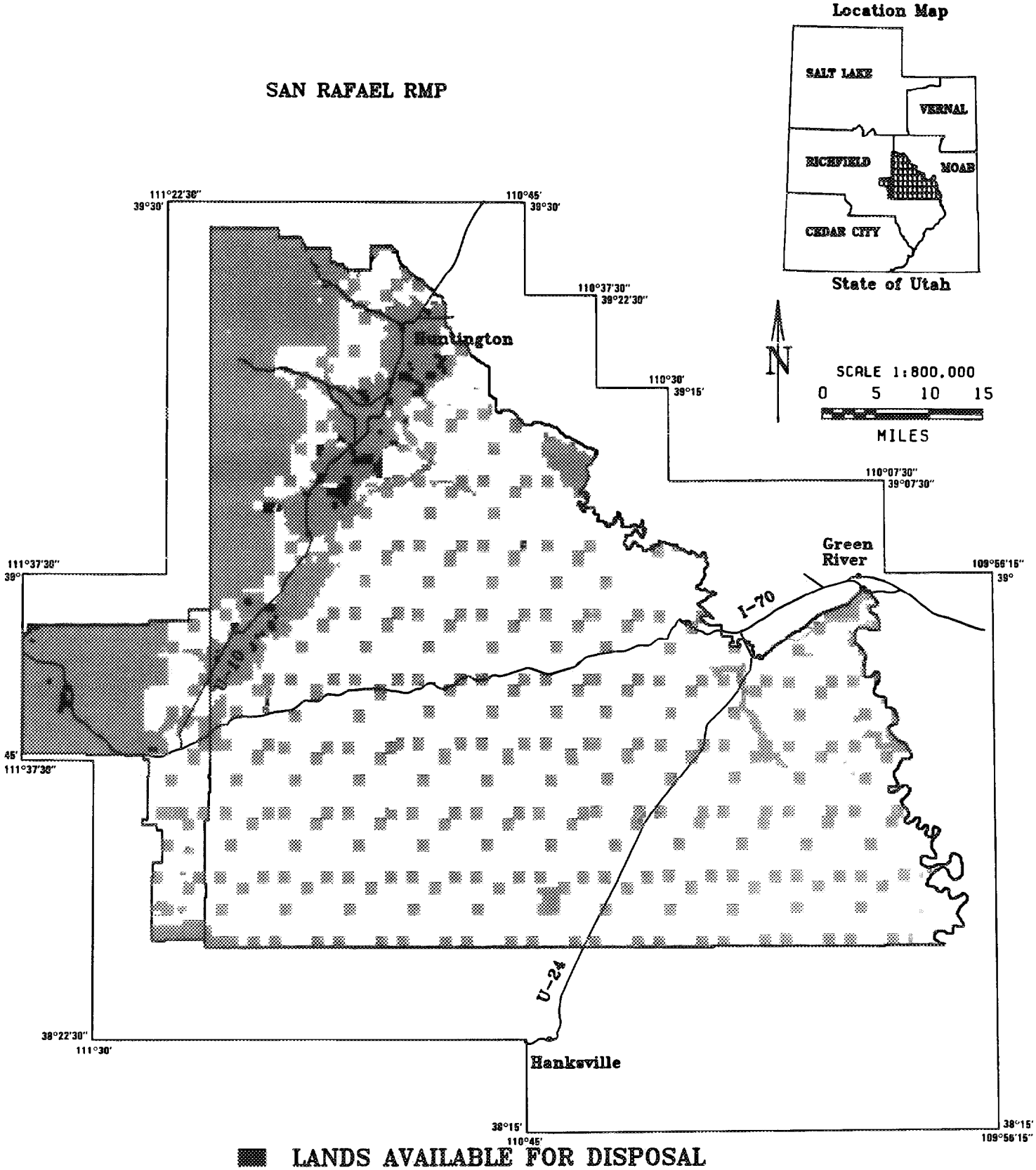
MAP 34



LANDS AVAILABLE FOR DISPOSAL
PLANNING AREA BOUNDARY

LAND DISPOSALS
ALTERNATIVE E

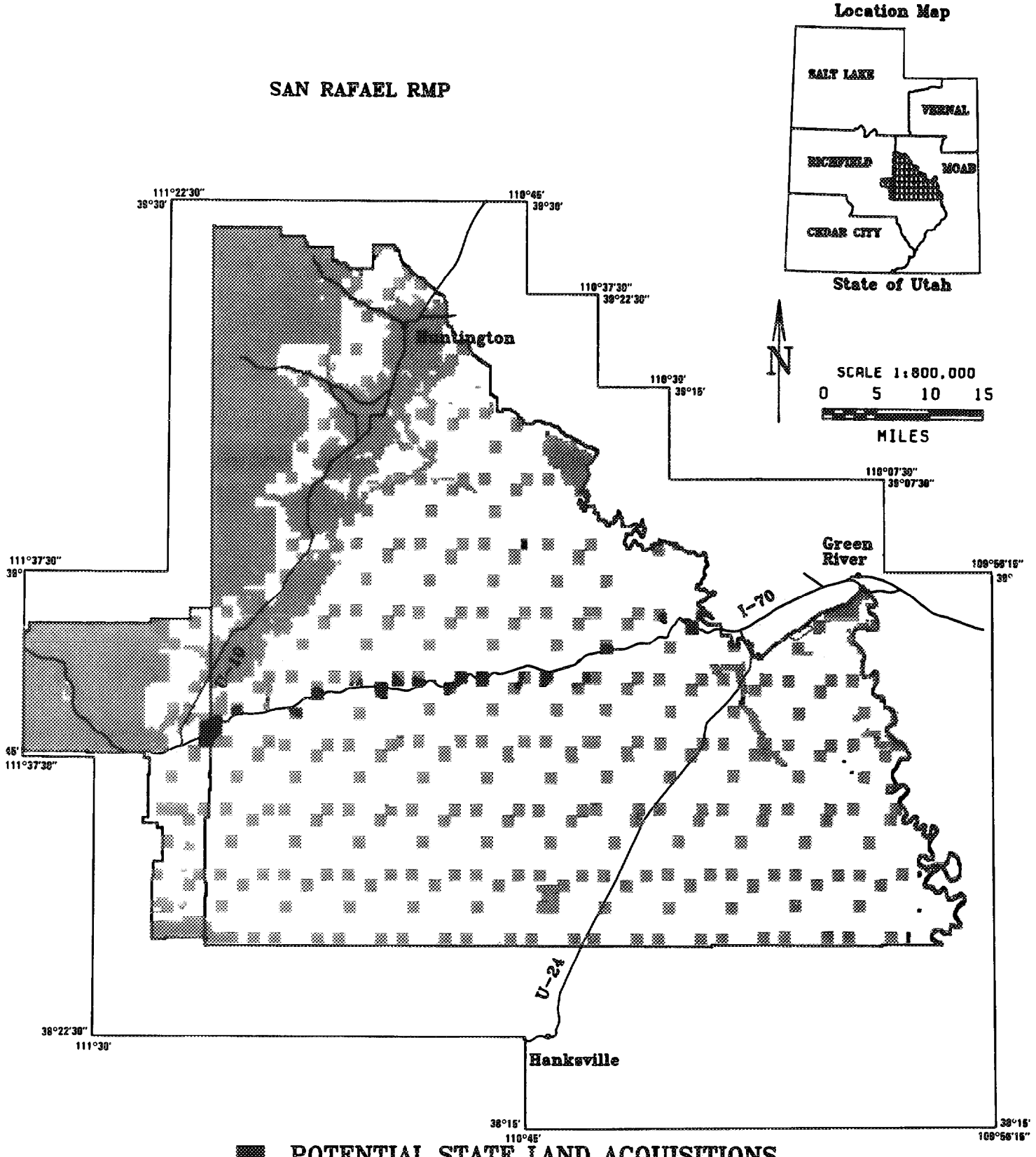
MAP 35



LANDS AVAILABLE FOR DISPOSAL
PLANNING AREA BOUNDARY

LAND DISPOSALS
ALTERNATIVE F

MAP 36

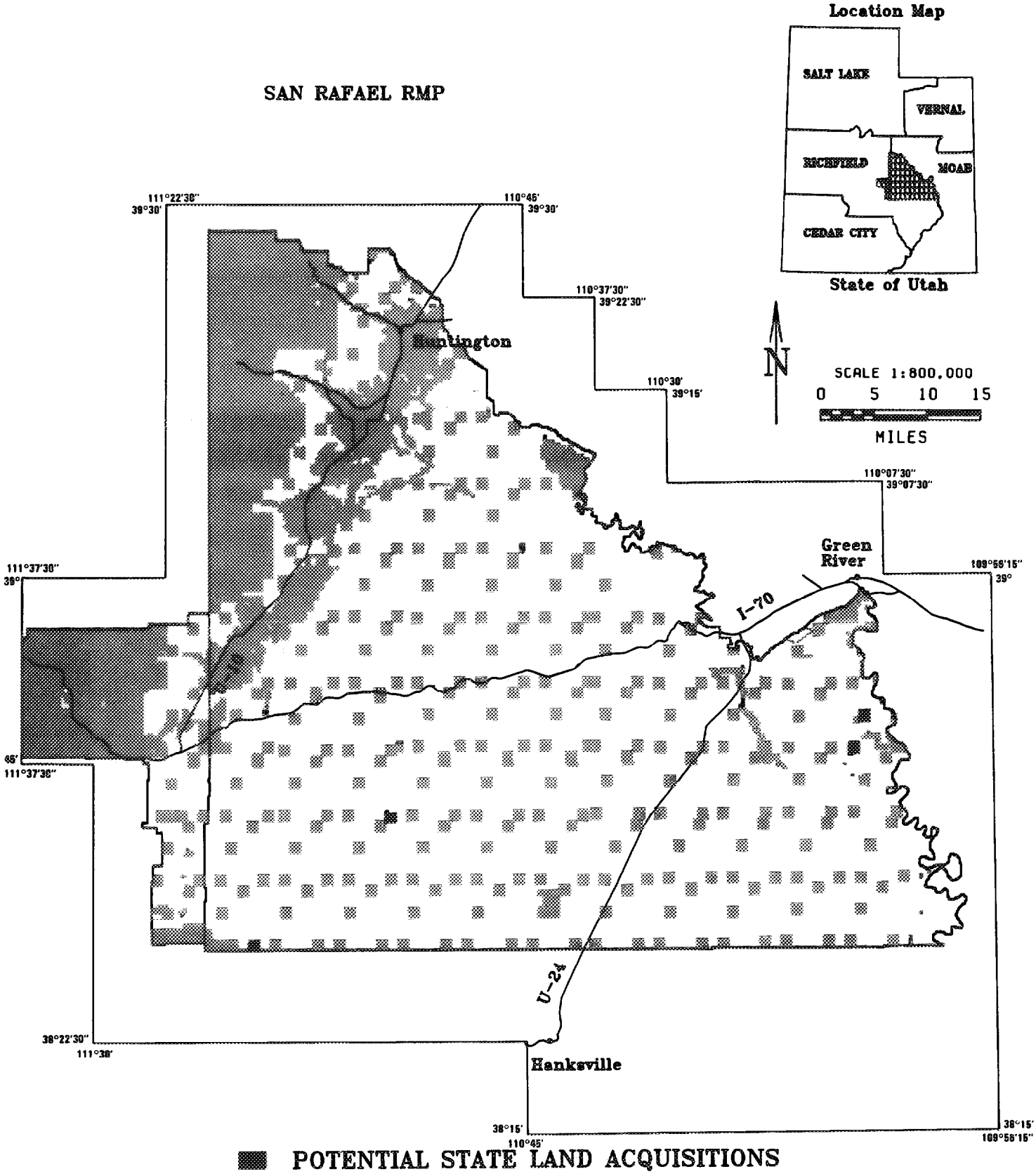


POTENTIAL STATE LAND ACQUISITIONS

PLANNING AREA BOUNDARY

POTENTIAL LAND ACQUISITIONS
ALTERNATIVE C

MAP 37

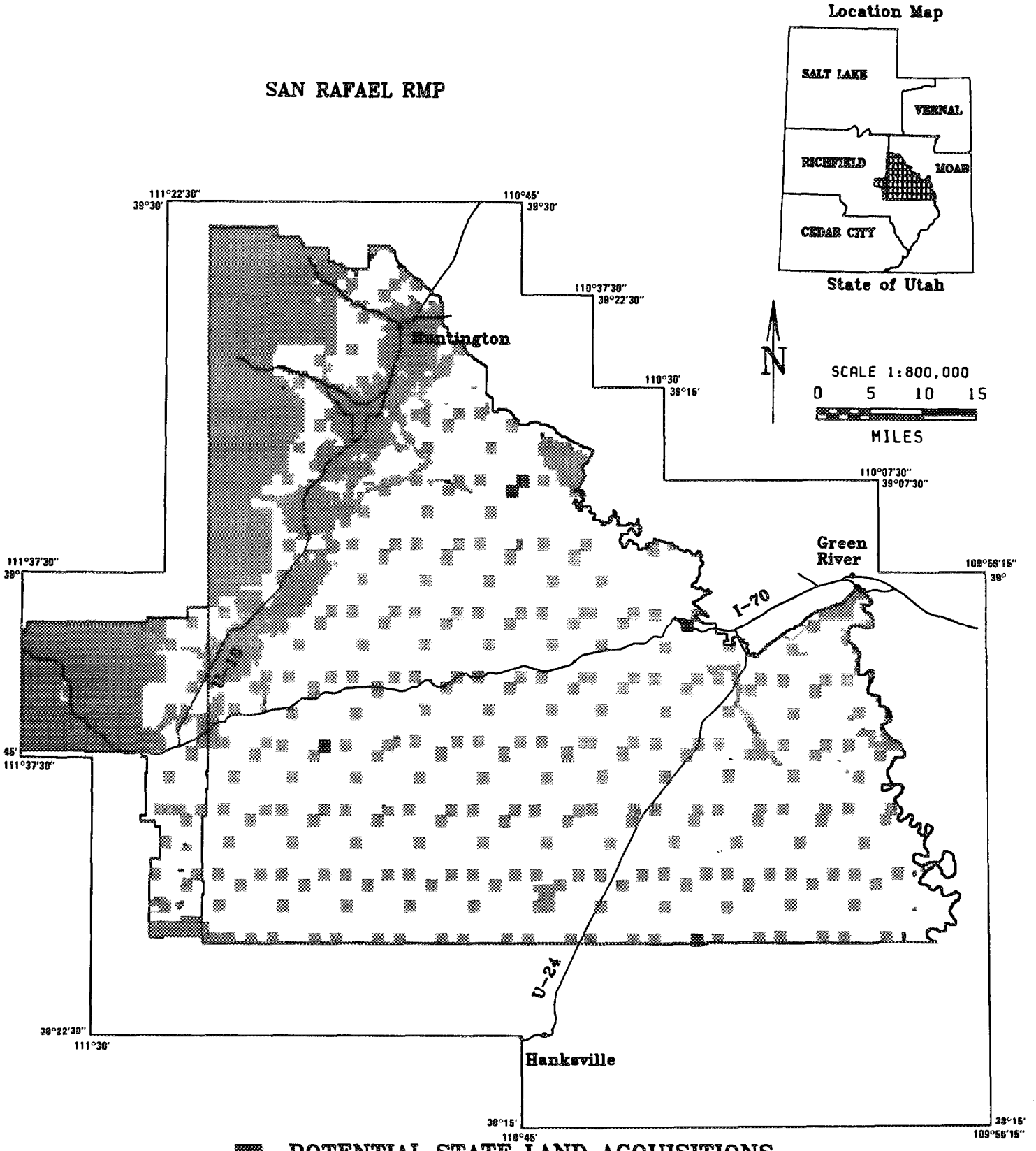


POTENTIAL STATE LAND ACQUISITIONS

PLANNING AREA BOUNDARY

POTENTIAL LAND ACQUISITIONS
ALTERNATIVE D

MAP 38

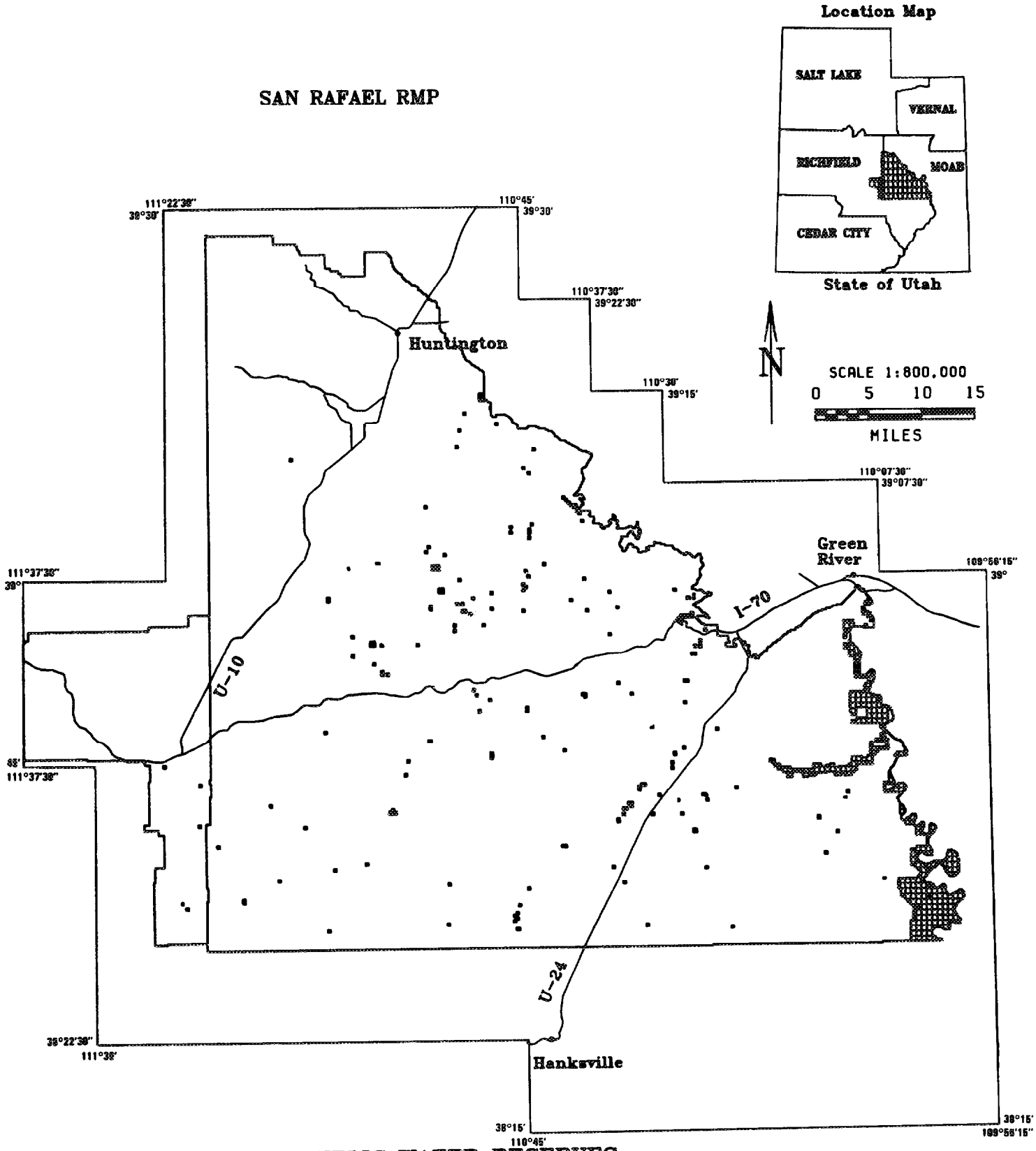


POTENTIAL STATE LAND ACQUISITIONS

PLANNING AREA BOUNDARY

POTENTIAL LAND ACQUISITIONS
ALTERNATIVE F

MAP 39



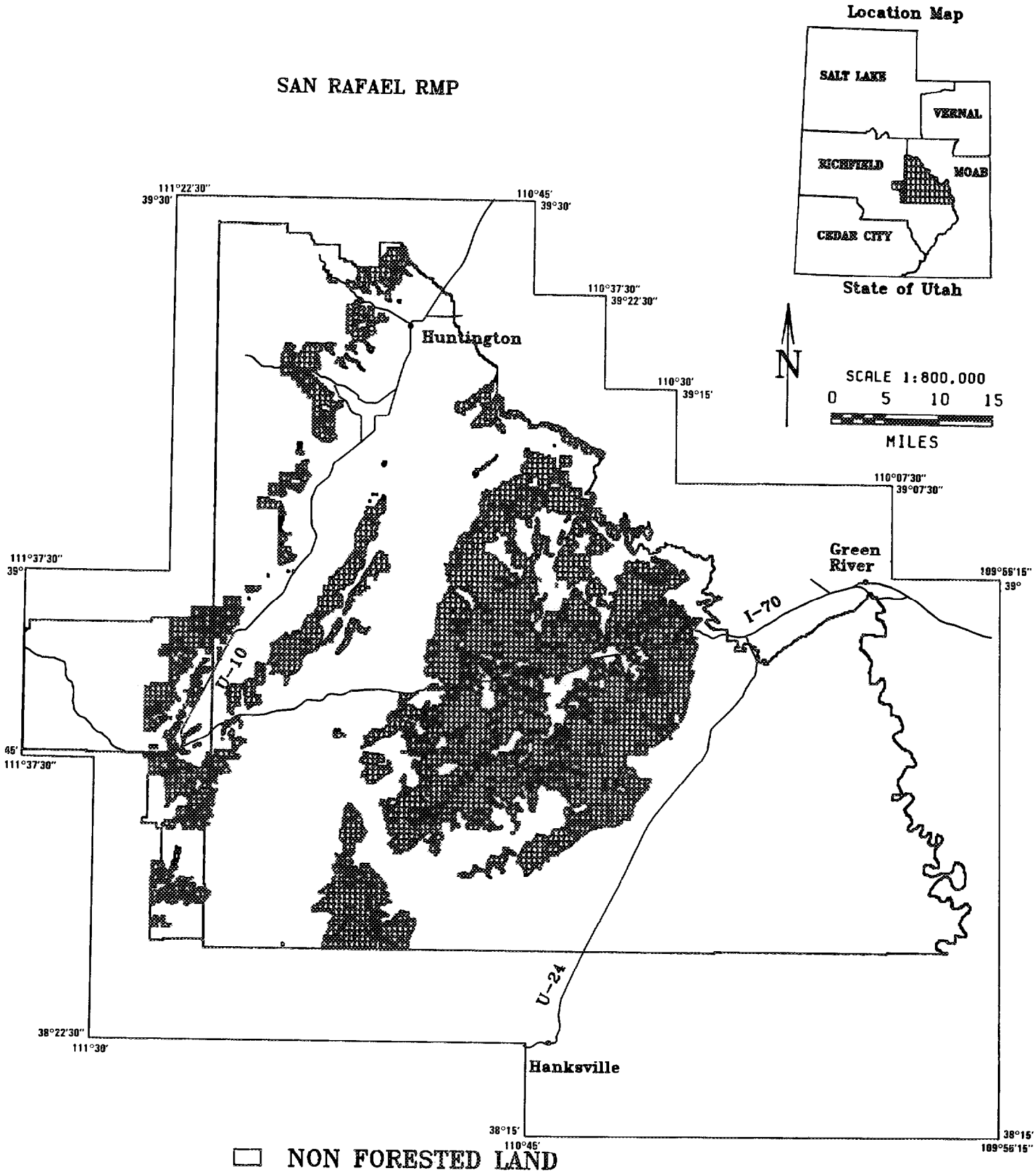
PUBLIC WATER RESERVES

POWERSITE WITHDRAWALS

— PLANNING AREA BOUNDARY

WITHDRAWALS

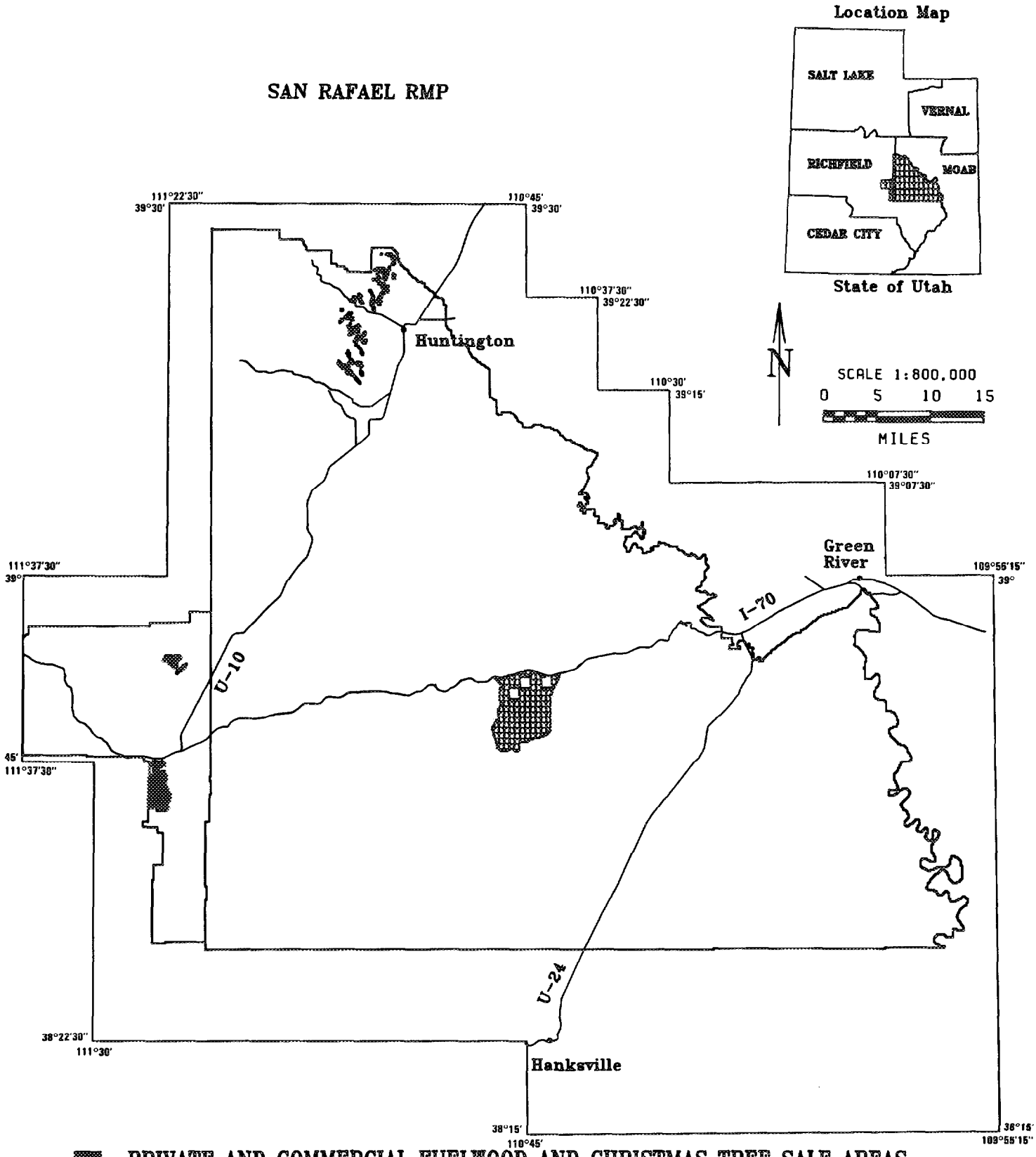
MAP 40



NON FORESTED LAND
FORESTED LAND
PLANNING AREA BOUNDARY

FORESTRY RESOURCES

MAP 41



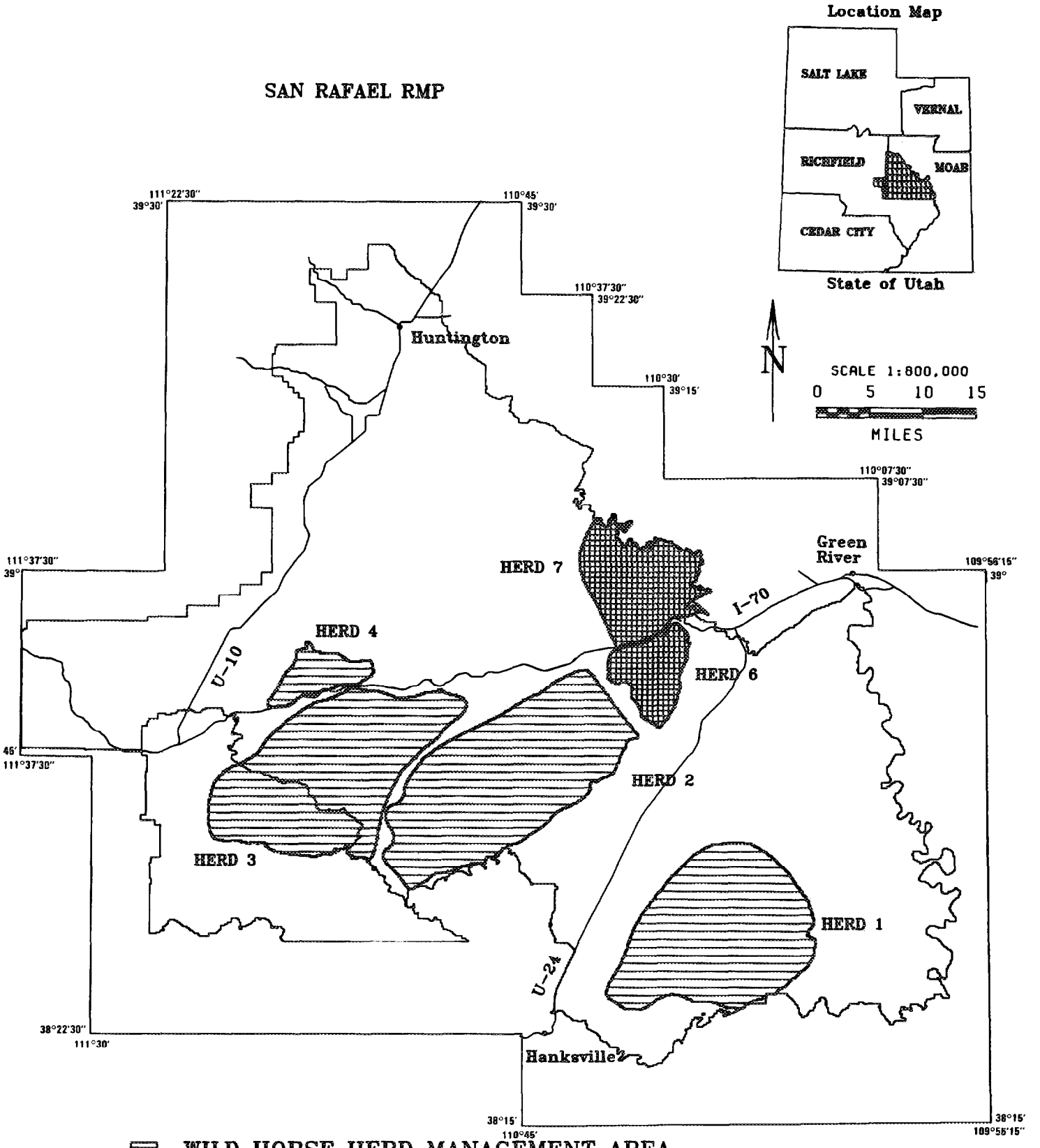
PRIVATE AND COMMERCIAL FUELWOOD AND CHRISTMAS TREE SALE AREAS (COMMERCIAL AREAS IN FPU ONLY)

PRIVATE CHRISTMAS TREE SALE AREAS

PLANNING AREA BOUNDARY

FOREST SPECIAL USE AREAS

MAP 42



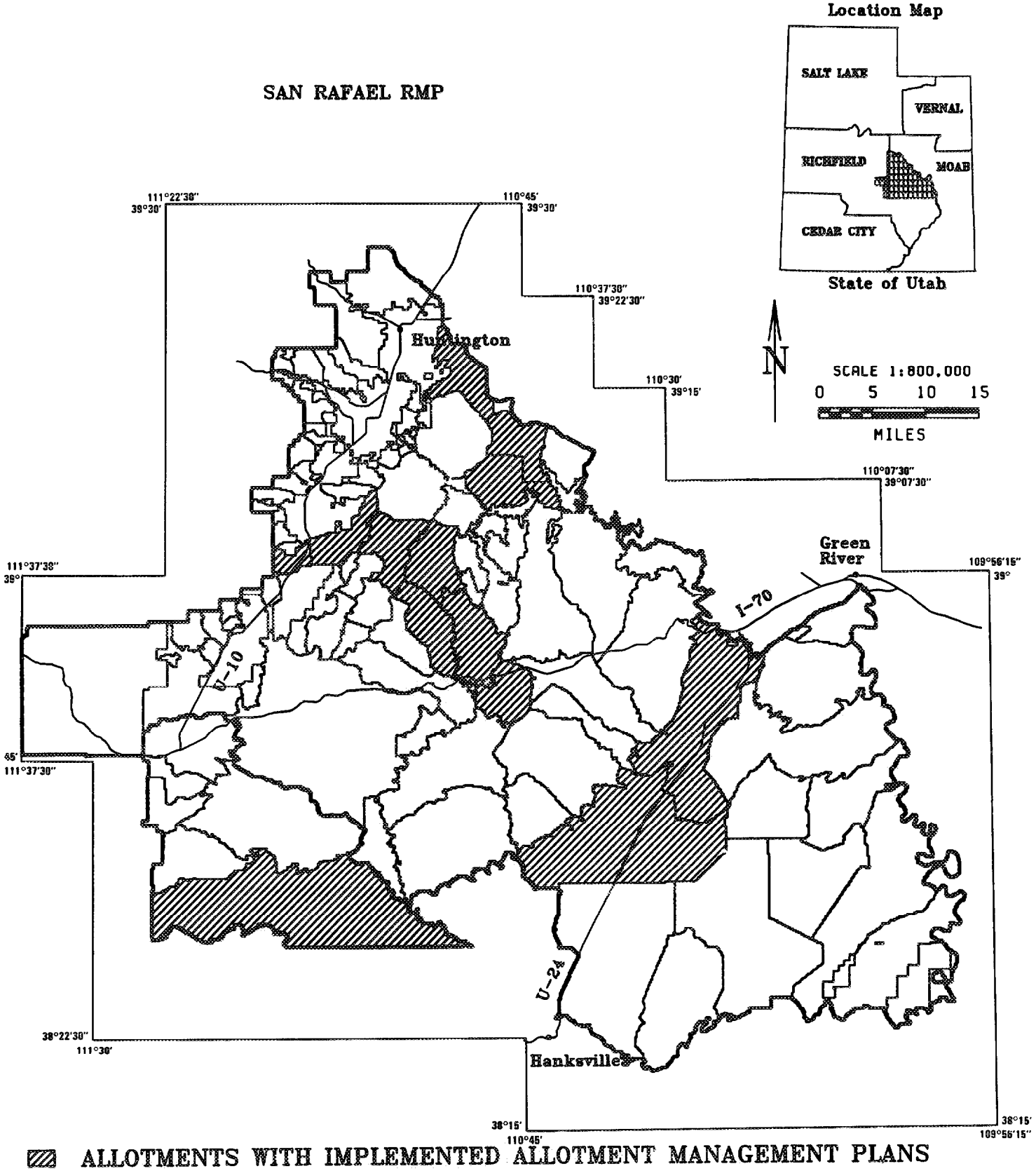
WILD HORSE HERD MANAGEMENT AREA

WILD BURRO HERD MANAGEMENT AREA

GRAZING EIS BOUNDARY

WILD HORSE AND BURRO HERD MANAGEMENT AREAS

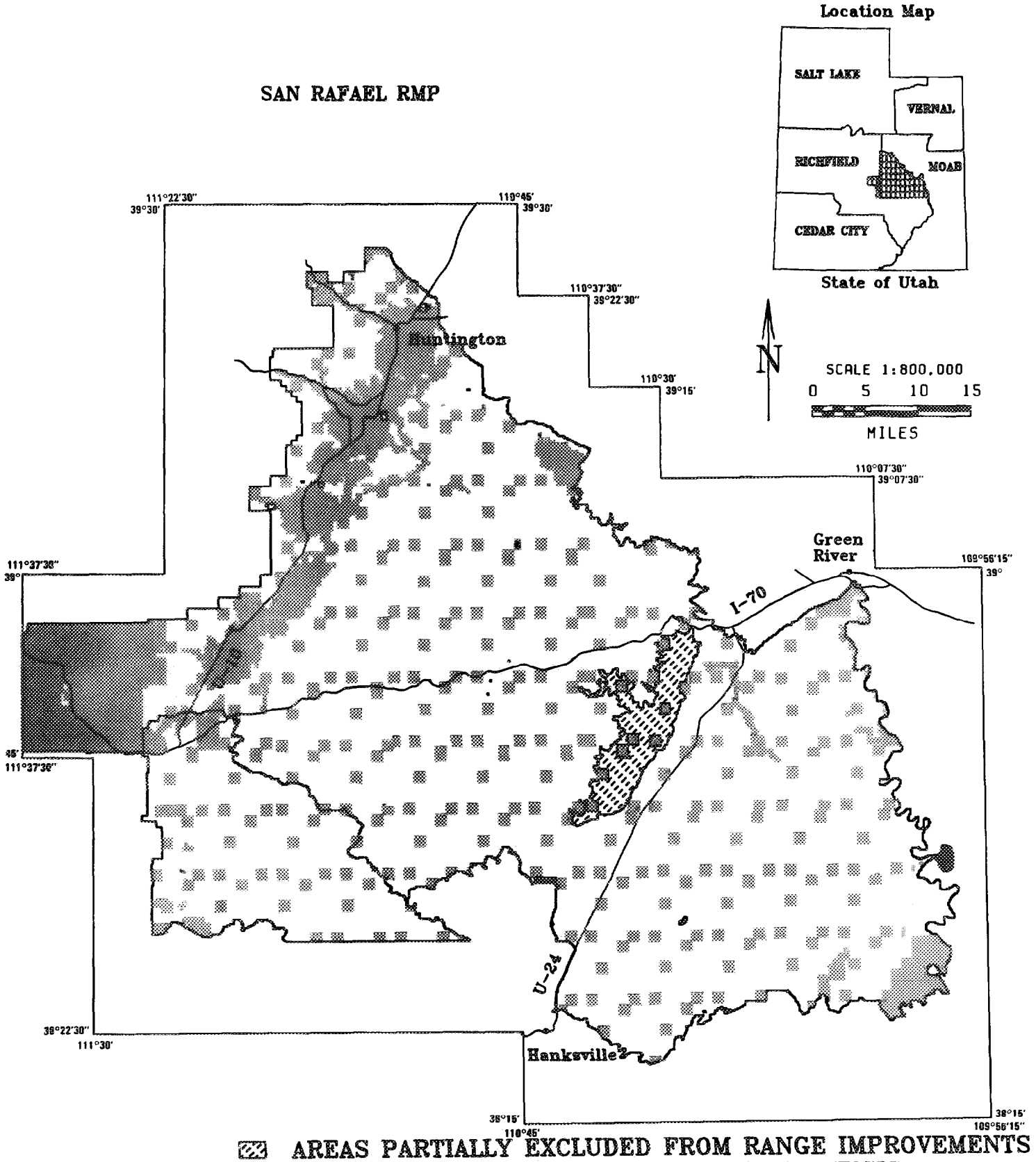
MAP 43



ALLOTMENTS WITH IMPLEMENTED ALLOTMENT MANAGEMENT PLANS
LIVESTOCK GRAZING ALLOTMENTS
GRAZING EIS BOUNDARY

LIVESTOCK GRAZING ALLOTMENTS

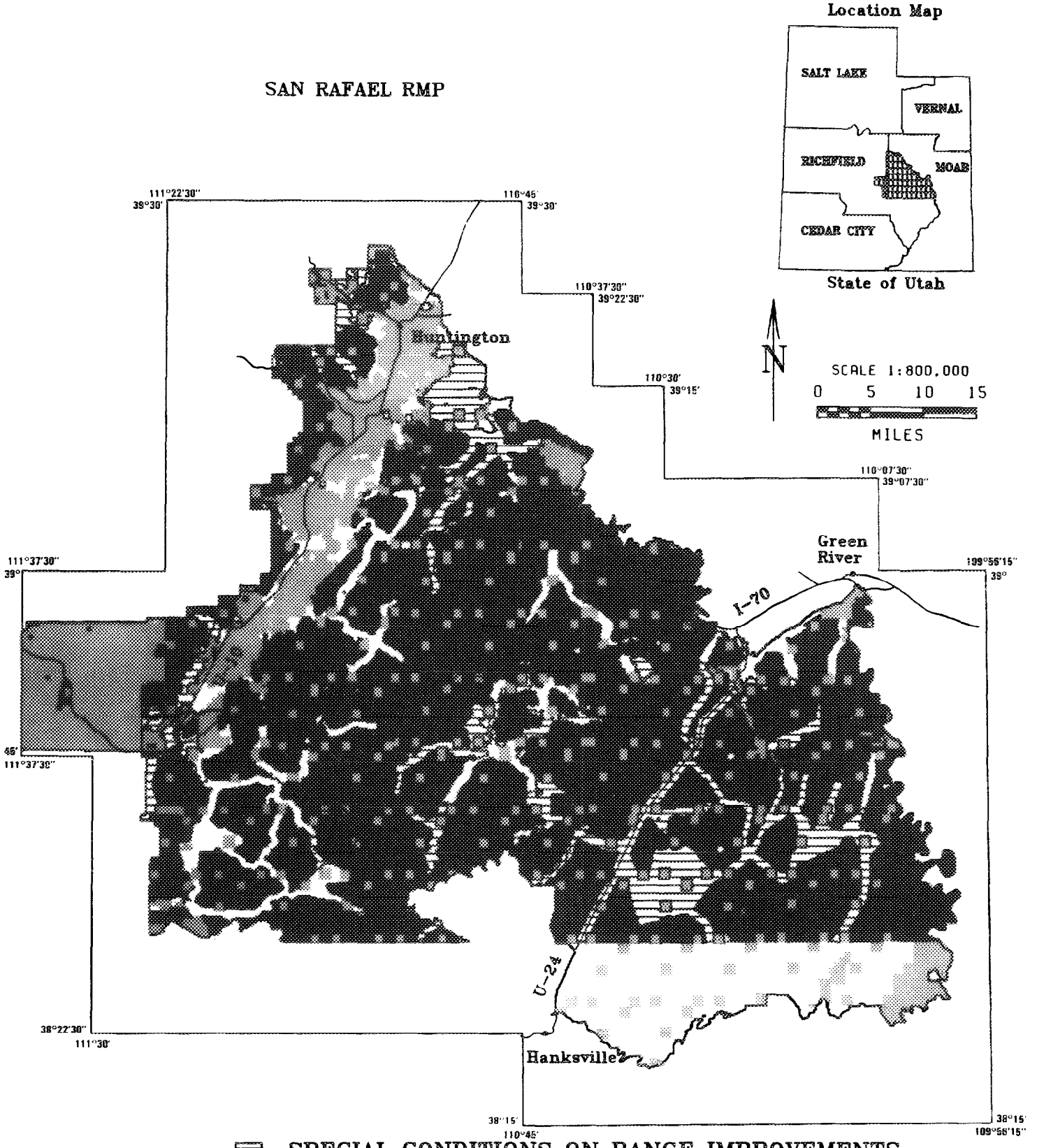
MAP 44



AREAS PARTIALLY EXCLUDED FROM RANGE IMPROVEMENTS
SPECIAL CONDITIONS ON RANGE IMPROVEMENTS
AREAS EXCLUDED FROM RANGE IMPROVEMENTS
— PLANNING AREA BOUNDARY

LIMITATIONS ON LIVESTOCK RELATED RANGE IMPROVEMENTS
ALTERNATIVE B

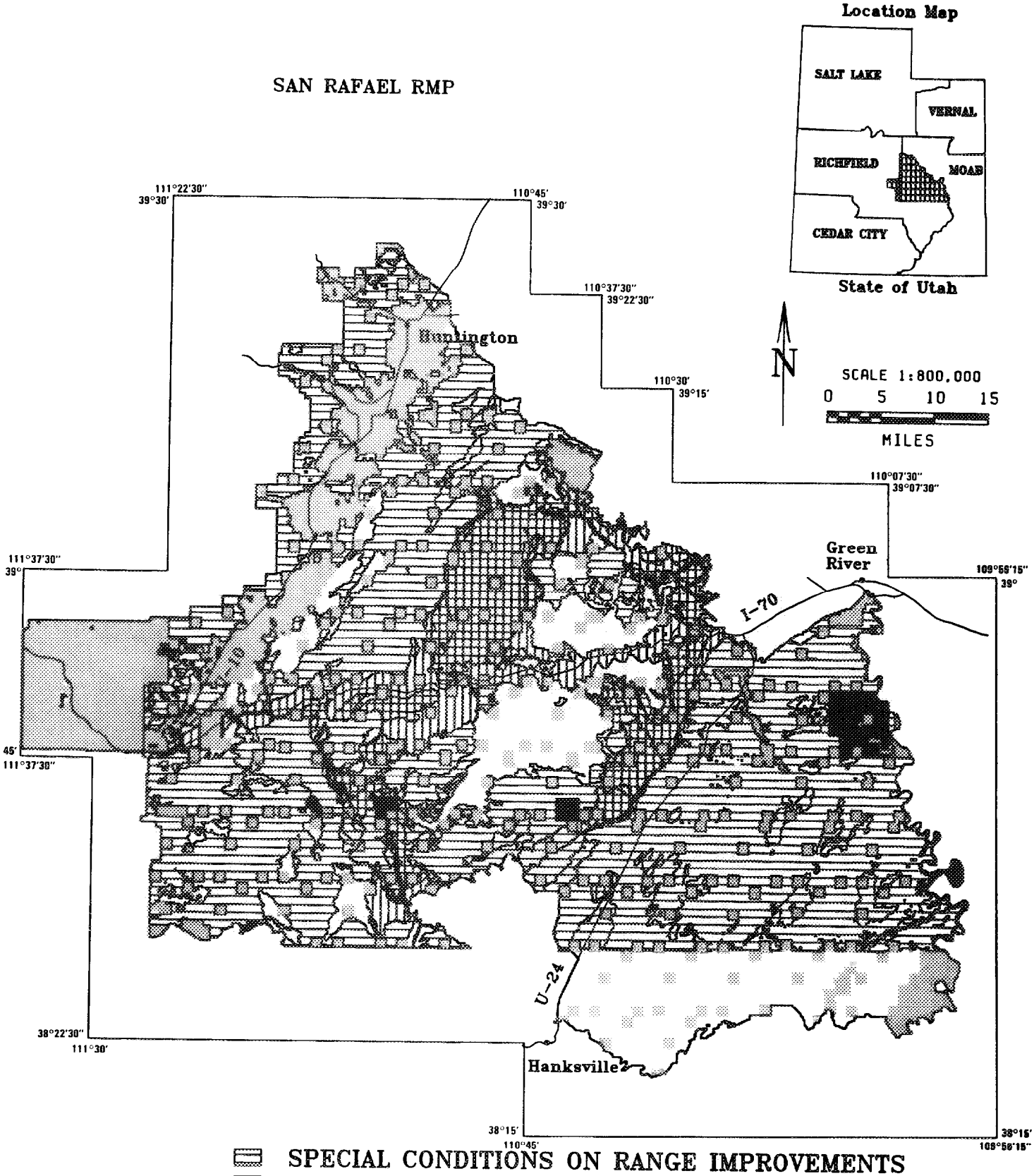
MAP 45



SPECIAL CONDITIONS ON RANGE IMPROVEMENTS
AREAS EXCLUDED FROM RANGE IMPROVEMENTS
PLANNING AREA BOUNDARY

LIMITATIONS ON LIVESTOCK RELATED RANGE IMPROVEMENTS
ALTERNATIVE C

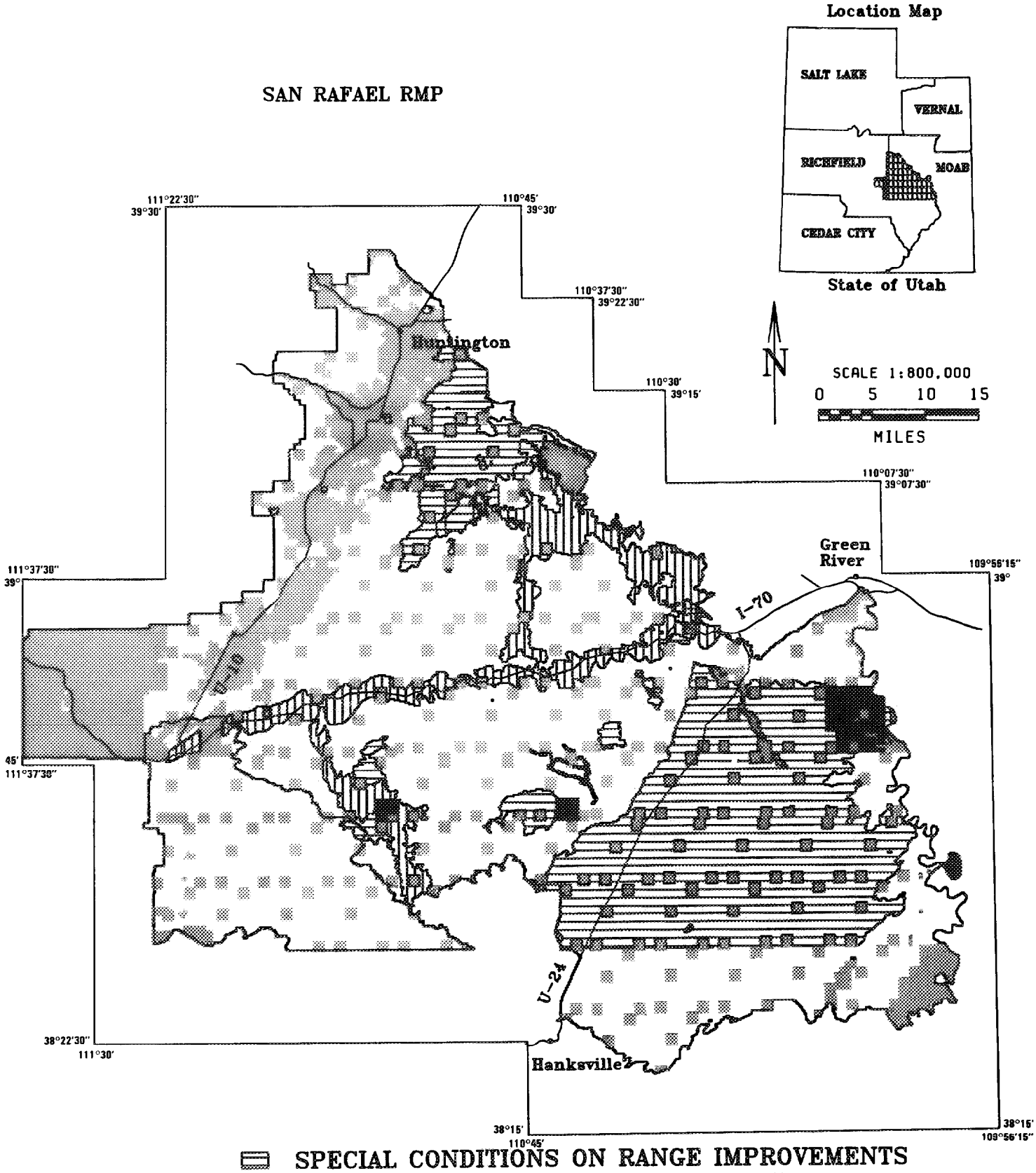
MAP 46



SPECIAL CONDITIONS ON RANGE IMPROVEMENTS
AREAS EXCLUDED FROM LAND TREATMENTS
AREAS EXCLUDED FROM RANGE IMPROVEMENTS
PLANNING AREA BOUNDARY

LIMITATIONS ON LIVESTOCK RELATED RANGE IMPROVEMENTS
ALTERNATIVE D

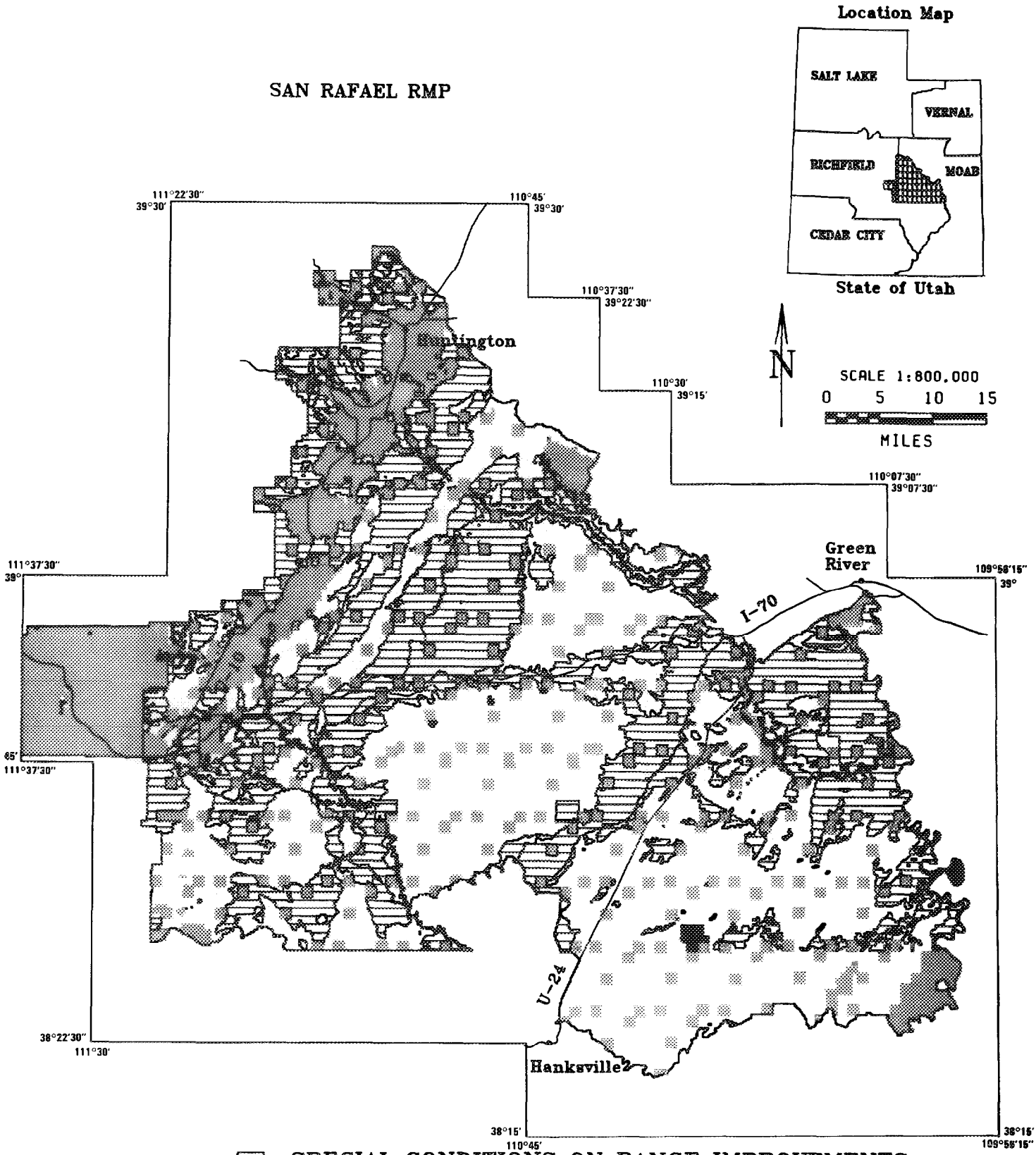
MAP 47



SPECIAL CONDITIONS ON RANGE IMPROVEMENTS
AREAS EXCLUDED FROM LAND TREATMENTS
AREAS EXCLUDED FROM RANGE IMPROVEMENTS
PLANNING AREA BOUNDARY

LIMITATIONS ON LIVESTOCK RELATED RANGE IMPROVEMENTS
ALTERNATIVE E

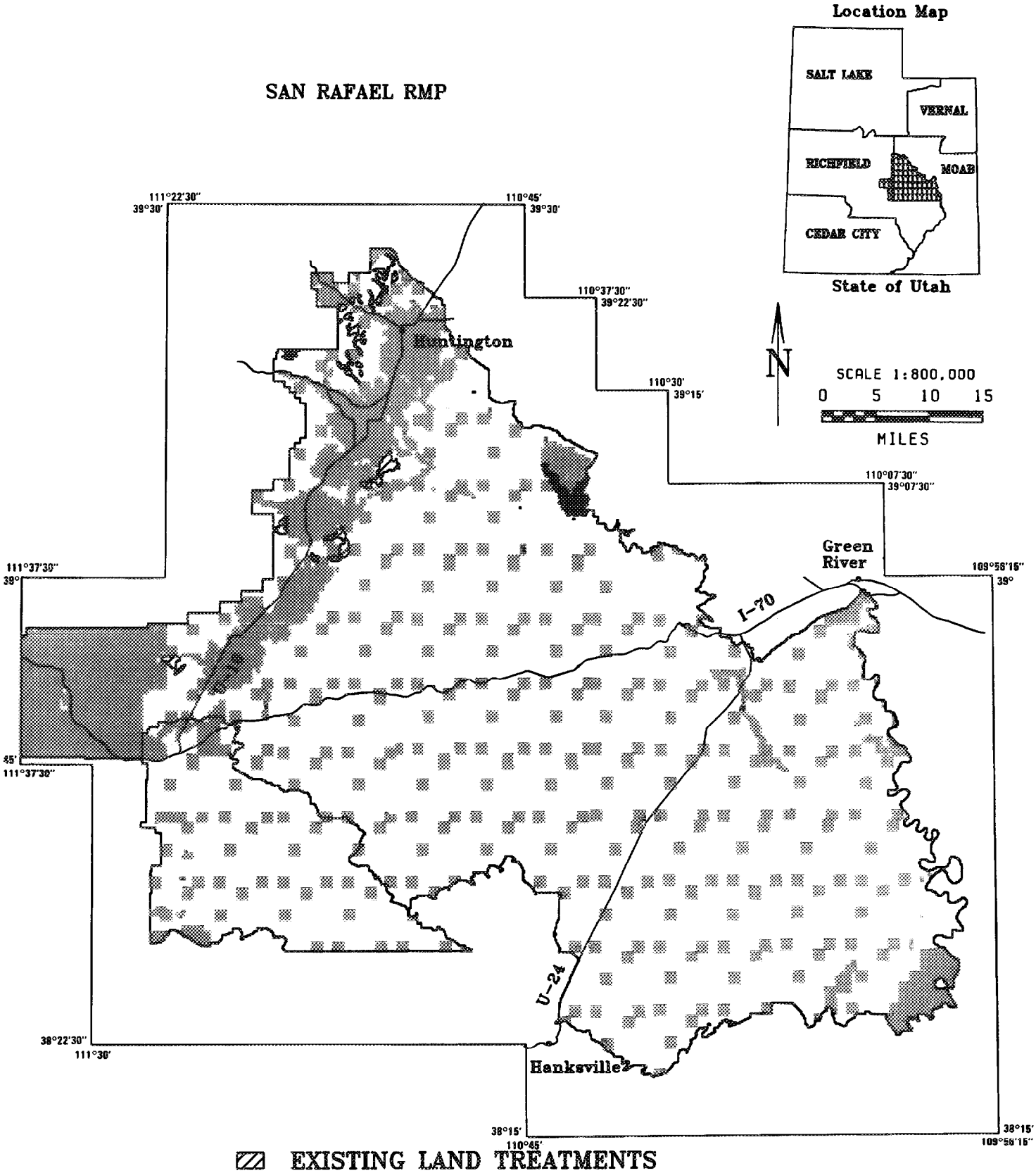
MAP 48



SPECIAL CONDITIONS ON RANGE IMPROVEMENTS
AREAS EXCLUDED FROM RANGE IMPROVEMENTS
PLANNING AREA BOUNDARY

LIMITATIONS ON LIVESTOCK RELATED RANGE IMPROVEMENTS
ALTERNATIVE F

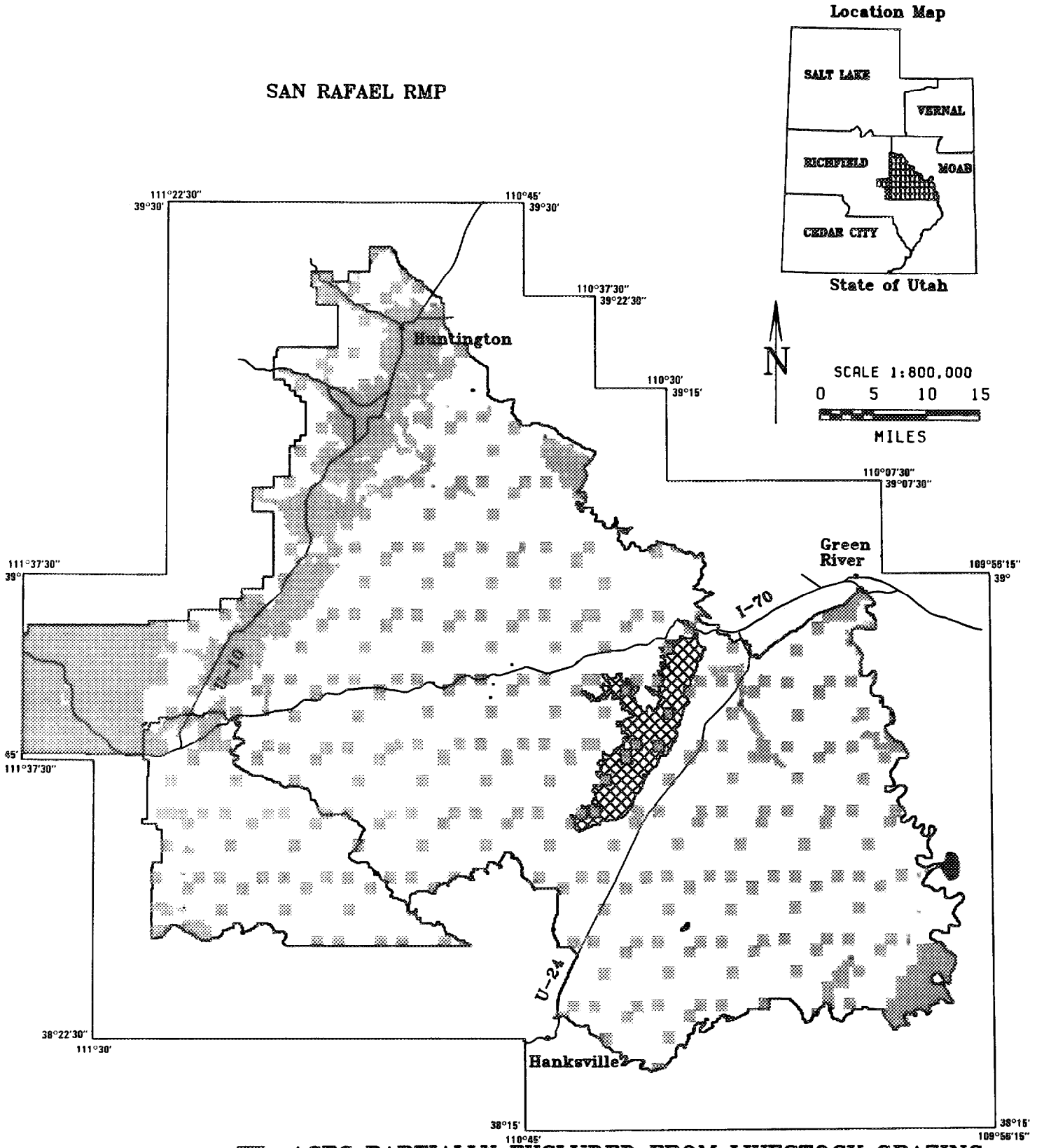
MAP 49



EXISTING LAND TREATMENTS
AREAS EXCLUDED FROM LIVESTOCK GRAZING
PLANNING AREA BOUNDARY

GRAZING ACTIONS
ALTERNATIVE A

MAP 50

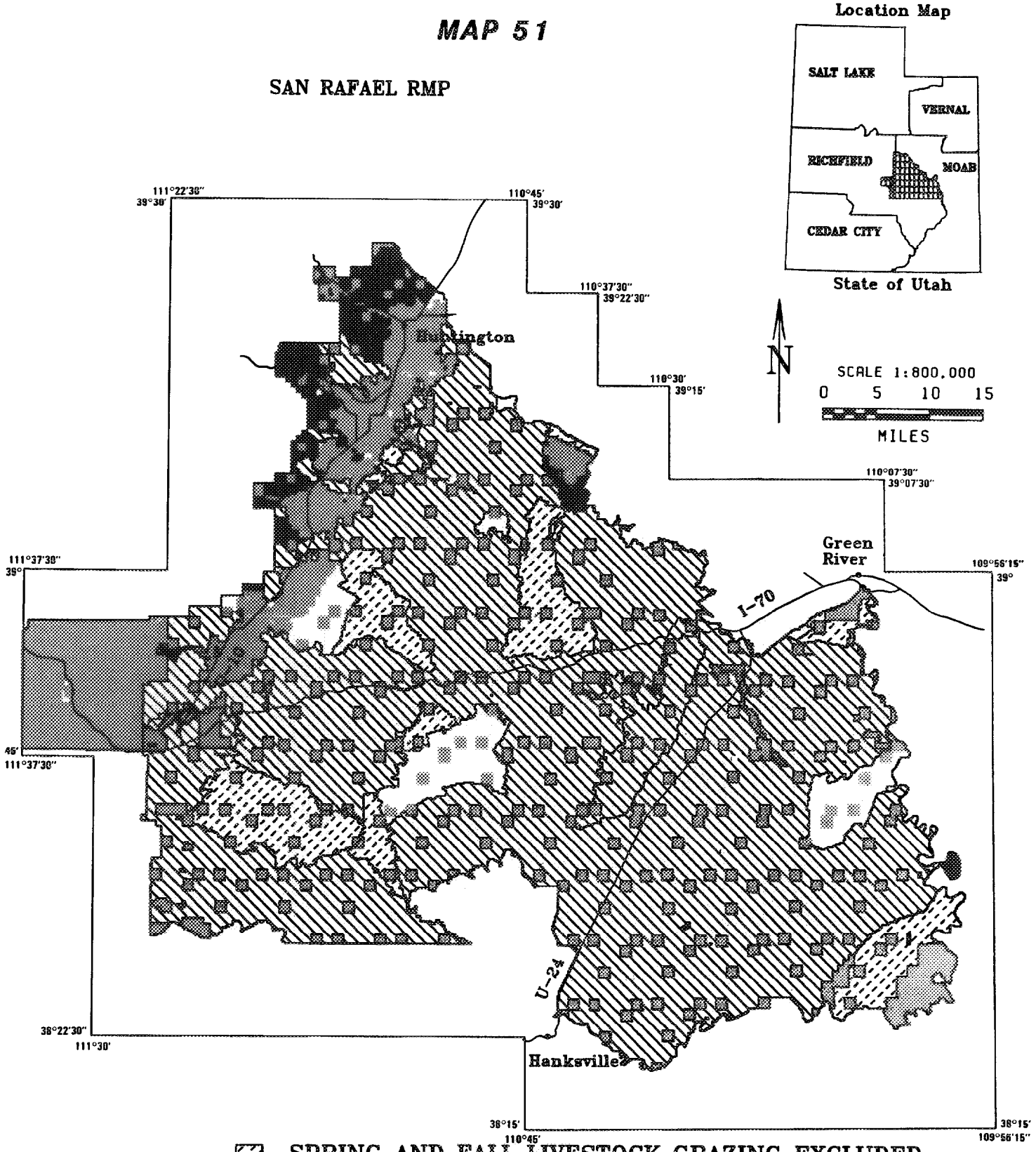


ACEC PARTIALLY EXCLUDED FROM LIVESTOCK GRAZING
AREAS EXCLUDED FROM LIVESTOCK GRAZING
PLANNING AREA BOUNDARY

GRAZING ACTIONS
ALTERNATIVE B

MAP 51

SAN RAFAEL RMP



SPRING AND FALL LIVESTOCK GRAZING EXCLUDED

SPRING AND FALL LIVESTOCK GRAZING EXCLUDED AND AUMs REDUCED

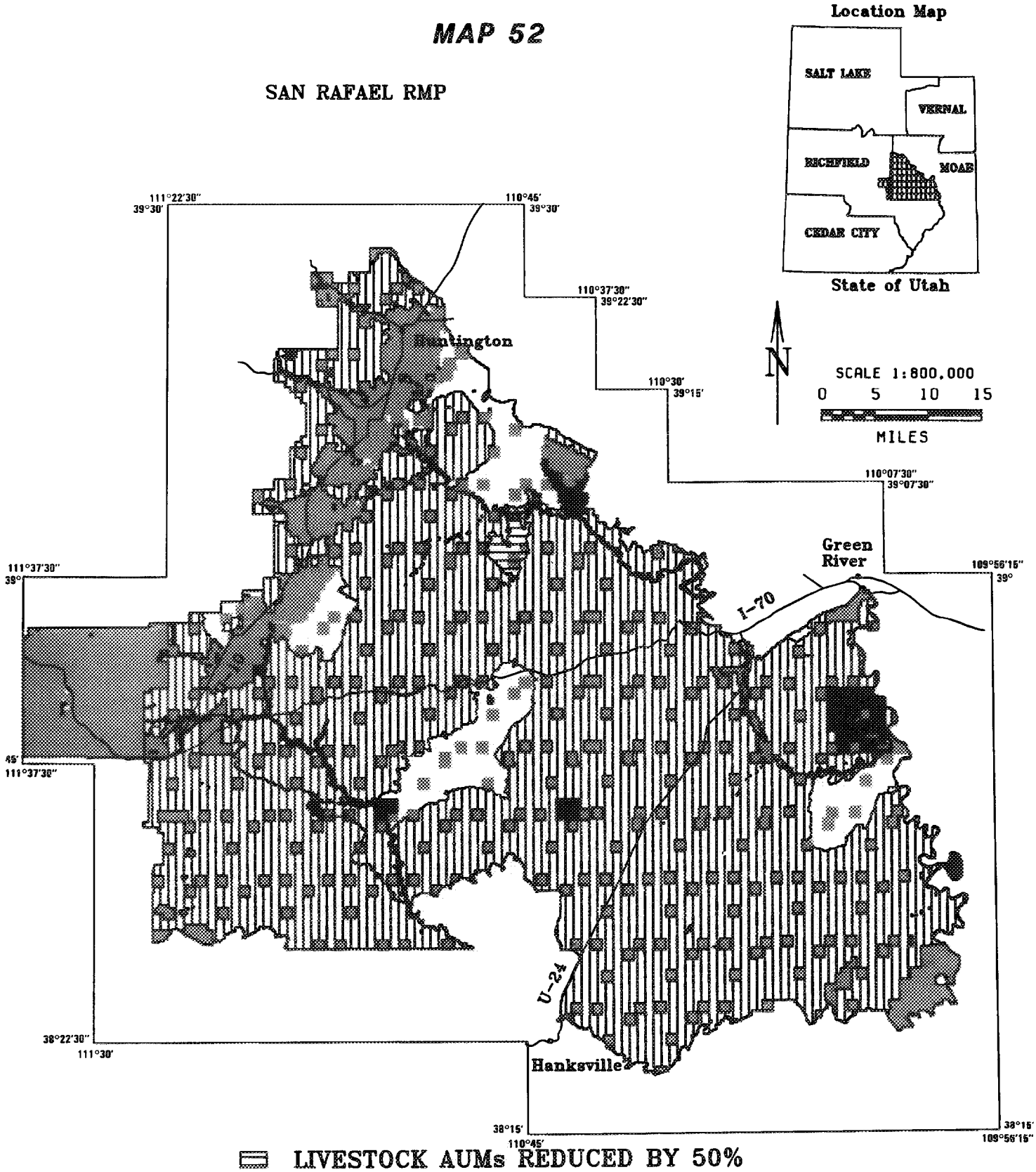
AREAS EXCLUDED FROM LIVESTOCK GRAZING

PLANNING AREA BOUNDARY

GRAZING ACTIONS
ALTERNATIVE C

MAP 52

SAN RAFAEL RMP



LIVESTOCK AUMs REDUCED BY 50%

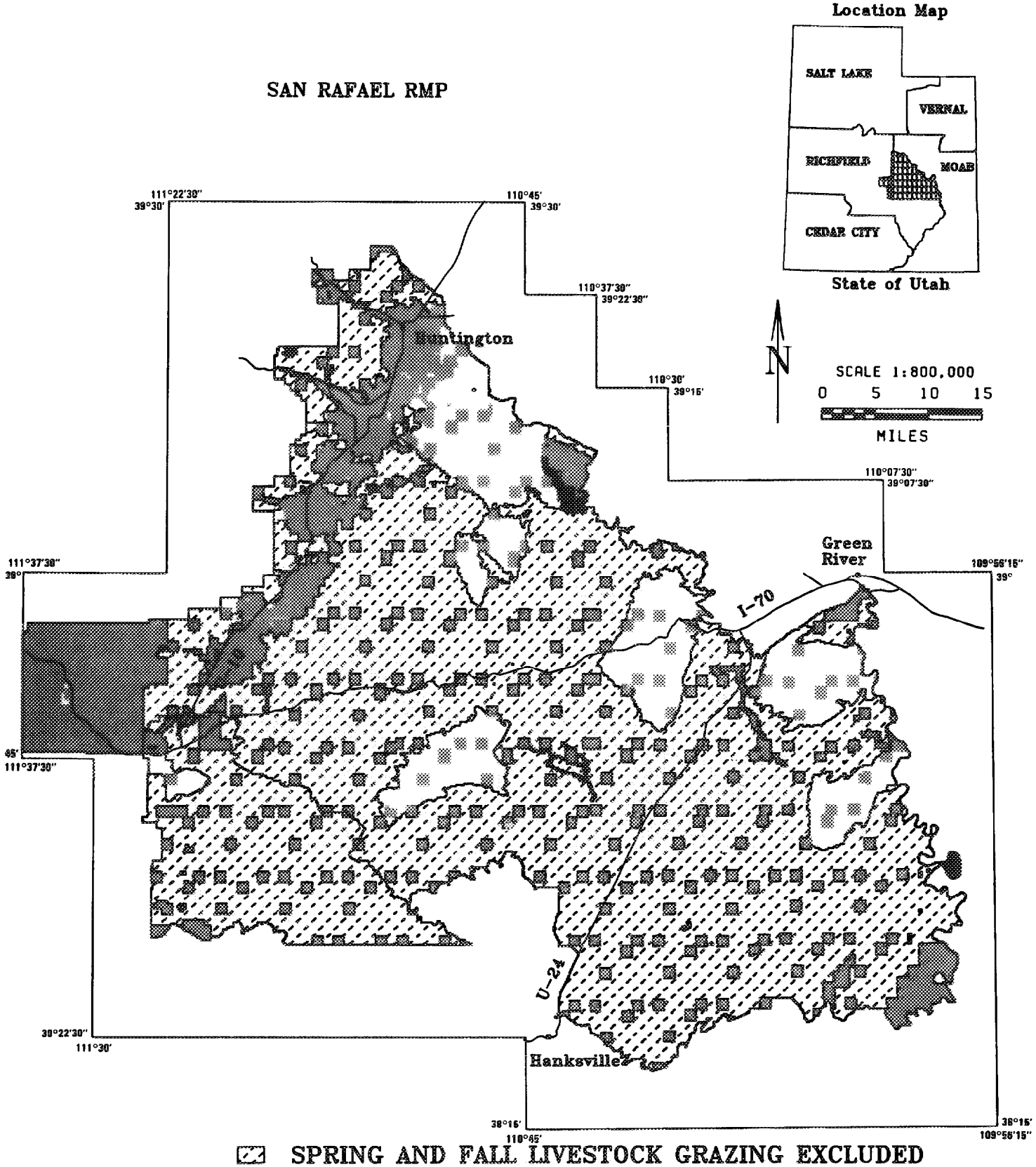
SPRING LIVESTOCK GRAZING EXCLUDED AND AUMs REDUCED BY 50%

AREAS EXCLUDED FROM LIVESTOCK GRAZING

PLANNING AREA BOUNDARY

GRAZING ACTIONS
ALTERNATIVE D

MAP 53

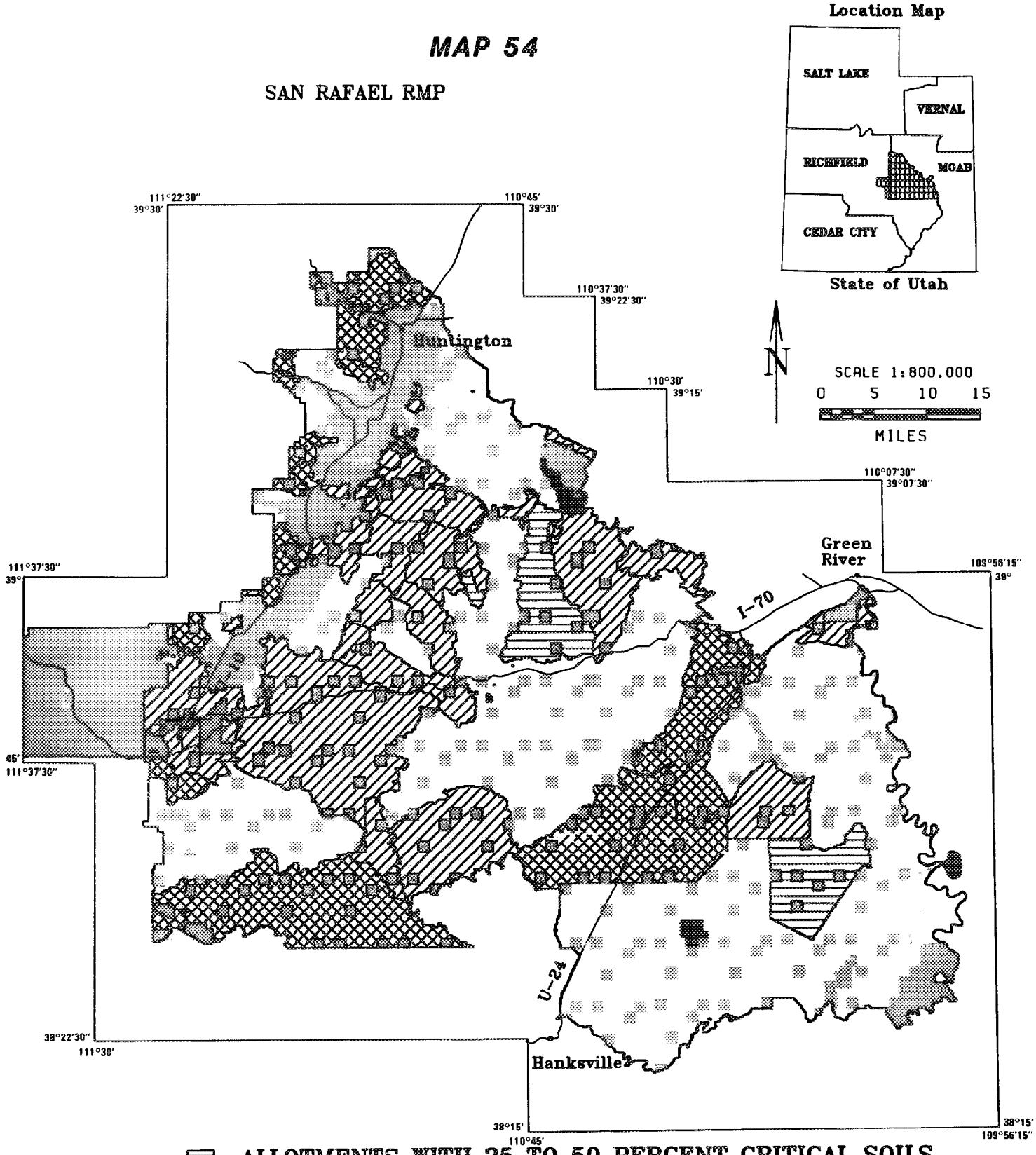


SPRING AND FALL LIVESTOCK GRAZING EXCLUDED
AREAS EXCLUDED FROM LIVESTOCK GRAZING
PLANNING AREA BOUNDARY

GRAZING ACTIONS
ALTERNATIVE E

MAP 54

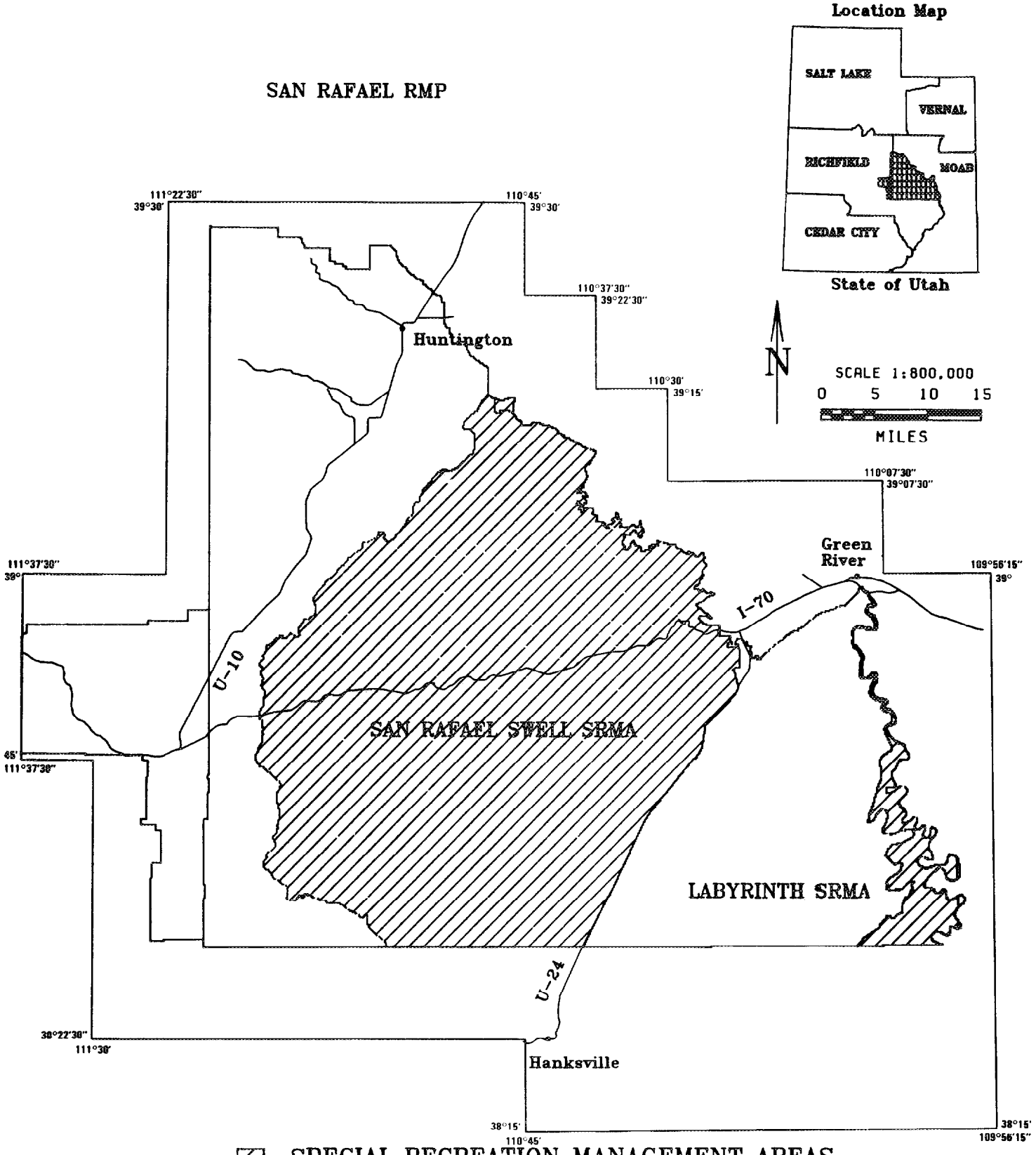
SAN RAFAEL RMP



- 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

MAP 55

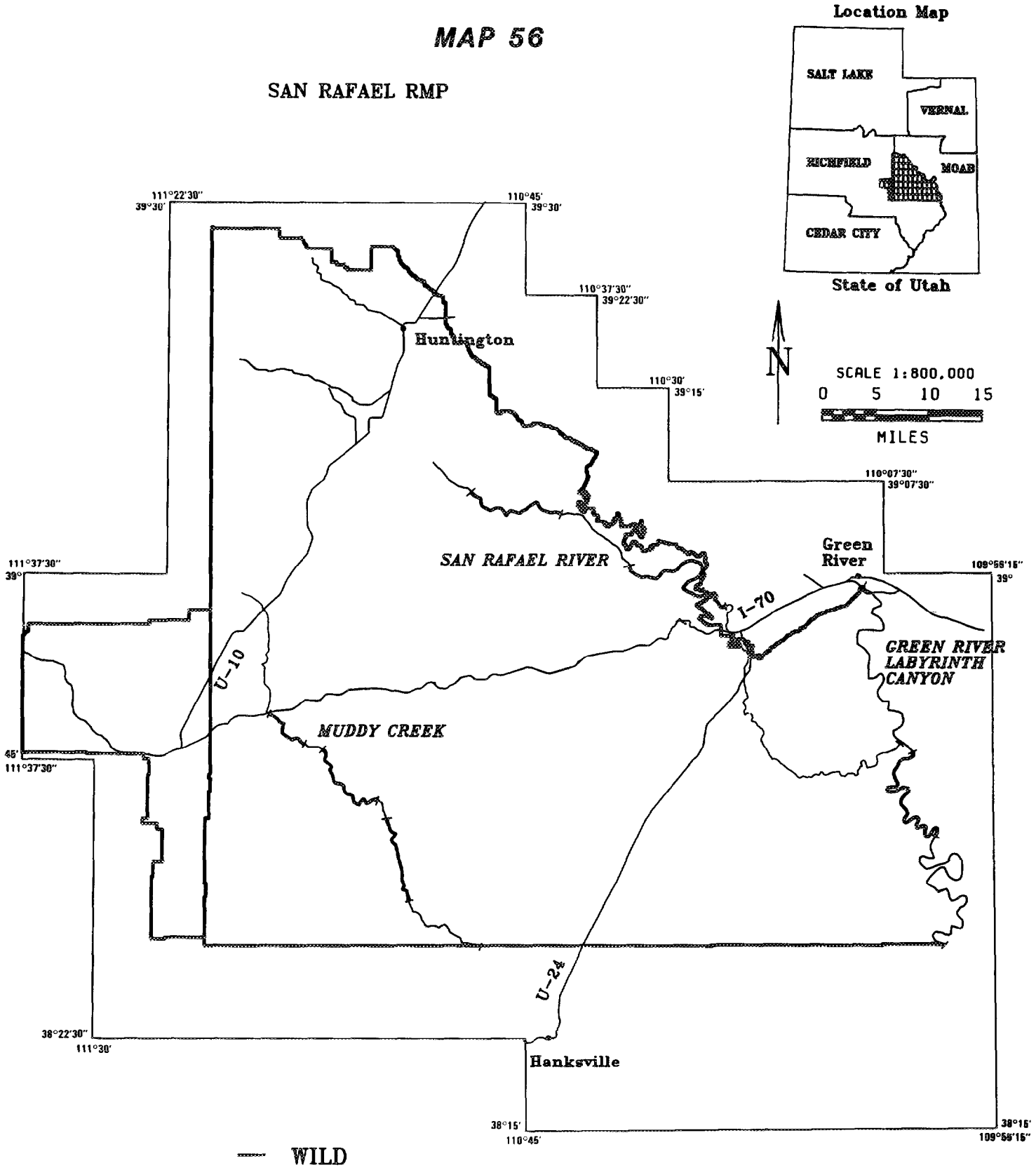


SPECIAL RECREATION MANAGEMENT AREAS
EXTENSIVE RECREATION MANAGEMENT AREA
PLANNING AREA BOUNDARY

RECREATION MANAGEMENT AREAS

MAP 56

SAN RAFAEL RMP



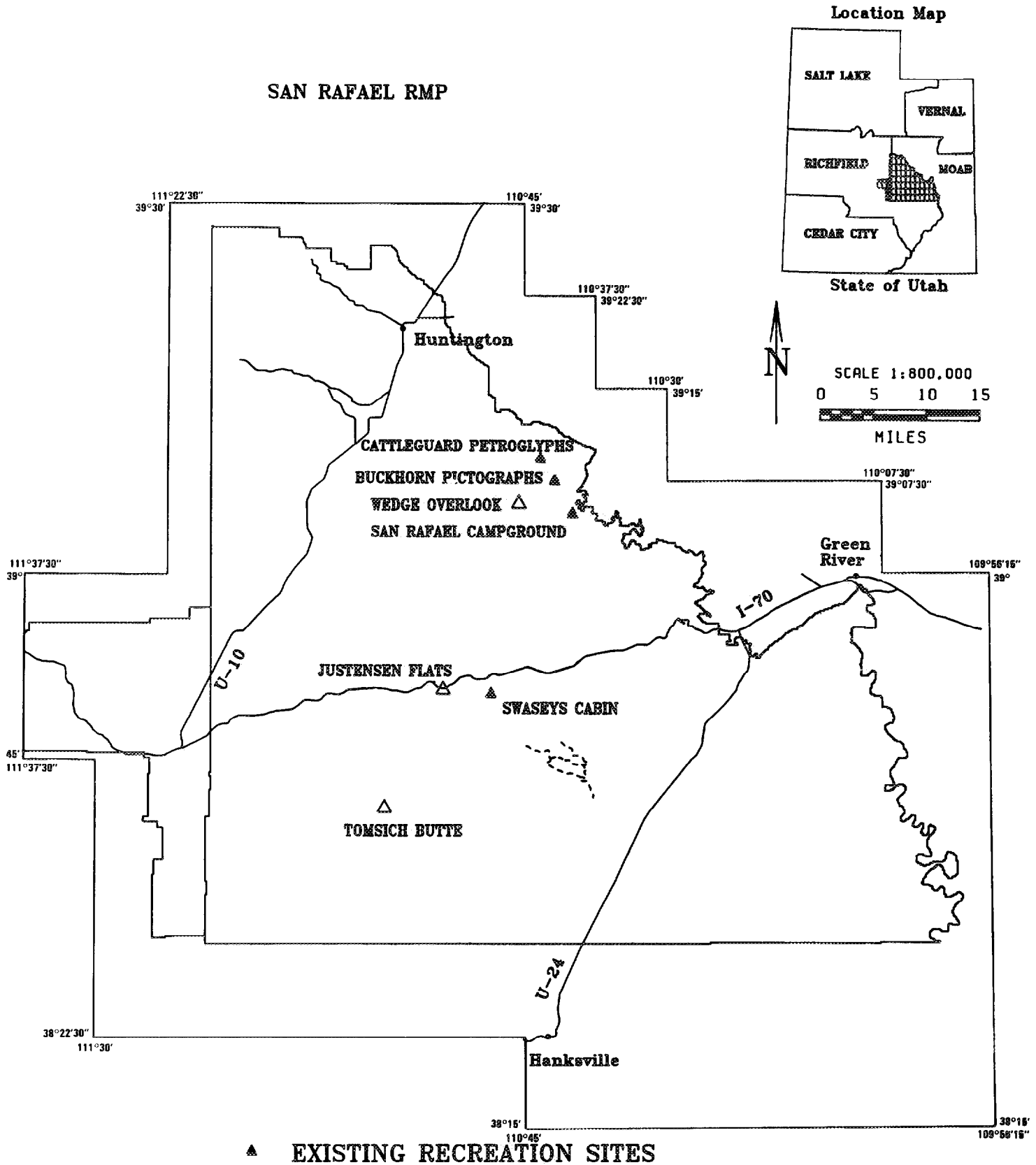
— WILD

— SCENIC

— PLANNING AREA BOUNDARY

POTENTIAL CLASSIFICATION OF WILD & SCENIC RIVER STUDY SEGMENTS

MAP 57

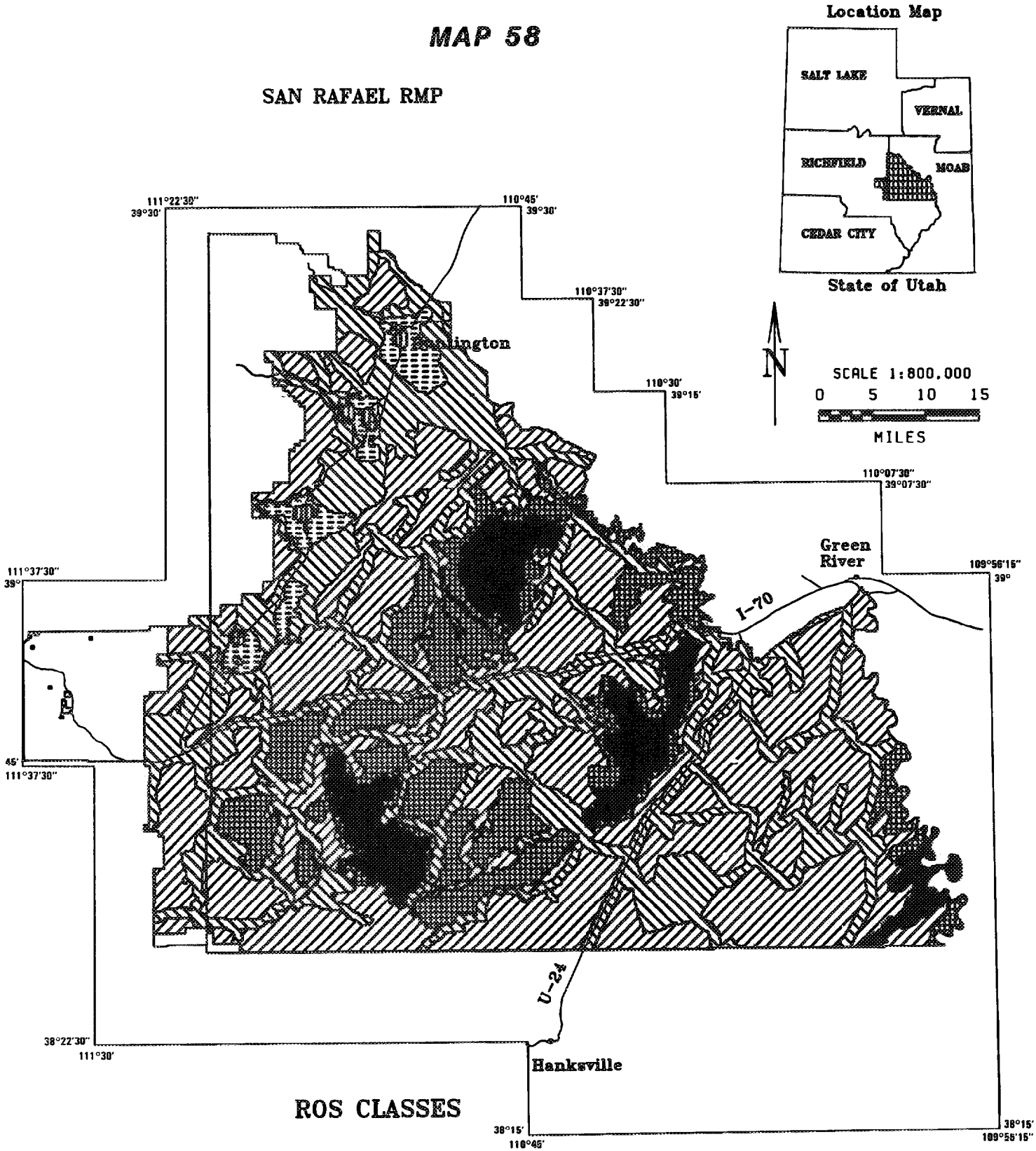


▲ EXISTING RECREATION SITES
△ POTENTIAL RECREATION SITES
--- BIKE TRAIL
— PLANNING AREA BOUNDARY

RECREATION SITES

MAP 58

SAN RAFAEL RMP

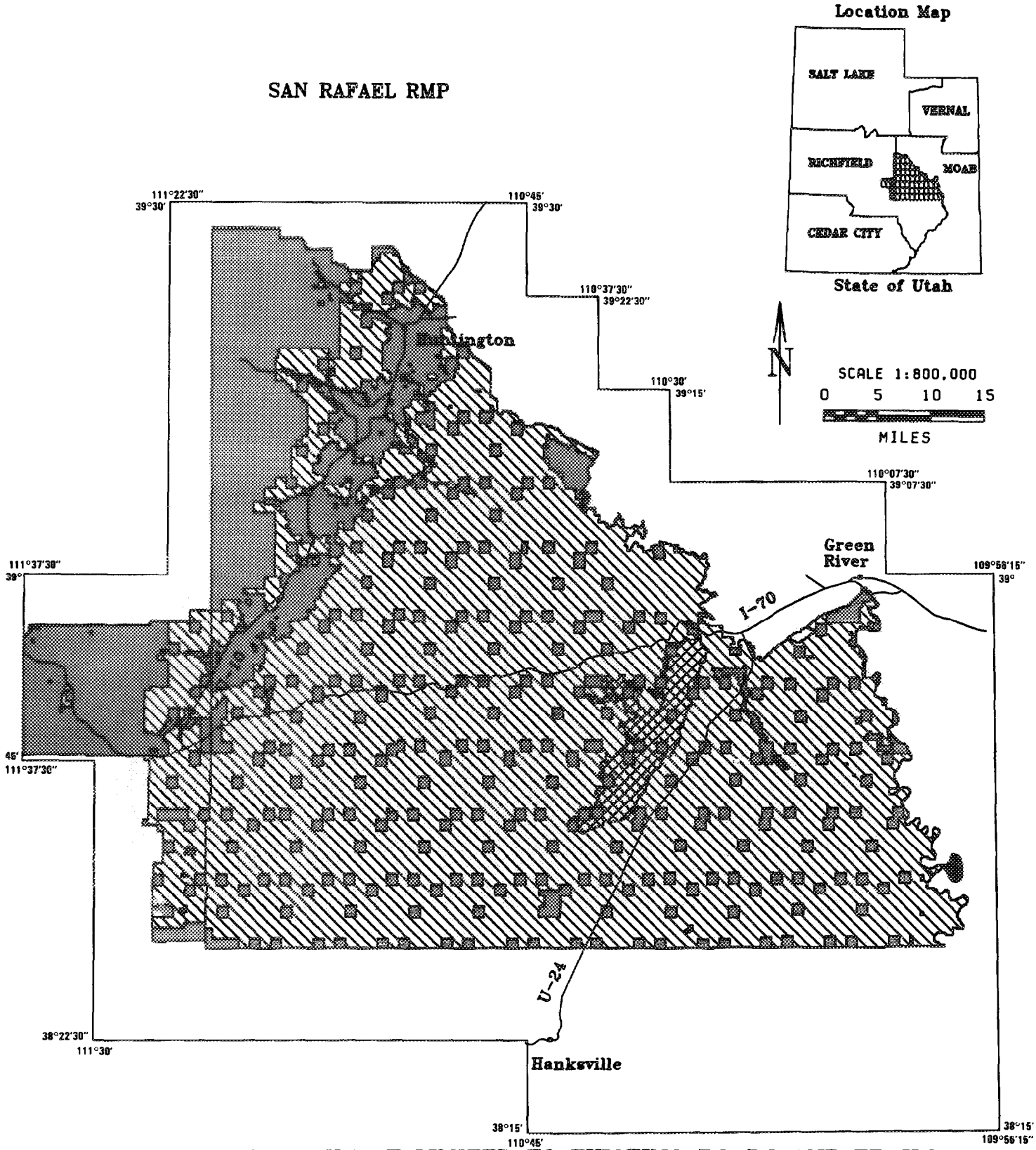


ROS CLASSES

- PRIMITIVE
- SEMI-PRIMITIVE NONMOTORIZED
- SEMI-PRIMITIVE MOTORIZED
- ROADED NATURAL
- RURAL
- URBAN
- PLANNING AREA BOUNDARY

RECREATIONAL OPPORTUNITY SPECTRUM CLASSES

MAP 59

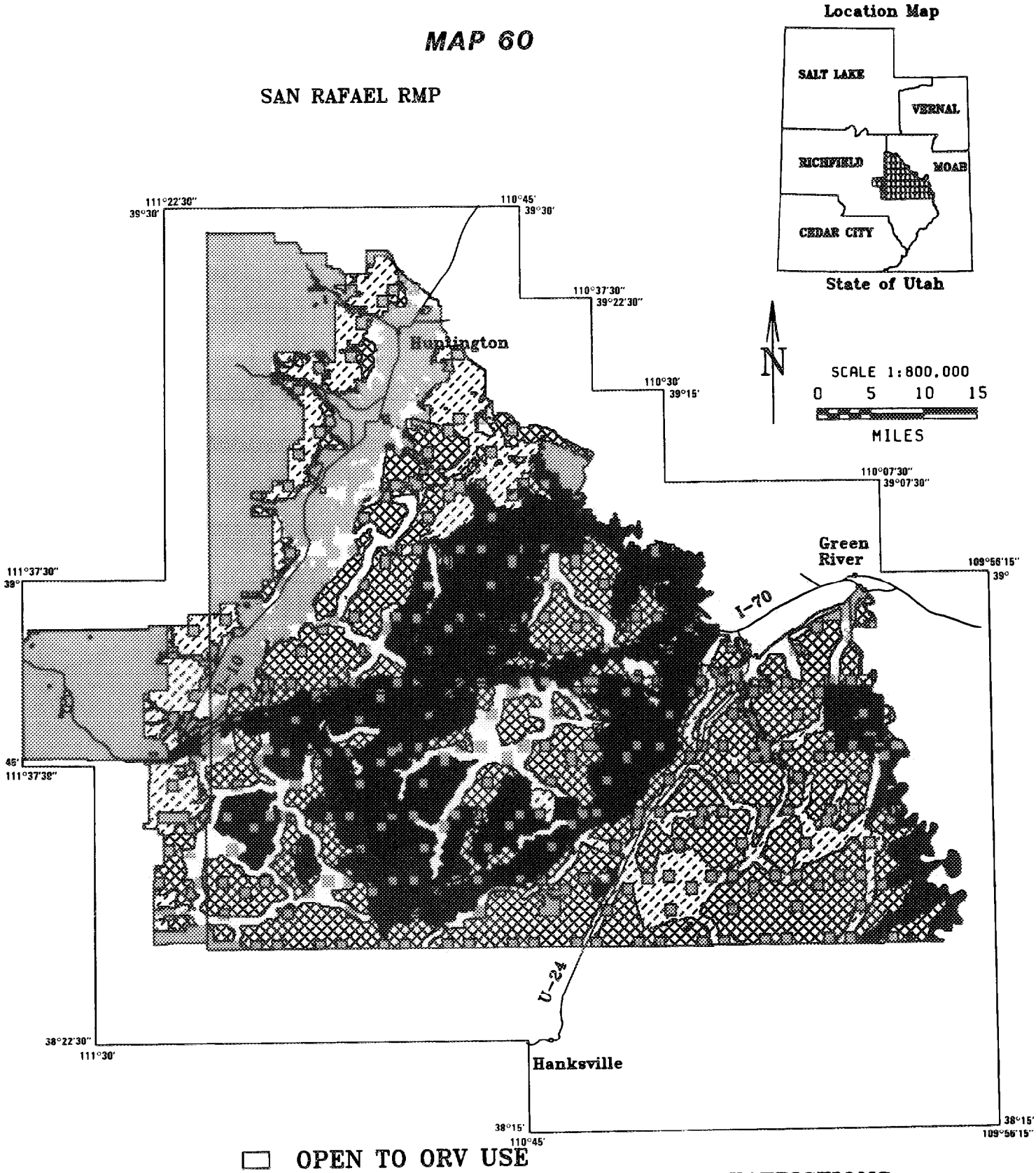


ORV USE LIMITED TO EXISTING ROADS AND TRAILS
ORV USE LIMITED TO DESIGNATED ROADS AND TRAILS
CLOSED TO ORV USE
PLANNING AREA BOUNDARY

OFF-ROAD VEHICLE USE DESIGNATIONS
ALTERNATIVE B

MAP 60

SAN RAFAEL RMP

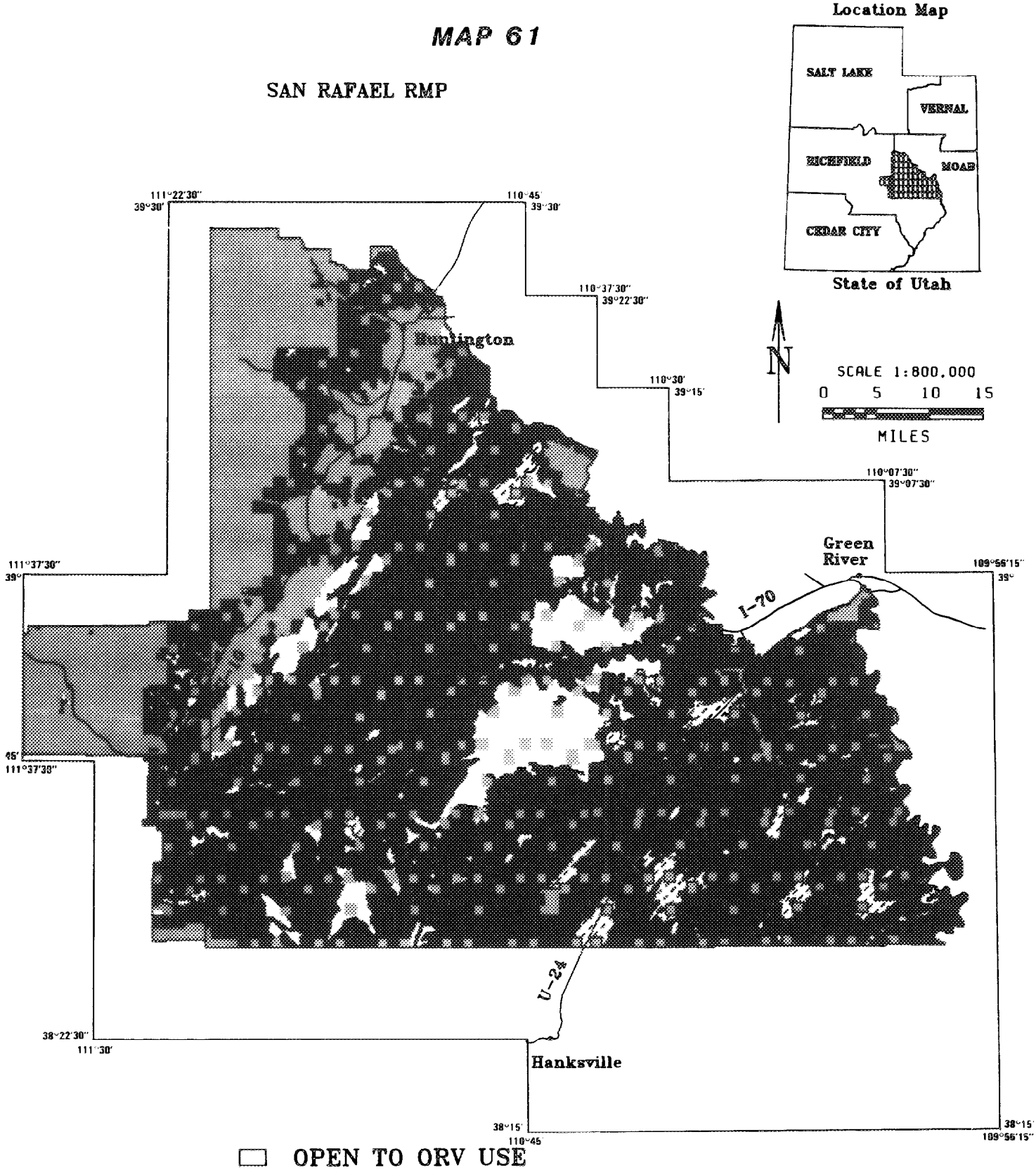


- OPEN TO ORV USE
- ORV USE LIMITED BY SEASONAL RESTRICTIONS
- ORV USE LIMITED TO DESIGNATED ROADS AND TRAILS
- CLOSED TO ORV USE
- PLANNING AREA BOUNDARY

OFF-ROAD VEHICLE USE DESIGNATIONS ALTERNATIVE C

MAP 61

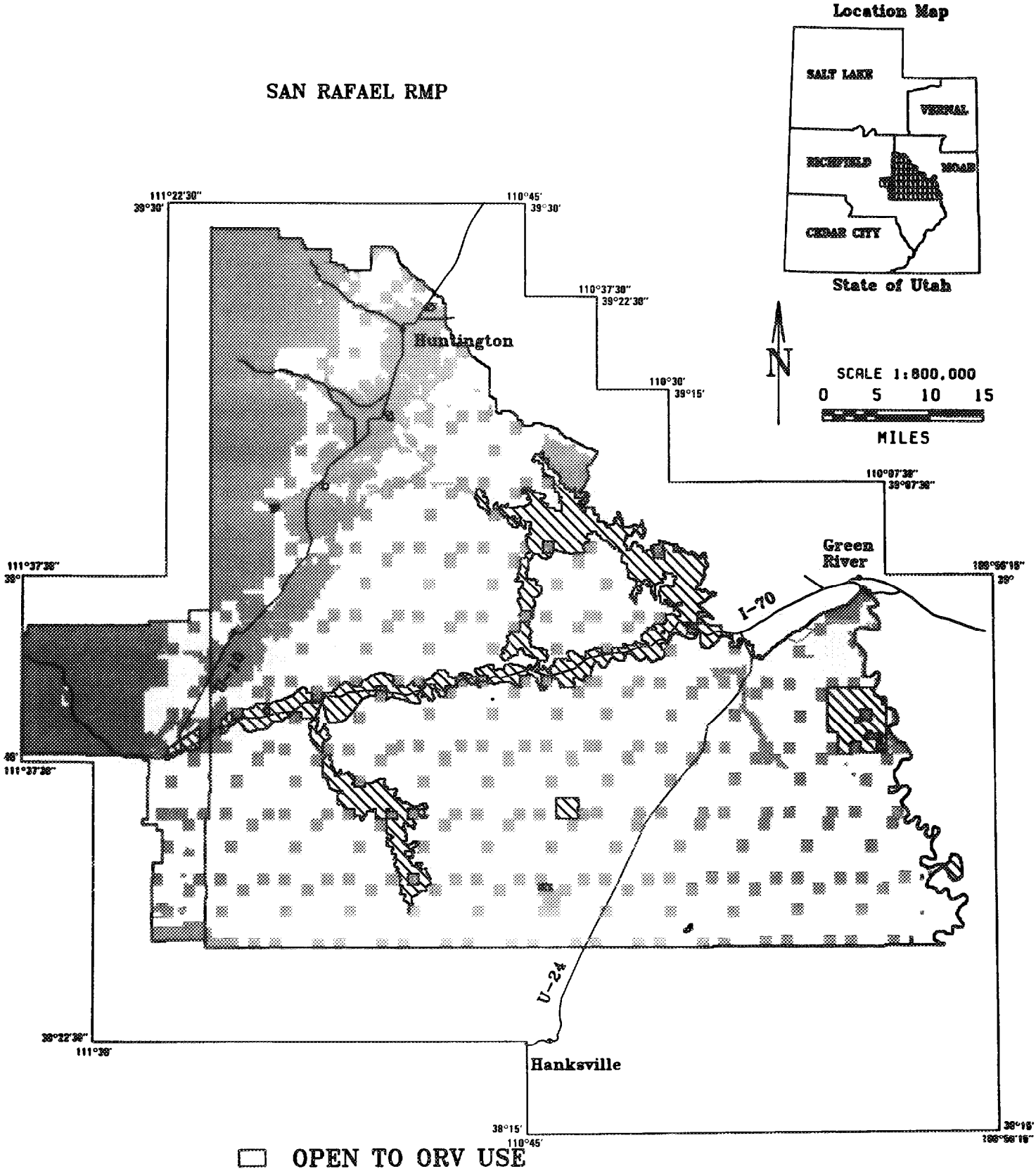
SAN RAFAEL RMP



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

OFF-ROAD VEHICLE USE DESIGNATIONS ALTERNATIVE D

MAP 62

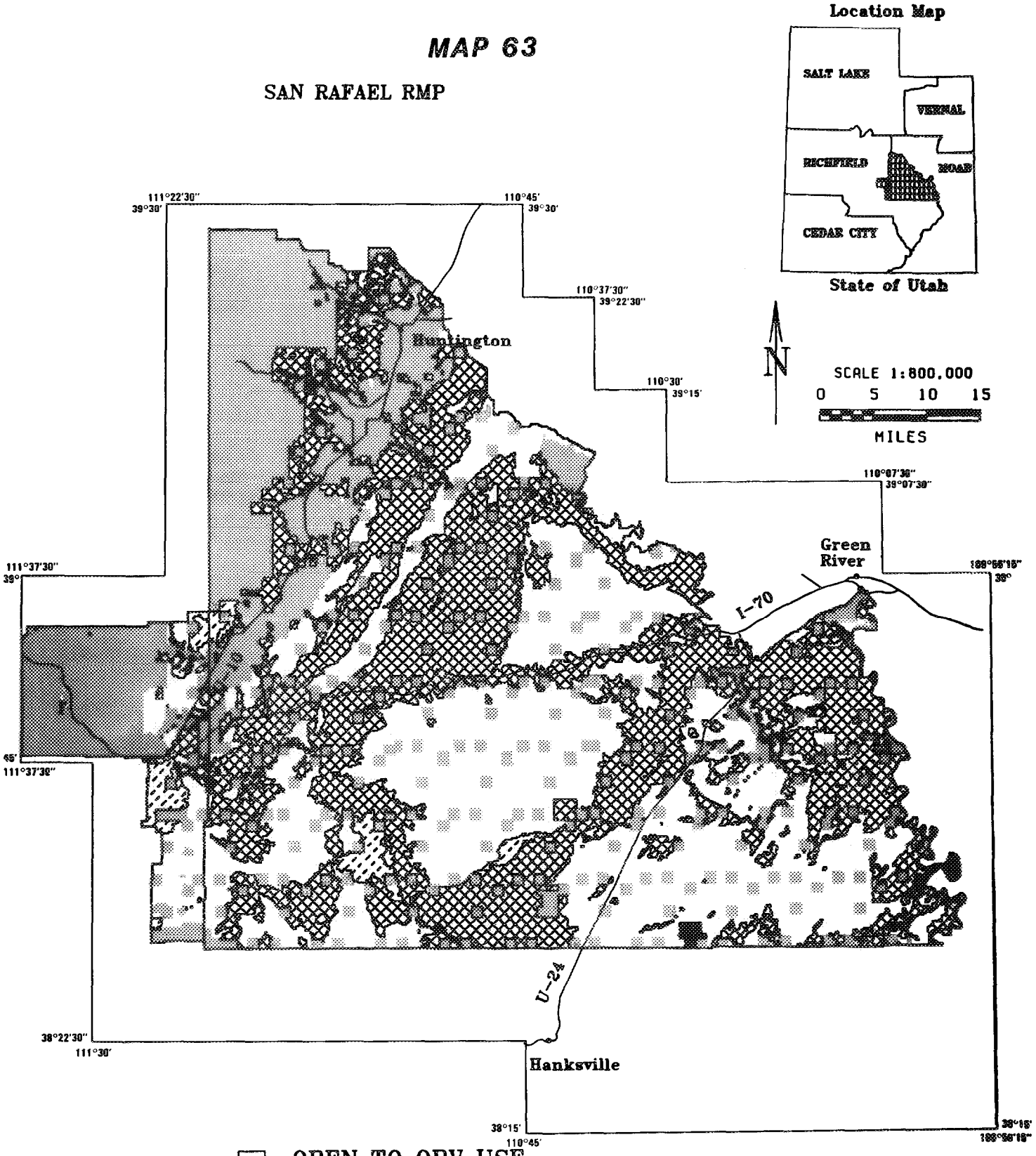


OPEN TO ORV USE
ORV USE LIMITED TO EXISTING ROADS AND TRAILS
ORV USE LIMITED TO DESIGNATED ROADS AND TRAILS
PLANNING AREA BOUNDARY

OFF-ROAD VEHICLE USE DESIGNATIONS
ALTERNATIVE E

MAP 63

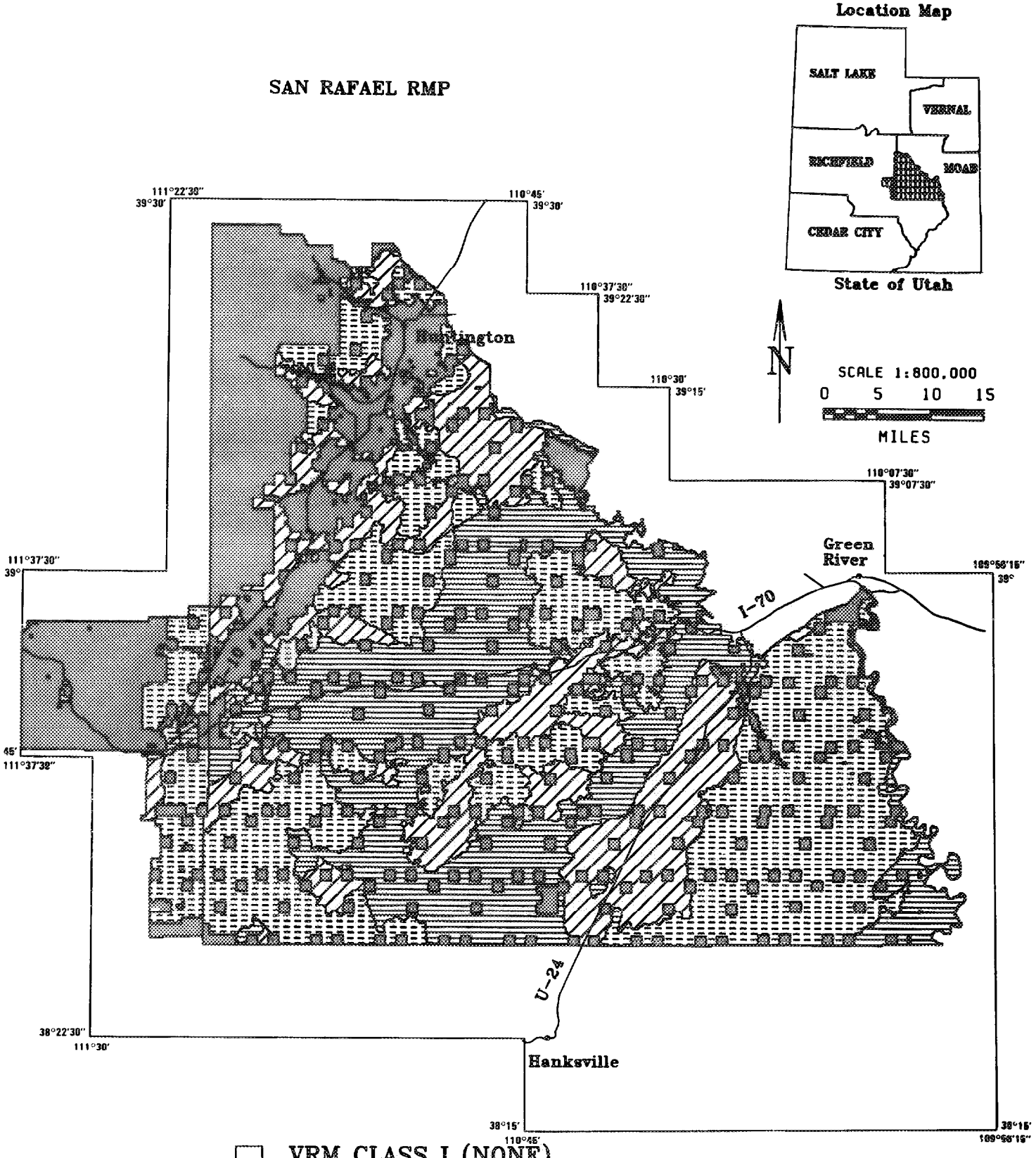
SAN RAFAEL RMP



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

OFF-ROAD VEHICLE USE DESIGNATIONS ALTERNATIVE F

MAP 64

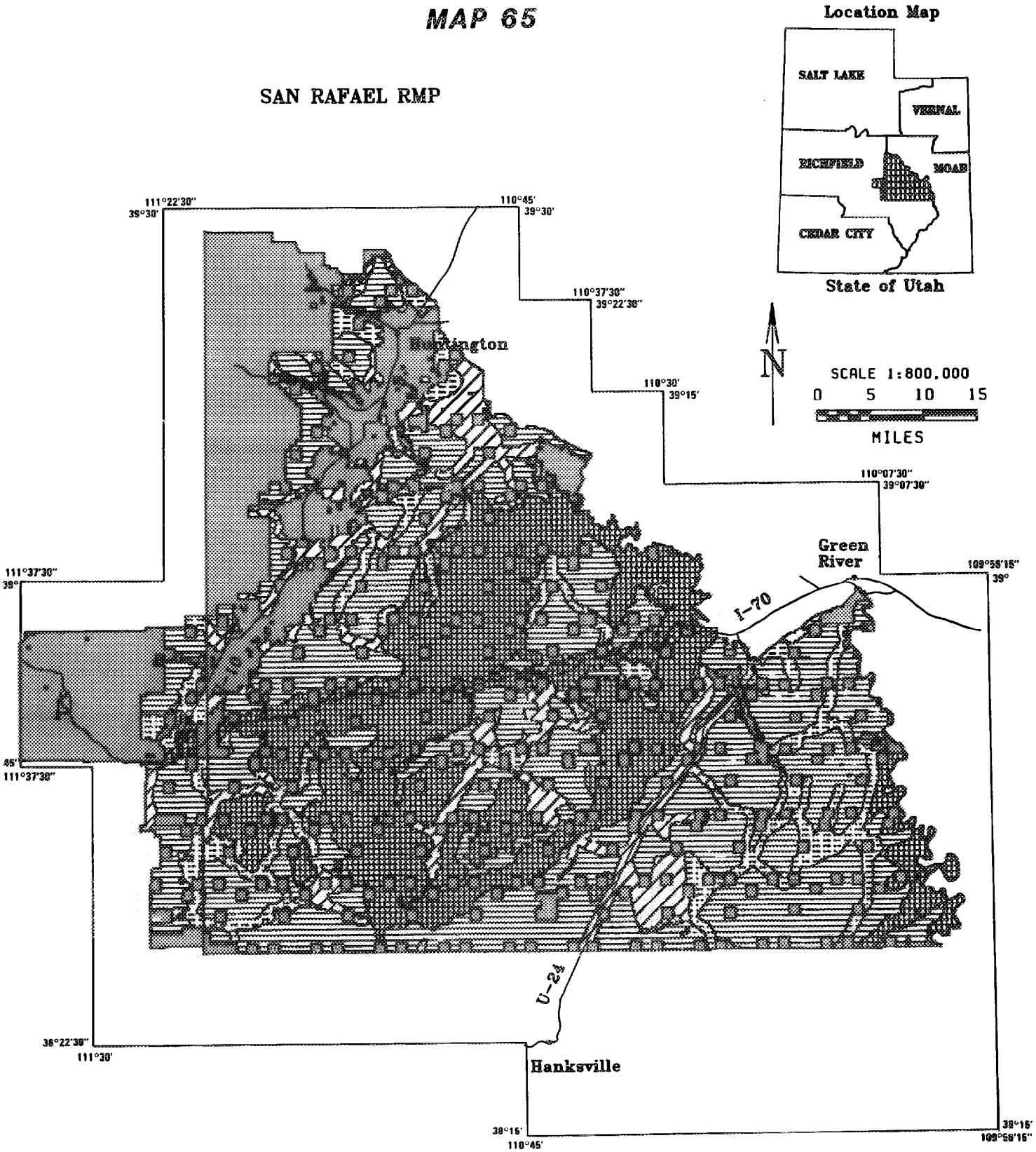


VRM CLASS I (NONE)
VRM CLASS II
VRM CLASS III
VRM CLASS IV
PLANNING AREA BOUNDARY

VISUAL RESOURCE MANAGEMENT CLASSES
ALTERNATIVES A AND B

MAP 65

SAN RAFAEL RMP

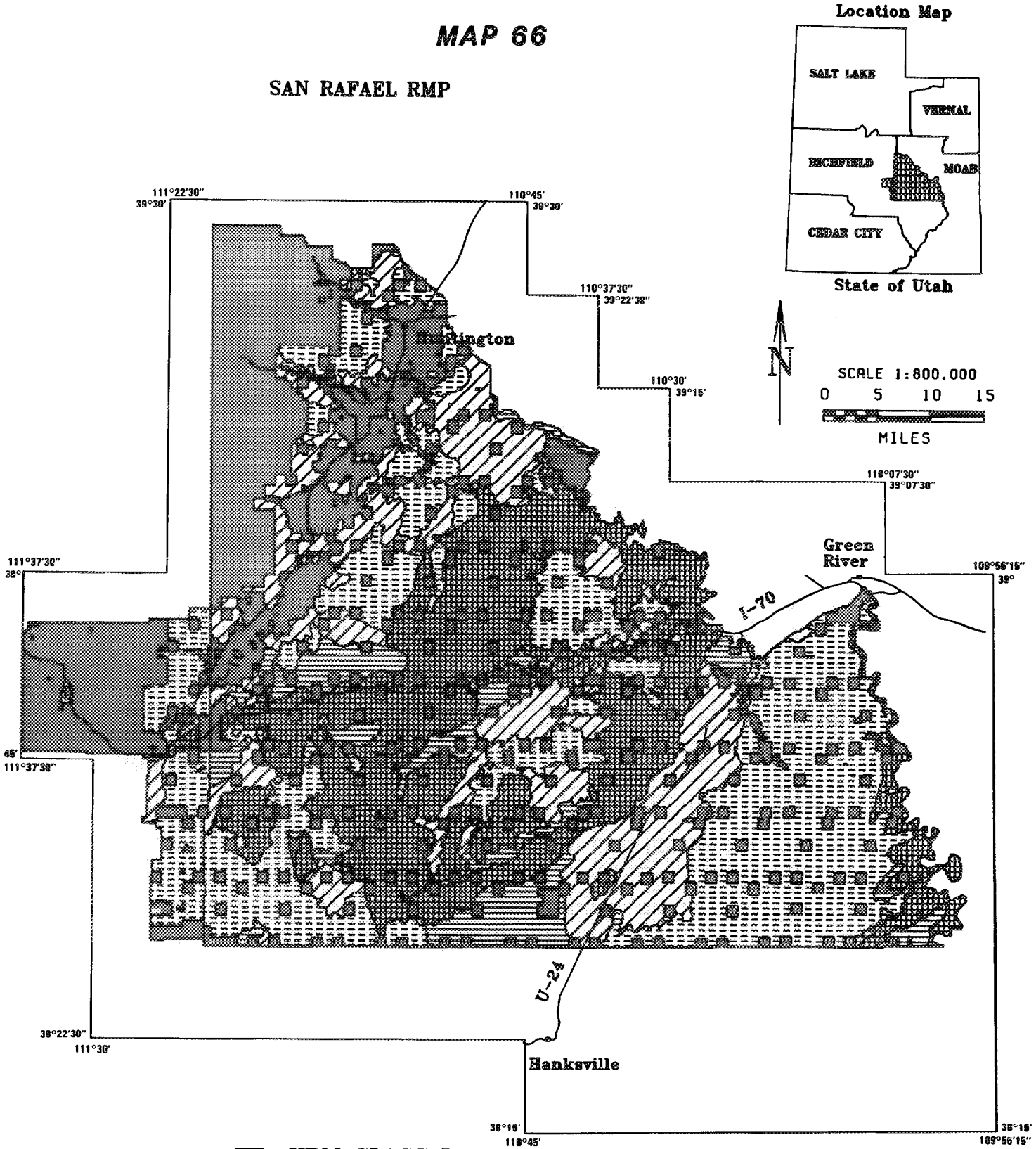


VRM CLASS I
VRM CLASS II
VRM CLASS III
VRM CLASS IV
PLANNING AREA BOUNDARY

VISUAL RESOURCE MANAGEMENT CLASSES
ALTERNATIVE C

MAP 66

SAN RAFAEL RMP

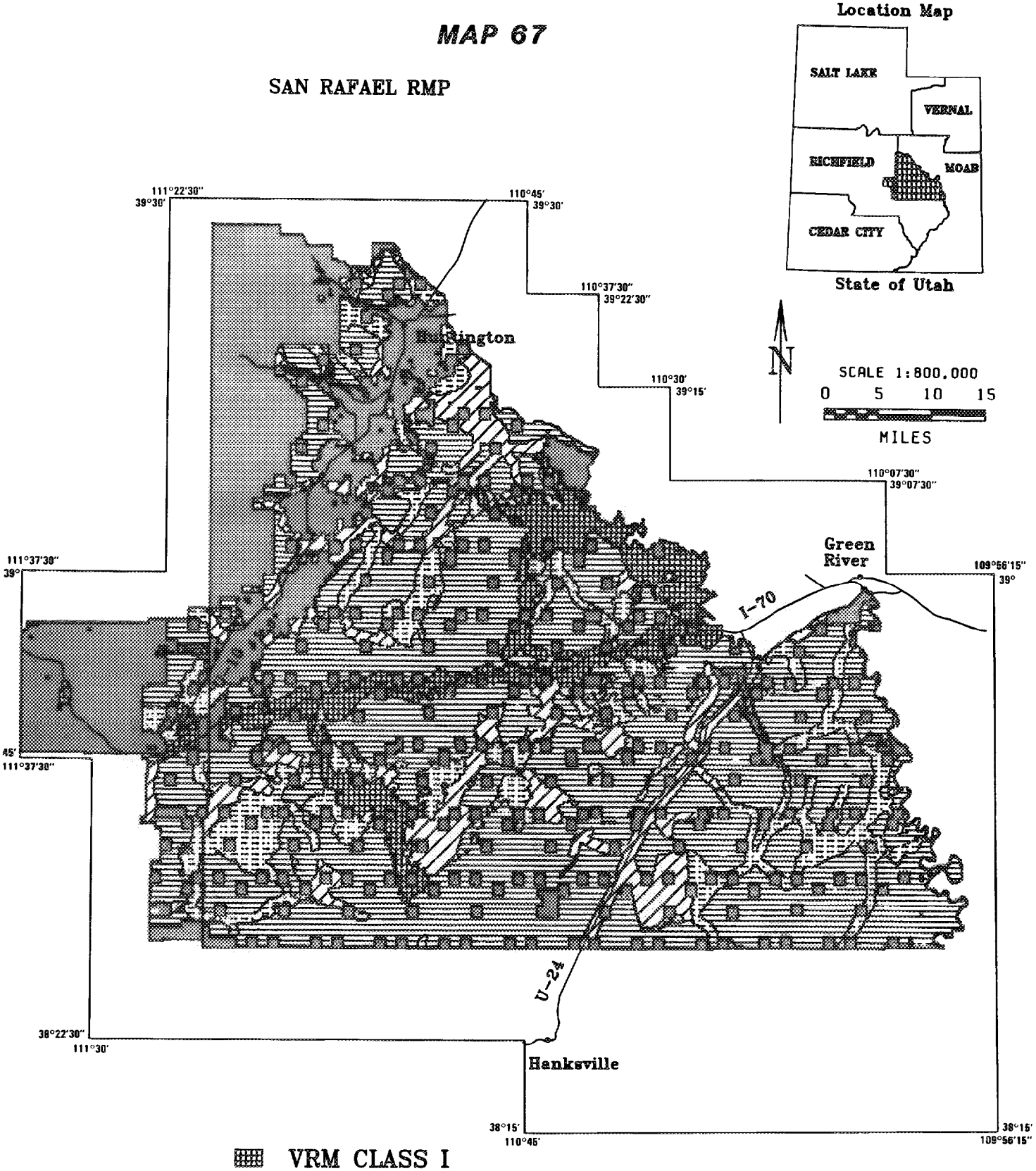


VRM CLASS I
VRM CLASS II
VRM CLASS III
VRM CLASS IV
PLANNING AREA BOUNDARY

VISUAL RESOURCE MANAGEMENT CLASSES
ALTERNATIVE D

MAP 67

SAN RAFAEL RMP

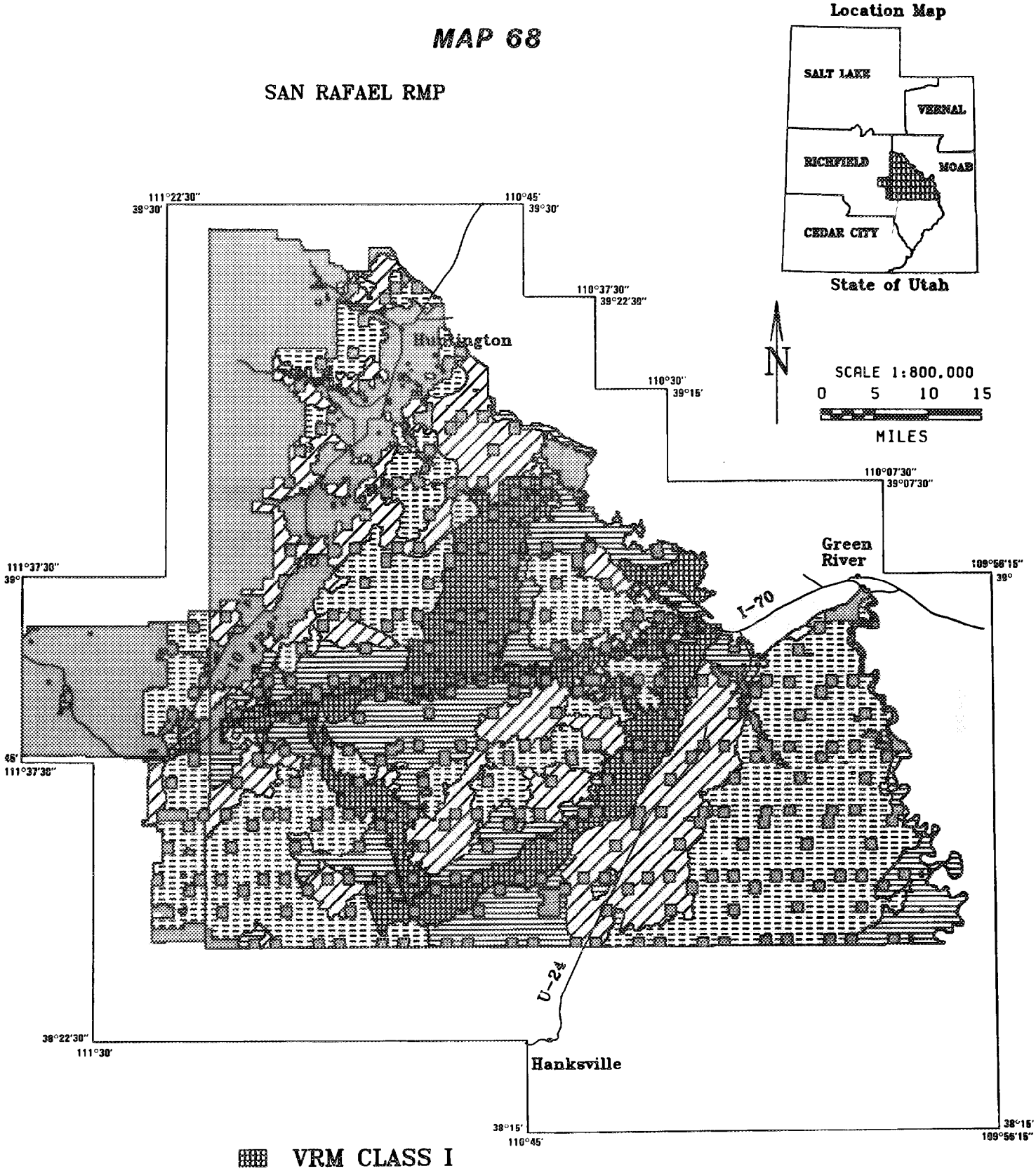


VRM CLASS I
VRM CLASS II
VRM CLASS III
VRM CLASS IV
PLANNING AREA BOUNDARY

VISUAL RESOURCE MANAGEMENT CLASSES
ALTERNATIVE E

MAP 68

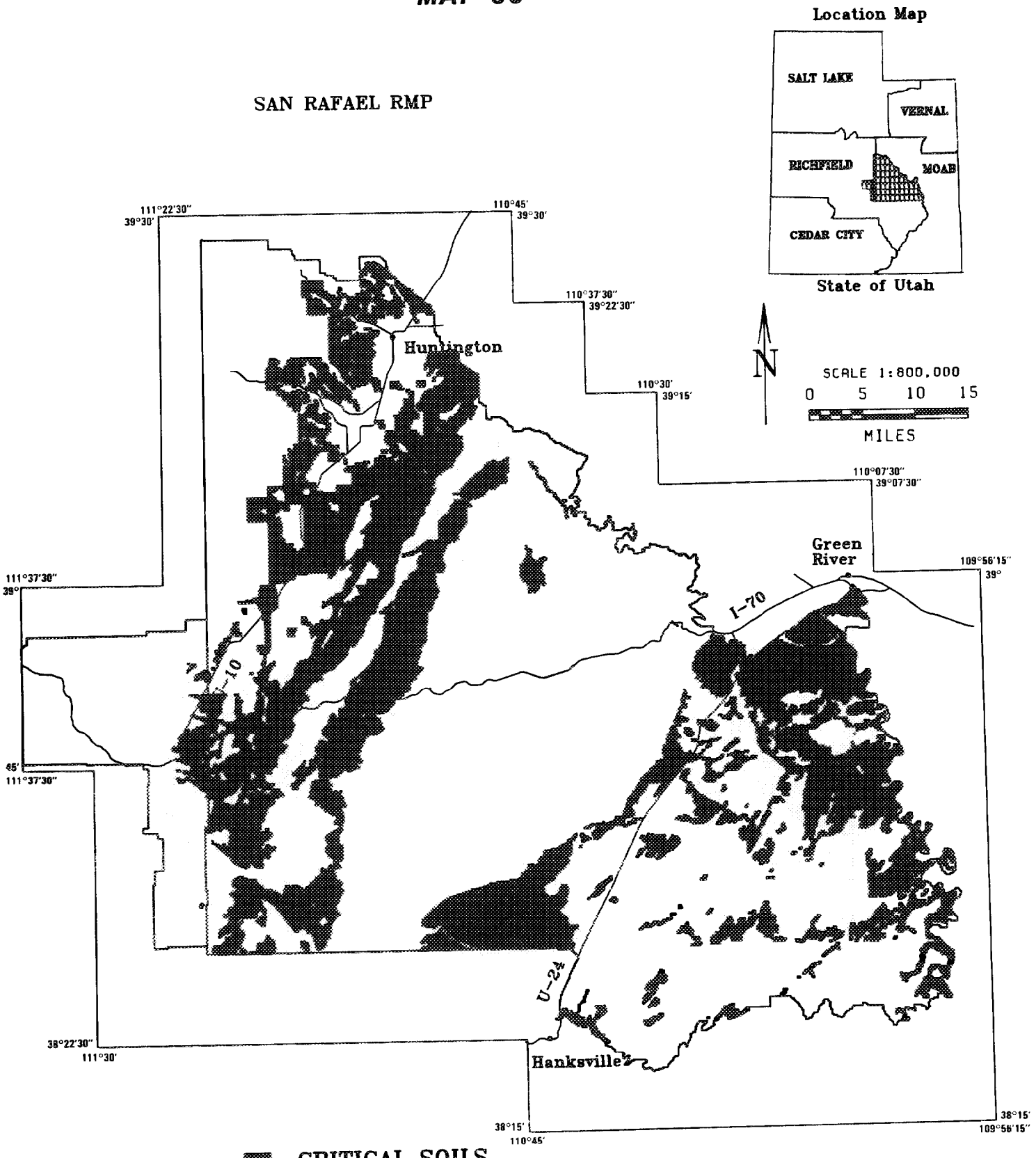
SAN RAFAEL RMP



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

VISUAL RESOURCE MANAGEMENT CLASSES
ALTERNATIVE F

MAP 69

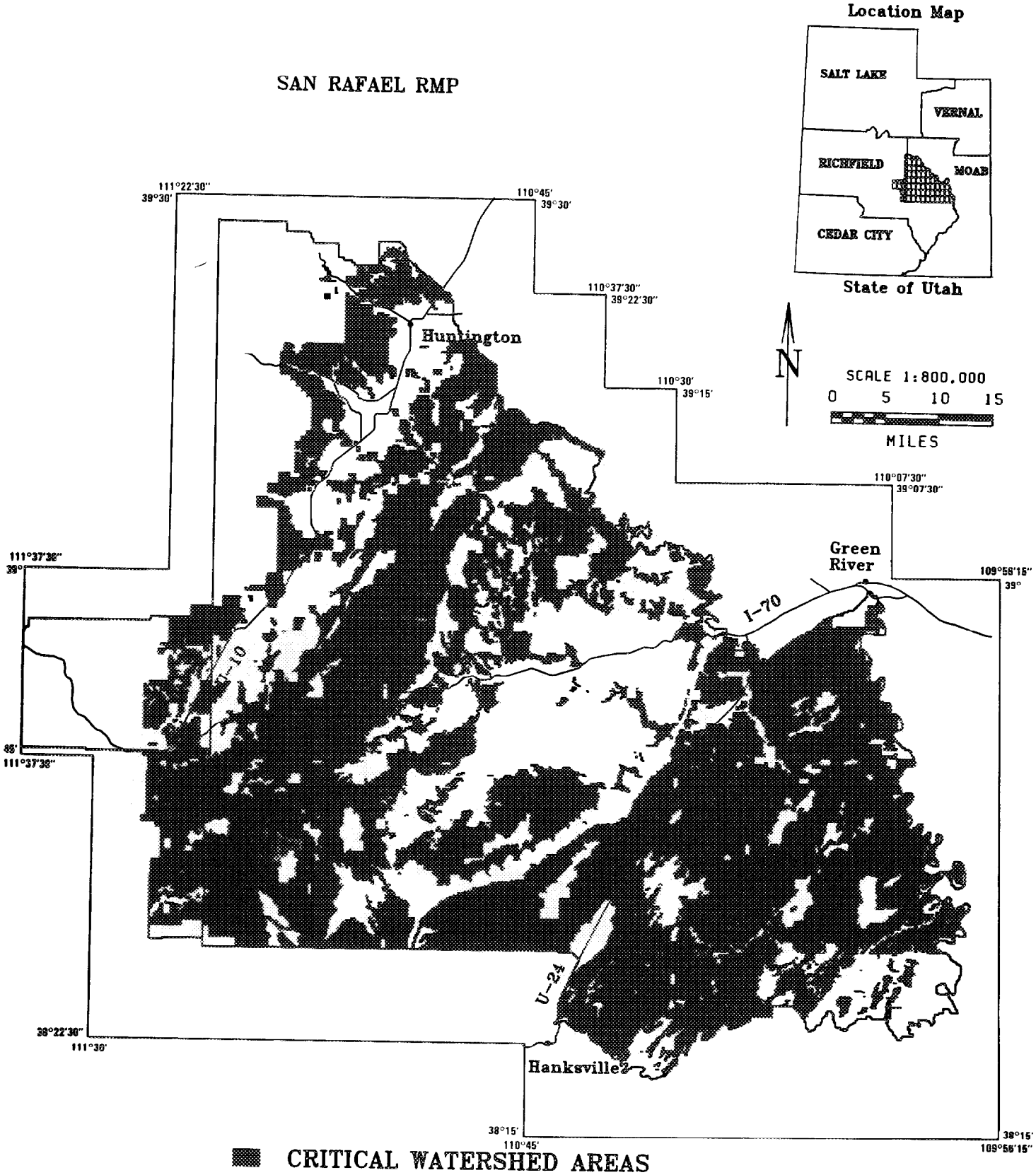


CRITICAL SOILS

— PLANNING AREA/GRAZING EIS BOUNDARY

CRITICAL SOILS

MAP 70

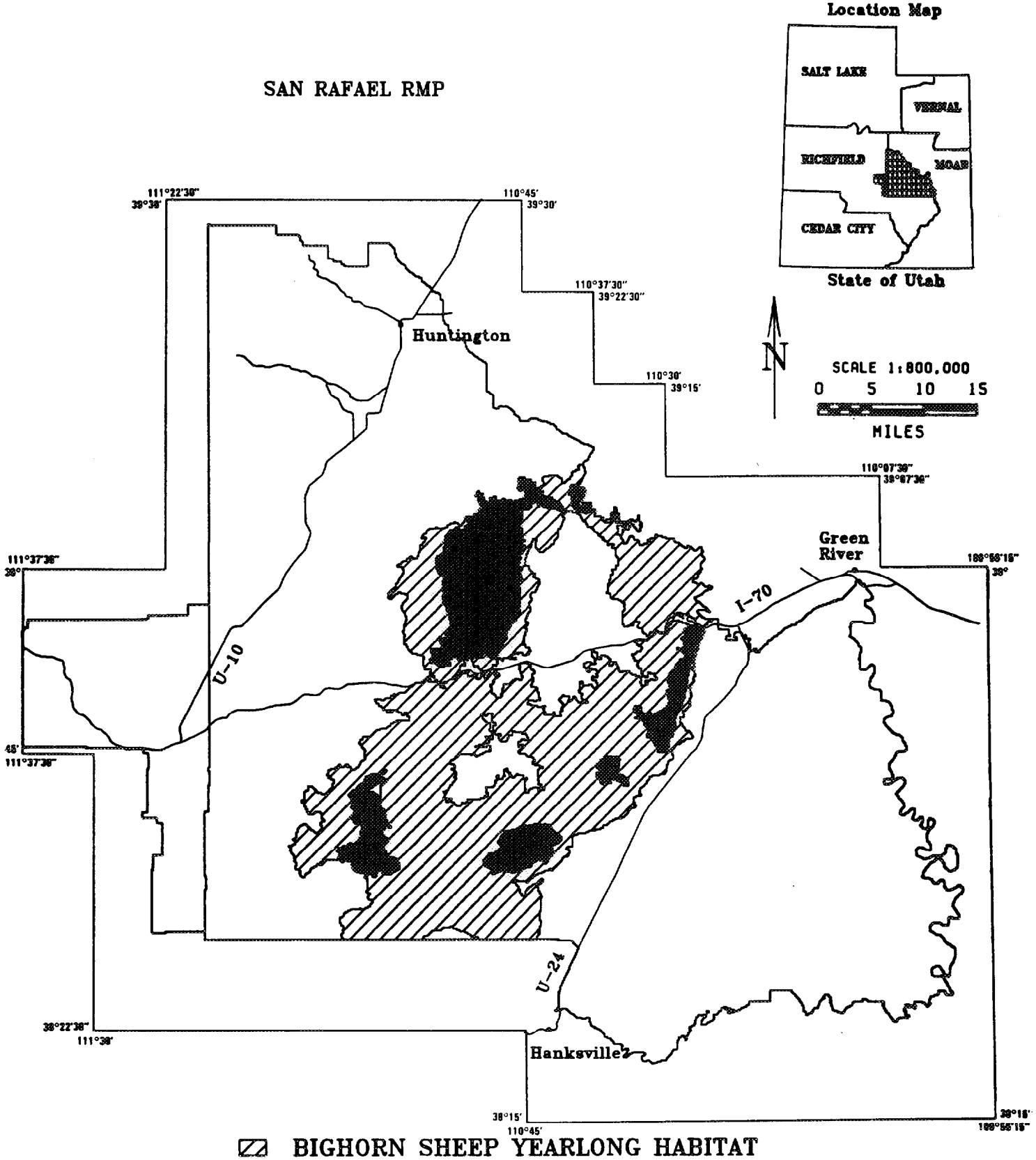


CRITICAL WATERSHED AREAS

— PLANNING AREA/GRAZING EIS BOUNDARY

CRITICAL WATERSHED AREAS

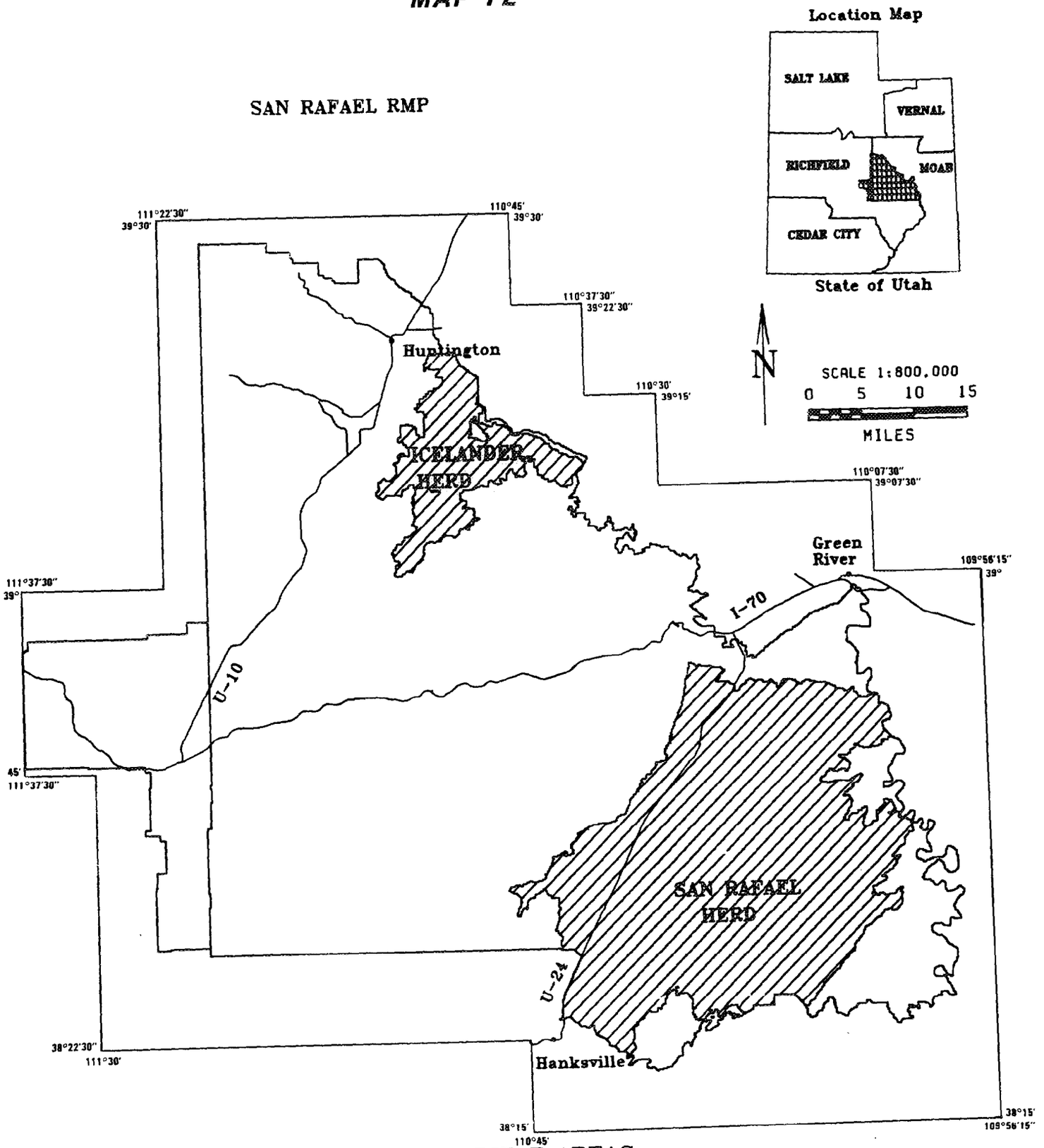
MAP 71



BIGHORN SHEEP YEARLONG HABITAT
BIGHORN SHEEP YEARLONG CRUCIAL HABITAT
PLANNING AREA/GRAZING EIS BOUNDARY

DESERT BIGHORN SHEEP HABITAT AREAS

MAP 72

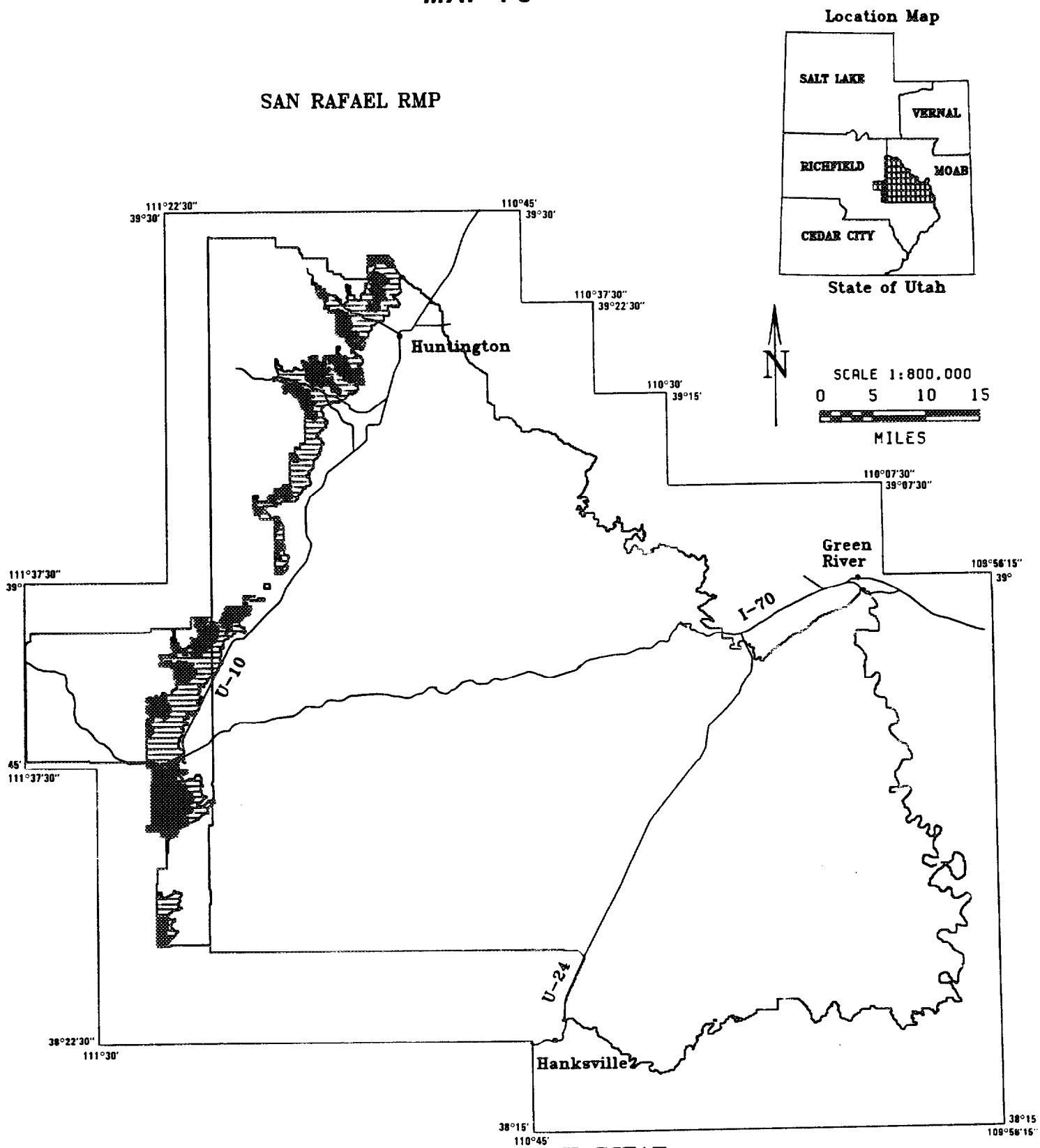


ANTELOPE HABITAT AREAS

— PLANNING AREA/GRAZING EIS BOUNDARY

ANTELOPE HABITAT AREAS

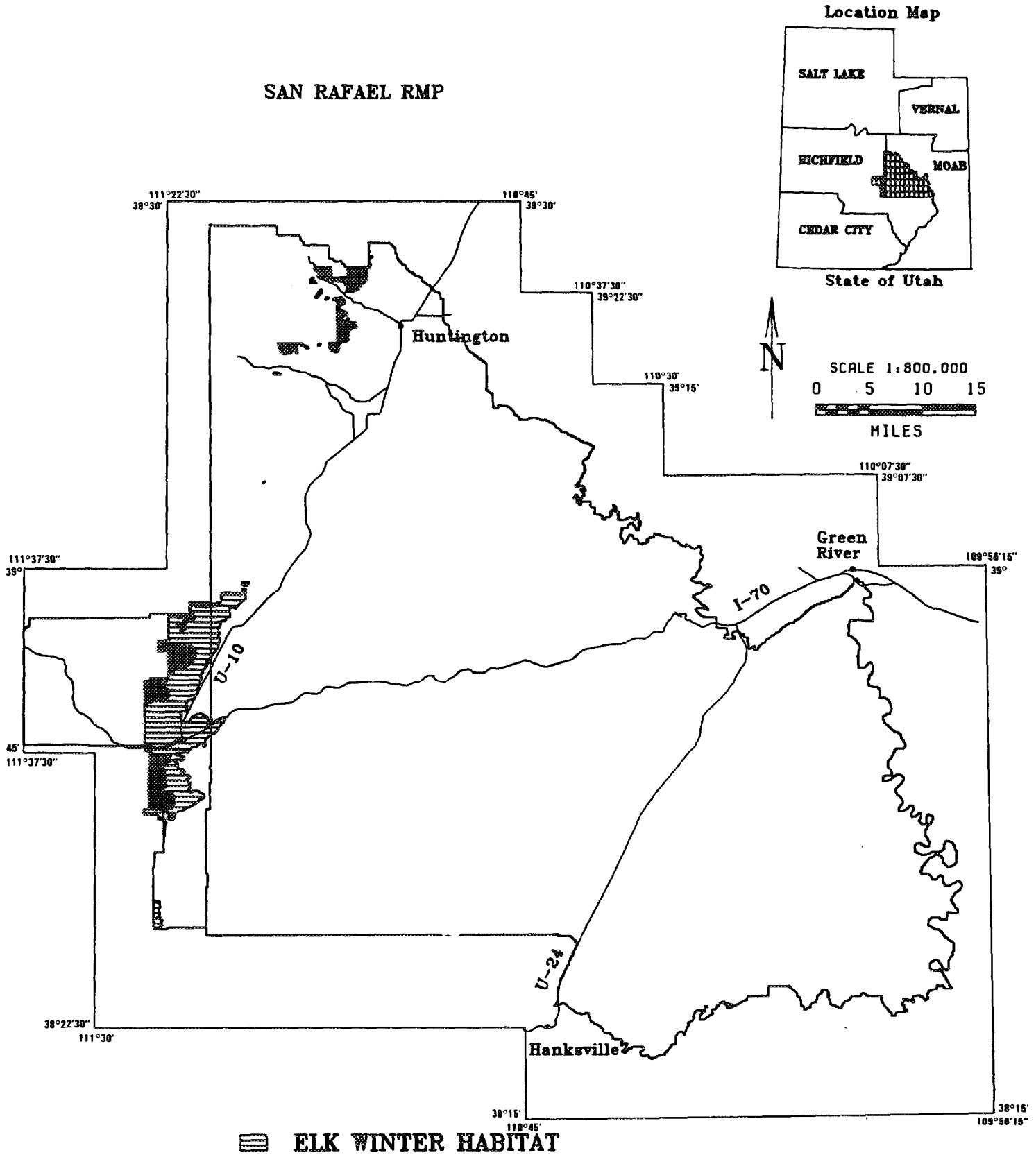
MAP 73



MULE DEER WINTER HABITAT
MULE DEER CRUCIAL WINTER HABITAT
PLANNING AREA/GRAZING EIS BOUNDARY

MULE DEER HABITAT AREAS

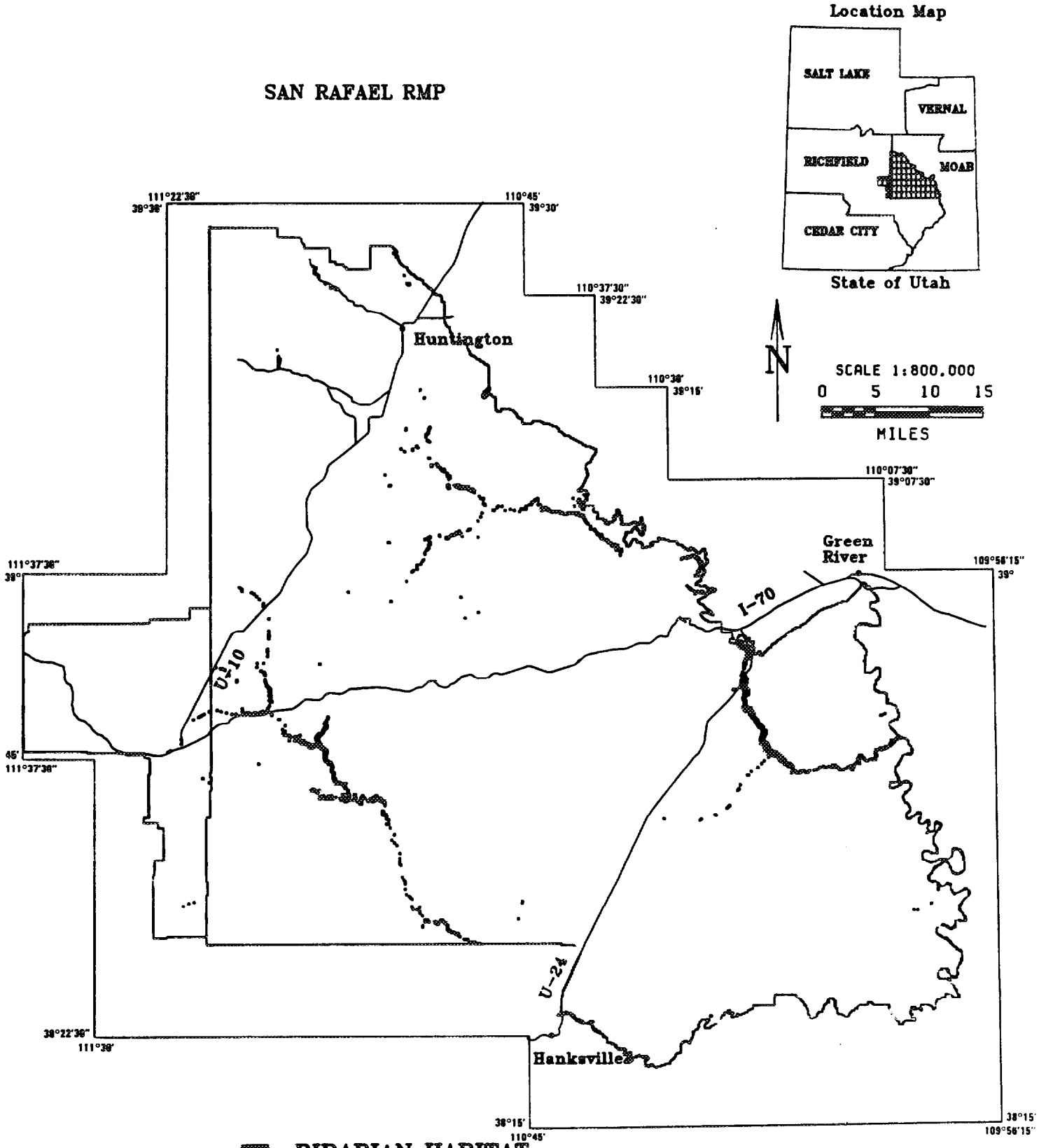
MAP 74



ELK WINTER HABITAT
ELK CRUCIAL WINTER HABITAT
PLANNING AREA/GRAZING EIS BOUNDARY

ELK HABITAT AREAS

MAP 75

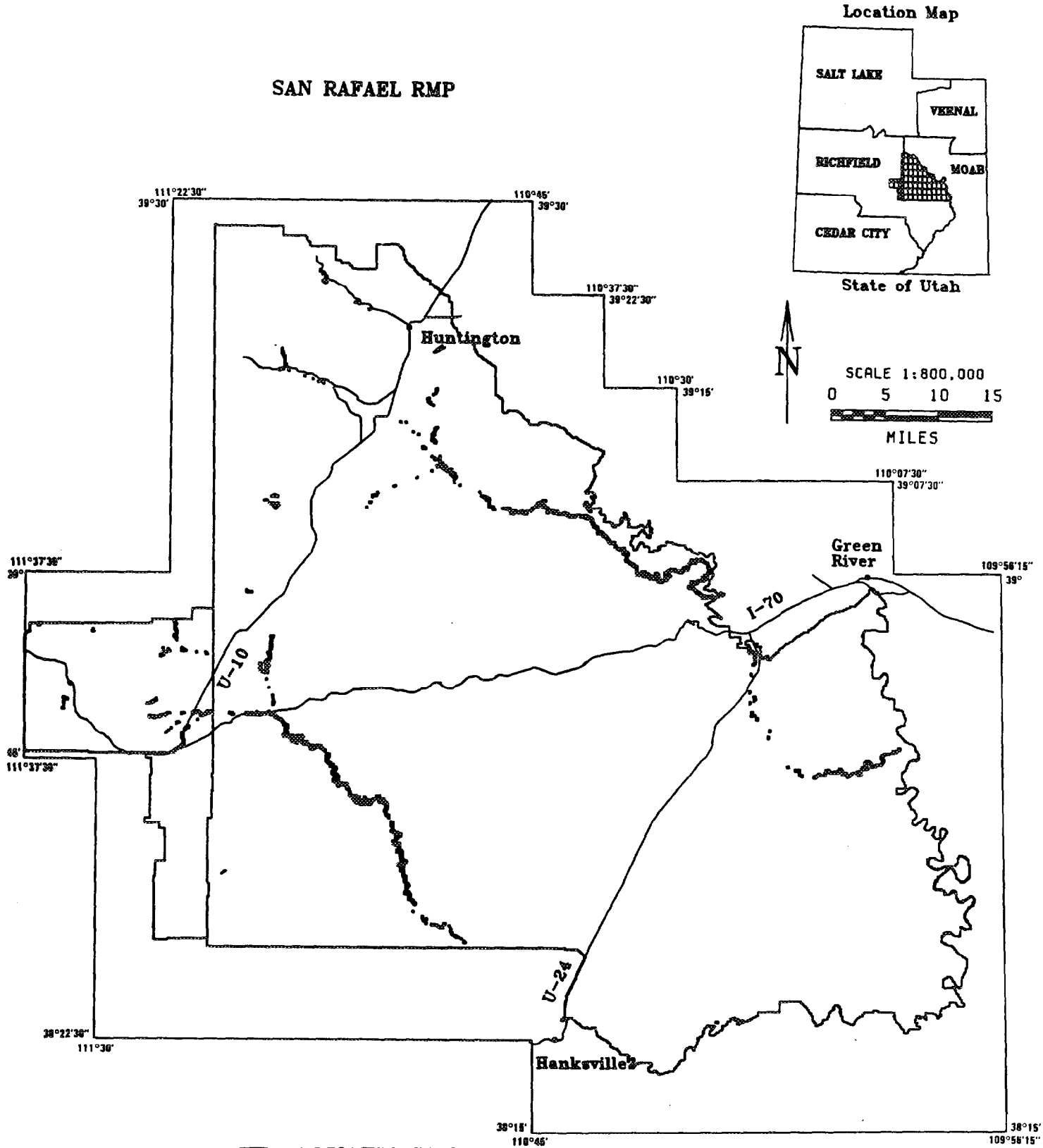


RIPARIAN HABITAT

PLANNING AREA/GRAZING EIS BOUNDARY

RIPARIAN HABITAT

MAP 76

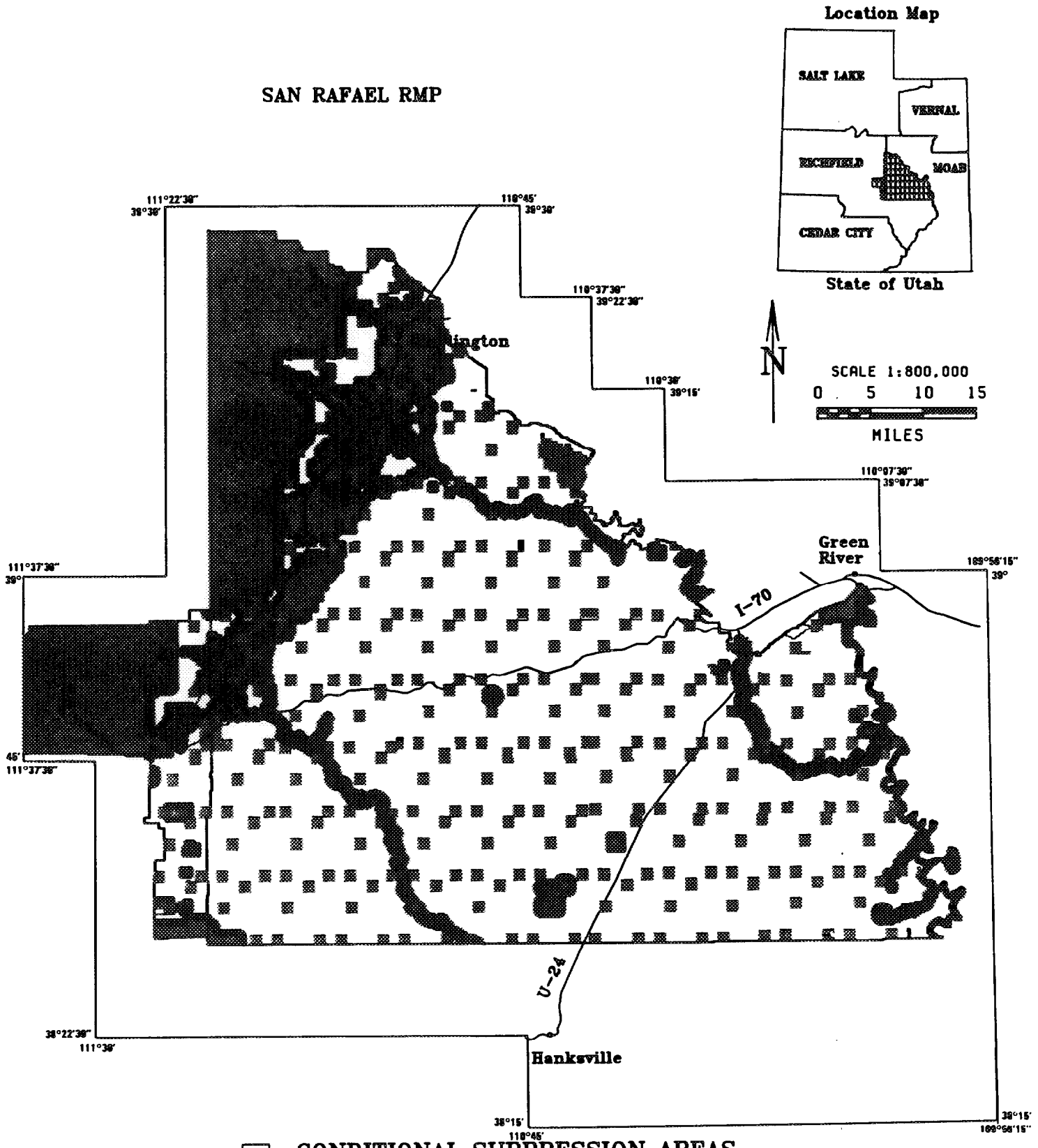


AQUATIC HABITAT

PLANNING AREA/GRAZING EIS BOUNDARY

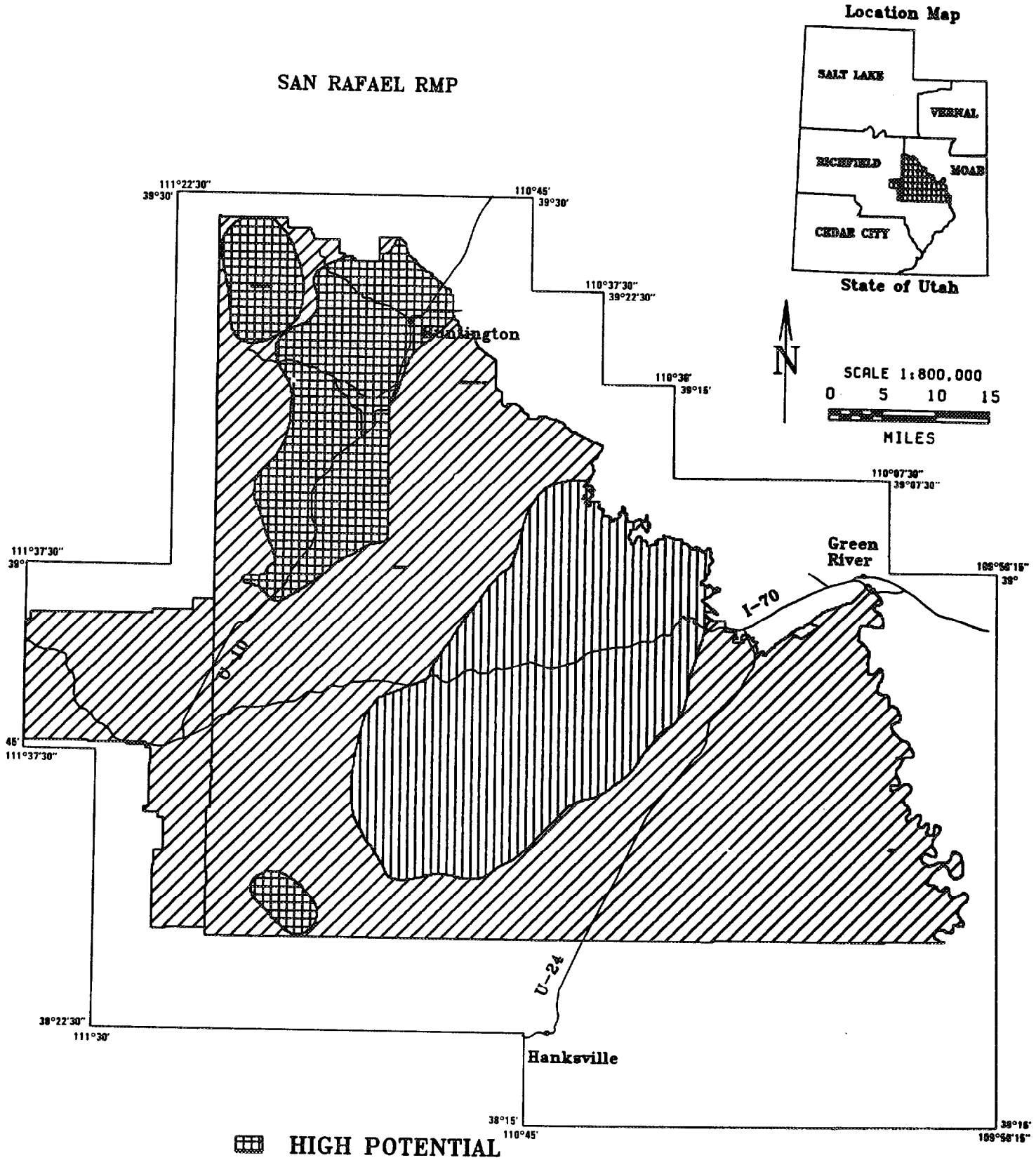
AQUATIC HABITAT

MAP 77



CONDITIONAL SUPPRESSION AREAS
FULL SUPPRESSION AREAS
PLANNING AREA BOUNDARY
FIRE MANAGEMENT AREAS

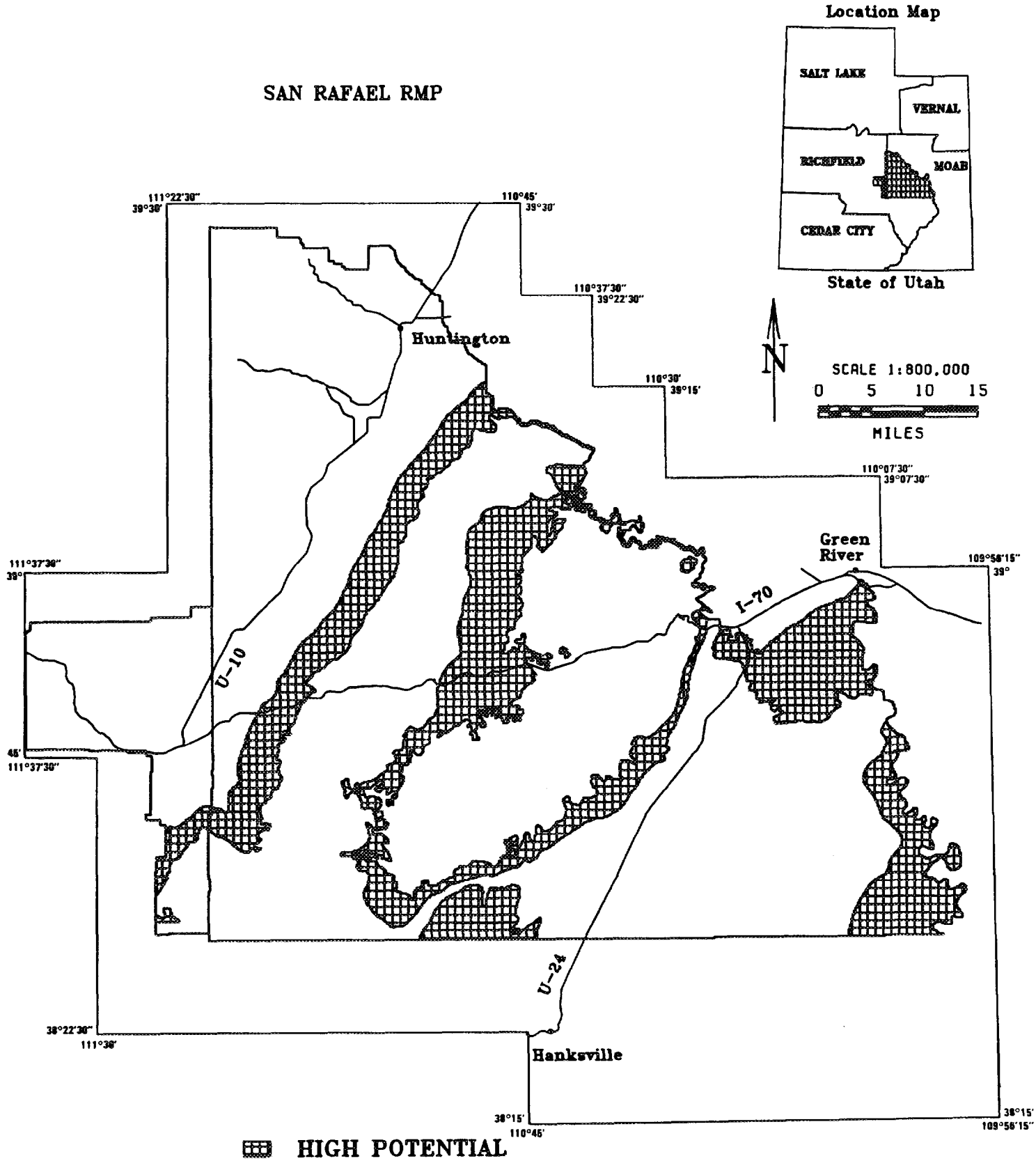
MAP 78



HIGH POTENTIAL
MODERATE POTENTIAL
LOW POTENTIAL
PLANNING AREA BOUNDARY

OIL AND GAS POTENTIAL

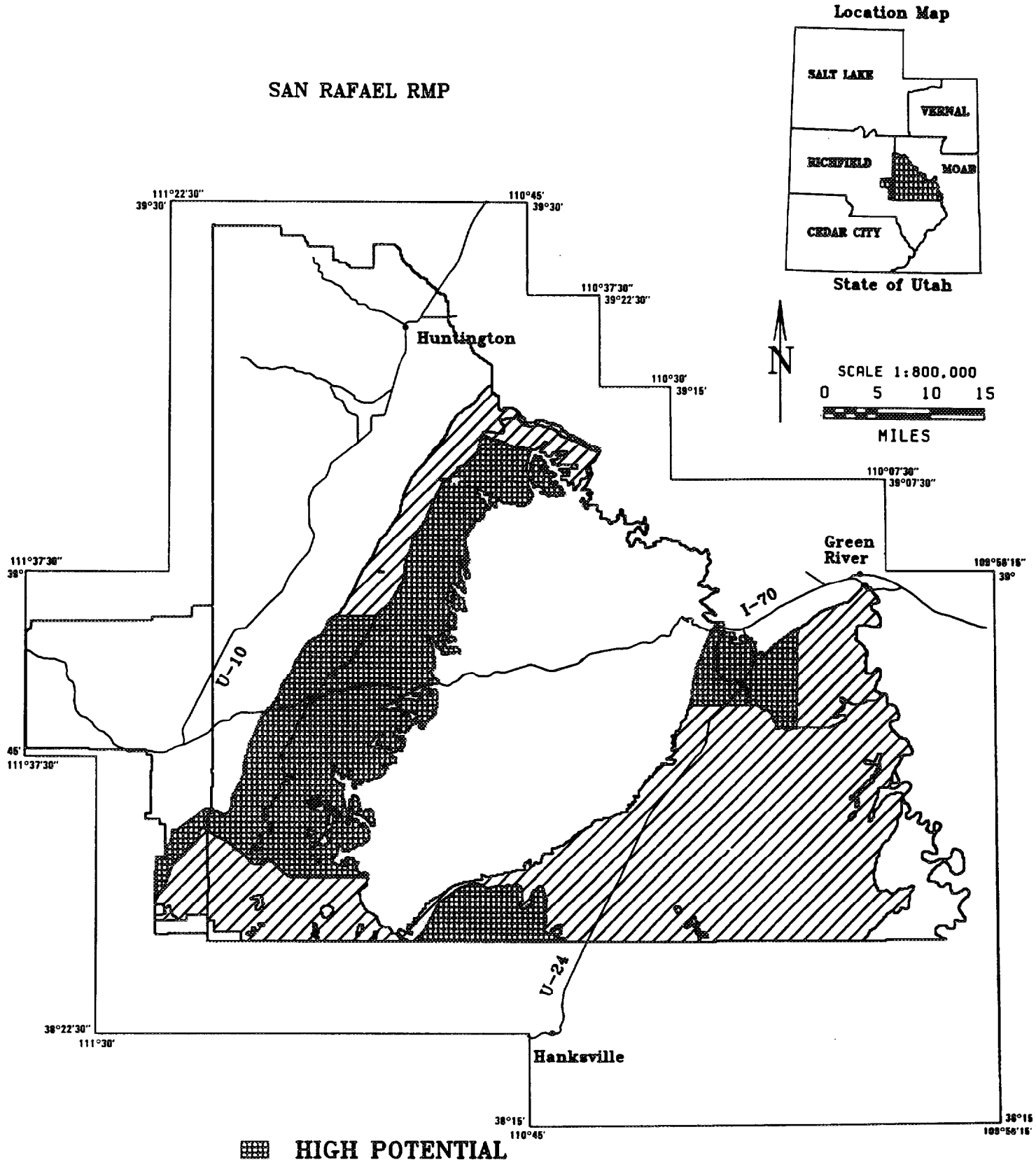
MAP 79



HIGH POTENTIAL
MODERATE/LOW/NO POTENTIAL
PLANNING AREA BOUNDARY

URANIUM POTENTIAL

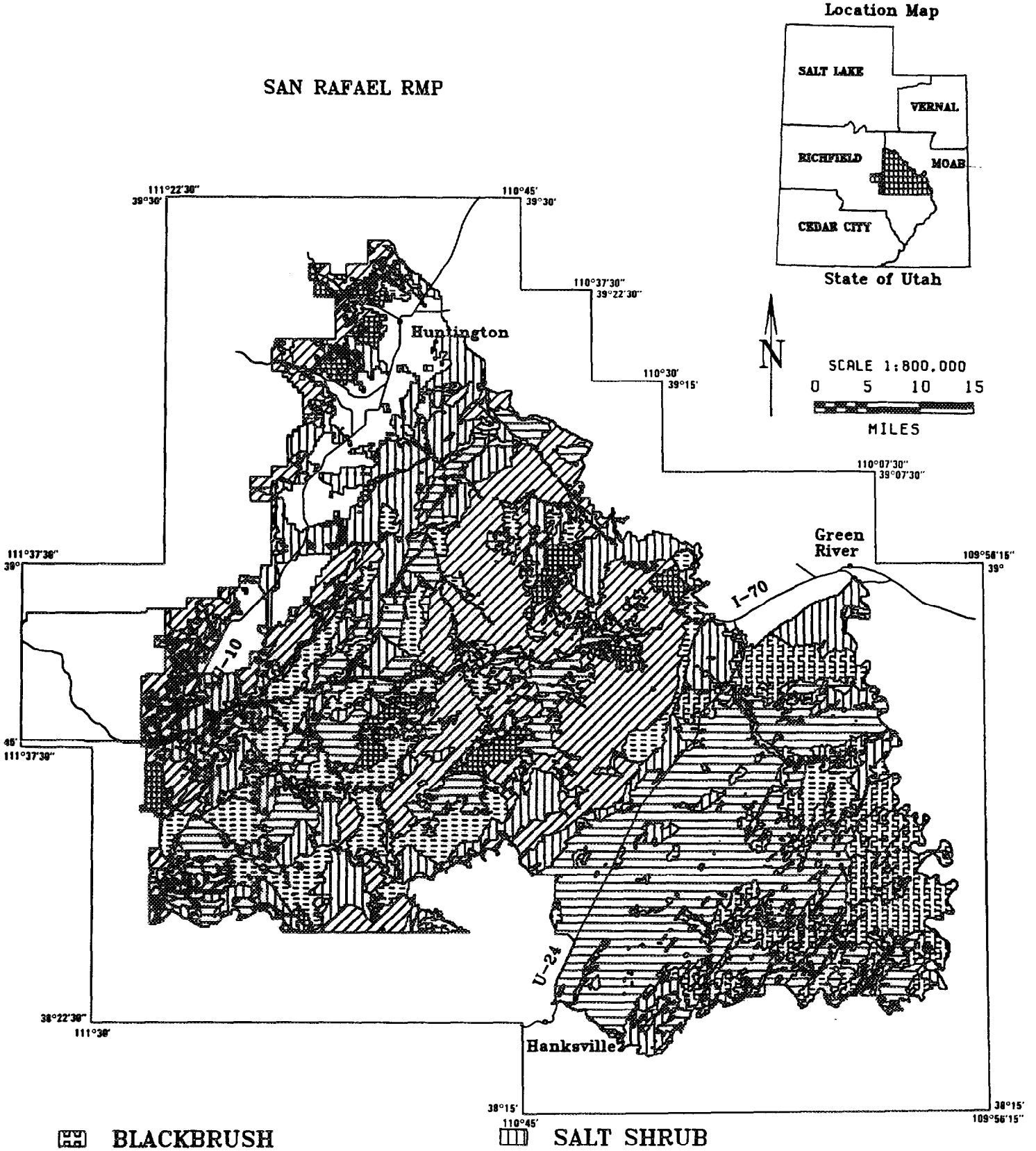
MAP 80



HIGH POTENTIAL
MODERATE POTENTIAL
LOW/NO POTENTIAL
PLANNING AREA BOUNDARY

GYPSUM POTENTIAL

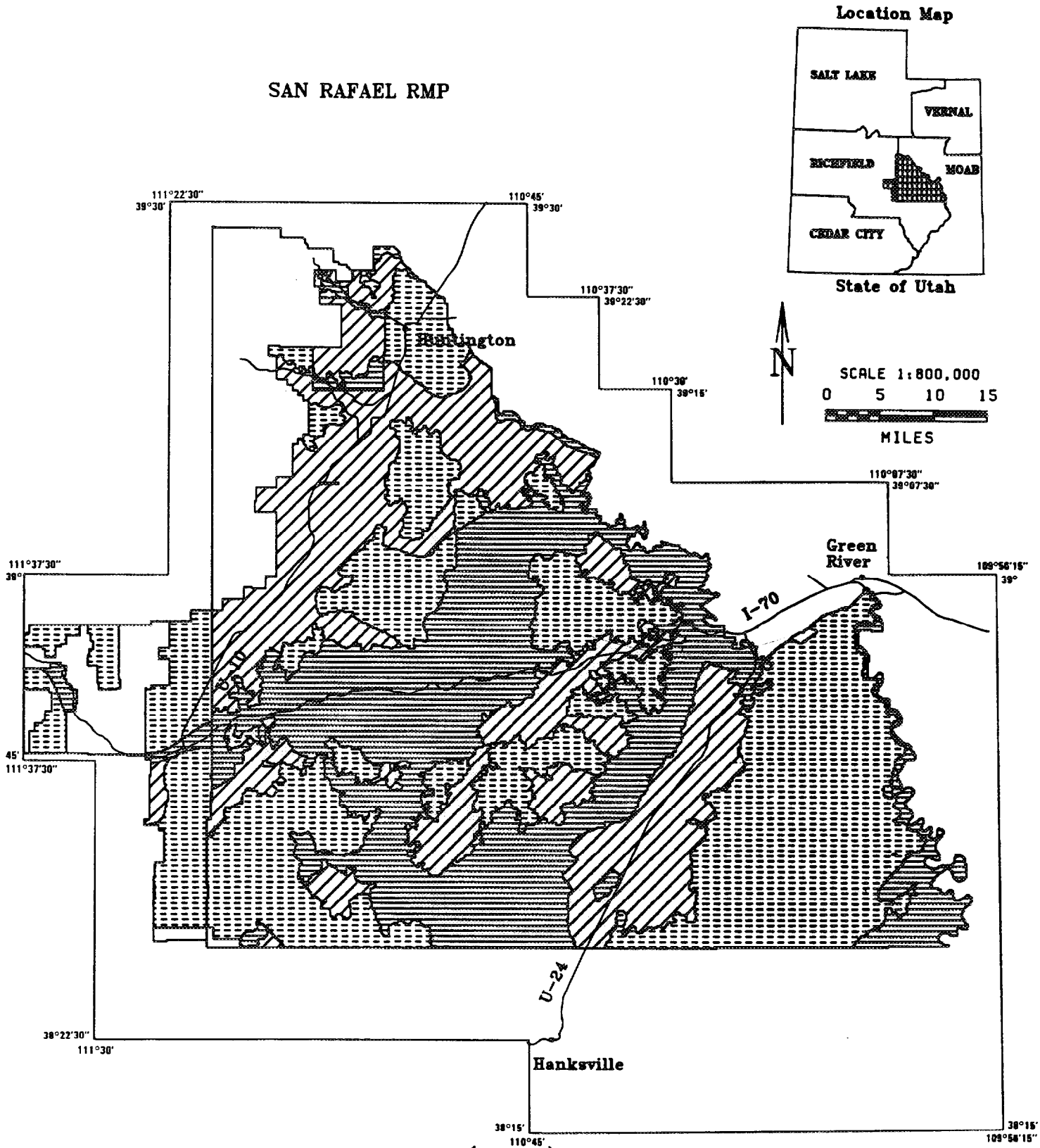
MAP 81



BLACKBRUSH
PINYON–JUNIPER
SAGEBRUSH
GRASSLAND
SALT SHRUB
VEGETATION MANIPULATIONS
MISCELLANEOUS LANDFORMS
GRAZING EIS BOUNDARY

SAN RAFAEL VEGETATION ZONES

MAP 82



VRM CLASS I (NONE)
VRM CLASS II
VRM CLASS III
VRM CLASS IV
PLANNING AREA BOUNDARY
VISUAL RESOURCE INVENTORY CLASSES

SUMMARY

OVERVIEW

This is the final environmental impact statement (EIS) for the San Rafael Resource Management Plan (RMP).

The final EIS presents the revisions and corrections to the draft EIS. Revisions have been made either in response to comments from the public or other agencies, to incorporate corrections or clarifications made by the EIS team, or because of changes initiated by management or resulting from policy changes.

Volume 2 contains the EIS maps and appendixes, and agency comments on the draft RMP/EIS with BLM's response to those changes.

INTRODUCTION

The San Rafael Resource Management Plan (RMP) is being prepared as required by the Federal Land Policy and Management Act of 1976 (FLPMA) in accordance with the Bureau of Land Management (BLM) planning regulations (43 CFR 1600). The RMP is also being prepared to meet a court-ordered requirement for preparation of a grazing environmental impact statement (EIS) for the San Rafael Resource Area (SRRA).

The RMP will guide management of all public lands and resources administered by SRRA. The SRRA, part of the Moab District, covers the southern half of Emery County, Utah. The Forest Planning Unit (FPU), part of the Richfield District, covers the southeastern corner of Sevier County, Utah. These areas together make up the planning area.

The RMP/EIS will provide decisions on livestock use for most of the public lands in the planning area, as well as some public lands in the Henry Mountain Resource Area, Richfield District, in Wayne County, Utah.

This RMP also discusses BLM's role in administering certain resources on lands administered by the U.S. Forest Service and the National Park Service.

FORMAT

The San Rafael final EIS has been printed in its entirety. This document contains the changes and revisions to the draft EIS and a description and analysis of the proposed RMP. These changes, revisions and additions have been absorbed by the text and are not specifically noted or otherwise highlighted.

PLANNING DOCUMENTS

Five documents are prepared to record the RMP process. The preplanning analysis was completed in September 1985, and Supplement A was added in June 1986. The management situation analysis (MSA) was completed in April 1988. The draft RMP/EIS was published in December 1988. This proposed RMP and final EIS were prepared in July 1989. The final RMP and record of decision for the EIS are scheduled for publication in September 1989.

PLANNING ISSUES

A total of five planning issues or resource management questions were identified. They concern management of livestock; wilderness study areas (WSAs) if not designated as wilderness; recreation; wildlife habitat; and watershed. The five planning issues were used to develop the alternatives for the final EIS.

MANAGEMENT OPPORTUNITIES

The MSA analyzed the adequacy of current management and identified opportunities for improvement, either through administrative changes or through the RMP/EIS.

MANAGEMENT COMMON TO ALL ALTERNATIVES

Management practices that were determined adequate, based on the analysis in the MSA, will not be changed. Some administrative changes will be made based on the management opportunities identified in the MSA. Together these are management actions common to all alternatives, considered to be part of every alternative.

ALTERNATIVES ASSESSED

The alternatives analyzed in this final EIS present different ways of answering the questions raised by the planning issues. These answers were used to formulate specific management actions under each alternative.

Six alternative plans and a proposed RMP are considered in detail in this EIS. Each plan presents guidance for all resource programs managed by BLM in the planning area. Except for alternative A, which presents continuation of current management, each plan presents different levels of management that would be applied to all public land uses.

SPECIAL DESIGNATIONS AND STANDARD OPERATING PROCEDURES

Special stipulations or conditions were developed for the other alternatives and are part of the alternatives in this final EIS. Where no special stipulations were developed, it was assumed that the standard operating procedures would be applied.

ALTERNATIVE A

The goal of alternative A is to continue the present levels of management and use of public lands and resources directed by the management framework plans (MFPs) [BLM, 1977a and BLM, 1979a]. In some instances, this involves continual development or expansion for the 12-year planning horizon. However, the current MFPs are inadequate to direct management of most public resources. This leaves the manager without clear guidance or objectives to respond to public requests and resource management needs. Even so, alternative A represents a fairly balanced combination of uses. The SRRA staff includes three range conservationists, one wildlife biologist, one recreation specialist, one realty specialist, one mining engineer, one geologist, one surface protection specialist, one watershed specialist, one archaeologist, and the administrative support required to manage the resource programs. The estimated annual costs of implementing alternative A would be $1,105,900.

ALTERNATIVE B

Alternative B would attempt to maximize the amount of livestock grazing and mineral production while providing for right-of-way corridors to aid development. Map 1 shows the area on which uses would be restricted to protect designated unique rangeland values in relict vegetation areas of critical environmental concern (ACECs) and 30 acres of cultural resource sites. Sustained yield of forage for livestock would be provided, while habitat for wildlife and wild horses and burros would be managed at levels below potential. Watershed management programs would be used to support livestock and mineral development needs, and recreation use would be managed to prevent conflict with those uses. Average grazing use would increase about 71 percent. While it is expected that mineral exploration and mining would increase because of less restriction, little change in production is expected. The cost of implementing alternative B is estimated to be 25 percent higher than for alternative A.

ALTERNATIVE C

Increasing opportunities for nonmotorized recreation and protection of wildlife habitat would be the primary goals of alternative C (map 2). Scenic ACECs at San Rafael Canyon, San Rafael Reef, Muddy Creek, Segers Hole, Sids Mountain, and Gilson Buttes, totaling 246,500 acres, would be established with management emphasis on primitive values (closed to off-road-vehicle (ORV) use). In the scenic corridor along Highway I-70, where ORV use would be limited to existing roads and trails, management would favor nonmotorized recreation values. Four cultural and historic ACECs and two relict vegetation ACECs (23,740 acres) would also be closed to ORV use. These use restrictions would protect crucial habitat for bighorn sheep and antelope, while restrictions on livestock grazing would protect crucial winter habitat for mule deer and elk and enhance riparian and aquatic habitat areas. Management costs under alternative C are projected to be 25 percent higher than for alternative A.

ALTERNATIVE D

The goals of alternative D (map 3) are (1) to provide for the maximum watershed condition by minimizing surface disturbance in critical watershed areas and (2) to provide the maximum protection of cultural resources. Although grazing would be allowed to continue on all but 5,400 acres of the planning area, limitations on forage use to protect watershed values would substantially reduce the average livestock use to about 30 percent of the maximum level under alternative B and to about half of that allowed under alternative A. Wildlife use would be allowed to increase, so long as maximum watershed condition is maintained. The ACECs nominated under alternative C would also be designated under alternative D, and the Hebes Mountain, Pictographs, Swasey Cabin, and Little Black Mountain areas would be added. Mineral exploration and development activities would be restricted to protect critical watersheds and ACECs. Management cost would be an estimated $1,258,900 (12 percent over that for alternative A).

ALTERNATIVE E

Alternative E (map 4) was designed to maximize access and the opportunities for motorized recreation. Livestock and wildlife grazing would be managed to accommodate motorized recreation by adjusting grazing seasons and use levels where conflicts develop. Wild horse and burro ranges would be expanded to allow animals to disperse to areas not frequently used by motorized vehicles. Watershed protection would not exclude ORV use, and other recreation programs would be subordinate to ORV recreation. Mining activities would be managed to enhance motorized recreation opportunities. In eight areas (156,910 acres) designated for ACEC management, ORV use would be limited to either existing or designated roads and trails. The estimated annual management cost under alternative E would be $1,297,800.

ALTERNATIVE F

Alternative F (map 5) was formulated to address the following goals: (1) to provide for protection of critical soils throughout the planning area and scenic resources within San Rafael Swell; (2) to protect crucial wildlife habitat; (3) to provide special management for certain vegetation and cultural resource values; and (4) to maintain existing livestock and mineral uses where no conflict with the other listed goals would occur. Waiver of stipulations in areas of scenic values would be based on an environmental assessment. All but three of the ACECs nominated in other alternatives would be designated under alternative F (Hebes Mountain, Little Black Mountain, and Gilson Buttes would not be designated). Alternative F would require more intensive management of all resources than is presently provided; this is reflected in the estimated management cost of $1,501,200 (25 to 30 percent over that for alternative A).

PROPOSED RESOURCE MANAGEMENT PLAN

The proposed RMP, like alternative F, was designed to (1) provide for protection of critical soils throughout the planning area and scenic resources within San Rafael Swell; (2) protect crucial wildlife habitat; (3) provide special management for certain vegetation and cultural resource values; and (4) maintain existing livestock and mineral uses where no conflict with the other listed goals would occur. ORV use would be limited to designated roads and trails on 1,027,360 acres and prohibited on 151,770 acres. All but three of the ACECs nominated in other alternatives would be

designated under the proposed RMP (Hebes Mountain and Little Black Mountain would not be designated; Gilson Buttes requires further study). Three ACECs would be proposed for withdrawal. The proposed RMP would require the most intensive management of all the alternatives. This is reflected in the estimated management cost of $1,510,200 (36 percent over alternative A).

ENVIRONMENTAL CONSEQUENCES

This final RMP/EIS analyzes the impacts to the human environment that would be expected to occur by the year 2000 if management actions identified under the various alternatives were implemented.

All alternatives would meet the requirements of the National Environmental Policy Act (NEPA) and other laws, regulations, and policies related to environmental quality. However, because the alternatives are quite different, each presents a result that would be environmentally preferable for different components of the human environment. Table 1 shows a brief comparison of impacts from the six alternatives. Table 1-A compares impacts of the proposed RMP against alternatives A and F.

THE FINAL RESOURCE MANAGEMENT PLAN

The proposed RMP will become the final RMP unless changes are required as a result of either public protest or the Governor's review. BLM planning regulations provide for the Governor to have 60 days to identify any known inconsistencies between the proposed RMP and state or local plans, policies or programs (43 CFR 1610.3-2(e)).

A 30-day public protest period will follow publication of the proposed RMP and final EIS. Any party who has participated in this planning process, and who may be adversely affected by the provisions of this proposed RMP, may submit a written protest to the BLM Director. A protest may raise only those issues that were submitted for the record during the planning process and must meet the requirements given at 43 CFR 1610.5-2. Protests should be sent to:

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

The final RMP will be issued after the end of the 30-day protest period and the 60-day Governor's review, or after any protests received are resolved by the Director. The record of decision for the EIS will be issued concurrently with the final RMP.

TABLE 1

Abbreviated Summary Comparison of Impacts, by Alternative
(By the Year 2000)

See Table 1-A for proposed plan, page S-10

ıdicator	Unit	Current Situation	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
l and Gas								
Category 1 area	ac.	1,182,050	1,182,050	1,491,400	193,710	172,330	471,810	761,770
Category 2 area	ac.	61,400	61,400	45,730	842,290	85,590	908,560	526,640
Category 3 area	ac.	174,630	174,630	0	30,370	0	156,910	245,810
Category 4 area	ac.	121,110	121,110	2,060	472,820	1,281,270	1,910	4,970
Oil production	Bbls/yr	0	13,200	13,200	13,200	3,000	13,200	13,200
Gas Production	MCF/yr	44,738	754,000	754,000	754,000	244,000	754,000	754,000
Seismic Line	mi/yr	100	100	125	100	25	100	100
al								
Exploration Area	ac.	62,290	58,310	62,290	58,310	18,470	62,290	62,280
Lease Area	ac.	58,190	58,190	58,190	54,210	14,370	58,190	58,180
Production	T/yr	150,000	150,000	150,000	150,000	150,000	150,000	150,000
neral Materials								
Disposal area	ac.	1,539,190	1,539,190	1,537,130	1,032,150	257,920	1,380,370	1,288,410
Production	cu yd/yr	164,195	320,000	320,000	320,000	50,000	320,000	320,000
catable Minerals								
Area open to entry	ac.	1,539,190	1,537,410	1,535,350	1,064,590	257,120	1,535,500	1,532,440
ils								
Loss	avg T/yr	33,775,070	34,324,020	33,243,520	27,700,740	27,027,680	28,723,810	30,841,040
ter								
Sediment Yield	avg T/yr	13,510,020	13,729,605	13,297,410	11,080,295	10,811,065	11,489,525	12,336,415
Salt Yield	avg T/yr	226,515	230,194	222,945	185,791	181,335	192,569	206,254
TDS	mg/l	unquantified	unquantified	unquantified	unquantified	unquantified	unquantified	unquantified
getation								
Disturbance	ac.	54,544	54,544	17,384	25,699	8,416	48,164	39,824

(Continued)

TABLE 1 (Continued)

licator	Unit	Current Situation	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
d Horses and Burros								
Habitat area	ac.	475,680	475,680	475,680	475,680	475,680	[a]475,680	475,680
Population	horses	114	200 to 235	20 to 35	70 to 110	90 to 115	250 to 325	75 to 125
	burros	70 to 100	70 to 100	10 to 25	25 to 60	50 to 70	110 to 140	30 to 70
ert bighorn sheep								
Crucial habitat	ac.	109,600	150,000	120,000	200,000	175,000	140,000	174,590
Population	sheep	225	500	350	860	750	550	800
elope								
Habitat	ac.	507,340	507,000	506,320	507,000	507,000	506,680	506,660
Population	antelope	600	700	400	1,060	1,000	950	900
e deer								
Crucial habitat	ac.	35,510	35,000	33,710	70,000	75,500	35,000	36,760
Population	deer	6,100	6,620	4,870	9,200	9,200	6,450	8,320
Crucial habitat	ac.	18,200	18,200	17,700	28,000	28,400	17,700	18,960
Population	elk	550	600	410	750	750	590	730
arian Habitat	ac.	14,770	14,780	14,780	14,980	15,030	14,780	14,930
estock Grazing								
Grazing area	ac.	1,618,940	1,612,120	1,620,820	1,535,480	1,523,630	1,609,050	1,606,320
Average use	AUMs	56,871	56,161	96,006	45,380	28,682	55,102	55,751
Active preference	AUMs	88,252	87,542	96,006	72,758	44,258	86,528	86,198

rest product use area								
Standard Conditions	ac.	451,270	430,890	437,450	24,590	100,690	220,300	169,190
Special Conditions	ac.	0	4,770	0	180,820	201,130	197,570	206,110
Campfire use excluded	ac.	0	490	510	1,100	6,800	510	570
Harvest excluded	ac.	0	15,610	13,820	245,850	149,450	251,250	75,960
ltural Resources								
Sites damaged	Sites	undetermined	6,735	6,712	6,060	1,507	6,738	6,707
Sites protected	Sites	1,500	2,489	2,530	2,477	2,385	2,489	2,489
ea Meeting Recreation Opportunity Spectrum Criteria								
P class	ac.	117,720	69,680	18,650	114,220	114,240	31,380	81,500
SPNM class	ac.	249,190	183,410	194,650	231,140	232,950	186,910	211,700
SPM class	ac.	743,800	662,870	629,060	603,400	716,250	675,550	630,920
RN class	ac.	434,260	606,720	684,580	581,420	471,440	626,110	599,810
R class	ac.	3,480	10,670	12,210	10,500	5,260	11,410	10,630
U class	ac.	40	20	40	20	30	20	20
/ Recreation Area								
Open	ac.	1,539,190	1,539,190	0	194,640	172,360	1,380,870	761,820
Seasonal restrictions	ac.	0	0	0	246,700	84,770	0	61,060
Existing roads and trails	ac.	0	0	1,493,230	0	0	156,910	0
Designated roads and trails	ac.	0	0	43,940	606,110	840	1,410	711,840
Closed to ORV use	ac.	0	0	2,020	491,740	1,281,220	0	4,470
ual Resource Management Class Area								
Class I	ac.	0	0	0	472,130	430,450	135,730	231,750
Class II	ac.	496,370	496,370	496,370	725,940	168,220	959,610	288,240
Class III	ac.	383,270	383,270	383,270	166,850	345,540	199,590	364,040
Class IV	ac.	659,550	659,550	659,550	174,270	594,980	244,260	655,160
Contrasts exceeding objectives	Scores	120	120	150	106	67	136	118
ds available for rights-of-way								
Within corridors	ac.	0	0	27,340	0	0	17,060	24,440
Outside corridors	ac.	1,539,190	1,485,600	1,464,060	193,710	172,330	454,750	752,760
Avoidance areas	ac.	0	53,590	45,760	872,660	85,590	1,065,470	757,020
Exclusion areas	ac.	0	0	2,030	472,820	1,281,270	1,910	4,970

(Continued)

TABLE 1 (Concluded)

ıdicator	Unit	Current Situation	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
ınds								
Managed for disposal	ac.	6,820	6,820	0	6,970	1,420	7,810	7,730
Withdrawals	ac.	1,780	1,780	3,840	474,600	1,282,070	3,690	6,750
Acquisitions	ac.	0	0	0	8,580	2,400	0	3,200
:onomic Considerations								
Mining								
Employment	Jobs	2,979	3,276	3,284	3,275	2,999	3,275	3,276
Earnings	$	77,476,700	85,859,400	86,057,700	85,840,600	78,080,800	85,840,600	85,859,400
Revenues	$	16,314,800	16,430,200	16,436,000	16,428,400	16,320,100	16,428,400	16,430,200
Soil and Water								
Sediment Cost	$	218,000	218,000	210,000	174,600	170,200	181,600	194,500
		to 1,841,600	to 1,841,600	to 1,784,300	to 1,487,400	to 1,451,500	to 1,541,900	to 1,655,900
Salinity Cost	$	1,724,000	1,724,000	1,622,500	1,345,700	1,289,000	1,424,600	1,505,300
		to 25,208,600	to 25,208,600	to 24,462,000	to 20,391,800	to 19,927,200	to 21,105,900	to 22,684,900
Livestock Grazing								
Returns above variable cost	$	925,900	912,200	1,759,000	355,700	113,900	637,500	690,300
Wealth	$	26,428,200	26,392,700	26,815,900	25,853,700	25,018,800	26,339,800	26,372,200
				to 28,420,500				
Employment	Jobs	157	156	228	124	57	154	148
Earnings	$	463,200	459,500	671,600	365,900	166,700	453,900	435,400
Revenues	$	322,000	319,400	466,900	254,400	115,900	315,600	302,700
Recreation (includes Wildlife)								
Employment	Jobs	21	27	22	36	37	27	32
Earnings	$	182,100	236,700	186,700	314,100	323,700	232,800	275,900
Revenues	$	27,200	35,400	27,700	47,300	48,800	34,800	41,400
Wildlife								
Employment	Jobs	18	20	14	28	30	19	24
Earnings	$	159,300	174,300	124,300	251,700	261,300	170,500	213,500
Revenues	$	24,500	26,800	19,100	38,700	40,100	26,200	32,800

Other Land Uses								
Employment	Jobs	36	36	unquantified	unquantified	9	unquantified	unquantified
Earnings	$	494,800	494,800	unquantified	unquantified	118,700	unquantified	unquantified
Revenues	$	45,100	45,100	unquantified	unquantified	10,800	unquantified	unquantified
Payments in Lieu of Taxes	$	410,500	419,100	412,300	419,300	413,700	420,100	420,091
Plan Budget								
Employment	Jobs	8	9	12	12	10	10	12
Earnings	$	96,242	105,700	138,000	137,500	120,300	124,000	143,500
Revenues	$	2,100	2,400	3,100	3,100	2,700	2,800	3,200

*SEE TABLE 1-A FOR PROPOSED PLAN, PAGE S-10

TABLE 1-A

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

ıdicator	Unit	Current Situation	Alternative A	Alternative F	Proposed Plan
ıl and Gas					
Category 1 area	acres	1,182,050	1,182,050	761,770	747,660
Category 2 area	acres	61,400	61,400	526,640	496,600
Category 3 area	acres	174,630	174,630	245,810	228,050
Category 4 area	acres	121,110	121,110	4,970	66,880
Oil production	barrels per year	0	13,200	13,200	13,200
Gas Production	MCF per year	44,738	754,000	754,000	754,000
Seismic Line	miles per year	100	100	100	100
al					
Exploration Area	acres	62,290	58,310	62,280	62,280
Lease Area	acres	58,190	58,190	58,180	58,180
Production	tons per year	150,000	150,000	150,000	150,000
neral Materials					
Disposal area	acres	1,539,190	1,539,190	1,288,410	1,244,260
Production	cubic yards per year	164,195	320,000	320,000	320,000
catable Minerals					
Area open to entry	acres	1,539,190	1,537,410	1,532,440	1,470,530
ils					
Loss	average tons per year	33,775,070	34,324,020	30,841,040	30,723,810
ter					
Sediment Yield	average tons per year	13,510,020	13,729,605	12,336,415	12,289,520
Salt Yield	average tons per year	226,515	230,194	206,254	206,254
TDS	milligrams per litre	unquantified	unquantified	unquantified	unquantified
ıetation					
Disturbance	acres	54,544	54,544	39,824	29,744

ld Horses and Burros					
Habitat area	acres	475,680	475,680	475,680	475,680
Population	horses	114	200 to 235	75 to 125	75 to 125
	burros	70 to 100	70 to 100	30 to 70	30 to 70
sert bighorn sheep					
Crucial habitat	acres	109,600	150,000	174,590	180,000
Population	sheep	225	500	800	840
telope					
Habitat	acres	507,340	507,000	506,660	506,660
Population	antelope	600	700	900	900
le deer					
Crucial habitat	acres	35,510	35,000	36,760	36,760
Population	deer	6,100	6,620	8,320	8,320
k					
Crucial habitat	acres	18,200	18,200	18,960	18,960
Population	elk	550	600	730	730
parian Habitat	acres	14,770	14,780	14,930	14,940
vestock Grazing					
Grazing area	acres	1,618,940	1,612,120	1,606,320	1,606,320
Average use	AUMs	56,871	56,161	55,751	56,207
Active preference	AUMs	88,252	87,542	86,198	86,654
rest product use area					
Standard Conditions	acres	451,270	430,890	169,190	358,510
Special Conditions	acres	0	4,770	206,110	11,670
Campfire use excluded	acres	0	490	570	590
Harvest excluded	acres	0	15,610	75,960	81,090

(Continued)

TABLE 1-A (Continued)

ıdicator	Unit	Current Situation	Alternative A	Alternative F	Proposed Plan
ıltural Resources					
Sites damaged	sites	undetermined	6,735	6,707	6,183
Sites protected	sites	1,500	2,489	2,489	2,489
·ea Meeting Recreation Opportunity Spectrum Criteria					
P class	acres	117,720	69,680	81,500	100,850
SPNM class	acres	249,190	183,410	211,700	236,760
SPM class	acres	743,800	662,870	630,920	594,210
RN class	acres	434,260	606,720	599,810	598,560
R class	acres	3,480	10,670	10,630	10,630
U class	acres	40	20	20	20
‹V Recreation Area					
Open	acres	1,539,190	1,539,190	761,820	326,780
Seasonal restrictions	acres	0	0	61,060	33,310
Existing roads and trails	acres	0	0	0	0
Designated roads and trails	acres	0	0	711,840	1,027,360
Closed to ORV use	acres	0	0	4,470	151,770
sual Resource Management Class Area					
Class I	acres	0	0	231,750	278,340
Class II	acres	496,370	496,370	288,240	256,200
Class III	acres	383,270	383,270	364,040	357,210
Class IV	acres	659,550	659,550	655,160	647,470
Contrasts exceeding objectives	scores	120	120	118	118
nds available for rights-of-way					
Within corridors	acres	0	0	24,440	24,440
Outside corridors	acres	1,539,190	1,485,600	752,760	738,740
Avoidance areas	acres	0	53,590	757,020	709,160
Exclusion areas	acres	0	0	4,970	66,880

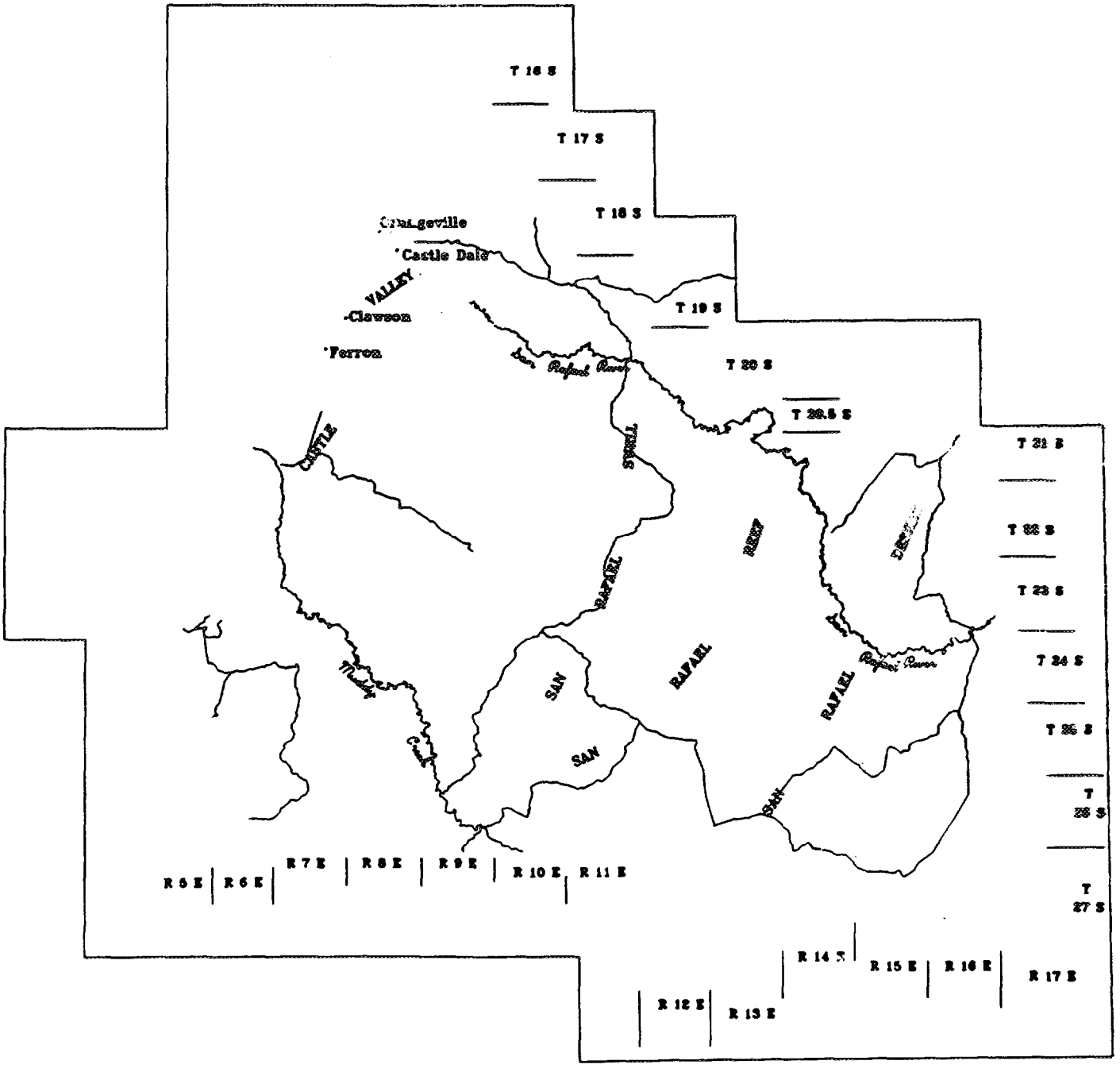
nds					
Managed for disposal	acres	6,820	6,820	7,730	7,730
Withdrawals	acres	1,780	1,780	6,750	68,660
Acquisitions	acres	0	0	3,200	6,070
onomic Considerations					
Mining					
Employment	jobs	2,979	3,276	3,276	unquantified
Earnings	$	77,476,700	85,859,400	85,859,400	unquantified
Revenues	$	16,314,800	16,430,200	16,430,200	unquantified
Soil and Water					
Sediment Cost	$	218,000	218,000	194,500	193,800
		to 1,841,600	to 1,841,600	to 1,655,900	to 1,649,600
Salinity Cost	$	1,724,000	1,724,000	1,505,300	1,502,800
		to 25,208,600	to 25,208,600	to 22,684,900	to 22,653,200
Livestock Grazing					
Returns above variable cost	$	925,900	912,200	690,300	699,800
Wealth	$	26,428,200	26,392,700	26,372,200	26,390,400
Employment	jobs	157	156	148	149
Earnings	$	463,200	459,500	435,400	438,900
Revenues	$	322,000	319,400	302,700	305,152
Recreation					
Employment	jobs	21	27	32	32
Earnings	$	182,100	236,700	275,900	277,500
Revenues	$	27,200	35,400	41,400	41,600
Wildlife					
Employment	jobs	18	20	24	24
Earnings	$	159,300	174,300	213,500	215,100
Revenues	$	24,500	26,800	32,800	33,000

(Continued)

TABLE 1-A (Concluded)

ıdicator	Unit	Current Situation	Alternative A	Alternative F	Proposed Plan
:onomic Considerations (Concluded)					
Other Land Uses					
Employment	jobs	36	36	unquantified	unquantified
Earnings	$	494,800	494,800	unquantified	unquantified
Revenues	$	45,100	45,100	unquantified	unquantified
Payments in Lieu of Taxes	$	410,500	419,100	420,091	420,100
Plan Budget					
Employment	jobs	8	9	12	12
Earnings	$	96,242	105,700	143,500	143,500
Revenues	$	2,100	2,400	3,200	3,200

THIS MYLAR IS TO BE USED WITH
THE VOLUME TWO PAGE SIZE MAPS.



INTRODUCTION

PURPOSE AND NEED

The purpose of the resource management plan (RMP) is to guide management of the public lands and resources in the Moab District's San Rafael Resource Area (SRRA) and Richfield District's Forest Planning Unit (FPU), which is part of the Sevier River Resource Area (map 6). 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 environmental impact statement (EIS) [U.S. District Court, District of Columbia, in Natural Resources Defense Council, Inc. v. Morton, 388 F.Supp. 829 (1974). In 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 the 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.

THE PLANNING PROCESS

BLM planning is described as issue-driven, meaning that planning is undertaken to answer questions about specific land management opportunities or problems, called issues. The issues are identified at the outset of the RMP process and posed as questions regarding use or management of the public lands.

The different ways of answering these questions provide the basis for the alternatives considered in the draft, and the RMP/EIS finally decided upon is shaped by the manager's answers to those questions. The RMP/EIS is written to provide program-specific guidance to cover management of all resources throughout the entire planning area. It will, therefore, include an overview of management common to all alternatives.

Under the planning regulations at 43 CFR 1610.4, the preparation and implementation of an RMP is completed in nine steps (table 2). The RMP/EIS discloses these processes for public and administrative review.

The first three planning steps require information gained from many sources, including the public. Steps 4 and 5 depend on analysis of the data and needs identified in the first three steps. Step 5 leads into the EIS process (steps 5 through 8), which calls for formal public review and comment periods.

TABLE 2

Prescribed Resource Management Planning Actions

INFORMATION

1. Identification of issues *
2. Development of planning criteria *
3. Inventory data and information collection
4. Analysis of management situation

ANALYSIS

5. Formulation of alternatives
6. Estimation of effects of alternatives
7. Selection of preferred alternative *

DECISION

8. Selection of resource management plan *

IMPLEMENTATION

9. Monitoring and evaluation

* Public participation is invited throughout the planning process, but is formally requested at these steps.

Source: BLM Manual 1601.22.

The final planning step requires monitoring and evaluation; formal review takes place at 5-year intervals. The monitoring plan for the San Rafael RMP is described in appendix A. Public reaction to BLM's land mangement can lead to revision of the RMP through these periodic reviews. Public concerns voiced through changes in law or agency policy also serve as basis for planning decisions. A public participation plan for the San Rafael RMP effort was presented in the preplanning analysis.

Five documents are completed during preparation of the RMP to record the planning process: the preplanning analysis; the management situation analysis (MSA); the draft RMP/EIS; the proposed RMP and final EIS; and the record of decision (ROD) and RMP/rangeland program summary (RPS). Each document serves as a foundation for the one following. The relationship of the MSA, EIS, and final RMP is shown in figure 1.

PREPLANNING ANALYSIS

The preplanning analysis documents planning steps 1 and 2: identification of issues and development of planning criteria. The scoping requirement for preparation of an EIS (found at 40 CFR 1501.7) is the equivalent of issue identification. The public was given a 30-day period, ending on July 1, 1985, to comment on planning issues, the scope of the EIS, and the coal resource information for the San Rafael RMP effort. A public scoping meeting was held June 13, 1985 at Castle Dale, Utah.

The preplanning analysis also provides information pertaining to future documents, team organization, and schedules. It informs BLM personnel, other government agencies, and the public of the planning effort and is provided to the public as an information document. The preplanning analysis for the San Rafael RMP was prepared in September 1985; supplement A was prepared in May 1986 to finalize the planning criteria and to incorporate FPU into the planning area. Copies may be reviewed at the district and resource area offices.

MANAGEMENT SITUATION ANALYSIS

The MSA documents planning steps 3 and 4: collection of inventory data and analysis of the management situation. It is available for public inspection in the BLM district and resource area offices, but not printed or distributed for public review. The MSA details the physical profile for base resources and facilities within the

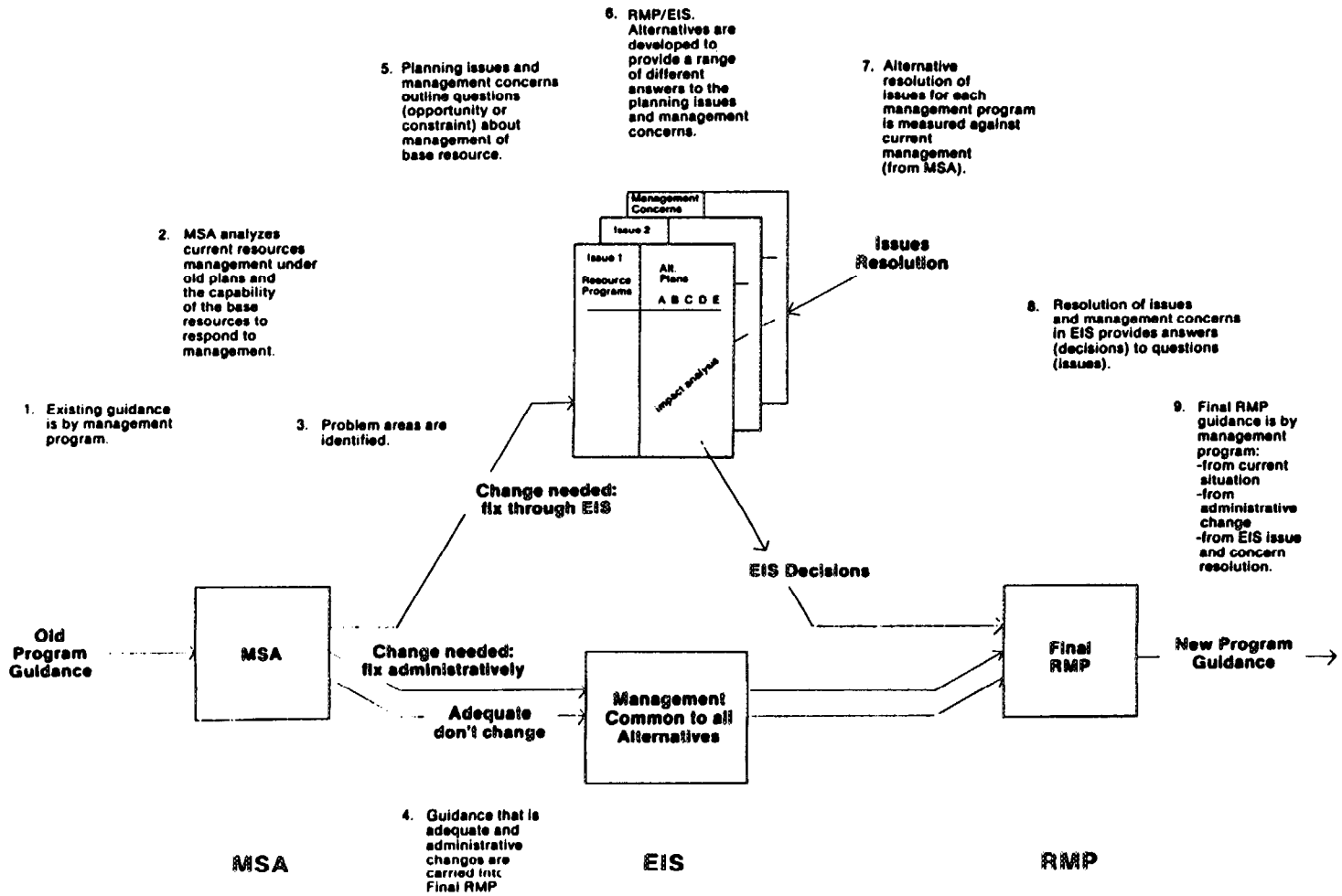


FIGURE 1

Relationship Between Planning Documents

planning and grazing areas and analyzes resource management programs administered by the resource areas. Existing management practices under the MFPs are described for each program, and the capability of the resource to meet present and future demands is assessed. Current management practices that appear adequate, and where no management concerns or conflicts are identified, may be carried forward into the final plan virtually intact. Problems identified in the MSA are analyzed to determine first if they can be resolved administratively. Administrative changes may be formulated and carried into the RMP. Problems that involve establishing or adjusting land use or resource allocations are carried through the EIS process for resolution.

The MSA identified management opportunities that could be resolved either administratively or through the RMP (table 3). Figure 1 is a schematic chart showing the purpose of the MSA and its relationship to the RMP and EIS.

DRAFT RESOURCE MANAGEMENT PLAN/ENVIRONMENTAL IMPACT STATEMENT

The draft RMP/EIS documents planning steps 5 through 7: formulation of alternatives, estimation of effects of those alternatives, and selection of the preferred alternative. The no-action alternative described in the draft RMP is the current management under the MFPs or subsequent planning documents.

Various alternatives are formulated to resolve the planning issues (problems or opportunities) identified in step 1. These are measured against the no-action alternative to estimate the differences in environmental effects (impacts). The draft EIS analyzes the alternatives and presents BLM's preferred alternative; it is distributed for a formal public review and comment period.

PROPOSED RESOURCE MANAGEMENT PLAN AND FINAL ENVIRONMENTAL IMPACT STATEMENT

After the public comments are analyzed, the proposed RMP and final EIS are written. The proposed RMP, which may differ from the draft preferred alternative, will be reviewed by the Governor for consistency with state plans. The proposed RMP and final EIS are subject to public protest through a formal procedure explained at 43 CFR 1610.5-2.

RECORD OF DECISION/FINAL RESOURCE MANAGEMENT PLAN/RANGELAND PROGRAM SUMMARY

To complete step 8, documentation of the RMP/EIS, an ROD is published with the final RMP. The ROD is not normally subject to public review, but may be if the final RMP differs substantially from the proposed RMP because of protest resolution or as a result of the Governor's review.

The final RMP provides the BLM field office with resource management guidance, by program, that is taken either directly from the current management described in the MSA, from resolution of administrative problems identified in the MSA, or from resolution of the planning issues through the RMP/EIS.

Monitoring and evaluation of the final RMP, step 9, will follow a set schedule and will be documented through plan supplements, amendments, or addenda. BLM policy requires an RPS to brief the public on range management decisions described in the final RMP and ROD, as well as monitoring by grazing allotment. To streamline procedures and reduce paperwork, the RPS will be combined with the ROD and final 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 7). 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

TABLE 3

Summary of Management Opportunities Identified in Management Situation Analysis

Resource Management Program	To Be Resolved Through RMP	To be Resolved Administratively	Prospective ACECs Identified
4111 Oil and Gas Leasing (Public Lands)	Evaluate and adjust lands in existing oil and gas leasing categories.	Review KGSs.	None identified.
4113 Geothermal Resources Management	Identify lands to be closed to or remain open for geothermal lease (defer until public interest in leasing develops).	None identified.	None identified.
4121 Coal Leasing	Identify lands to be closed to or remain open for coal leasing. Prepare coal leasing unsuitability study.	None identified.	None identified.
4122 Tar Sand Leasing	Evaluate and adjust lands in CHL categories.	None identified.	None identified.
4131 Mineral Materials	Identify areas to be closed to or remain open for extraction of mineral materials.	Rehabilitate existing unreclaimed abandoned sites. Establish additional community pits.	None identified.
4132 Mining Law Administration	Identify potential mineral withdrawals or areas not to be withdrawn from mineral entry.	Rehabilitate existing unreclaimed abandoned uranium workings.	None identified.
4133 Mineral Leasing	Identify lands to be closed to or remain open for mineral lease.	None identified.	None identified.

(Continued)

TABLE 3 (Continued)

Resource Management Program	To Be Resolved Through RMP	To be Resolved Administratively	Prospective ACECs Identified
4211 Rights-of-Way	Designate transportation and utility corridors. Define areas not to be used for transportation and utility corridors.	None identified.	None identified.
4212 Lands	Identify parcels for disposal.	Propose alternative lands actions where disposal or other long-range actions are precluded. Propose alternative lands actions to resolve unauthorized use or trespass.	None identified.
4220 Withdrawal Processing and Review	Identify potential withdrawals or areas not to be withdrawn. Identify classifications to be terminated.	None identified.	None identified.
4311 Forest Management	Define areas for use of various forest products.	Consider alternative means to achieve land treatments to enhance aesthetic values. Consider sequential use of proposed chaining areas. Consider potential for unconventional forest products.	None identified.
4312 Forest Development	None identified.	Consider forest development projects in areas where forest products are sold.	None identified.

(Continued)

4322 Grazing Management	Adjust livestock management levels after completion of monitoring (within 5 years after RMP/EIS ROD) or in response to resource conflicts identified in the RMP. Identify allotments for development of AMPs. Summarize problem areas within specific allotments in RPS, following completion of RMP. Identify, evaluate, and designate areas for special management as ACECs to protect relict plant communities.	Consider adjustment of allotment boundaries.	Horse Bench Channel Gilson Buttes Sand Dunes Dry Lake Meander San Rafael Reef Salt Wash-Muddy Creek Triangle Hebes Mountain Keesle Country North Big Flat Top Bowknot Bend Link Flats
4331 Natural History/ Cultural Resources Management	Designate areas for special management as ACECs to protect important areas with natural history, paleontological, or cultural resource values. Develop management prescriptions to be used in developing and implementing cultural resource management plans (CRMPs). Develop and implement cultural resource management plans using management prescriptions developed in the RMP.	Prioritize staffing, funding, procurement, and program emphases to enhance, protect, and preserve cultural resources. Conduct a natural history/paleontological/ cultural resource inventory and mapping program.	Horse Bench Channel Gilson Buttes Sand Dunes Castle Dale Tempskya Vicinity Dry Lake Meander Little Black Mountain Intrusion Complex San Rafael Reef Derrs Channel Tomsich Butte Salt Wash-Muddy Creek Triangle Hebes Mountain Keesle Country North Big Flat Top Bowknot Bend Temple Mountain and Tomsich Butte Highway I-70 Pictographs Dry Lake Archaeological District Swasey Cabin Copper Globe (Continued)

TABLE 3 (Concluded)

Resource Management Program	To Be Resolved Through RMP	To be Resolved Administratively	Prospective ACECs Identified
4332 Wilderness Management	Determine how WSAs and ISAs will be managed if not designated wilderness and dropped from the wilderness review by Congress.	None identified.	See 4322 and 4331.
4333 Recreation Management/ Visual Resources Management	Develop and implement management plans for all SRMAs using management prescriptions developed in the RMP. Identify areas to be maintained in each recreation opportunity spectrum (ROS) class. Identify and designate additional developed recreation sites. Designate all of the planning area as open, limited, or closed to ORV use. Identify, evaluate, and approve VRM classes.	Identify, evaluate, and designate additional SRMAs where needed. Prioritize staffing and funding for management of SRMAs. Monitor use and develop facilities within SRMAs. Support the suitability studies under the Wild and Scenic Rivers Act. Use VRM system in project planning and design.	I-70 Scenic Corridor Little Black Mountain San Rafael Reef Goblin Valley/Mollys Castle San Rafael Canyon Black Box Keesle Country/Tomsich Butte Buckhorn Wash Sids Mountain Segers Hole Muddy Creek
4341 Soil, Water, and Air	Identify areas that could benefit from projects to improve sensitive soils or watershed conditions through activity plans using management prescriptions developed in the RMP.	Collect inventory data to support watershed and air quality studies.	None identified.
4342 Hazardous Waste Management	None identified.	Conduct an inventory to identify hazardous waste sites, and develop means to meet agency policy regarding rehabilitation of these sites.	None identified.

4351 Habitat Management (Wildlife)	Identify habitat areas needing special protection and develop special conditions to be applied to other resource use activities. Identify, evaluate, and designate areas for special management to protect significant wildlife habitat values. Identify areas that would benefit from HMPs, and develop HMPs using management prescriptions developed in the RMP.	Inspect and maintain existing wildlife facilities.	Sids Mountain WSA Muddy Creek WSA Crack Canyon WSA San Rafael Reef WSA Mexican Mountain WSA Horseshoe Canyon North WSA unique riparian system. Sids Mountain WSA riparian ecosystem along San Rafael River. Riparian and aquatic areas totaling about 14,763 acres.
4352 Endangered Species Management	None identified.	Conduct inventories to determine and map the presence and extent of T/E species populations and habitats.	None identified.
4360 Fire Management	Identify fire suppression areas. Develop action plans to set parameters for different suppression areas, using management prescriptions developed in the RMP.	Conduct actions in specific areas to reduce fire hazard.	None identified.

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 U-10 within the boundaries of SRRA. These include Castle Dale (the Emery County seat), Huntington, Clawson, Ferron, Emery, and Orangeville. The town of Green River is 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 7)). 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. There are no communities within FPU.

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 8). 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 minerals use on lands administered by the U.S. Forest Service (USFS).

MDO 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 recreational use of 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 State Division of Parks and Recreation. SRRA administers recreational use of both banks of the river, including some area in the Grand Resource Area, Moab District.

Land surface administration within the planning area boundaries is shown in table 4 and on map 7. Table 5 shows mineral management responsibility compared to surface administration and gives the extent of split-estate lands within the planning area. Table 6 shows management responsibility for recreation.

TABLE 6

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

Source: BLM records.

THE GRAZING AREA

Grazing management in the majority of the planning area will be addressed in the RMP through the grazing EIS (map 9).

SRRA is responsible for administering grazing on certain public lands in Henry Mountain Resource Area, in the northeast corner of

TABLE 4

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
NPS	2,150	4,180	6,330
USFS	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 5

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

FOREST PLANNING UNIT, 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			
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.

Wayne County, east of Highway U-24. SRRA also administers grazing on the northern portion of FPU; Sevier River Resource Area administers grazing on the remainder of FPU and on the southwestern corner of SRRA. The final RMP/EIS addresses grazing concerns on all of this area.

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 RMP/EIS, although other resource values are.

Additionally, there are small areas of SRRA lands along the boundary with Price River Resource Area that are 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 RMP/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 9). SRRA administers grazing on part of Glen Canyon National Recreation Area (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 7 and on map 9.

TABLE 7

Management of Grazing Resources

Jurisdictional Unit	Agency Total (Acres)
SAN RAFAEL RESOURCE AREA	
FEDERAL OWNERSHIP	
BLM administered public lands	1,409,100
National Park Service (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

CHAPTER 1, PLANNING ISSUES AND CRITERIA

OVERVIEW

The resource management plan (RMP) is developed to answer questions raised by specific planning issues and to continue to direct management where there are no issues. The answers are guided by planning criteria developed especially for this RMP.

The first planning step is issue identification. The planning issues in this proposed RMP were selected by the resource area manager (43 CFR 1610.4-1) as management opportunities, problems, conflicts, and trade-offs to be addressed in and resolved through the environmental impact statement (EIS). In defining these issues, public input was considered along with management concerns of other agencies and direct knowledge of resource conditions by Bureau of Land Management (BLM) personnel.

Planning issues reflect resource problems that may involve more than one BLM management program. Issues may be required by state or national policy or may reflect conditions specific to this planning area. Identified issues are subject to change throughout the planning process.

Planning issues identify concerns that

- present an unresolved question regarding allocation of a specific resource;
- present major land use conflicts regarding management or maintenance of a base resource;
- can reasonably be resolved in alternative ways by BLM field managers;
- can be identified on a map; and
- are timely within the life of the plan.

Planning issues do not reflect concerns that

- require changes in laws, regulations, agency policies, or operating budgets;
- are subject to policy or procedures beyond the discretion of BLM field managers;
- are administrative problems;
- are more appropriately addressed in specific program activity plans subsequent to adoption of the RMP;
- are within the jurisdiction of another land management agency; or
- are emotional or political rather than resource-oriented.

Topics of interest to the BLM, other agencies, or the public, which do not qualify as planning issues, may be addressed as specific management concerns.

PLANNING ASSUMPTIONS

Development of the RMP is based on the following planning assumptions.

- The planning horizon will be 20 years. This period would generally be the maximum amount of time required for planning decisions as implemented to result in noticeable change to the base resources.

- The year 2000 is used as a common point in time for projection of future demands for public lands and resources and environmental impacts caused by implementation of any alternative assessed. This date falls within the scope of the planning horizon, yet is far enough from the anticipated implementation dates given in the RMP that alternative management actions would have had time to become effective.

- Funding and personnel will be sufficient to carry out any alternative selected.

- Management of lands administered by another federal agency, and management of public lands in the planning area by other agencies or BLM offices, will be in accordance with memorandums of understanding or other written agreements now in place.

- The plan will not address management of any surface uses on state or private lands or of nonfederal minerals.

- The plan will assume continuation of existing patterns of state and federal land ownership for this RMP. A plan amendment will be prepared if necessary in the event of state indemnity selections that would alter federal/state ownership, or if federal legislation is enacted which would block up state lands, or if federal legislation is enacted that would set aside lands under special designation, or would transfer management of public lands or resources from the BLM.

PLANNING ISSUES

The following have been identified as planning issues (planning questions) for the San Rafael RMP/EIS:

LIVESTOCK MANAGEMENT

Livestock grazing use of public lands within the planning area is traditional; however, past and present patterns of forage utilization have caused uneven use of the range resource, loss of forage productivity in some areas, improper distribution of livestock, and conflicts with other resource uses. An analysis is needed, on an allotment basis, to determine whether stocking levels, seasons of use, or range management practices need to be changed. Current or potential conflicts are seen with wildlife use of forage (primarily mule deer and desert bighorn sheep), with land developments removing areas from forage production (primarily oil and gas exploration and field development), and with preservation of relict or ecologically unique plant communities. Resolution of this issue should satisfy the requirements of the site-specific assessment ordered by the District Court in 1974.

- What stocking levels and periods of use should be achieved on rangelands within the planning area, and where should management actions be prescribed to protect ecologically unique rangeland values?

WILDLIFE HABITAT MANAGEMENT

Big game species, aquatic species, special or sensitive species, and animals common to the region live within the planning area. Management of alternative uses of the public lands could affect habitats used by these animals. Within the planning area, certain wildlife habitats and riparian areas need to be managed to afford protection from adverse impacts caused by other land uses and extraction or production of natural resources.

- How should special wildlife habitat areas within the planning area be managed, and where should management actions be prescribed to alter or maintain present habitat areas?

WATERSHED MANAGEMENT

Management of watersheds within the planning area involves many different land uses. Surface disturbance, through mechanical means, grazing, or natural processes, can increase the potential for erosion. Compaction of sensitive soils can alter runoff rates from precipitation. Certain areas of badlands or gypsum soils significantly add to salinity and sedimentation of drainages leading to the Colorado River. Management actions within the planning area could lead to either an improvement or a degradation of water quality.

Within the planning area, decisions are needed regarding management of watersheds and drainage basins. These decisions will, in turn, affect management of various uses of the public lands by determining where surface disturbance would be controlled, where enhancement of vegetation or water improvement projects would be allowed, and what reclamation measures would be required to safeguard fragile or hazardous areas.

- Which watersheds within the planning area should be managed, how, and where should management actions be prescribed to control surface-disturbing uses?

RECREATION MANAGEMENT

The planning area provides settings for many recreation opportunities, which vary based on the presence or absence of roads, facilities, cultural modifications, and visitors. Activities include both motorized and nonmotorized pursuits. The area is becoming more popular as it becomes better known, as evidenced by increasing visitation. However, some types of recreation uses are incompatible with one another or with other surface resource uses. Primitive recreation settings cannot be maintained if motorized recreation use occurs, and motorized settings can be altered with increased use. Some types of recreation opportunities are constrained or eliminated if surface resources are managed for an incompatible use.

Within the planning area, decisions are needed to determine the optimal mix of various recreation opportunities and the management actions needed to preserve such a mix. Management decisions to maintain, increase, or decrease the extent of recreation opportunities now present can affect other land uses, including resource production or extraction.

- Which recreation opportunities on the public lands should be maintained, increased, or limited, and where should management actions be prescribed to preserve this mix of opportunities?

WILDERNESS STUDY AREA MANAGEMENT

Seven wilderness study areas (WSAs) and one instant study area (ISA) lie within San Rafael Swell, and one WSA is adjacent to Labyrinth Canyon on the Green River. Within the planning area, 252,807 acres are under wilderness review (table 8 and map 10).

TABLE 8

Areas Under Wilderness Review

Study Area Number	Study Area Name	Acreage
ISA	Link Flats	912
UT-060-007	Muddy Creek	31,400
UT-060-023	Sids Mountain Complex	80,530
UT-060-025	Devils Canyon	9,610
UT-060-028A	Crack Canyon	25,315
UT-060-029A	San Rafael Reef	55,540
UT-060-045	Horseshoe Canyon	20,500
UT-060-054	Mexican Mountain	[a]29,000
TOTAL		252,807

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

Source: BLM, 1986.

In Utah, recommendations as to suitability or nonsuitability for wilderness designation of areas under wilderness review will be made through the statewide wilderness EIS [BLM, 1986]. Wilderness designations are made by Congress. Wilderness interim management policy (IMP) dictates management of these areas while under wilderness review, and the wilderness management policy describes how they will be managed if designated as wilderness by Congress. The San Rafael RMP/EIS will incorporate the area covered by WSAs as part of the planning area and will not develop management recommendations and strategies for specific areas within each WSA boundary.

MANAGEMENT CONCERNS

Some topics of general interest to both BLM and the public are not treated as planning issues because they do not meet the criteria given earlier. This does not imply that resolution of these management concerns is unimportant to effective management of the planning area. The following topics have been identified as specific management concerns for the San Rafael RMP/EIS.

WILD HORSE AND BURRO MANAGEMENT

The preplanning analysis also identified a sixth planning issue regarding management of small herds of wild, free-roaming horses and burros within the planning area. These animals are protected by law, and they compete with domestic livestock and wildlife species for the limited forage and water available. In some places, management of recreation or development of natural resource commodities on public lands limits the habitat once available for these animals. Significant controversy regarding management of these animals has arisen in other BLM districts.

The planning issue question was stated in the preplanning analysis as follows:

- How should wild, free-roaming horses and burros be managed within the planning area, and where should management actions be prescribed to alter or maintain present populations and habitat areas?

After due consideration, wild horses and burros were dropped from consideration as a planning issue for the following reasons.

- Although management of wild horses and burros is important in the national arena, management at the resource area level does not require the in-depth analysis of an EIS. The public has not expressed interest in management of these animals, and no conflicts regarding management of wild horses or burros have been identified.

- Wild horses and burros and related habitat concerns will be handled at the resource program level through the RMP, similar to any other program managed by BLM in the planning and grazing areas.

- Data regarding the current situation in the planning and grazing areas, particularly in regard to burros, are incomplete. Despite the law, horse populations have decreased from the 1971 level, but are now increasing. Burro population trends are unknown at this time. Because the present herds are small, water could be provided or habitat areas otherwise improved on a case-by-case basis through activity plans or project proposals. The broad level of management decisions made in an RMP are clearly not relevent to the limited number of animals present.

CULTURAL RESOURCE MANAGEMENT

Management of the archaeologic resource within the planning area has been identified as a concern by both BLM and the public. This is not treated as a planning issue, however, since the optimum alternative for the management of cultural resources was not in conflict with other resources and was identified as management common to all alternatives. The level of funding and staffing required for this is an administrative concern, and specific on the ground actions are addressed in activity plans that are developed after the RMP is issued, not by the RMP itself.

MANAGEMENT OF GRAZING AND MINERALS ON OTHER FEDERAL LANDS

Management of grazing and mineral resources in Capitol Reef National Park (NP) and Glen Canyon National Recreation Area (NRA) is a topic

of concern to both BLM and National Park Service (NPS). The management plan for Glen Canyon NRA [NPS, 1979] establishes zoning for grazing and minerals uses on NPS-administered land. BLM is required to manage these programs to conform with departmental direction. Specific grazing decisions will be treated through the livestock management issue. Management of minerals in NPS units falls under specific laws and regulations outside the discretion of the area manager.

MANAGEMENT OF MINERAL RESOURCES

The importance of minerals management in the planning area is reflected in public comments received on this topic. Management of most minerals, however, is governed strictly by law and ensuing departmental regulation, and is outside the discretion of the area manager; therefore, it does not meet the definition of a planning issue. The RMP will be used to apply stipulations or conditions to mineral-related activities and to weigh trade-offs between use of surface and subsurface resources. The RMP will also be used as a basis for coal unsuitability criteria analysis (43 CFR 3461) to determine if any areas are unsuitable for certain types of mining. The RMP, however, will not affect valid existing rights previously in place.

When oil and gas leases are issued, stipulations are attached to ensure protection of other resources, such as critical watersheds, where a conflict with minerals management may occur. Resources in need of protection and appropriate site-specific stipulations will be identified through the EIS. Oil and gas leasing categories will be applied according to the patterns of stipulations identified through the RMP.

MANAGEMENT OF OFF-ROAD VEHICLE USE

Management of off-road vehicle (ORV) use within the planning area is a continuing concern. By executive order or regulation, BLM is required to designate all public lands as open, closed, or limited for ORV use. These designations will come through the RMP and will apply to both recreational and nonrecreational ORV use.

SPECIAL MANAGEMENT DESIGNATIONS

Public interest has been expressed in designation of special management areas to recognize unique or significant ecological, geological, or scenic areas. In the past, BLM has recognized several types of special designations, such as outstanding natural areas and research natural areas, to protect specific values. Most special designations have now been merged with the area of critical environmental concern designation; exceptions include special recreation management areas and national historic landmarks. The potential for different types of special designations were assessed in the management situation analysis (MSA) for each resource management program. Most designations are made through the planning process, and impacts of these designations are assessed in the EIS.

WILD AND SCENIC RIVER DESIGNATIONS

Public interest has been expressed regarding the designation of wild and scenic river segments within the planning area. Two segments in SRRA were identified for study in the Nationwide Rivers Inventory (NRI) [NPS, 1982b]. The RMP/EIS will address the eligibility and potential classification of these study segments. Other river segments not on the NRI will also be assessed to see if they qualify for further consideration. BLM will make suitability recommendations on any segments studied after completion of the RMP/EIS. Designations to the National Wild and Scenic River System are made by Congress.

PLANNING CRITERIA

Planning criteria (planning step 2) are guidelines established to (1) structure development of the RMP; (2) tailor the RMP to the planning issues; (3) avoid unnecessary data collection; (4) avoid unnecessary analyses; and (5) guide estimation of the effects of the various alternatives considered in the EIS.

The planning criteria guide agency and public review and explain what will be considered in the RMP/EIS. At various stages in the planning process, the criteria have different purposes. Therefore, separate criteria were developed to guide identification of problem

areas in the MSA, formulation of alternatives, and estimation of the effects of alternatives.

Draft planning criteria (based on the preliminary planning criteria) were presented for a 30-day public review and comment period ending February 22, 1986. The draft planning criteria were modified to reflect public concerns and include suggestions received from the public. The criteria that guided identification of planning issues and collection of resource data are given in the appropriate parts of this section.

PLANNING CRITERIA FROM THE FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976

Section 202(c) of FLPMA provides that, in the development and revision of land use plans, the Secretary of the Interior shall:

(1) use and observe the principles of multiple use and sustained yield;

(2) use an interdisciplinary approach to integrate consideration of physical, biological, economic, and other sciences;

(3) give priority to the designation of areas of critical environmental concern;

(4) rely on the inventory of public lands, their resources, and other values;

(5) consider present and potential uses of the public lands;

(6) consider the relative scarcity of the values involved and the availability of alternative means and sites for realization of those values;

(7) weigh long-term benefits to the public against short-term benefits;

(8) provide for compliance with applicable pollution control laws; and

(9) to the extent possible, coordinate land use inventory, planning, and management of public lands with the land use planning and management programs of other federal agencies and state and local governments.

At Section 302(b), FLPMA requires the Secretary to manage the public lands so as to prevent unnecessary or undue degradation of the lands.

Because these fundamental planning criteria are required by law, they are not repeated below.

SPECIFIC SAN RAFAEL PLANNING CRITERIA

Criteria for Problem Identification

Current resource management practices discussed in the MSA will be identified as problem areas if any of the following conditions occur:

- existing or proposed management of one resource significantly constrains or curtails existing or proposed use of another resource;

- agency guidance requires land use allocations, which are not now in place, to be made through the planning process;

- existing land use allocations conflict with current agency resource management policies or guidance;

- existing resource management practices conflict with management plans, policies, and guidance of another federal surface management agency; or if

- documented public controversy regarding management of a specific resource value indicates a management concern.

Criteria for Identification of Management Opportunities

The opportunity to change current management practices discussed in the MSA will be identified if any of the following conditions occur:

- management problems identified under the above criteria can be resolved outside the EIS process through administrative means (these may be carried into the RMP);

- management problems identified under the above criteria can be resolved in alternative ways, with selection through the EIS process (the selected resolution will be carried into the RMP); or if

- current management does not now meet the above problem criteria, but could be improved or resource use enhanced through a change in management (these may be carried into the RMP).

Criteria for Alternative Formulation

The following criteria have been developed to guide formulation of a range of alternatives for each issue to be addressed in this final EIS. Management problems that do not fall under the issues are resolved in the MSA and carried through the EIS analysis as management actions common to all alternatives.

All alternatives formulated and assessed in the final EIS will:

- be in accordance with all applicable laws, regulations, and agency policies;

- provide reasonable, feasible, and practical guidance for management of the public lands and resources, without requiring appreciable changes in facilities, services, or scope of management; and

- provide a complete management plan for the entire planning area.

At least one of the alternatives assessed in the RMP/EIS will provide for each of the following:

- continuing the present management;

- maximizing the use, production or extraction of renewable and non-renewable resources, including grazing resources, mineral resources, and lands (although not necessarily within the same alternative);

- maximizing the development and use of the recreational resource, including motorized and nonmotorized pursuits (although not necessarily within the same alternative);

- minimizing consumptive use of the grazing resource by domestic livestock;

- recognition and protection of sensitive ecological or visual environments;

- designation and protection of areas of critical environmental concern or other special ecological areas (although not necessarily under only one alternative); and

- protection or enhancement of those values on public lands within the planning area which are relatively scarce within the public domain as a whole.

None of the alternatives assessed in the RMP/EIS will consider or provide for the following:

- the designation of public lands as wilderness (the assessment of effects of Congressional designation of wilderness is left to the statewide wilderness EIS);

- except as identified, the designation of specific parcels of public lands as suitable for disposal through sales, exchanges, state indemnity selections, or other means (these types of actions will be considered individually upon proper application; the RMP will be used as a guide to determine whether disposal would serve the national interest, and an RMP amendment will be prepared if necessary); and

- the designation of specific parcels of public lands for special use permits, special withdrawals, private Congressional bills, or Congressional withdrawals, whether application is made by another federal agency or by other entities (these types of

actions will be considered individually upon proper application; an RMP amendment will be prepared if necessary).

Criteria for Estimation of Effects

The estimation of effects of each alternative will include the following:

- the impact of management actions upon adjacent federal or private lands;

- the formal land use plans of state and local governments and other federal agencies;

- short-term impacts, or those occurring within 5 years of completion of a given management action (the period of time required for reclamation under normal conditions); long-term impacts, or

  those occurring thereafter; residual impacts, or those remaining 15 years after implementation of a management action; and cumulative impacts, or those which are individually insignificant but become significant when considered together;

- all local economic and social changes caused by each alternative, compared to the continuation of current management practices described in the no-action alternative; and

- the cost to the BLM of implementation, based on current conditions and budgets.

CHAPTER 2, PLAN ALTERNATIVES

INTRODUCTION

Six alternative plans and a proposed RMP have been developed and analyzed to provide for multiple-use management of public lands in the planning area. This chapter describes alternatives A to F in detail and includes the standard operating procedures and special conditions (mitigation measures) that would be applied under each alternative. Volume I contains the proposed plan and needs to be used in conjunction with the six alternatives in this volume. Mitigation was considered in the impact analysis (chapter 4). At the end of this chapter is a table that summarizes the environmental impacts of the alternatives.

DEVELOPMENT OF ALTERNATIVES

The alternatives were developed to provide different answers to the questions raised by the planning issues (chapter 1). They include solutions allowing for either production or protection of the many public resources found.

Each alternative provides a complete multiple use plan that could be used to guide management of all public lands and resources in the planning area. Each alternative plan could be implemented under existing laws, regulations, and policy, and within a reasonable tolerance of existing budgetary parameters. Therefore, each plan is believed to be reasonable and feasible, although each has a different focus. Each plan would be subject to all applicable laws, executive orders, and regulations, and to continuation of valid rights for use of public lands or resources existing at the time the resource management plan (RMP) becomes final.

The public was invited to provide ideas for consideration in the alternatives developed for the RMP. A public workshop was held in Huntington, Utah on November 18, 1987 to receive suggestions from the public. Those suggestions were considered during RMP preparation.

Alternative A (no action) represents continuation of present management as prescribed in the existing management framework plans (MFPs) and summarized in the management situation analysis (MSA). The interdisciplinary planning team developed alternatives B, C, D, and E to suggest different ways of managing the public lands and resources. Bureau of Land Management (BLM) managers selected ideas from these five alternatives to develop alternative F. The proposed RMP (refer to volume 1) was developed following analysis of the comments to the draft RMP/EIS.

After developing goals for resolving the issues under the different alternatives, the interdisciplinary team looked at the resource management programs administered by BLM in the planning area to see what action would be necessary to work toward the goals. Each resource management program was analyzed in the MSA, which described current management under the MFPs, the capability of natural resources present to respond to demand, and management opportunities present. The objectives for existing management were written down for alternative A. Then objectives were developed for each of the other alternatives, to fit with the overall management goals.

Following the development of program management objectives for each alternative, the interdisciplinary team determined how these objectives could be met. Separate management actions were written for each resource management program to answer the questions or

solve the problems that had been identified in the MSA. Some actions will remain constant under any alternative selected; these are described for each specific program and are followed by other actions that would vary according to the alternative discussed.

In developing the program management actions, the planning team reviewed the opportunities for designating areas of critical environmental concern (ACECs) identified for each program in the MSA. Nominations for ACECs made by members of the public or other agencies prior to preparation of this environmental impact statement (EIS) were considered along with preliminary identification of areas in the MSA (appendix B). Areas identified by the interdisciplinary team as having potential for ACEC designation were analyzed in at least one of the alternatives.

ALTERNATIVES ASSESSED

Each of the six alternatives and the proposed RMP presents guidance for all resource programs managed by BLM in the planning or grazing area. Except for alternative A, each plan presents generalized zones or levels of management (see the Summary). Decisions to protect or produce a given resource in that zone are applied to management of all resource programs. This ensures that requirements applied to an oil and gas operator, for example, correspond to the requirements applied to a rancher or recreationist.

Alternative A (the no-action alternative) represents continuation of current management and provides a baseline for comparing the other alternatives and anticipating the effects of their implementation.

Alternatives B through E were developed as various ways to answer the questions identified from the planning issues. For each planning issue, the team developed different answers to the question which would provide for more or less production or protection of the base resource at issue. This provides a range of management, from production to protection, for each resource found to be at issue.

Alternative F was formulated by BLM managers based on the analyses of the other five alternatives. It incorporates actions from each of the other alternatives along with elements not found in any of the others.

The proposed RMP was developed by BLM managers to reflect public and agency comments to the draft RMP/EIS, incorporate corrections or clarifications identified by the EIS team, and adopt new management direction and policy.

GOALS AND PLANNING ISSUE RESOLUTIONS

For each of the six alternatives and the proposed RMP, the goals and the answers to the planning issue questions are as follows.

Alternative A (No Action)

Goal

The goal of alternative A is to continue the present level of management of public lands and resources.

Planning Issue Resolutions

Livestock Management. Maintain existing grazing allotments. Maintain existing allocation of forage (current animal unit months (AUMs)). Maintain present seasons of use.

Wildlife Management. Maintain existing allocations of forage for wildlife. Maintain current management of all wildlife habitat areas.

Watershed Management. Manage all watersheds to bring water quality into compliance with federal and state standards. Address surface runoff from specific projects on a case-by-case basis.

Recreation Management. Maintain current areas available for motorized and nonmotorized recreation use. Focus management on existing special recreation management areas (SRMAs).

Wilderness Study Area Management. Manage wilderness study areas (WSAs), if Congress releases them from further review without designating them as wilderness, under the existing MFPs.

Alternative B

Goal

The goals of alternative B are (1) to provide for the maximum amount of livestock grazing and minerals production over the greatest possible area, and (2) to make lands available for right-of-way corridors where conflicts with livestock grazing or mineral activities do not occur.

Planning Issue Resolutions

Livestock Management. Include all of the planning area within grazing allotments. Allow consumption of forage by livestock at the maximum level possible while providing for sustained yield of forage. Maximize seasons of use while providing for sustained yield of forage. Place special designations on areas of unique rangeland values for comparative studies. Conflicts between livestock and competing uses will be identified through the monitoring process and will be resolved at the activity plan level.

Wildlife Management. Allot forage for wildlife only where there are no conflicts with livestock grazing. Manage wildlife habitat to provide for maximum use by livestock; provide for wildlife only where there are no conflicts with livestock grazing or mineral activities.

Watershed Management. Manage watersheds to bring water quality into compliance with federal and state standards. Manage watershed conditions to improve water quality and decrease surface runoff where this would benefit livestock grazing. In other areas, address surface runoff from proposed actions on a case-by-case basis.

Recreation Management. Allow recreation use only so long as it does not conflict with livestock grazing, mineral activities, or utility corridor placement. Manage public lands for dispersed recreation use; do not provide special management to maintain specific recreation opportunities.

Wilderness Study Area Management. Manage WSAs, if Congress releases them from further review without designating them as wilderness, as follows: six under standard-surface-use stipulations and two as ACECs.

Alternative C

Goal

The goals of alternative C are (1) to maximize opportunities for nonmotorized recreation throughout the planning area, and (2) to manage wildlife habitat to allow wildlife populations to attain prior stable numbers.

Planning Issue Resolutions

Livestock Management. Provide grazing allotments for livestock only where conflicts with wildlife or primitive recreation values do not occur. Allow consumption of forage by livestock only where there is no conflict with wildlife or with primitive recreation values. Alter season of use to benefit wildlife and primitive recreation opportunities, or to provide for sustained yield of forage where no conflicts occur. Protect areas of unique rangeland values so long as wildlife habitat or primitive recreation opportunities would benefit. Conflicts between livestock and competing uses will be identified through the monitoring process and will be resolved at the activity plan level.

Wildlife Management. Increase acres of habitat available to wildlife. Manage special habitat areas to achieve Utah Division of Wildlife Resources (UDWR) prior stable numbers while providing for sustained yield of forage and browse.

Watershed Management. Manage watersheds to bring water quality into compliance with federal and state standards. Manage watershed conditions to improve water quality and decrease surface runoff in areas where wildlife habitat or primitive recreation opportunities

would benefit. In other areas, address surface runoff from proposed actions on a case-by-case basis.

Recreation Management. Maximize areas available for nonmotorized recreation uses. Allow motorized recreation use only where it does not conflict with wildlife or nonmotorized recreation. Protect nonmotorized recreation opportunities.

Wilderness Study Area Management. Manage WSAs, if Congress releases them from further review without designating them as wilderness, as ACECs.

Alternative D

Goal

The goals of alternative D are (1) to provide for the maximum watershed condition within the planning area by minimizing surface disturbance to critical watershed areas, and (2) to provide the maximum protection of cultural resources. Critical watershed areas include soils that (1) have a high potential for salt yield, (2) are subject to severe water and wind erosion when disturbed, (3) have high runoff potential during storm events, (4) are subject to frequent flooding, or (5) have a potential for loss of vegetation productivity under high rates of wind or water erosion.

Planning Issue Resolutions

Livestock Management. Provide grazing allotments for livestock only where grazing would improve watershed condition and not conflict with cultural resource management. Allow consumption of forage by livestock to maximize watershed condition. Alter season of use to maximize watershed condition or to provide for sustained yield of forage where no conflicts occur. Protect areas of unique rangeland values where there is no conflict with watershed or cultural resource management. Conflicts between livestock and competing uses will be identified through the monitoring process and will be resolved at the activity plan level.

Wildlife Management. Allocate forage to wildlife to maximize watershed condition. Manage wildlife habitat to maximize watershed conditions.

Watershed Management. Manage watershed conditions to maximize water quality. Manage watershed conditions to minimize surface runoff.

Recreation Management. Allow recreation use only in areas where there is no conflict with watershed or cultural resource management. Do not provide management to maintain specific recreation opportunities.

Wilderness Study Area Management. Manage WSAs, if Congress releases them from further review without designating them as wilderness, as follows: six as ACECs and two as critical watershed areas.

Alternative E

Goal

The goal of alternative E is to maximize access and the opportunities for motorized recreation throughout the planning area.

Planning Issue Resolutions

Livestock Management. Maintain existing grazing allotments. Allow consumption of forage only where there is no conflict with motorized recreation use, while providing for sustained yield of forage. Change seasons of use to provide maximum opportunities for motorized recreation. Protect areas of unique rangeland values so long as there are no conflicts with motorized recreation use. Conflicts between livestock and competing uses will be identified through the monitoring process and will be resolved at the activity plan level.

Wildlife Management. Allocate forage to wildlife species where no conflicts occur with motorized recreation. Manage wildlife habitat where there are no conflicts with motorized recreation.

Watershed Management. Manage watersheds to bring water quality into compliance with federal and state standards. Manage watersheds to improve water quality where motorized recreation opportunities would benefit. Manage watershed conditions to decrease surface runoff so long as there are no conflicts with motorized recreation use. In other areas address surface runoff from proposed actions on a case-by-case basis.

Recreation Management. Maximize acreage available for motorized recreation. Protect motorized recreation opportunities and values associated with motorized recreation use.

Wilderness Study Area Management. Manage WSAs, if Congress releases them from further review without designating them as wilderness, as follows: three as ACECs, three for crucial bighorn sheep habitat, one for recreation opportunity spectrum (ROS) semiprimitive motorized (SPM) class, and one for standard surface use.

Alternative F

Goal

The goals of alternative F are to (1) provide for the protection of critical soils throughout the planning area and scenic resources within the San Rafael Swell; (2) protect crucial wildlife habitat; (3) provide special management for certain vegetation and cultural resource values; and (4) maintain existing livestock, wild horse and burro, and minerals uses where no conflict with the other listed goals would occur.

No-surface-occupancy stipulations may be waived in areas managed for scenic values if an environmental assessment (EA) concludes that the proposed action would not adversely impact scenic values. No such waivers would be considered in relict vegetation or recreation and public purpose (R&PP) lease areas.

"Critical soils" are either highly saline or highly susceptible to water erosion. "Certain vegetation values" are relict plant communities on Bowknot Bend and the Big Flat Tops and ecological values on The Wedge. "Certain cultural resource values" are those found in Dry Lake Archaeological District, Temple Mountain and Tomsich Butte Historical District, four pictograph sites, Copper Globe historic mine, and Swasey Cabin historic site.

Planning Issue Resolutions

Livestock Management. Maintain existing grazing allotments. Protect areas of unique rangeland values on Bowknot Bend and the Big Flat Tops. Modify forage allocations or seasons of use only where there is a conflict with critical soils and crucial wildlife habitat. Exclude grazing to protect pictographs, Swasey Cabin, and developed recreation sites. Conflicts between livestock and competing users will be identified through the monitoring process and will be resolved at the activity plan level.

Wildlife Management. Afford special protection to crucial wildlife habitat areas.

Watershed Management. Manage watersheds to bring water quality into compliance with federal and state standards. Manage watershed conditions to protect critical soils areas.

Recreation Management. Protect scenic and natural values and certain cultural resource values within the San Rafael Swell associated with recreation use.

Wilderness Study Area Management. Manage WSAs, if Congress releases them from further review without designating them as wilderness, as follows: seven as ACECs and one for standard surface use.

Proposed Resource Management Plan

Goal

The goals of the proposed RMP are to (1) provide for the protection of critical soils throughout the planning area and scenic resources within the San Rafael Swell; (2) protect crucial wildlife habitat; (3) provide special management for certain vegetation and cultural resource values; and (4) maintain existing livestock, wild horse and burro, and minerals uses where no conflict with the other listed goals would occur.

No-surface-occupancy stipulation may be waived in the I-70 Scenic Corridor if an environmental assessment (EA) concludes that the proposed action would not adversely impact scenic values. No such waiver would be considered in relict vegetation or recreation and public purpose (R&PP) lease areas.

"Critical soils" are either highly saline or highly susceptible to water erosion. "Certain vegetation values" are relict plant

communities on Bowknot Bend and the Big Flat Tops and ecological values on The Wedge. "Certain cultural resource values" are those found in Dry Lake Archaeological District, Temple Mountain and Tomsich Butte Historical District, four pictograph sites, Copper Globe historic mine, and Swasey Cabin historic site.

Planning Issue Resolutions

Livestock Management. Maintain existing grazing allotments. Protect areas of unique rangeland values on Bowknot Bend and the Big Flat Tops. Modify forage allocations or seasons of use only where there is a conflict with critical soils and crucial wildlife habitat. Exclude grazing to protect pictographs, Swasey Cabin, and developed recreation sites. Conflicts between livestock and competing users will be identified through the monitoring process and will be resolved at the activity plan level.

Wildlife Management. Afford special protection to crucial wildlife habitat areas.

Watershed Management. Manage watersheds to bring water quality into compliance with federal and state standards. Manage watershed conditions to protect critical soils areas.

Recreation Management. Protect scenic and natural values and certain cultural resource values within the San Rafael Swell associated with recreation use. Mangage for specific ROS classes in designated areas.

Wilderness Study Area Management. Manage WSAs, if Congress releases them from further review without designating them as wilderness, as follows: seven as ACECs and special use conditions and one with special use conditions.

ALTERNATIVES CONSIDERED BUT ELIMINATED

The planning team considered the following, but did not develop them into complete alternatives or subalternatives, for the reasons given.

The team discussed exclusion of grazing from all public lands in the grazing area, but did not consider this option under any alternative. Although a no-grazing alternative could have been used to provide one end of a spectrum of varying grazing intensities on public lands, it would not provide a reasonable form of management given the historic use of the area for grazing (over 100 years).

BLM is under no obligation to assess a no-grazing alternative in a grazing EIS where grazing has been a historic use and where this type of alternative would be infeasible and unreasonable (Natural Resources Defense Council Inc., et al. v. Hodel, 624 F.Supp. 1045 (D.Nev. 1985)).

Where grazing has already occurred, a no-grazing alternative does not present either an environmental baseline or a return to a previously ungrazed condition; instead, it presents a speculative analysis based on the abolition of an existing use.

Specific areas where grazing use conflicts with vegetation management, wildlife use, or recreation use have been identified, and the exclusion of grazing in these areas has been considered under one or more of the alternatives.

Some additional ACECs were recently nominated. These will be examined. If they meet the criteria and the BLM official desires, they could be nominated and plan amendments prepared which would establish them as ACECs.

LEGISLATIVE ACTIONS OR ACTIONS OF OTHER AGENCIES

Over the past few years, there has been discussion that some of the public lands in the planning area could be used for various projects that would involve legislation or management by another agency. These ideas have been presented to the public in the newspapers, on television, or in public meetings or hearings. No specific proposals have been made; therefore, such ideas were not considered in this document.

ALTERNATIVES

This section contains three major parts: (1) general administrative requirements; (2) standard operating procedures; and (3) program actions, including both actions common to all alternatives and

actions specific to individual alternatives. The general administrative requirements and standard operating procedures apply to all alternatives.

Social and economic considerations are also part of every BLM management decision. Availability of funds influences the rate of program decision implementation (see table 9 and appendix C).

Applicable federal, state, and local laws, executive orders, regulations, and BLM policy statements are part of the management actions proposed under all alternatives. These are described in the MSA. Applicable laws are listed in appendix D.

GENERAL ADMINISTRATIVE REQUIREMENTS

The following general administrative requirements apply to all alternatives analyzed.

All of the alternatives are subject to the interim management policy (IMP) for areas under wilderness review. WSAs and the instant study area (ISA) were listed in chapter 1, table 8. The wilderness review process provides for BLM to determine whether an ISA or WSA is more suitable for wilderness designation or for other uses. Because wilderness suitability is being covered in the Utah statewide wilderness EIS [BLM, 1986], it will not be covered in the San Rafael RMP/EIS. The RMP/EIS, however, will be used to determine how the areas covered (ISAs and WSAs) in conjunction with adjacent public lands would be managed if released from wilderness review by Congress. Only Congress can designate an area as wilderness or release an ISA or WSA from BLM's wilderness review. The IMP will remain in effect until these areas are released from wilderness review. If an area is designated as wilderness, it will be managed in accordance with 43 CFR 8560. The special conditions developed in the RMP will also apply to these areas if they do not conflict with IMP or wilderness management regulations.

All of the alternatives recognize 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 prior to the preparation of this plan in an area withdrawn from mineral entry through the plan may remain valid; a right-of-way to relocate an existing county road outside the existing right-of-way within a special management area such as an ACEC could be allowed following analysis through the NEPA process to determine the best route, even though the management objective (i.e., meeting the visual resource management (VRM) class I objective in scenic ACECs) could not be met. Valid existing rights may be held by other federal or local governmental agencies, private individuals or companies. Valid existing rights may pertain to any right to use the public lands in the planning area in effect when this RMP is adopted. This plan does not repeal valid existing rights on public lands.

Leases, permits, grants, rights-of-way, and other authorizations issued prior to the final RMP will continue to be managed under the stipulations and special conditions in effect at the time they were issued. Those issued after completion of the final RMP will be subject to conditions imposed by the RMP, whether or not expressly stated.

Applications pending approval at the time this RMP/EIS is prepared will be subject to plan conditions in place at the time they are approved.

Implementation of the proposed management actions will be guided by activity plans such as habitat management plans (HMPs), allotment management plans (AMPs), watershed plans or cultural resource management plans. Site-specific management plans will also be prepared for SRMAs and designated ACECs. These activity-level plans prescribe detailed management actions needed to accomplish RMP goals and objectives. Selected areas may be blocked together for improved management. Site-specific impacts of these actions will be assessed through National Environmental Policy Act (NEPA) documents prepared concurrently with the activity plans unless a sufficient document has already occurred in this or other EISs. Those site-specific EAs and findings of no significant impacts would tie to this RMP/EIS.

Small-scale projects and uses not specifically discussed in this RMP/EIS, such as minor rights-of-way, access roads, and free use or land use permits, will be allowed if they conform to the management prescriptions authorized under the plan.

TABLE 9

Comparison of Support Requirements Under the Alternatives (Including the Proposed Plan)

Subactivity/Resource Management Program		Alternative A ($1,000)	Alternative B ($1,000)	Alternative C ($1,000)	Alternative D ($1,000)	Alternative E ($1,000)	Alternative F ($1,000)	Proposed Plan ($1,000)
4111	Oil and Gas Leasing	108.9	119.8	108.9	27.4	108.9	108.9	108.9
4121	Coal Management	232.6	232.6	232.6	218.7	232.5	232.5	232.5
4131	Mineral Materials Management	15.0	15.0	15.0	3.7	15.0	15.0	15.0
4132	Mining Law Administration	33.0	36.3	41.3	66.1	49.5	49.5	49.5
4211	Rights-of Way	54.0	54.0	54.0	54.0	54.0	54.0	54.0
4212	Lands	40.3	40.3	40.3	40.3	40.3	40.3	40.3
4220	Withdrawal Processing and Review	0.4	0.4	10.1	19.9	10.1	2.9	2.9
4311	Forest Management	9.4	9.4	9.4	9.4	9.4	9.4	9.4
4321	Wild Horse and Burro Management	15.4	15.4	15.4	15.4	15.4	15.4	15.4
4322	Grazing Management	144.1	387.2	169.8	168.6	179.8	198.2	198.2
4331	Cultural Resource Management	16.0	21.2	44.0	40.0	44.0	44.0	44.0
4333	Recreation Management	57.9	36.3	78.2	59.0	77.0	77.8	85.9
4341	Soil, Water, and Air Management	96.1	120.4	166.4	166.4	120.4	211.4	211.4
4351	Habitat Management	43.7	36.5	160.5	115.8	62.4	121.3	121.3
4352	Endangered Species Management	26.4	26.4	43.3	33.3	33.3	36.5	36.5
4410	Planning	47.0	54.4	55.3	50.0	54.1	57.7	57.7
4420	Data Management	1.0	1.2	1.2	1.0	1.2	1.3	1.3
4610	Presuppression	2.7	2.7	2.7	2.7	2.7	2.7	2.7
4620	Firefighting	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4711	Building Maintenance	39.9	46.3	47.0	42.6	46.0	49.1	49.1
4712	Recreation Maintenance	10.0	10.0	14.9	10.0	14.9	14.9	14.9
4714	Engineering Services	2.3	2.6	2.7	1.1	2.6	2.7	2.7
4820	Equal Employment Opportunity	1.4	1.6	1.6	1.5	1.6	1.7	1.7
4830	Support Services	105.4	120.8	122.6	111.0	119.8	128.0	128.0
8100	Range Improvements	0.9	88.0	0	0	0.9	25.0	25.0
TOTAL		1,105.9	1,443.5	1,438.2	1,258.9	1,297.8	1,501.2	1,510.2

Routine processing of applications, notices, and permits, and preparation of NEPA documents, appraisals, reserve calculations, and other paperwork will continue. These actions will be subject to plan conditions in place at the time they are approved.

BLM will continue to conduct routine compliance checks, inspections, and enforcement actions to ensure that leases, grants, and other activities are being operated or conducted in accordance with the terms and conditions of the authorizing documents. BLM will also continue to act to prevent unnecessary or undue degradation of public lands.

Ongoing inventory and data collection needed to support BLM's resource management programs will continue. Inventory work will be conducted as funding and personnel are available. This type of data development and review may result in designation of such special areas as lease tracts, SRMAs, National Register sites, and similar types of designations that depend on field data rather than on plan decisions.

Should any unforeseen proposal occur that is in conflict with, or does not conform to, the decisions made in this RMP, action may be initiated to revise, update, or modify this plan before the proposal will be implemented.

STANDARD OPERATING PROCEDURES

The following procedures are mitigation measures 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 given later in this chapter.

Standard operating procedures were taken into account during the impact analysis (chapter 4). They are arranged in order of the resource value protected (mitigated).

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, 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 one 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.

Prior to the use of 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 by 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; and

- 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.

RESOURCE MANAGEMENT PROGRAM ACTIONS

This section describes suggested actions under BLM resource management programs. Special management designations considered under each alternative are listed in table 10 and shown on maps 11, 12, 13, 14, 15, and 16. Some of the ACECs coincide with areas now (1988) under wilderness review. If Congress later designates such areas as wilderness, the ACEC designation could be dropped if wilderness management adequately protects the values for which the

TABLE 10

Nominated Area of Critical Environmental Concern Designations, by Alternative (acres)

Administering Program	Area Name	Acres by Alternative					
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
4322	Bowknot Bend	0	1,830	1,830	1,830	1,830	1,830
	Hebes Mountain	0	0	0	960	0	0
	North Big Flat Top[a]	0	190	190	190	190	0
	Big Flat Tops	0	0	0	0	0	2,640
4322, 4333	San Rafael Reef	0	43,870	67,520	43,870	0	68,720
4331	Copper Globe[b]	0	0	0	0	0	220
	Dry Lake Archaeological District	0	0	16,990	16,990	16,990	16,990
	I-70 Pictographs[c]	0	30	(30)	0	(30)	0
	Pictographs[d]	0	0	0	40	0	40
	Little Black Mountain	0	0	0	2,160	0	0
	Swasey Cabin	0	0	0	220	0	220
	Temple Mountain Historical District	0	0	2,660	2,660	2,660	2,660
	Tomsich Butte Historical District[e]	0	0	2,040	2,040	2,040	(2,040)
4333	Gilson Buttes	0	0	1,750	1,750	0	0
	I-70 Scenic Corridor	52,150 (SRRA 49,450) (FPU 2,700)	0	52,150 (SRRA 49,450) (FPU 2,700)	52,130 (SRRA 49,430) (FPU 2,700)	52,150 (SRRA 49,450) (FPU 2,700)	52,130 (SRRA 49,430) (FPU 2,700)
	Muddy Creek	0	0	46,720	22,540	22,540	24,540
	San Rafael Canyon	0	0	58,510	58,510	58,510	35,240
	Segers Hole	0	0	7,120	7,120	0	7,120
	Sids Mountain	0	0	89,060	89,060	0	61,870
		52,150	45,920	322,360	302,070	156,910	274,260

NOTE: All acreages are approximate and rounded to the nearest 10 acres. All acreages pertain to SRRA unless otherwise noted. Rationale for ACEC nominations and acreages appear in appendix B.

[a]Under alternative F, the area name changes to Big Flat Tops.

[b]Under alternatives C and D, the Copper Globe area is part of the Sids Mountain ACEC.

[c]Under alternatives C and E, the I-70 Pictographs ACEC would be included as a special emphasis area within the I-70 Scenic Corridor.

[d]Under alternatives D and F, the Pictographs ACEC would include both the I-70 and Rochester pictograph sites.

[e]Under alternative F, the Tomsich Butte Historic District would be included as a special emphasis area within the Muddy Creek ACEC.

ACEC was established. Appendix B presents the rationale for ACEC nominations.

The management prescriptions developed for the nominated ACECs and other special areas under the various alternatives are presented in this chapter. Maps 1, 2, 3, 4 and 5 summarize the management prescriptions. Appendix B also contains a discussion of areas considered by the interdisciplinary team but not nominated for ACEC designation. Should any of these or other nominations for ACECs be made at a later date, an EA and plan amendment would be prepared.

Each resource management program section begins with actions common to all alternatives, followed by a discussion of special management designations under that program and a summary display of actions that would occur under each alternative for that program. Special management areas would be considered open unless otherwise designated. Where that display shows ACEC designation, the special conditions for its management under the alternatives are also listed.

OIL AND GAS MANAGEMENT

Management Common to All Alternatives

Oil and gas resources are allocated through leasing. The San Rafael Special Tar Sand Area (STSA) within SRRA is available for tar sand or oil and gas development only through combined hydrocarbon leases (CHLs). Other areas are available through regular leases. Oil and gas leases are issued by BLM's Utah State Office (USO).

Public lands within the planning area were categorized for oil and gas leasing through a programmatic EA in 1975 [BLM, 1975] and the statewide tar sand EIS in 1984 [BLM, 1984c]. Appendix E describes the categories that establish special leasing conditions for CHLs and oil and gas leases. The resource area and district office administer compliance with lease terms. The leasing categories as currently applied are shown on map 17.

CHLs are issued by BLM's USO under competitive lease. All regular leases are offered first competitively, then over the counter.

Areas under wilderness review (WSAs and ISAs) are not available for lease. These areas are managed under IMP. If and when the areas are released from wilderness review, the category special conditions developed in the RMP will apply. Areas designated as wilderness will not be available for lease. Should Congress designate all or part of the WSA or ISA as wilderness, that action will constitute an amendment to the RMP.

Some federal oil and gas resources underlie lands in the planning area not administered by BLM. (There are no split-estate lands within the STSA.) 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. Under the Federal Onshore Oil and Gas Leasing Reform Act of 1987, national forest lands are leased for oil and gas only with consent of the U.S. Forest Service (USFS).

BLM will not categorize split-estate lands. Geophysical exploration permits for oil and gas may be issued in areas not under lease or not available for lease, if the terms and conditions of the RMP and other applicable policies (such as IMP) are met (appendix E).

Management Under the Alternatives

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.

The following display summarizes oil and gas management actions that would occur under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Maintain existing oil and gas and tar sand leasing category applications.	Apply oil and gas and tar sand leasing categories to open all area to lease development.	Apply oil and gas and tar sand leasing categories to protect nonmotorized recreation opportunities and wildlife habitat.	Apply oil and gas and tar sand leasing categories to protect watershed and cultural resources.	Apply oil and gas and tar sand leasing categories to protect motorized recreation opportunities.	Apply oil and gas and tar sand leasing categories to protect certain wildlife habitats, cultural ACECs, watershed resources, and scenic and vegetation ACECs.

Category 1 acres[a]		Category 1 acres		Category 1 acres		Category 1 acres		Category 1 acres		Category 1 acres	
SRRA	1,130,280	SRRA	1,416,050	SRRA	181,450	SRRA	168,510	SRRA	442,730	SRRA	710,920
FPU	51,770	FPU	75,350	FPU	12,260	FPU	3,820	FPU	29,080	FPU	50,850
Total	1,182,050	Total	1,491,400	Total	193,710	Total	172,330	Total	471,810	Total	761,770

Category 2 acres[b]		Category 2 acres		Category 2 acres		Category 2 acres		Category 2 acres		Category 2 acres	
SRRA	43,130	SRRA	45,730	SRRA	784,020	SRRA	77,990	SRRA	864,990	SRRA	505,430
FPU	18,270	FPU	0	FPU	58,270	FPU	7,600	FPU	43,570	FPU	21,210
Total	61,400	Total	45,730	Total	842,290	Total	85,590	Total	908,560	Total	526,640

Category 3 acres[c]		Category 3 acres		Category 3 acres		Category 3 acres		Category 3 acres		Category 3 acres	
SRRA	169,320	SRRA	0	SRRA	28,250	SRRA	0	SRRA	154,210	SRRA	242,520
FPU	5,310	FPU	0	FPU	2,120	FPU	0	FPU	2,700	FPU	3,290
Total	174,630	Total	0	Total	30,370	Total	0	Total	156,910	Total	245,810

Category 4 acres[d]		Category 4 acres		Category 4 acres		Category 4 acres		Category 4 acres		Category 4 acres	
SRRA	121,110	SRRA	2,060	SRRA	470,120	SRRA	1,217,340	SRRA	1,910	SRRA	4,970
FPU	0	FPU	0	FPU	2,700	FPU	63,930	FPU	0	FPU	0
Total	121,110	Total	2,060	Total	472,820	Total	1,281,270	Total	1,910	Total	4,970

[a]Category 1 is the same as standard surface use.

[b]Category 2 is the same as special condition surface use.

[c]Category 3 is the same as no surface occupancy.

[d]Category 4 is the same as no permit or lease.

4113 GEOTHERMAL MANAGEMENT

Management Common to All Alternatives

Geothermal leases are noncompetitive and will be issued by USO. Areas under wilderness review will not be available for leasing.

No interest has been expressed in geothermal leasing. If and when interest is expressed in geothermal exploration or leasing, the special conditions developed in the RMP for oil and gas leasing will be applied. If these do not prove satisfactory, the RMP will be amended to establish leasing conditions and exploration requirements.

Geothermal exploration and leasing applications would be processed on a case-by-case basis under all six alternatives.

4121 COAL MANAGEMENT

Management Common to All Alternatives

The planning area contains two known recoverable coal resource areas (KRCRAs): Wasatch and Emery (map 18). The KRCRAs are the only parts of the planning area that have potential for coal resource development. At the start of this planning effort, the KRCRAs were analyzed for their suitability for leasing according to the unsuitability criteria in 43 CFR 3461. The unsuitability study (appendix F) was conducted only within the two KRCRAs, which underlie public lands managed by BLM. Areas identified as suitable for coal leasing are shown on map 19. Future leasing by application will be limited to these areas. Applications for leasing outside the KRCRAs will require an analysis of the unsuitability criteria.

The unsuitability criteria may restrict all or certain types of mining techniques. New lease applications will be processed only in areas found suitable for leasing in the coal unsuitability analysis.

The resource area will recommend areas within the KRCRAs to USO for leasing. Coal leases issued subsequent to the RMP will be subject to both the unsuitability criteria and the special conditions developed in the RMP. No coal will be leased outside the KRCRAs.

After a lease is issued, a mining permit application package required by the Surface Mining Control and Reclamation Act is approved. The authorized officer would have to give concurrence for approval to the regulatory agency and would incorporate into the mining permit any special conditions developed in the RMP/EIS. The authorized officer would also approve mining plans for coal recovery.

Some federal coal resources within the planning area underlie nonfederal surface or federal lands administered by USFS. USFS or the surface owner manages the surface, and BLM administers the operational aspects of these resources when leased, with concurrence of USFS or the surface owner where such use is authorized. RMP special conditions do not apply to these lands.

Management Under the Alternatives

With differing levels of emphasis on protection of other resources, the acreage available for coal exploration and lease would vary by alternative.

The following display summarizes coal management actions that would occur in the KRCRAs under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A		Alternative B		Alternative C		Alternative D		Alternative E		Alternative F	
Continue to allow coal exploration.		Manage coal exploration with the least possible of surface operations.		Manage coal exploration to protect nonmotorized recreation opportunities and wildlife habitat.		Manage coal exploration to protect watershed and cultural resources.		Manage coal exploration to protect motorized recreation opportunities.		Manage areas for coal exploration to protect certain wildlife habitats, cultural ACECs, watershed resources, and visual and grazing ACECs.	
Acres available		Acres available		Acres available		Acres available		Acres available		Acres available	
SRRA	33,720	SRRA	33,720	SRRA	32,440	SRRA	15,930	SRRA	33,720	SRRA	33,710
FPU	28,570	FPU	28,570	FPU	25,870	FPU	2,540	FPU	28,570	FPU	28,570
Total	62,290	Total	62,290	Total	58,310	Total	18,470	Total	62,290	Total	62,280
Standard conditions		Standard conditions		Standard conditions		Standard conditions		Standard conditions		Standard conditions	
SRRA	32,280	SRRA	33,560	SRRA	11,900	SRRA	15,550	SRRA	27,080	SRRA	23,120
FPU	25,870	FPU	28,570	FPU	7,580	FPU	2,540	FPU	17,550	FPU	13,070
Total	58,150	Total	62,130	Total	19,480	Total	18,090	Total	44,630	Total	36,190
Special conditions		Special conditions		Special conditions		Special conditions		Special conditions		Special conditions	
SRRA	160	SRRA	160	SRRA	20,330	SRRA	380	SRRA	5,360	SRRA	9,320
FPU	0	FPU	0	FPU	18,220	FPU	0	FPU	8,320	FPU	12,800
Total	160	Total	160	Total	38,550	Total	380	Total	13,680	Total	22,120
No surface disturbance		No surface disturbance		No surface disturbance		No surface disturbance		No surface disturbance		No surface disturbance	
SRRA	1,280	SRRA	0	SRRA	210	SRRA	0	SRRA	1,280	SRRA	1,280
FPU	2,700	FPU	0	FPU	70	FPU	0	FPU	2,700	FPU	2,700
Total	3,980	Total	0	Total	280	Total	0	Total	3,980	Total	3,980

(Continued)

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Allow coal leasing, development, and mining on areas determined suitable for leasing.	Manage coal leasing, development, and mining on areas determined suitable for leasing.	Manage coal leasing, development, and mining to protect non-motorized recreation opportunities and wildlife habitat.	Manage coal leasing, development, and mining to protect watershed and cultural resources.	Manage coal leasing, development, and mining to protect motorized recreation opportunities.	Manage coal leasing, development, and mining to protect certain wildlife habitats, cultural ACECs, watershed resources, and scenic and vegetation ACECs.

Acres available		Acres available		Acres available		Acres available		Acres available		Acres available	
SRRA	29,620	SRRA	29,620	SRRA	28,340	SRRA	11,830	SRRA	29,620	SRRA	29,610
FPU	28,570	FPU	28,570	FPU	25,870	FPU	2,540	FPU	28,570	FPU	28,570
Total	58,190	Total	58,190	Total	54,210	Total	14,370	Total	58,190	Total	58,180
Standard conditions		**Standard conditions**		**Standard conditions**		**Standard conditions**		**Standard conditions**		**Standard conditions**	
SRRA	28,340	SRRA	29,620	SRRA	7,800	SRRA	11,450	SRRA	22,980	SRRA	19,010
FPU	25,870	FPU	28,570	FPU	7,580	FPU	2,540	FPU	17,550	FPU	13,070
Total	54,210	Total	58,190	Total	15,380	Total	13,990	Total	40,530	Total	32,080
Special conditions		**Special conditions**		**Special conditions**		**Special conditions**		**Special conditions**		**Special conditions**	
SRRA	0	SRRA	0	SRRA	20,330	SRRA	380	SRRA	5,360	SRRA	9,320
FPU	0	FPU	0	FPU	18,220	FPU	0	FPU	8,320	FPU	12,800
Total	0	Total	0	Total	38,550	Total	380	Total	13,680	Total	22,120
No surface disturbance		**No surface disturbance**		**No surface disturbance**		**No surface disturbance**		**No surface disturbance**		**No surface disturbance**	
SRRA	1,280	SRRA	0	SRRA	210	SRRA	0	SRRA	1,280	SRRA	1,280
FPU	2,700	FPU	0	FPU	70	FPU	0	FPU	2,700	FPU	2,700
Total	3,980	Total	0	Total	280	Total	0	Total	3,980	Total	3,980

4131 MINERAL MATERIALS MANAGEMENT

Management Common to All Alternatives

Disposal of mineral materials is by sale at fair market value or by free use permit for public agencies. Disposal sites are established in response to specific requests. Sales and free use permits (map 20) are handled at the resource area office.

All existing material sites (map 21) will remain open until the end of their term and then be evaluated. All community pits (map 22) will remain open until available material is exhausted and then be closed.

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 through notice in the Federal Register. No part of the planning area will be designated as closed to petrified wood collecting.

Management Under the Alternatives

The RMP will be used to determine which areas are available for mineral materials use and to impose conditions that will apply to use of material sites.

The following display summarizes mineral material management actions that would occur under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A		Alternative B		Alternative C		Alternative D		Alternative E		Alternative F	
Manage mineral material disposals on a case-by-case basis.		Manage mineral material disposals on a case-by-case basis.		Manage mineral material disposals to protect nonmotorized recreation opportunities and wildlife habitat.		Manage mineral material disposals to protect watershed and cultural resources.		Manage mineral material disposals to protect motorized recreation opportunities.		Manage mineral material disposals to protect scenic, cultural, and vegetation ACECs.	
Acres available		Acres available		Acres available		Acres available		Acres available		Acres available	
SRRA	1,463,840	SRRA	1,461,780	SRRA	961,620	SRRA	246,500	SRRA	1,307,720	SRRA	1,216,350
FPU	75,350	FPU	75,350	FPU	70,530	FPU	11,420	FPU	72,650	FPU	72,060
Total	1,539,190	Total	1,537,130	Total	1,032,150	Total	257,920	Total	1,380,370	Total	1,288,410
Standard conditions		Standard conditions		Standard conditions		Standard conditions		Standard conditions		Standard conditions	
SRRA	1,369,480	SRRA	1,416,050	SRRA	177,600	SRRA	168,510	SRRA	442,530	SRRA	710,920
FPU	51,770	FPU	75,350	FPU	12,260	FPU	3,820	FPU	29,080	FPU	50,850
Total	1,421,250	Total	1,491,500	Total	189,860	Total	172,330	Total	471,610	Total	761,770
Special conditions		Special conditions		Special conditions		Special conditions		Special conditions		Special conditions	
SRRA	94,360	SRRA	45,730	SRRA	784,020	SRRA	77,990	SRRA	865,190	SRRA	505,430
FPU	23,580	FPU	0	FPU	58,270	FPU	7,600	FPU	43,570	FPU	21,210
Total	117,940	Total	45,730	Total	842,290	Total	85,590	Total	908,760	Total	526,640
No disposal		No disposal		No disposal		No disposal		No disposal		No disposal	
SRRA	0	SRRA	2,060	SRRA	502,220	SRRA	1,217,340	SRRA	156,120	SRRA	247,490
FPU	0	FPU	0	FPU	4,820	FPU	63,930	FPU	2,700	FPU	3,290
Total	0	Total	2,060	Total	507,040	Total	1,281,270	Total	158,820	Total	250,780

4132 MINING LAW ADMINISTRATION

Management Common to All Alternatives

Locatable minerals are administered under the mining laws, which preserve the rights of individuals and corporations to enter on the public lands to claim (locate) certain types of mineral discoveries. All public domain lands overlying federal minerals are open to mining claim location unless specifically withdrawn from mineral entry, either (1) by secretarial order or public law or (2) under specific reservations, such as an R&PP lease. 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 are shown on map 23.

BLM administers claim recordation requirements (at USO) and operational aspects of mining federally owned minerals (at the resource area office), whether or not BLM administers the surface.

BLM will continue to conduct mining claim validity and patent examinations. Validity examinations determine if a mining claim is valid, and patent examinations determine if the requirements have been met for a claim to go to patent. Patented claims are owned and administered by the holder of the patent; RMP conditions do not apply to patented claims.

The RMP does not impose conditions on work done under a notice of intent, but does provide special conditions to apply to operations approved under a plan of operations, regardless of whether the claim is located before or after the RMP is adopted. Plans of operation are required for operations that would disturb more than 5 acres and for any operation except casual use in (1) areas designated for potential addition to, or designated as part of, the National Wild and Scenic Rivers System; (2) designated ACECs; (3) designated wilderness areas; and (4) areas designated as closed to off-road vehicle (ORV) use (43 CFR 3809).

The BLM may identify lands to be withdrawn from mineral entry, but cannot withdraw these lands. BLM must file an application for secretarial withdrawal. Lands would become segregated from entry for 2 years upon BLM's filing for withdrawal. If the Secretary orders a withdrawal, the segregation ceases. (Congressional approval is required for all withdrawals of 5,000 acres or more.) If the Secretary disagrees with BLM's recommendation, the segregation can be released. If the Secretary fails to act, the segregation expires after 2 years. These actions do not affect the validity of claims located on these areas prior to segregation or withdrawal.

For previously located claims in segregated areas, work done under a plan of operations will be approved with special conditions to protect the resource value for which the segregation was made.

Management Under the Alternatives

With differing levels of emphasis on protection of other resources, the acreage open to mineral entry would vary by alternative.

The following display summarizes locatable mineral management actions that would occur under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Maintain the present area open to mining claim location.	Maintain the present area open to mining claim location.	Manage the area open to mining claim location to protect nonmotorized recreation opportunities and wildlife habitat.	Manage the area open to mining claim location to protect watershed and cultural resources.	Manage the area open to mining claim location to protect motorized recreation opportunities.	Manage the area open to mining claim location to protect the I-70 Pictographs and Swasey Cabin ACECs.
Administer mining claim location	**Administer mining claim location**	**Administer mining claim location**	**Administer mining claim location**	**Administer mining claim location**	**Administer mining claim location**
SRRA 1,463,840	SRRA 1,463,840	SRRA 1,463,840	SRRA 1,463,840	SRRA 1,463,840	SRRA 1,463,840
FPU 75,350	FPU 75,350	FPU 75,350	FPU 75,350	FPU 75,350	FPU 75,350
Total 1,539,190	Total 1,539,190	Total 1,539,190	Total 1,539,190	Total 1,539,190	Total 1,539,190
Not open to entry	**Not open to entry**	**Not open to entry**	**Not open to entry**	**Not open to entry**	**Not open to entry**
SRRA 1,780	SRRA 3,840	SRRA 471,900	SRRA 1,218,140	SRRA 3,690	SRRA 6,750
FPU 0	FPU 0	FPU 2,700	FPU 63,930	FPU 0	FPU 0
Total 1,780	Total 3,840	Total 474,600	Total 1,282,070	Total 3,690	Total 6,750
Open to entry	**Open to entry**	**Open to entry**	**Open to entry**	**Open to entry**	**Open to entry**
SRRA 1,462,060	SRRA 1,460,000	SRRA 991,940	SRRA 245,700	SRRA 1,460,150	SRRA 1,457,090
FPU 75,350	FPU 75,350	FPU 72,650	FPU 11,420	FPU 75,350	FPU 75,350
Total 1,537,410	Total 1,535,350	Total 1,064,590	Total 257,120	Total 1,535,500	Total 1,532,440
Standard conditions	**Standard conditions**	**Standard conditions**	**Standard conditions**	**Standard conditions**	**Standard conditions**
SRRA 1,412,610	SRRA 1,416,050	SRRA 377,140	SRRA 245,700	SRRA 1,305,940	SRRA 1,190,590
FPU 75,350	FPU 75,350	FPU 55,480	FPU 11,420	FPU 72,650	FPU 72,650
Total 1,487,960	Total 1,491,400	Total 432,620	Total 257,120	Total 1,378,590	Total 1,263,240
Special conditions	**Special conditions**	**Special conditions**	**Special conditions**	**Special conditions**	**Special conditions**
SRRA 49,450	SRRA 43,950	SRRA 614,800	SRRA 0	SRRA 154,210	SRRA 266,500
FPU 0	FPU 0	FPU 17,170	FPU 0	FPU 2,700	FPU 2,700
Total 49,450	Total 43,950	Total 631,970	Total 0	Total 156,910	Total 269,200

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Manage mineral exploration and mining operations on a case-by-case basis. Approve mining plans in areas open to entry.	Manage mineral exploration and mining operations to protect vegetation ACECs. Approve mining plans in areas open to entry.	Manage mineral exploration and mining operations to protect nonmotorized recreation opportunities and wildlife habitat. Approve mining plans in areas open to entry.	Manage mineral exploration and mining operations on a case-by-case basis. Approve mining plans in areas open to entry.	Manage mineral exploration and mining operations to protect motorized recreation opportunities. Approve mining plans in areas open to entry.	Manage mineral exploration and mining operations to protect watershed resources and scenic, cultural, and vegetation ACECs. Approve mining plans in areas open to entry.
Open to entry acres	Open to entry acres	Open to entry acres	Open to entry acres	Open to entry acres	Open to entry acres
1,537,410	1,535,350	1,064,590	257,120	1,535,500	1,532,440

4133 LEASABLE MINERALS MANAGEMENT

Management Common to All Alternatives

Potash and related salts are the only minerals administered under this program and believed present in commercial quantities in the planning area. About 70,000 public land acres in the southeastern SRRA have moderate potential for occurrence and low potential for production of potash and related salts; the remainder of the planning area has low potential for occurrence of potash.

Nonenergy mineral leases are issued by USO. In areas of known mineral occurrence, leases are sold competitively; where mineral values are not known, the resource area could issue prospecting permits. These can lead to issuance of a preference right lease. Areas under wilderness review are not available for lease.

No interest has been expressed in leasing any nonenergy minerals in SRRA. If and when such interest is expressed, the RMP special conditions for oil and gas leasing will be applied. If these do not prove satisfactory, the RMP will be amended to establish leasing conditions and exploration requirements.

Applications for nonenergy leasable mineral exploration and leasing would be processed on a case-by-case basis under all six alternatives.

4211 RIGHTS-OF-WAY

Management Common to All Alternatives

All of the alternatives recognize 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 R.S. 2477. Most of the county roads are pre-FLPMA roads which are authorized under R. S. 2477. Under R. S. 2477 the 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 memorandum of understanding agreements 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.

Management Under the Alternatives

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 right-of-way 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 avoided, excluded, or available for additional rights-of-way. These are shown on maps 24, 25, 26, 27, 28, and 29.

Right-of-way corridor designations were not identified under alternatives A, C, or D.

The lands included in right-of-way corridors that would be designated under alternatives B, E, and F are listed below. In SRRA, designated right-of-way corridors would be 1 mile wide (0.5 mile from the centerline of existing powerlines), except where resource values dictate otherwise or where the powerlines go through private or state lands. In FPU, the designated right-of-way corridor would be 0.25 mile wide. All legal descriptions identify lands in the Salt Lake Meridian.

Legal Description			
Township	Range	Section	Location
16 S.	8 E	1, 12, 13, 24, 25	SRRA north boundary to Highway 31
17 S.	8 E.	1, 12, 13	
17 S.	8 E.	7, 17, 18, 21, 22, 23, 27, 34	UP&L Huntington Powerplant east to Highway 10
18 S.	8 E.	3, 10, 11	
18 S.	9 E.	9, 14, 15, 23, 24	Highway 10 east to SRRA/Price River Resource Area boundary
18 S.	10 E.	19, 29, 30, 33	
19 S.	10 E.	1, 3, 4, 11, 12	
19 S.	11 E.	7, 18	
21 S.	15 E.	33, 34, 35	Price River Resource Area/SRRA boundary east to Grand Resource Area
21 S.	16 E.	3, 4	

Legal Description			Location
Township	Range	Section	
18 S.	9 E.	30, 31	Highway 10 south and west to FPU boundary
19 S.	8 E.	1, 12, 22, 23, 27, 33, 34	
20 S.	8 E.	3, 4, 19, 30, 31	
21 S.	7 E.	1	
22 S.	6 E.	12, 13, 14	
22 S.	7 E.	6	

Legal Description			Location
Township	Range	Section	
22 S.	5 E.	25, 26, 35	FPU boundary to Fishlake NF
23 S.	5 E.	3, 10, 15, 17, 18	

The following display summarizes right-of-way management actions that would occur under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Do not designate right-of-way corridors.	Designate existing groupings of major rights-of-way as corridors.	Do not designate right-of-way corridors.	Do not designate right-of-way corridors.	Designate existing groupings of major utility lines as corridors.	Designate existing groupings of major rights-of-way as corridors.

Designated corridors		Designated corridors		Designated corridors		Designated corridors		Designated corridors		Designated corridors	
SRRA	0	SRRA	22,870	SRRA	0	SRRA	0	SRRA	12,890	SRRA	21,540
FPU	0	FPU	4,470	FPU	0	FPU	0	FPU	4,170	FPU	2,900
Total	0	Total	27,340	Total	0	Total	0	Total	17,060	Total	24,440

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Allow rights-of-way while resolving conflicts on a case-by-case basis.	Allow rights-of-way on all lands unless avoided where needed for livestock or mineral uses or excluded where needed for special management of relict vegetation areas.	Allow rights-of-way on all lands unless avoided to protect nonmotorized recreation opportunities and wildlife habitat or excluded where needed for special management of nonmotorized recreation and wildlife habitat.	Allow rights-of-way on all lands unless avoided to protect watershed and cultural resources or excluded where needed for special management of watershed or cultural resources.	Allow rights-of-way on all lands unless avoided to protect motorized recreation opportunities or excluded where needed for special management of motorized recreation.	Allow rights-of-way on all lands unless avoided to protect designated cultural, riparian, aquatic and watershed values and wildlife habitats or excluded where needed for special management of scenic or recreation values.

Acres available (standard conditions)		Acres available (standard conditions)		Acres available (standard conditions)		Acres available (standard conditions)		Acres available (standard conditions)		Acres available (standard conditions)	
SRRA	1,412,950	SRRA	1,393,180	SRRA	181,450	SRRA	168,510	SRRA	429,840	SRRA	704,510
FPU	72,650	FPU	70,880	FPU	12,260	FPU	3,820	FPU	24,910	FPU	48,250
Total	1,485,600	Total	1,464,060	Total	193,710	Total	172,330	Total	454,750	Total	752,760

Avoidance areas (special conditions)		Avoidance areas (special conditions)		Avoidance areas (special conditions)		Avoidance areas (special conditions)		Avoidance areas (special conditions)		Avoidance areas (special conditions)	
SRRA	50,890	SRRA	45,760	SRRA	812,270	SRRA	77,990	SRRA	1,019,200	SRRA	732,820
FPU	2,700	FPU	0	FPU	60,390	FPU	7,600	FPU	46,270	FPU	24,200
Total	53,590	Total	45,760	Total	872,660	Total	85,590	Total	1,065,470	Total	757,020

Exclusion areas		Exclusion areas		Exclusion areas		Exclusion areas		Exclusion areas		Exclusion areas	
SRRA	0	SRRA	2,030	SRRA	470,120	SRRA	1,217,340	SRRA	1,910	SRRA	4,970
FPU	0	FPU	0	FPU	2,700	FPU	63,930	FPU	0	FPU	0
Total	0	Total	2,030	Total	472,820	Total	1,281,270	Total	1,910	Total	4,970

4212 LANDS

Management Common to All Alternatives

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

Management Under the Alternatives

Alternative A

Existing land uses (map 30) would be protected under the following special conditions.

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

- open to mineral leasing with special conditions to prevent surface occupancy;
- 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 or range improvements with special conditions;
- open to development of watershed control structures with special conditions.

Recreation and Public Purpose Leases. Emery School (40 acres), Millsite Park (40 acres), Millsite Golf Course (190 acres), Clawson Motocross (190 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. Under alternative A, existing R&PP leases would be

- open to mineral leasing with special conditions to prevent surface occupancy;
- 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 or range improvements with special conditions;
- open to development of watershed control structures with special conditions.

Alternatives B, C, D, E, and F

Existing land uses (map 30) would be protected under the following special conditions.

Huntington Airport Lease. Use of the 340 leased acres would be allowed only with special conditions to ensure the use is consistent with the purpose for which the land was leased. Also, it would only be allowed with the consent of airport officials and would be subject to FAA regulations, Part 77, "Objects Affecting Navigable Airspace." Under alternatives B, C, D, E, and F, the Huntington Airport lease area would be

- open to mineral leasing with special conditions;
- 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 or 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.

Recreation and Public Purpose Leases. Emery School (40 acres), Millsite Park (40 acres), Millsite Golf Course (190 acres), Clawson Motocross (190 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. Under alternatives B, C, D, E, and F, existing R&PP leases would be

- open to mineral leasing with special conditions;
- 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 or 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.

New realty actions would be allowed within designated right-of-way corridor and available and avoidance areas identified on maps 24, 25, 26, 27, 28, and 29 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.

Land Disposals

Specific tracts of land would be managed for disposal under alternatives A, C, D, E, and F (maps 31, 32, 33, 34, and 35). No lands were identified for disposal under alternative B. Disposal of individual parcels may be precluded on a temporary or long-term basis because of mining claim location, presence of archaeological or historical sites, presence of habitat used by 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 managed for disposal would meet the following conditions.

Tracts managed for disposal under available disposal authorities, including Section 203(a)(1) of FLPMA. 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. Tracts 1 through 51 are in SRRA; 52 through 60 are in FPU. All legal descriptions identify lands in the Salt Lake Meridian.

Parcel	Legal Description			Alternative				
Number	Township	Range	Section	A	C	D	E	F
1	16 S.	7 E.	27, lots 1-12	X			X	
2	16 S.	7 E.	26, SW4NW4	X			X	
3	16 S.	7 E.	26, E2SW4	X			X	
4	16 S.	7 E.	34, S2NE4	X			X	
5	16 S.	7 E.	35, S2NE4				X	
6	16 S.	7 E.	35, NW4	X			X	
7	17 S.	7 E.	1, lots 4 & 5	X	X		X	
8	17 S.	7 E.	2, SW4	X	X		X	
9	17 S.	8 E.	5, lot 6, NW4SW4	X			X	
10	17 S.	9 E.	9, NW4SW4, SE4SW4	X				X
11	17 S.	9 E.	34, S2SW4	X				X
12	18 S.	9 E.	3, lots 1 & 2, SW4NE4	X				X
			SE4SW4, NW4SE4	X				X
13	18 S.	8 E.	21, NW4SE4	X	X	X		X
14	18 S.	8 E.	21, N2NW4, SE4NW4	X	X			X
			NE4SW4, SW4SE4	X	X			X
15	18 S.	8 E.	20, NE4NE4	X				X
16	18 S.	8 E.	23, SE4SE4	X	X	X	X	X
			26, NE4NE4	X	X	X	X	X
17	18 S.	8 E.	31, lot 3	X	X	X	X	
18	18 S.	8 E.	12, E2SE4	X	X		X	X
	18 S.	9 E.	7, N2SW4, SE4SW4	X	X		X	X
			SW4SE4	X	X		X	X
			18, N2NE4	X	X		X	X
19	18 S	9 E.	3, SE4SE4	X				
20	18 S.	9 E.	10, E2NE4	X				X
21	18 S.	9 E.	9, SE4, E2SW4	X				X
22	18 S.	9 E.	6, NW4SE4	X				X
23	18 S.	9 E.	7, NE4NE4	X				X
24	18 S.	9 E.	17, SE4NW4	X				X
25	18 S.	9 E.	17, W2SE4	X				X
			20, NW4NW4, NW4NE4	X				X

Parcel Number	Legal Description Township	Range	Section	Alternative A	C	D	E	F/P
26	18 S.	9 E.	20, S2NW4, SW4NE4	X	X		X	X
27	19 S.	7 E.	14, W2W2		X			
28	19 S.	7 E.	14, NW4NE4, E2NW4		X		X	X
29	19 S.	8 E.	7, lot 2, NE4SW4,				X	X
			SW4SE4				X	X
30	19 S.	8 E.	3, SE4SE4	X	X	X	X	X
31	19 S.	8 E.	11, SE4SE4	X			X	X
			12, SW4SW4	X			X	X
32	19 S.	8 E.	17, NW4NW4	X	X		X	X
33	19 S.	8 E.	17, E2SW4	X	X		X	X
34	19 S.	8 E.	20, lots 1-4, NE4SW4	X	X		X	X
			21, NE4, E2NW4, SW4NW4,	X	X		X	X
			NE4SW4, NE4SE4	X	X		X	X
35	19 S.	8 E.	35, N2NW4, SW4NW4		X			
36	19 S.	8 E.	31, N2NE4, SE4NE4, SE4,		X		X	X
			E2SW4, SW4SW4		X		X	X
	20 S.	7 E.	1, N2, NESE4		X		X	X
	20 S.	8 E.	6, N2, N2S2, SE4SW4,		X		X	X
			SW4SE4		X		X	X
			7, W2NE4, NE4NW4		X		X	X
37	20 S.	7 E.	4, SE4NE4	X	X		X	X
38	20 S.	7 E.	27, NW4NW4	X	X	X	X	X
39	20 S.	7 E.	12, SW4NE4, NW4SE4	X	X	X	X	X
40	21 S.	6 E.	25, N2SE4, NE4SW4	X		X		
41	21 S.	6 E.	25, SE4SW4, S2SE4		X		X	X
42	21 S.	6 E.	27, NW4NE4	X	X	X	X	X
43	21 S.	6 E.	27, lot 1, SW4NE4	X	X		X	X
44	21 S.	7 E.	31, NW4SW4	X	X	X	X	X
45	22 S.	6 E.	1, W2NE4, SE4NE4,		X	X	X	
			NE4SE4		X	X	X	
46	22 S.	6 E.	11, NE4NE4, SE4NW4	X	X	X	X	X
47	22 S.	6 E.	14, SW4NW4, NW4SW4	X	X	X	X	X
			15, lot 1	X	X	X	X	X
48	22 S.	6 E.	18, SW4SE4	X	X	X	X	X
			19, W2NE4, NW4SE4	X	X	X	X	X
49	22 S.	3 E.	5, lots 3, 4	X	X	X	X	X
50	22 S.	3 E.	6, SW4NE4	X	X	X	X	X
51	22 S.	3 E.	7, SE4NE4	X	X	X	X	X
52	22 S.	3 E.	33, NW4NE4	X	X	X	X	X
53	22 S.	3 E.	35, NE4SW4	X	X		X	X
54	22 S.	3 E.	35, W2SW4, SE4SW4	X	X	X	X	X
55	23 S.	3 E.	3, E2SE4, SE4NE4	X	X	X	X	X
			10, E2NE4	X	X	X	X	X
			11, NW4	X	X	X	X	X
56	23 S.	3 E.	10, W2SE4	X	X	X	X	X
57	23 S.	5 E.	31, lot 4, S2SE4	X	X		X	X

Tracts managed for disposal under available disposal authorities, including Section 203(a)(3) of FLPMA (community expansion). 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. All tracts identified are in SRRA.

Parcel Number	Legal Description Township	Range	Section	Alternative A	C	D	E	F/P
58	19 S.	7 E.	26, S2SW4	X	X		X	X
			35, W2NW4, NW4NE4NW4	X	X		X	X
59	19 S.	7 E.	35, S2NE4NW4, NE4NE4NW4	X	X	X	X	X
60	19 S.	7 E.	35, NW4SW4				X	
61	22 S.	6 E.	4, lot 6	X	X	X	X	X
62	22 S.	6 E.	4, lots 5 & 7	X	X		X	X

Tract managed for disposal under available disposal authorities, including Section 203(a)(3) of FLPMA (community expansion). 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 . The tract is in SRRA.

Parcel Number	Legal Description Township	Range	Section	Alternative A	C	D	E	F/P
63	22 S.	6 E.	4, tract 37	X	X		X	X

Tracts managed for disposal under available disposal authorities, including Section 203(a)(3) of FLPMA (economic development). 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. All tracts identified are in SRRA.

Parcel Number	Legal Description Township	Range	Section	Alternative A	C	D	E	F/P
64	17 S.	8 E.	5, lot 6, NW4SW4	X	X	X		
65	19 S.	8 E.	22, SE4NE4, E2SE4,		X		X	X
			SW4SE4, SE4SW4		X		X	X
			27, NE4, E2NW2, E2SE4,		X		X	X
			SW4SE4		X		X	X

Tracts managed for disposal for recreation and public purposes under the Recreation and Public Purposes (R&PP) Act of 1926 and Sec. 212 of FLPMA to local governmental agencies only (potential R&PP disposal tracts). All tracts identified are in SRRA.

Parcel Number	Legal Description Township	Range	Section	Alternative A	C	D	E	F/P
66	16 S.	7 E.	27, lots 1-12		X			
67	16 S.	7 E.	26, SW4NW4		X			
68	16 S.	7 E.	26, E2SW4		X			
69	16 S.	7 E.	34, S2NE4		X			
70	16 S.	7 E.	35, NW4		X			
71	16 S.	7 E.	35, S2S2NE4	X	X			X
72	20 S.	6 E.	11, all	X	X		X	X
			12, SW4, W2SE4, S2NW4	X	X		X	X
	20 S.	7 E.	7, E2E2SW4, E2W2E2SW4,	X	X		X	X
			W2SW4SE4SW4,	X	X		X	X
			S2SW4NW4SE4SW4	X	X		X	X
73	20 S.	7 E.	7, S2SE4SW4, S2N2SE4SW4			X		

Tracts managed for disposal for recreation and public purposes under the R&PP Act of 1926 and Sec. 212 of FLPMA to local governmental agencies only (existing R&PP lease). 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. The tract is in SRRA.

Parcel Number	Legal Description Township	Range	Section	Alternative A	C	D	E	F/P
74	22 S.	6 E.	4, lot 9	X	X	X	X	X

Acquisitions

BLM would 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 identified for possible acquisition under the RMP alternatives are shown on maps 36, 37, and 38. A plan amendment would be required to acquire a tract not identified in the RMP.

The following display summarizes the lands identified for disposal and acquisition under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Manage identified lands for disposal.	Manage no lands for disposal.	Manage identified lands for disposal unless needed for nonmotorized recreation or wildlife habitat.	Manage identified lands for disposal unless needed to protect or improve watershed or cultural resource management.	Manage identified lands for disposal unless needed for motorized recreation.	Manage identified lands for disposal for community expansion, economic development, and better management of isolated tracts.
Acres identified	Acres identified	Acres identified	Acres identified	Acres identified	Acres identified
SRRA 5,780	SRRA 0	SRRA 6,140	SRRA 710	SRRA 6,770	SRRA 6,730
FPU 1,040	FPU 0	FPU 830	FPU 710	FPU 1,040	FPU 1,000
Total 6,820	Total 0	Total 6,970	Total 1,420	Total 7,810	Total 7,730
Acquire no nonfederal lands.	Acquire no nonfederal lands.	Acquire nonfederal lands as needed for nonmotorized recreation or wildlife habitat uses.	Acquire nonfederal lands as needed to or improve watershed or cultural resource management.	Acquire no nonfederal lands.	Acquire nonfederal lands as needed within scenic corridor, cultural, and relict vegetation areas.
Acres identified	Acres identified	Acres identified	Acres identified	Acres identified	Acres identified
SRRA 0	SRRA 0	SRRA 7,160	SRRA 2,400	SRRA 0	SRRA 3,200
FPU 0	FPU 0	FPU 1,420	FPU 0	FPU 0	FPU 0
Total 0	Total 0	Total 8,580	Total 2,400	Total 0	Total 3,200
		Lands in I-70 Scenic Corridor identified for possible acquisition (SRRA): T22S,R 8E,SLM,Sec 36 T22S,R 9E,SLM,Sec 32 T22S,R 9E,SLM,Sec 36 T22S,R10E,SLM,Sec 32 T22S,R12E,SLM,Sec 16 T22S,R13E,SLM,Sec 2 T23S,R 6E,SLM,Sec 19 T23S,R 6E,SLM,Sec 30 T23S,R 6E,SLM,Sec 31 T23S,R 7E,SLM,Sec 2 (FPU): T23S,R 5E,Secs 25, 36	The following lands within potential ACECs (all in SRRA) are identified for possible acquisition: Dry Lake Archaeological District: T23S,R16E,SLM,Sec 16 T23S,R16E,SLM,Sec 32 Tomsich Butte Historical District: T24S,R 8E,SLM,Sec 36 Little Black Mountain: T26S,R 6E,SLM,Sec 36		The following lands within potential ACECs are identified for possible acquisition: The Wedge: T19S,R10E,SLM,Sec 36 T20S,R10E,SLM,Sec 2 I-70 Scenic Corridor: T22S,R13E,SLM,Sec 2 Muddy Creek: T23S,R 7E,SLM,Sec 36 Big Flat Tops: T26S,R13E,SLM,Sec 36

4220 WITHDRAWAL AND CLASSIFICATION

Management Common to All Alternatives

Existing powersite withdrawals and public water reserves (PWRs) are shown on map 39. 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 the BLM or other federal agencies.

Management Under the Alternatives

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. The classifications will be continued during the term of the leases. All legal descriptions are based in the Salt Lake Meridian.

Parcel Number	Legal Description Township	Range	Section	Current Use, Expiration Date
1	18 S.	8 E.	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, as amended, are segregated from all appropriation. The classification will be continued during the term of the lease.

Parcel Number	Legal Description Township	Range	Section	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

With differing levels of emphasis on protection of certain resources, withdrawal recommendations would vary by alternative. (The Secretary of the Interior would have to obtain Congressional approval for any withdrawal involving 5,000 acres or more.)

The following display summarizes withdrawal management actions that would occur under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A		Alternative B		Alternative C		Alternative D		Alternative E		Alternative F	
Retain withdrawals:		Retain withdrawals:		Retain withdrawals:		Retain withdrawals:		Retain withdrawals:		Retain withdrawals:	
SRRA	1,780	SRRA	1,780	SRRA	1,780	SRRA	800	SRRA	1,690	SRRA	1,780
FPU	0	FPU	0	FPU	0	FPU	0	FPU	0	FPU	0
Total	1,780	Total	1,780	Total	1,780	Total	800	Total	1,690	Total	1,780
Request no new withdrawals.		Request new withdrawals if needed for livestock uses.		Request new withdrawals if needed for nonmotorized recreation and wildlife habitat.		Request new withdrawals if needed to protect or improve watershed or cultural resource management.		Request new withdrawals if needed for motorized recreation uses.		Request new withdrawals if needed to improve cultural resource management or to protect relict vegetation or for motorized recreation uses.	
Acres identified		Acres identified		Acres identified		Acres identified		Acres identified		Acres identified	
SRRA	0	SRRA	2,060	SRRA	470,120	SRRA	1,217,340	SRRA	2,000	SRRA	4,970
FPU	0	FPU	0	FPU	2,700	FPU	63,930	FPU	0	FPU	0
Total	0	Total	2,060	Total	472,820	Total	1,282,870	Total	2,000	Total	4,970
Potential withdrawals		Potential withdrawals		Potential withdrawals		Potential withdrawals		Potential withdrawals		Potential withdrawals	
None		Developed recreation sites; grazing ACECs: Bowknot Bend North Big Flat Top		Developed recreation sites; primitive recreation areas; scenic ACECs: Gilson Buttes I-70 Scenic Corr. Muddy Creek San Rafael Canyon San Rafael Reef Segers Hole Sids Mountain Vegetation ACEC Bowknot Bend Cultural ACEC Tomsich Butte		Developed recreation sites; primitive recreation areas; scenic ACECs: Gilson Buttes I-70 Scenic Corr. Muddy Creek San Rafael Canyon San Rafael Reef Segers Hole Sids Mountain Cultural ACECs: Pictographs Swasey Cabin Dry Lake Arch.Dist. Temple Mtn/Tomsich Butte Hist. Dist. Critical watersheds Riparian/aquatic habitat		Developed recreation sites; Temple Mountain Bike Trail.		Developed recreation sites; cultural ACECs: Pictographs Swasey Cabin Copper Globe Vegetation ACECs: Bowknot Bend Big Flat Tops	

4311/4312 FOREST MANAGEMENT AND DEVELOPMENT

Management Common to All Alternatives

On the fairly small forested area (map 40), BLM will continue to sell over-the-counter permits for fuelwood, Christmas trees, and other woodland products in areas designated for these uses (map 41) at fair market value or by free use permit. Fuelwood harvest will be limited to pinyon and juniper unless specifically provided for in an activity plan. Onsite use of wood products by recreationists (such as for campfires) will be allowed unless specifically excluded in certain areas in the RMP.

Management Under the Alternatives

Under each alternative, the planning area is divided into four management categories for forest products: (1) lands available for management of forest products (intensive management areas), (2) lands where forest products are managed to enhance other uses (extensive management areas), (3) lands not available for management of forest products (special use categories) and (4) nonwoodland areas. RMP goals and management objectives were used to determine which areas would be assigned to which category and what conditions would be imposed on forest product use.

The following display summarizes forest management actions that would occur under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Designate areas for harvest of woodland products.	Designate areas for harvest of woodland products unless detrimental to livestock or mineral uses.	Designate areas for harvest of woodland products unless detrimental to nonmotorized recreation opportunities or wildlife habitat.	Designate areas for harvest of woodland products unless detrimental to watershed or cultural resources.	Designate areas for harvest of woodland products unless detrimental to motorized recreation opportunities.	Designate areas for harvest of woodland products unless detrimental to wildlife or critical soils areas. Open all areas to Christmas tree sales except where limited or excluded.

Standard conditions		Standard conditions		Standard conditions		Standard conditions		Standard conditions		Standard conditions	
SRRA	395,350	SRRA	401,130	SRRA	6,550	SRRA	85,110	SRRA	197,570	SRRA	138,610
FPU	35,540	FPU	36,320	FPU	18,040	FPU	15,580	FPU	22,730	FPU	30,580
Total	430,890	Total	437,450	Total	24,590	Total	100,690	Total	220,300	Total	169,190

Special conditions		Special conditions		Special conditions		Special conditions		Special conditions		Special conditions	
SRRA	4,770	SRRA	0	SRRA	168,290	SRRA	198,930	SRRA	197,570	SRRA	201,320
FPU	0	FPU	0	FPU	12,530	FPU	2,200	FPU	0	FPU	4,790
Total	4,770	Total	0	Total	180,820	Total	201,130	Total	197,570	Total	206,110

Excluded from campfire use		Excluded from campfire use		Excluded from campfire use		Excluded from campfire use		Excluded from campfire use		Excluded from campfire use	
SRRA	490	SRRA	510	SRRA	1,100	SRRA	6,800	SRRA	510	SRRA	570
FPU	0	FPU	0	FPU	0	FPU	0	FPU	0	FPU	0
Total	490	Total	510	Total	1,100	Total	6,800	Total	510	Total	570

Excluded from harvest		Excluded from harvest		Excluded from harvest		Excluded from harvest		Excluded from harvest		Excluded from harvest	
SRRA	14,830	SRRA	13,820	SRRA	240,110	SRRA	130,910	SRRA	237,660	SRRA	75,010
FPU	780	FPU	0	FPU	5,740	FPU	18,540	FPU	13,590	FPU	950
Total	15,610	Total	13,820	Total	245,850	Total	149,450	Total	251,250	Total	75,960

4321 WILD HORSE AND BURRO MANAGEMENT

Management Common to All Alternatives

Wild horse and burro habitat areas are shown on map 42. BLM will continue to monitor the number of wild horses and burros in each herd unit. When sufficient monitoring data are obtained, a herd management area plan (HMAP) will be prepared to guide management of herd management areas used by these animals. Wild equids will be allowed to increase until they reach the upper limit in each alternative. Excess horses will then be removed until the lower limit is achieved. The animals will then be allowed to increase until they reach the upper limit again. At that time the process will be repeated. A range of numbers of animals have been used instead of a single number because inventory methods are not 100 percent accurate and the forage available may change. Adjustments in numbers may also be necessary if monitoring data show a need for adjustments.

Excess wild horses or burros may be removed by helicopter, horseback or water trapping.

Management Under the Alternatives

With differing levels of emphasis on production and protection of other resources, herd populations would fluctuate accordingly.

Changes in use levels for wild horses and burros under the alternatives are explained in 4322 Grazing Management.

The following display summarizes wild horse and burro management actions that would occur under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A

Manage for 200 to 325 wild horses and 70 to 100 wild burros.

Develop HMAPs	acres
SRRA (0)	0
FPU (0)	0
Total (0)	0

Alternative B

Manage for 20 to 35 wild horses and 10 to 25 burros and to maintain populations at that level.

Develop HMAPs	acres
SRRA (4)	475,680
FPU (0)	0
Total (4)	475,680

Alternative C

Manage for 70 to 100 wild horses and 25 to 60 wild burros.

Develop HMAPs	acres
SRRA (4)	475,680
FPU (0)	0
Total (4)	475,680

Alternative D

Manage for 90 to 115 wild horses and 50 to 70 wild burros.

Develop HMAPs	acres
SRRA (4)	475,680
FPU (0)	0
Total (4)	475,680

Alternative E

Manage for 250 to 325 wild horses and 110 to 140 wild burros.

Develop HMAPs	acres
SRRA (4)	475,680
FPU (0)	0
Total (4)	475,680

Alternative F

Manage for 75 to 125 wild horses and 30 to 70 wild burros.

Develop HMAPs	acres
SRRA (4)	475,680
FPU (0)	0
Total (4)	475,680

4322 GRAZING MANAGEMENT

Management Common to All Alternatives

All grazing allotments covered in this RMP/EIS (map 43) have been evaluated for resource potential and conflicts and assigned to a management category in accordance with BLM range policy. The management category criteria are explained in appendix G, which also shows the category currently assigned to each grazing allotment.

A rangeland monitoring program has been established to provide data on range condition. Monitoring procedures are explained in appendix H. 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 consider individual allotments and herd units.

Desired livestock utilization levels on grazing allotments will be as follows: 25 to 35 percent for spring use (3/1 to 6/30), and 35 to 50 percent for summer (7/1 to 9/30), fall (10/1 to 11/30), and winter (12/1 to 2/28) use. These percentages may vary based on ecological sites and vegetation communities within individual allotments.

Changes in livestock use 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 to 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 are met for sustained yield of forage and (2) resource conflicts do not result.

The decision whether to allow a change in season of use or kind of livestock will be made after assessing the proposal in NEPA documents prepared at that time.

An investment analysis will be done where an AMP suggests projects that would 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 would be done when a specific project is proposed.

Coordination of grazing responsibilities between BLM and the National Park Service (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 NPS and BLM, and in an interagency agreement for grazing management [BLM and NPS, 1986], signed by the Director, Rocky Mountain Region, NPS, and the State Director, Utah, BLM. These agreements were taken into account in preparing the RMP.

The Link Flats area will be released from natural area status. In the late 1960s, the flats were thought to have potential as a natural area to recognize a supposedly ungrazed plant community; however, the area had been grazed by both wild horses and domestic livestock continuously for several decades.

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

AMPs are activity plans that will be prepared after approval of the RMP to meet its stated objectives. The RMP identifies allotments

where existing AMPs will be implemented or modified and where new AMPs will be prepared and implemented (appendix I) as current budget, manpower, and operator cooperation allow.

For a specific allotment, the AMP details 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 treatment potential within the allotment. Grazing systems such as deferred rotation and rest-rotation could be used.

Grazing systems will be maintained, revised, or implemented, based on consideration of (1) objectives detailed in the AMP, (2) resource characteristics detailed in the RMP, (3) vegetation characteristics determined by monitoring, (4) availability of water, (5) operator requests, and (6) implementation costs.

Management Under the Alternatives

Currently, little or no forage is reserved for big game or wild horse and burros grazing the public lands. Conflicts between these animals and livestock may be resolved and adjustments in specific forage use levels made at the activity plan level or at any time deemed necessary as a result of rangeland monitoring.

Under alternative A, if use levels need adjustment or additional forage becomes available, equal consideration will be given to livestock, wildlife, and wild horses and burros based on rangeland monitoring.

Under alternative B, wildlife and wild horse and burro use levels may be adjusted to provide for livestock and mineral needs. If additional forage becomes available, preference would be given to livestock, but not to exceed total preference.

Under alternative C, livestock and wild horse and burro use levels may be adjusted to provide for wildlife and recreation needs. If additional forage becomes available, preference would be given to wildlife, but not to exceed prior stable numbers. 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.

Under alternative D, livestock, wildlife, and wild horse and burro use levels may be adjusted to provide for protection of watershed and cultural values. Additional forage not needed for this protection may be used by these animals with equal consideration, based on rangeland monitoring.

Under alternative E, livestock, wildlife, and wild horse and burro use levels may be adjusted to provide for motorized recreation. If additional forage becomes available, and if conflicts with motorized recreation would not result, equal consideration would be given to these animals, based on rangeland monitoring.

Under alternative F, livestock and wild horse and burro use levels 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 would be given to livestock, wildlife, and wild horses and burros, based on rangeland monitoring.

Grazing actions are shown on maps 49, 50, 51, 52, 53, and 54. Alternative management actions by grazing allotment are described in appendix I.

Special Management Designations

Under alternatives B, C, D, E, and F, special management conditions have been developed for ACECs (all within SRRA) that would be administered under the grazing program to protect relict vegetation areas. All relict vegetation ACECs would be used for (1) research and experiments to provide a baseline for rangeland studies and (2) similar comparative ecological studies of relict plant communities. Activities within the ACECs would be approved only with special conditions to protect the relict plant communities.

Changes to the level of livestock use in riparian areas could occur as a result of monitoring and riparian inventory of those areas in alternative D.

The areas that would be designated under each alternative, along with the special management conditions that would apply to the specific ACECs under that alternative, are shown here.

Alternative B

The Bowknot Bend (1,830 acres), North Big Flat Top (190 acres), and San Rafael Reef (43,870 acres) ACECs (map 12) would cover a total of 46,080 acres. Special conditions applied to these areas would protect relict vegetation. Under alternative B, Bowknot Bend and North Big Flat Top ACECs would be

- closed to mineral leasing and to disposal of mineral materials;
- withdrawn from 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.

Approximately 2,000 acres of relict plant communities exist within the San Rafael Reef ACEC. Under alternative B, those communities would be protected in the same ways as Bowknot Bend and North Big Flat Tops. The remainder of San Rafael Reef ACEC (approximately 41,860 acres) would be

- open to mineral leasing and to disposal of mineral materials with special conditions to prevent surface disturbance within the relict plant communities;
- open to mineral entry with plans of operation subject to conditions precluding surface use of the relict plant communities;
- 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 livestock use;
- open to land treatments and range improvements, with special conditions to prevent surface disturbance within the relict plant communities;
- designated as limited for ORV use, with use limited to designated roads and trails.

Alternative C

The Bowknot Bend (1,830 acres) and North Big Flat Top (190 acres) ACECs (map 13) would cover a total of 2,020 acres. Under alternative C, the Bowknot Bend ACEC would be managed under the special conditions for ROS primitive (P) class and excluded from grazing. The North Big Flat Top ACEC would be

- open to mineral leasing with special conditions to prevent surface occupancy;
- closed to disposal of mineral materials;
- open to mineral entry, with plans of operations subject to conditions precluding surface use of the ACEC;
- excluded from right-of-way grants;
- excluded from private or commercial use of woodland products, including collection of downed dead wood for campfires;
- excluded from livestock use;
- excluded from land treatments or 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 visual resource management (VRM) class I.

Alternative D

The Bowknot Bend (1,830 acres), Hebes Mountain (960 acres) and North Big Flat Top (190 acres) ACECs (map 14) would cover a total of 2,980 acres. Under alternative D, all three ACECs would be

- closed to mineral leasing;
- closed to disposal of mineral materials;
- closed to 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 or range improvements, except for water control structures and test plots and facilities necessary for study of the relict and near-relict plant communities;
- designated as closed to ORV use.

Alternative E

The Bowknot Bend (1,830 acres) and North Big Flat Top (190 acres) ACECs (map 15) would cover a total of 2,020 acres. Under alternative E, both ACECs would be

- open to mineral leasing with special conditions to prevent surface occupancy;
- closed to disposal of mineral materials;
- open to mineral entry, with plans of operations subject to special conditions on surface use of the ACEC;
- avoided for right-of-way grants;
- excluded from livestock use;
- excluded from private or commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires;
- excluded from land treatments or range improvements, except for test plots and facilities necessary for study of the relict and near-relict plant communities;
- designated as limited for ORV use, with use limited to existing roads and trails.

Alternative F

The Bowknot Bend (1,830 acres) and Big Flat Tops (2,640 acres) ACECs (map 16) would cover a total of 4,470 acres. Under alternative F, both ACECs would be

- closed to mineral leasing and to disposal of mineral materials;
- withdrawn from 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 or 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.

The following display summarizes grazing management actions that would occur under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Maintain the area currently allotted to livestock grazing.	Allot all acreage to livestock grazing.	Allot rangelands to livestock grazing where not needed for wildlife habitat and where grazing does not conflict with nonmotorized recreation opportunities.	Allot rangelands to livestock grazing where it does not conflict with watershed or cultural resources management.	Allot rangelands to livestock grazing where it does not conflict with motorized recreation opportunities.	Allot rangelands to livestock grazing with restrictions to protect critical soils and reduce salinity in the Colorado River.

Allotted to livestock, wildlife, wild horses and burros		Allotted to livestock, wildlife, wild horses and burros		Allotted to livestock, wildlife, wild horses and burros		Allotted to livestock, wildlife, wild horses and burros		Allotted to livestock, wildlife, wild horses and burros		Allotted to livestock, wildlife, wild horses and burros	
SRRA	1,421,880	SRRA	1,430,580	SRRA	1,345,240	SRRA	1,403,390	SRRA	1,418,810	SRRA	1,416,080
FPU	190,240	FPU	190,240	FPU	190,240	FPU	190,240	FPU	190,240	FPU	190,240
Total	1,612,120	Total	1,620,820	Total	1,535,480	Total	1,592,630	Total	1,609,050	Total	1,606,620
Allotted to wildlife		**Allotted to wildlife**		**Allotted to wildlife**		**Allotted to wildlife**		**Allotted to wildlife**		**Allotted to wildlife**	
SRRA	630	SRRA	0	SRRA	52,720	SRRA	630	SRRA	630	SRRA	630
FPU	0	FPU	0	FPU	0	FPU	0	FPU	0	FPU	0
Total	630	Total	0	Total	52,720	Total	630	Total	630	Total	630
Unallotted		**Unallotted**		**Unallotted**		**Unallotted**		**Unallotted**		**Unallotted**	
SRRA	1,730	SRRA	0	SRRA	1,730	SRRA	1,730	SRRA	1,730	SRRA	1,730
FPU	0	FPU	0	FPU	0	FPU	0	FPU	0	FPU	0
Total	1,730	Total	0	Total	1,730	Total	1,730	Total	1,730	Total	1,730
Exclude livestock		**Exclude livestock**		**Exclude livestock**		**Exclude livestock**		**Exclude livestock**		**Exclude livestock**	
SRRA (2)	4,110	SRRA (0)	4,020	SRRA (18)	58,220	SRRA (2)	7,090	SRRA (2)	6,130	SRRA (2)	8,580
FPU (0)	0	FPU (0)	0	FPU (0)	0	FPU (0)	0	FPU (0)	0	FPU (0)	0
Total (2)	4,110	Total (0)	4,020	Total (18)	58,220	Total (2)	7,090	Total (2)	6,130	Total (2)	8,580

Alternative A		Alternative B		Alternative C		Alternative D		Alternative E		Alternative F	
Designate ACECs	acres	Designate ACECs	acres	Designate ACECs	acres	Designate ACECs	acres	Designate ACECs	acres	Designate ACECs	acres
		Bowknot Bend	1,830	Bowknot Bend	1,830	Bowknot Bend	1,830	Bowknot Bend	1,830	Bowknot Bend	1,830
		North Big Flat Top	190	North Big Flat Top	190	North Big Flat Top	190	North Big Flat Top	190	Big Flat Tops	2,640
		San Rafael Reef	43,870	San Rafael Reef	67,520	San Rafael Reef	43,870				
						Hebes Mountain	960				
Total (0)	0	Total (3)	45,890	Total (3)	69,540	Total (4)	46,850	Total (2)	2,020	Total (2)	4,470
Develop and implement grazing management systems. Modify and implement existing AMPs. Develop new AMPs.		Develop and implement grazing management systems. Modify and implement existing AMPs. Develop new AMPs.		Develop and implement grazing management systems. Modify and implement existing AMPs. Develop new AMPs.		Develop and implement grazing management systems. Modify and implement existing AMPs. Develop new AMPs.		Develop and implement grazing management systems. Modify and implement existing AMPs. Develop new AMPs.		Develop and implement grazing management systems. Modify and implement existing AMPs. Develop new AMPs.	
Existing AMPs		Existing AMPs		Existing AMPs		Existing AMPs		Existing AMPs		Existing AMPs	
SRRA (5)		SRRA (16)		SRRA (12)		SRRA (9)		SRRA (16)		SRRA (16)	
FPU (1)		FPU (1)		FPU (1)		FPU (1)		FPU (1)		FPU (1)	
Total (6)		Total (17)		Total (13)		Total (10)		Total (17)		Total (17)	
New AMPs		New AMPs		New AMPs		New AMPs		New AMPs		New AMPs	
SRRA (0)		SRRA (40)		SRRA (21)		SRRA (15)		SRRA (29)		SRRA (27)	
FPU (0)		FPU (4)		FPU (4)		FPU (4)		FPU (4)		FPU (4)	
Total (0)		Total (44)		Total (25)		Total (19)		Total (33)		Total (31)	

(Continued)

Alternative A

Eliminate fall and spring grazing on certain allotments.

Allotments	acres
SRRA (0)	0
FPU (0)	0
Total (0)	0

Allow change in kind of livestock if physiological needs of plants are for sustained yield of forage and resource conflicts do not result.

Exclude change in kind from cattle to domestic sheep.

Allotments	acres
SRRA (0)	0
FPU (0)	0
Total (0)	0

Alternative B

Eliminate fall and spring grazing on certain allotments.

Allotments	acres
SRRA (0)	0
FPU (0)	0
Total (0)	0

Allow change in kind of livestock if physiological needs of plants are for sustained yield of forage and resource conflicts do not result.

Exclude change in kind from cattle to domestic sheep.

Allotments	acres
SRRA (0)	0
FPU (0)	0
Total (0)	0

Alternative C

Eliminate fall and spring grazing on certain allotments.

Allotments	acres
SRRA (63)	1,197,983
FPU (6)	190,240
Total (69)	1,388,223

Allow change in kind of livestock if physiological needs of plants are for sustained yield of forage and resource conflicts do not result.

However, in allotments containing crucial bighorn sheep habitat, no changes from cattle to domestic sheep would be allowed.

Exclude change in kind from cattle to domestic sheep.

Allotments	acres
SRRA (22)	701,440
FPU (2)	140,110
Total (24)	841,550

Alternative D

Eliminate spring grazing on certain allotments.

Allotments	acres
SRRA (79)	1,198,813
FPU (6)	190,240
Total (85)	1,389,053

Allow change in kind of livestock if physiological needs of plants are for sustained yield of forage and resource conflicts do not result.

Exclude change in kind from cattle to domestic sheep.

Allotments	acres
SRRA (0)	0
FPU (0)	0
Total (0)	0

Alternative E

Eliminate fall and spring grazing on certain allotments.

Allotments	acres
SRRA (72)	1,188,723
FPU (6)	190,240
Total (78)	1,378,963

Allow change in kind of livestock if physiological needs of plants are for sustained yield of forage and resource conflicts do not result.

Exclude change in kind from cattle to domestic sheep.

Allotments	acres
SRRA (0)	0
FPU (0)	0
Total (0)	0

Alternative F

Eliminage spring grazing on certain allotments.

Allotments	acres
SRRA (40)	597,300
FPU (3)	110,670
Total (43)	707,970

Allow change in kind of livestock if physiological needs of plants are for sustained yield of forage and resource conflicts do not result.

Exclude change in kind from cattle to domestic sheep.

Allotments	acres
SRRA (0)	0
FPU (0)	0
Total (0)	0

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Manage rangelands to produce livestock forage and develop water sources to meet active preference.	Manage rangelands to produce livestock forage and develop water sources to meet total preference.	Manage rangelands to allow for livestock use where it does not conflict with nonmotorized recreation opportunities or wildlife habitat uses.	Manage rangelands to allow for livestock use where it does not conflict with watershed or cultural resource management.	Manage rangelands to allow for livestock use where it does not conflict with motorized recreation opportunities.	Manage rangelands to produce livestock forage and water to meet current demand so long as certain cultural, riparian, watershed values and crucial wildlife habitats are protected; exclude rangeland use in areas of designated cultural values.

5-year average AUMs		5-year average AUMs		5-year average AUMs		5-year average AUMs		5-year average AUMs		5-year average AUMs	
SRRA	48,636	SRRA	86,078	SRRA	38,904	SRRA	24,980	SRRA	47,577	SRRA	48,959
FPU	7,525	FPU	9,928	FPU	6,476	FPU	3,702	FPU	7,525	FPU	6,792
Total	56,161	Total	96,006	Total	45,380	Total	28,682	Total	55,102	Total	55,751

Active preference AUMs		Active preference AUMs		Active preference AUMs		Active preference AUMs		Active preference AUMs		Active preference AUMs	
SRRA	78,164	SRRA	86,078	SRRA	64,409	SRRA	39,624	SRRA	77,150	SRRA	77,999
FPU	9,378	FPU	9,928	FPU	8,349	FPU	4,634	FPU	9,378	FPU	8,199
Total	87,542	Total	96,006	Total	72,758	Total	44,258	Total	86,528	Total	86,198

Suspended nonuse AUMs		Suspended nonuse AUMs		Suspended nonuse AUMs		Suspended nonuse AUMs		Suspended nonuse AUMs		Suspended nonuse AUMs	
SRRA	103,520	SRRA	111,464	SRRA	89,795	SRRA	65,010	SRRA	102,536	SRRA	103,385
FPU	9,378	FPU	9,928	FPU	8,349	FPU	4,634	FPU	9,378	FPU	8,199
Total	112,928	Total	121,392	Total	98,144	Total	69,644	Total	119,914	Total	111,584

Alternative A

Construct rangeland improvements to improve livestock distribution and forage utilization.

Livestock waters

SRRA	(12)
FPU	(12)
Total	(24)

Fences (miles)

SRRA	(12)
FPU	(12)
Total	(24)

Vegetation manipulation

	acres
SRRA	0
FPU	0
Total	0

Alternative B

Construct rangeland improvements to improve livestock distribution and forage utilization.

Livestock waters

SRRA	(101)
FPU	(9)
Total	(110)

Fences (miles)

SRRA	(70)
FPU	(10)
Total	(80)

Vegetation manipulation

	acres
SRRA	0
FPU	2,000
Total	2,000

Alternative C

Construct rangeland improvements to improve livestock distribution and forage utilization.

Livestock waters

SRRA	(0)
FPU	(0)
Total	(0)

Fences (miles)

SRRA	(0)
FPU	(0)
Total	(0)

Vegetation manipulation

	acres
SRRA	0
FPU	2,000
Total	2,000

Alternative D

Construct rangeland improvements to improve livestock distribution and forage utilization.

Livestock waters

SRRA	(0)
FPU	(0)
Total	(0)

Fences (miles)

SRRA	(0)
FPU	(0)
Total	(0)

Vegetation manipulation

	acres
SRRA	0
FPU	0
Total	0

Alternative E

Construct rangeland improvements to improve livestock distribution and forage utilization.

Livestock waters

SRRA	(12)
FPU	(12)
Total	(24)

Fences (miles)

SRRA	(12)
FPU	(12)
Total	(24)

Vegetation manipulation

	acres
SRRA	0
FPU	2,000
Total	2,000

Alternative F

Construct rangeland improvements to improve livestock distribution and forage utilization.

Livestock waters

SRRA	(12)
FPU	(12)
Total	(24)

Fences (miles)

SRRA	(36)
FPU	(24)
Total	(60)

Vegetation manipulation

	acres
SRRA	0
FPU	0
Total	0

4331 CULTURAL RESOURCE MANAGEMENT

Management Common to All Alternatives

Potential cultural resources will be evaluated, and identified resources will be protected as required by law, regulation, and policy. Consultation with 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 prior to 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.

To protect historic values with Temple Mountain, Tomsich Butte, and Copper Globe Historic Districts, an intensive data recovery program will be initiated. The program will 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 will be initiated. The program will identify the archaeological values and their spacial, temporal, and cultural relationships.

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 would 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:

(1) proportional representation of site types;

(2) sites that are currently in the best condition;
(3) sites located in areas with few current surface use conflicts;
(4) sites nominated by cultural resource professionals or other interested parties as having values that need to be conserved for the future;
(5) samples of large linear features, such as historic trails (the feature need not be conserved in total); and
(6) 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:

(1) 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);

(2) to provide sufficient supervision to protect both the public and the scientific values of these sites;

(3) where there are conflicts between the protection needs of these values, to mitigate impacts to scientific values before the site is turned over to public use;

(4) to emphasize the concerns of specific cultural or social groups in managing sites needed for religious or culturally important uses;

(5) 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 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.

Information Potential

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

(1) to make all sites in this category available for research;

(2) to protect these sites until they have been appropriately studied;

(3) to ensure that all study is guided by an appropriate research design;

(4) to mitigate conflicts with other resource uses by appropriate study.

BLM will determine what is appropriate study.

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

Management Under the Alternatives

Under alternatives B, C, D, E, and F, special management conditions have been developed for ACECs that would be administered under the cultural resource management program. All cultural resource ACECs would be designated for one of the three use categories discussed above.

Special Management Designations

The areas that would be designated under each alternative, along with the special management conditions that would apply to the specific ACECs under that alternative, are shown here.

Alternative B

The I-70 Pictographs ACEC (map 12), three separate tracts covering a total of 30 acres, would be designated for public values. 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. Under alternative B, the ACEC would be

- closed to mineral leasing;
- closed to disposal of mineral materials;
- withdrawn from 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.

Alternative C

The I-70 pictographs (30 acres) would be designated as a special emphasis area to be managed for public values within the I-70 Scenic Corridor ACEC (described under 4333, visual resource management (VRM)). The Dry Lake Archaeological District ACEC (16,990 acres) and the Temple Mountain and Tomsich Butte Historic District ACECs (4,700 acres) would be designated for information. The three ACECs and the special emphasis area would cover a total of 21,720 acres, all within SRRA (map 13). Special conditions would protect these values from surface disturbance which could destroy or diminish their values.

Under alternative C, the I-70 pictographs special emphasis area of the I-70 Scenic Corridor ACEC would be protected and interpreted for public use. 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. In addition to the special conditions given for the I-70 Scenic Corridor ACEC, the special emphasis area would be

- 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.

Under alternative C, the Dry Lake Archaeological District ACEC would be designated to protect the information values of Paleo-Indian sites thought to be present. The ACEC would be

- open to mineral leasing with special conditions to prevent surface occupancy;
- closed to disposal of mineral materials;
- 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 land treatments and range improvements, except for wildlife habitat improvements;
- designated as closed to ORV use.

Temple Mountain and Tomsich Butte Historic District ACECs would be designated to protect the information values of historic mining use thought to be present. No historic structures will be disturbed until features have been recorded. Under alternative C, the Temple Mountain ACEC would be

- open to mineral leasing with special stipulations to prevent surface occupancy;
- closed to disposal of mineral materials;
- 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 land treatments and range improvements except for wildlife habitat improvements;
- designated as closed to ORV use.

The Tomsich Butte ACEC overlies the Muddy Creek ACEC administered under program 4333, VRM; it would also be managed under the special conditions given for ROS P-class areas under 4333, Recreation. In addition to special conditions for Muddy Creek ACEC and ROS P-class areas under alternative C, Tomsich Butte ACEC would be excluded from development of range improvements and historic structures would be protected from disturbance until they have been recorded.

Alternative D

The Pictographs (40 acres), Copper Globe Mine (220 acres), and Swasey Cabin (220 acres) would be designated to be managed for public values. Dry Lake Archaeological District ACEC (16,990 acres) and the Temple Mountain (2,660 acres) and Tomsich Butte (2,040 acres) Historic District ACECs would be designated for information. The Little Black Mountain ACEC (2,160 acres) would be designated for conservation. The seven ACECs administered under the cultural resource management program would cover a total of 24,330 acres, all within SRRA (map 14). Special conditions would protect these values from surface disturbance which could destroy or diminish their values.

The Pictographs ACEC would be protected and interpreted for public use. The area, which includes the I-70 pictographs and the Rochester Rock Art sites, would be protected from all surface-disturbing activities. 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. Under alternative D, the area would be

- closed to mineral entry;
- closed to disposal of mineral materials;
- withdrawn from 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.

The Dry Lake Archaeological District ACEC would be designated to protect the information values of Paleo-Indian sites thought to be present. Under alternative D, the ACEC would be

- closed to mineral leasing;
- closed to disposal of mineral materials;
- withdrawn from 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 and range improvements except for water control structures that would protect cultural resources;
- excluded from land treatments and range improvements, except for water control structures where these would protect cultural resource values;
- designated as closed to ORV use.

The Temple Mountain and Tomsich Butte Historic District ACECs would be designated to protect the public values of historic mining use thought to be present. Under alternative D, both areas would be

- closed to mineral leasing;
- closed to disposal of mineral materials;
- withdrawn from 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 water control structures where these would protect cultural resource values;
- designated as closed to ORV use.

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

- closed to mineral leasing;
- closed to disposal of mineral materials;
- withdrawn from mineral entry;
- excluded from right-of-way grants;
- excluded from private or commercial use of woodland products, but available for 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 water 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;

The Little Black Mountain ACEC would be designated to protect the geologic feature found in the igneous intrusive landform: exposed dikes and sills of black basalt. Under alternative D, the ACEC would be

- closed to mineral leasing;
- closed to disposal of mineral materials;
- closed to 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;
- designated as closed to ORV use.

Alternative E

The I-70 pictographs (30 acres) would be designated as a special emphasis area to be managed for public values within the I-70 Scenic Corridor ACEC (described under 4333, VRM). Dry Lake Archaeological District ACEC (16,990 acres) and the Temple Mountain (2,660 acres) and Tomsich Butte (2,040 acres) Historic District ACECs would be designated for information. The special emphasis area and the three ACECs administered under the cultural resource management program would cover a total of 21,720 acres, all within SRRA (map 15). Special conditions would protect these values from surface disturbance which could destroy or diminish their values.

The I-70 pictographs special emphasis area of the I-70 Scenic Corridor ACEC would be protected and interpreted for public use. 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. In addition to the special conditions given for the I-70 Scenic Corridor ACEC under alternative E, the special emphasis area would be

- 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 cultural resource values.

The Dry Lake Archaeological District ACEC would be designated to protect the information values of Paleo-Indian sites thought to be present. Under alternative E, the ACEC would be

- open for mineral leasing with special conditions to prevent surface occupancy;
- closed to disposal of mineral materials;
- 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 land treatments and range improvements
- designated as limited for ORV use, with use limited to existing roads and trails.

Temple Mountain and Tomsich Butte Historic District ACECs would be designated to protect the information values of historic mining use thought to be present. Under alternative E, both ACECs would be

- open to mineral leasing with special conditions to prevent surface occupancy;
- closed to disposal of mineral materials;
- 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 land treatments and range improvements;
- designated as limited for ORV use, with use limited to existing roads and trails.

Alternative F

The Pictographs (I-70 and Rochester, 40 acres) and the Copper Globe Mine (220 acres) and Swasey Cabin (220 acres) ACECs would be designated for public values (described under 4333, VRM). Dry Lake Archaeological District ACEC (16,990 acres) and the Temple Mountain Historic District ACEC (2,660 acres) and Tomsich Butte Historic District special emphasis area (2,040 acres) within the Muddy Creek ACEC would be designated for information. The six ACECs administered under the cultural resource management program would cover a total of 22,170 acres, all in SRRA (map 16).

The Pictograph 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. Under alternative F, the area would be

- closed to mineral leasing;
- closed to disposal of mineral materials;
- withdrawn from 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 to ORV use, with use limited to designated roads and trails.

The Copper Globe Mine ACEC would be designated to protect the public values of historic mining use thought to be present. Under alternative F, the ACEC would be

- closed to mineral leasing;
- closed to disposal of mineral materials;
- withdrawn from 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 water 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.

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

- closed to mineral leasing;
- closed to disposal of mineral materials;
- withdrawn from mineral entry;
- excluded from right-of-way grants;
- excluded from private or commercial use of woodland products, but available for 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 water 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;

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 disturbance or damage to the surface which could adversely affect those values. Under alternative F, the ACEC would be

- open to mineral leasing subject to the special conditions;
- 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.

The Temple Mountain Historic District ACEC and the Tomsich Butte Historic District special emphasis area within the Muddy Creek 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.

Under alternative F, Temple Mountain Historic District ACEC would be

- open to mineral leasing subject to special conditions;
- 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 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.

Tomsich Butte Historic District would be managed as a special emphasis area within the Muddy Creek ACEC (discussed under 4333, recreation). In addition to the special conditions for Muddy Creek ACEC given under alternative F, within the special emphasis area no historic structures would be disturbed until features have been recorded.

The following display summarizes cultural resource management actions that would occur under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A		Alternative B		Alternative C		Alternative D		Alternative E		Alternative F	
Do not manage special properties.		Designate and manage 1 ACEC (without limiting livestock or mineral uses).		Designate and manage 4 ACECs (without limiting nonmotorized recreation opportunities or wildlife habitat).		Designate and manage 7 ACECs.		Designate and manage 4 ACECs (without limiting motorized recreation opportunities).		Designate and manage 6 ACECs	
ACEC	acres	ACEC	acres	ACEC	acres	ACEC	acres	ACEC	acres	ACEC	acres
				Dry Lake Archaeological District (Information)	16,990	Dry Lake Archaeological District (Information)	16,990	Dry Lake Archaeological District (Information)	16,990	Dry Lake Archaeological District (Information)	16,990
		I-70 Pictographs (Public Value)	30	I-70 Pictographs (Public Value)	30			I-70 Pictographs (Public Value)	30		
						Pictographs (Public Value)	40			Pictographs (Public Value)	40
				Temple Mountain Historic District (Information)	2,660	Temple Mountain Historic District (Information)	2,660	Temple Mountain Historic District (Information)	2,660	Temple Mountain Historic District (Information)	2,660
				Tomsich Butte Historic District (Information)	2,040	Tomsich Butte Historic District (Information)	2,040	Tomsich Butte Historic District (Information)	2,040	Tomsich Butte Historic District (Information)	2,040
						Little Black Mountain (Conservation)	2,160				
						Copper Globe (Public Value)	220			Copper Globe (Public value)	220
						Swasey Cabin (Public Value)	220			Swasey Cabin (Public Value)	220
Total	0	Total	30	Total	21,720	Total	24,330	Total	21,720	Total	22,170

4332 WILDERNESS MANAGEMENT

Management Common to All Alternatives

SRRA contains one ISA and all or part of seven WSAs, listed in chapter 1 (table 8 and map 10). 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.

Management Under the Alternatives

The following display shows how each area under wilderness review would be managed under the alternatives if Congress releases it from review without designating it as wilderness. Refer to volume 1 for management under the proposed RMP.

Wilderness Study Area Number and Name	Acres	Management under the Alternatives					
		A	B	C	D	E	F
ISA, Link Flats	912	IMP	Standard surface use	ACEC 912	ACEC 912	ROS SPM class	Standard surface use
UT-060-007, Muddy Creek	31,400	IMP	Standard surface use	ACEC 27,640	ACEC 13,690	ACEC 13,580	ACEC 13,690
UT-060-023, Sids Mountain Complex	80,530	IMP ACEC 3,950	Standard surface use	ACEC 73,460	ACEC 73,460	ACEC 15,670 N1/2 Crucial bighorn sheep habitat; S1/2 Standard surface use	ACEC 67,680
UT-060-025, Devils Canyon	9,610	IMP	Standard surface use	ACEC 7,520	ACEC 7,520	ACEC 1,620	ACEC 1,620
UT-060-028A, Crack Canyon	25,315	IMP	Standard surface use	ACEC 22,690	ACEC 20 critical watershed	ACEC 20 Crucial bighorn sheep habitat	ACEC 22,640
UT-060-029A, San Rafael Reef	55,540	IMP ACEC 650	ACEC 39,790 standard surface use	ACEC 44,900	ACEC 40,440	ACEC 650 N1/2 Crucial bighorn sheep habitat; S1/2 Standard surface use	ACEC 39,910
UT-060-045, Horseshoe Canyon	20,500	IMP	ACEC, 2,830 standard surface use	ACEC 1,830 P ROS class	ACEC 1,830 critital watershed	ACEC 1,830 Standard surface use	ACEC, 1,830 Critical soils area
UT-060-054, Mexican Mountain	[a]29,000	IMP	Standard surface use	ACEC 25,300	ACEC 25,300	ACEC 25,300	ACEC 16,160
TOTAL	252,807						

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 shown under alternatives A through F lie within the boundary of the indicated WSA.

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

4333 RECREATION MANAGEMENT

Management Common to All Alternatives

Two public land areas, San Rafael Swell and Labyrinth Canyon (map 55), are managed as SRMAs in recognition of intensive recreation 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.

SRRA will continue to manage recreation use of the Green River in conjunction with the Grand Resource Area, Moab District, BLM.

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 1982 Nationwide Rivers Inventory (NRI) [NPS, 1982], NPS lists the Green River and the San Rafael River 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. These river segments are shown on map 56. 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 will also be subject to restrictions developed in the RMP.

Management Under the Alternatives

Cooperative Agreements

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

Alternative E. The Temple Mountain Bike Trail (1,900 acres) would be managed to protect motorized recreational opportunities. Under alternative E, the area would be

- closed to mineral leasing;
- closed for disposal of mineral materials;
- withdrawn from mineral entry;
- excluded from right-of-way grants;
- excluded from private or commercial use of woodland products, except for collection of live or downed dead wood for campfires;
- excluded from livestock use;
- excluded from land treatments and range improvements.

Developed Recreation Sites

BLM will continue to manage the following recreation sites: San Rafael Campground, Buckhorn Pictographs, Cattleguard Pictographs, and Swasey Cabin Historic Site (map 57). Consistent with the goal of each alternative, recreation facilities on developed recreation sites would be protected to the greatest extent possible or moved to a different location.

Alternative A. Existing developed recreation sites would be

- open for mineral leasing with special conditions to prevent surface occupancy;

- excluded from private or commercial use of woodland products, including collection of live or downed dead wood for campfires;
- closed to livestock use;
- excluded from land treatments and range improvements, except for development of watershed control structures where necessary to protect recreation sites.

Alternatives B, C, D, E, and F. Three new recreation sites (20 acres each, map 57) would be developed: The Wedge Overlook, Justensen Flats Campground, and Tomsich Butte Campground. Developed campsites would include picnic tables, fire rings, and rest rooms. Developed recreation sites would be

- closed to mineral leasing;
- closed to disposal of mineral materials;
- withdrawn from 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.

Recreation Opportunity Spectrum Classes

ROS classes have been identified based on inventory work (map 58). 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). Under alternatives A, B, and F, therefore, no attempt would be made to manage for specific ROS class areas.

Alternative C. A total of 763,260 acres would be managed for recreation opportunities at the primitive end of the spectrum.

SPM class areas (593,880 acres) would be managed to provide a predominantly natural landscape where evidence of human use is subtle. Special conditions for SPM class areas subject to surface disturbance would be revegetated to blend with surrounding conditions within 2 years of project completion and may require new access routes to be reclaimed or to remain open for improved recreation access, as determined on a case-by-case basis. Actions may be taken to maintain user concentrations at low levels. Under alternative C, SPM class areas would be

- open to mineral leasing, with special conditions;
- open for 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 grazing use during the spring and fall;
- excluded from land treatments and range improvements, except for wildlife habitat improvements;
- designated as limited for ORV use, with use limited to designated roads and trails;
- managed as VRM class II.

Semiprimitive nonmotorized (SPNM) class areas (153,530 acres) would be managed so as to provide a predominantly natural landscape where evidence of human use is limited. SPNM class areas subject to surface disturbance would be revegetated to blend with surrounding conditions within 2 years of project completion (except for wildlife habitat improvements). New access routes would be reclaimed. Actions may be taken to limit use levels to maintain an environment of isolation (not more than 10 encounters per day) or to maintain natural ecosystems. Under alternative C, SPNM class areas would be

- closed to mineral leasing;
- closed to disposal of mineral materials;
- withdrawn from 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 during the spring and fall;
- excluded from land treatments and range improvements except for wildlife habitat improvements;
- designated as closed to ORV use;
- managed as VRM class I;
- subject to conditional fire suppression, with motorized suppression methods used only if necessary to protect life or property, and with reclamation to meet special conditions.

P-class areas (15,850 acres) would be managed to be essentially free of evidence of human use. P-class areas subject to surface disturbance would be revegetated to blend with surrounding conditions within 1 year of project completion (except for wildlife habitat improvements). New access routes would be reclaimed. Actions may be taken to limit use levels to maintain an environment of isolation (not more than 6 encounters per day) or to maintain natural ecosystems. Under alternative C, P-class areas would be

- closed to mineral leasing;
- closed to disposal of mineral materials;
- withdrawn from 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 during the spring and fall;
- excluded from land treatments and range improvements except for wildlife habitat improvements where P-class values would be maintained or improved;
- designated as closed to ORV use;
- managed as VRM class I;
- subject to conditional fire suppression, with motorized suppression methods used only if necessary to protect life or property, and with reclamation to meet special conditions.

Alternative D. A total of 63,760 acres would be managed for recreation opportunities at the primitive end of the spectrum.

SPNM class areas (48,050 acres) and P-class areas (15,710 acres) would be managed to provide a predominantly natural landscape where evidence of human use is limited. Such management would minimize surface disturbance of the watershed and protect cultural resource values, while allowing watershed control structures where necessary. SPNM class areas subject to surface disturbance would be revegetated to blend with surrounding conditions within 1 year of project completion. New access routes would be reclaimed. Actions may be taken to limit use levels to maintain an environment of isolation (not more than 10 encounters per day) or to maintain natural ecosystems. Under alternative D, SPNM class areas and P-class areas would be

- closed to mineral leasing;
- closed to disposal of mineral materials;
- withdrawn from 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;
- available for land treatment, livestock-related range improvements, and wildlife habitat improvements only if necessary to maintain active preference and adequate distribution of livestock;
- available for watershed control structures;
- designated as closed to ORV use;
- managed as VRM class I;
- subject to conditional fire suppression, with motorized suppression methods used only if necessary to protect life or property, and with reclamation to meet special conditions.

Alternative E. A total of 700,520 acres would be managed for SPM class recreation opportunities.

SPM class areas would be managed to provide a predominantly natural landscape where evidence of human use is subtle. Such management would protect values incidental to motorized recreation opportunities. Special conditions for SPM class areas subject to surface disturbance would be revegetated to blend with surrounding conditions within 2 years of project completion and may require new access routes to be reclaimed or remain open for improved recreation access, as determined on a case-by-case basis. Actions may be taken to maintain user concentrations at low levels. Under alternative E, SPM class areas would be

- open to mineral leasing with special conditions;
- open to disposal of mineral materials with special conditions;
- 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 grazing use during spring and fall;
- managed as VRM class II;
- subject to conditional fire suppression, and with reclamation to meet special conditions.

Off-Road Vehicle Use Designations

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.

The ORV designations do not distinguish between recreational and non-recreational 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.

ORV designations under alternatives B, C, D, E, and F, (maps 59, 60, 61, 62, and 63) would be made for several different purposes, according to the goal of the specific alternative. ORV use designations under the alternatives, along with the resource values that would be protected, are listed here.

Alternative A	Acres	Total
Open to ORV use		1,539,190

Alternative B	Acres	Total
Limited to existing roads and trails		1,493,230
to protect range values	1,491,450	
to protect existing land leases	1,780	
Limited to designated roads and trails		43,940
to protect developed recreation sites	40	

Alternative B (Concluded)	Acres	Total
to protect ACECs	43,900	
Closed to ORV use		2,020
to protect ACECs	2,020	

Alternative C	Acres	Total
Open to ORV use		194,640
Open to ORV use with seasonal restrictions		246,700
to protect crucial wildlife habitat:		
-bighorn sheep lambing areas (03/16 to 04/01) and rutting areas (10/16 to 01/31)	24,400	
-antelope fawning area (05/15 to 07/15)	129,500	
-deer and elk winter range (12/14 to 04/30)	92,800	
Limited to designated roads and trails		606,110
to protect existing land leases	1,690	
to protect recreation values		
-developed recreation sites	70	
-ROS class areas	593,810	
to protect riparian and aquatic habitat	10,540	
Closed to ORV Use		491,740
to protect recreation values		
-ROS P-class areas	15,850	
-ROS SPNM class areas	153,530	
to protect ACECs	320,540	

Alternative D	Acres	Total
Open to ORV use		172,360
Open to ORV use with seasonal restrictions		84,770
to protect crucial wildlife habitat:		
-bighorn sheep lambing areas (03/16 to 04/01) and rutting areas (10/16 to 01/31)	13,260	
-antelope fawning area (05/15 to 07/15)	63,450	
-deer and elk winter range (12/14 to 04/30	11,540	
Limited to designated roads and trails		840
to protect existing land leases	800	
to protect recreation values		
-developed recreation sites	40	

Alternative D (Concluded)	Acres	Total
Closed to ORV use		1,281,220
to protect recreation values		
-ROS P-class areas	15,710	
-ROS SPNM class areas	48,050	
to protect riparian and aquatic habitat	1,600	
to protect ACECs	300,080	
to protect critical watersheds	915,780	

Alternative E	Acres	Total
Open to ORV use		1,380,870
Limited to existing roads and trails		156,910
to protect ACECs	156,910	
Limited to designated roads and trails		1,410
to protect existing land leases	1,340	
to protect developed recreation sites	70	

Alternative F	Acres	Total
Open to ORV use		761,820
Open to ORV use with seasonal restrictions		61,060
to protect crucial wildlife habitat:		
-bighorn sheep lambing areas (03/16 to 04/01) and rutting areas (10/16 to 01/31)	31,580	
-deer and elk winter range (12/14 to 04/30)	29,480	
Limited to designated roads and trails		711,840
to protect existing land leases	1,780	
to protect developed recreation sites	70	
to protect riparian and aquatic habitat	7,180	
to protect ACECs	269,600	
to protect critical soils	433,210	
Closed to ORV use		4,470
to protect ACECs	4,470	

The following display summarizes recreation management actions that would occur under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Continue present management of RMAs and existing developed recreation sites.	Manage RMAs and developed recreation sites so that livestock and mineral uses are not limited.	Manage RMAs and developed recreation sites so nonmotorized recreation opportunities and wildlife habitat uses are not limited.	Manage RMAs and developed recreation sites so that watershed and cultural resources are protected.	Manage RMAs and developed recreation sites so that motorized recreation opportunities are not limited.	Manage designated RMAs and developed recreation sites, limiting livestock and mineral uses on sites; and develop recreation facilities on designated sites.
Develop campgrounds	**Develop campgrounds**	**Develop campgrounds**	**Develop campgrounds**	**Develop campgrounds**	**Develop campgrounds**
(None) 0	(None) 0	The Wedge 20	(None) 0	The Wedge 20	The Wedge 20
		Justensen Flats 20		Justensen Flats 20	Justensen Flats 20
		Tomsich Butte 20		Tomsich Butte 20	Tomsich Butte 20
Do not manage for specific ROS classes.	Do not manage for specific ROS classes.	Manage lands to increase areas available for P and SPNM opportunities.	Manage for specific ROS classes in designated areas.	Manage lands to increase areas available for SPM and RN opportunities.	Do not manage lands for specific ROS classes.
ROS class total	**ROS class total**	**ROS class total**	**ROS class total**	**ROS class total**	**ROS class total**
SRRA 0	SRRA 0	SRRA 748,210	SRRA 63,760	SRRA 656,950	SRRA 0
FPU 0	FPU 0	FPU 15,050	FPU 0	FPU 43,570	FPU 0
Total 0	Total 0	Total 763,260	Total 63,760	Total 700,520	Total 0
P class area	**P class area**	**P class area**	**P class area**	**P class area**	**P class area**
SRRA 0	SRRA 0	SRRA 15,850	SRRA 15,710	SRRA 0	SRRA 0
FPU 0	FPU 0	FPU 0	FPU 0	FPU 0	FPU 0
Total 0	Total 0	Total 15,850	Total 15,710	Total 0	Total 0
SPNM class area	**SPNM class area**	**SPNM class area**	**SPNM class area**	**SPNM class area**	**SPNM class area**
SRRA 0	SRRA 0	SRRA 153,530	SRRA 48,050	SRRA 0	SRRA 0
FPU 0	FPU 0	FPU 0	FPU 0	FPU 0	FPU 0
Total 0	Total 0	Total 153,530	Total 48,050	Total 0	Total 0

(Continued)

SPM class area	
SRRA	0
FPU	0
Total	0

Continue to leave all areas open to ORV use.

Open to ORV use	
SRRA	1,463,840
FPU	75,350
Total	1,539,190

Open with seasonal restrictions	
SRRA	0
FPU	0
Total	0

Limited to existing roads & trails	
SRRA	0
FPU	0
Total	0

Limited to designated roads & trails	
SRRA	0
FPU	0
Total	0

Closed to ORV use	
SRRA	0
FPU	0
Total	0

SPM class area	
SRRA	0
FPU	0
Total	0

Designate all areas as open to ORV use unless limited to protect livestock.

Open to ORV use	
SRRA	0
FPU	0
Total	0

Open with seasonal restrictions	
SRRA	0
FPU	0
Total	0

Limited to existing roads & trails	
SRRA	1,417,880
FPU	75,350
Total	1,493,230

Limited to designated roads & trails	
SRRA	43,940
FPU	0
Total	43,940

Closed to ORV use	
SRRA	2,020
FPU	0
Total	2,020

SPM class area	
SRRA	578,830
FPU	15,050
Total	593,880

Designate areas as open to ORV use only where nonmotorized recreation opportunities or wildlife habitat uses would not be limited.

Open to ORV use	
SRRA	182,380
FPU	12,260
Total	194,640

Open with seasonal restrictions	
SRRA	203,480
FPU	43,220
Total	246,700

Limited to existing roads & trails	
SRRA	0
FPU	0
Total	0

Limited to designated roads & trails	
SRRA	588,940
FPU	17,170
Total	606,110

Closed to ORV use	
SRRA	489,040
FPU	2,700
Total	491,740

SPM class area	
SRRA	0
FPU	0
Total	0

Designate areas as open to ORV use only where watershed or cultural resources management would not be limited.

Open to ORV use	
SRRA	168,540
FPU	3,820
Total	172,360

Open with seasonal restrictions	
SRRA	77,170
FPU	7,600
Total	84,770

Limited to existing roads & trails	
SRRA	0
FPU	0
Total	0

Limited to designated roads & trails	
SRRA	840
FPU	0
Total	840

Closed to ORV use	
SRRA	1,217,290
FPU	63,930
Total	1,281,220

SPM class area	
SRRA	656,950
FPU	43,570
Total	700,520

Designate all areas as open to ORV use unless limited to protect motorized recreation opportunities (scenic values).

Open to ORV use	
SRRA	1,307,720
FPU	72,650
Total	1,380,370

Open with seasonal restrictions	
SRRA	0
FPU	0
Total	0

Limited to existing roads & trails	
SRRA	154,210
FPU	2,700
Total	156,910

Limited to designated roads & trails	
SRRA	1,410
FPU	0
Total	1,410

Closed to ORV use	
SRRA	0
FPU	0
Total	0

SPM class area	
SRRA	0
FPU	0
Total	0

Designate specific areas as open to ORV use, open with seasonal restrictions, limited to designated roads and trails, or closed to ORV use.

Open to ORV use	
SRRA	711,680
FPU	50,140
Total	761,820

Open with seasonal restrictions	
SRRA	44,530
FPU	16,530
Total	61,060

Limited to existing roads & trails	
SRRA	0
FPU	0
Total	0

Limited to designated roads & trails	
SRRA	703,140
FPU	8,700
Total	711,840

Closed to ORV use	
SRRA	4,470
FPU	0
Total	4,470

4333 VISUAL RESOURCE MANAGEMENT

Management Common to All Alternatives

VRM class areas on public lands in the planning area have been identified based on inventory work. 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 conform with VRM class objectives on a case-by-case basis.

Management Under the Alternatives

With differing levels of emphasis on production or protection of other resources, the acreage in each VRM class would vary by alternative. VRM designations, by alternative, are shown on maps 64, 65, 66, 67, and 68.

Special Management Designations

Under alternatives A, C, D, E, and F, certain areas would be designated as ACECs to protect visual resources. No such designation is identified under alternative B. The areas that would be designated under each alternative, along with the special management conditions that would apply to the specific ACECs under that alternative, are shown here.

Alternative A

The I-70 Scenic Corridor ACEC (52,150 acres, within both SRRA and FPU), would be designated as an ACEC to protect scenic values. The area was identified for special management in both existing MFPs [BLM, 1977a; BLM, 1979a], both of which predate current ACEC policy. Although the corridor has not been formally designated as an ACEC, it is considered as such here for comparison of alternatives (map 11). Under alternative A, the I-70 Scenic Corridor ACEC would be

- closed to oil and gas leasing in the vicinity of San Rafael Reef, south of Mexican Mountain, south of Sids Mountain, north of Cat Canyon, and north Muddy Creek; in the remainder of the area (and for other types of mineral leasing throughout the area), open for mineral leasing with special conditions to prevent surface occupancy;
- 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 and commercial use of woodland products, except for limited onsite collection of downed dead wood for campfires;
- managed as VRM classes II, III, and IV.

Alternative C

The I-70 Scenic Corridor (52,150 acres), Muddy Creek (22,540 acres), San Rafael Canyon (58,510 acres), San Rafael Reef (67,520 acres), Segers Hole (7,120 acres), Sids Mountain (89,060 acres), and Gilson Buttes (1,750 acres) ACECs, within both SRRA and FPU, would cover a total of 298,650 acres (map 13). Under alternative C, all seven scenic quality ACECs would be managed under the special conditions given earlier for ROS P-class areas (see 4333, recreation).

Alternative D

The I-70 Scenic Corridor (52,130 acres), Muddy Creek (22,540 acres), San Rafael Canyon (58,510 acres), San Rafael Reef (43,870 acres), Segers Hole (7,120 acres), Sids Mountain (89,060 acres), and Gilson Buttes (1,750 acres) ACECs, within both SRRA and FPU, would cover a total of 274,980 acres (map 14). Under alternative D, all seven scenic quality ACECs would be

- closed to mineral leasing;
- closed to disposal of mineral materials;
- withdrawn from 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;
- excluded from land treatments;
- closed to ORV use;
- managed as VRM class I;
- subject to fire suppression methods that exclude motorized earth-moving equipment.

Alternative E

The I-70 Scenic Corridor (52,150 acres), Muddy Creek (22,540 acres), and San Rafael Canyon (58,510 acres), within both SRRA and FPU, would cover a total of 133,200 acres (map 15). Under alternative E, all three scenic quality ACECs would be

- open for mineral leasing with special conditions to prevent surface occupancy;
- closed to disposal of mineral materials;
- open to mineral entry, with plans of operation;
- 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;
- excluded from land treatments;
- designated as limited for ORV use, with use limited to existing roads and trails;
- managed as VRM class I;
- subject to conditional fire suppression, with motorized suppression methods used only if necessary to protect life or property, and with reclamation to meet special conditions.

Alternative F

The I-70 Scenic Corridor (52,130 acres), Muddy Creek (22,540 acres, including Tomsich Butte Historic District special emphasis area), San Rafael Canyon (35,240 acres), San Rafael Reef (68,720 acres), Segers Hole (7,120 acres), and Sids Mountain (61,870 acres) ACECs, within both SRRA and FPU, would cover a total of 247,620 acres (map 16). No-surface-occupancy stipulations may be waived in areas managed for scenic values if an EA concludes that the proposed action would not adversely impact scenic values.

Under alternative F, the I-70 Scenic Corridor, Muddy Creek, upper and lower San Rafael Canyon, San Rafael Reef, Segers Hole, and Sids Mountain ACECs would be

- open to mineral leasing with special conditions to prevent surface occupancy;
- closed to disposal of mineral materials;
- open to mineral entry, with plans of operations, not the original Sids ACEC;
- 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 conditional fire suppression, with motorized suppression methods used only if necessary to protect life or property, and meet special conditions.

The central portion of the San Rafael Canyon ACEC, which includes The Wedge area and the river canyon from Johansen Cabin to Lockhart Wash (11,000 acres), would be protected to maintain VRM class II values by controlling surface disturbance. Under alternative F, the area would be

- open to mineral leasing subject to special conditions;
- 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 collection of downed dead wood for campfires.
- excluded from livestock grazing within Buckhorn Canyon;
- 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.

The following display summarizes VRM actions that would occur under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A

Maintain MFP objectives for managing visual values and provide project design standards on a case-by-case basis.

Class I	acres
SRRA	0
FPU	0
Total	0

Class II	acres
SRRA	492,230
FPU	4,140
Total	496,370

Class III	acres
SRRA	378,230
FPU	5,040
Total	383,270

Class IV	acres
SRRA	593,380
FPU	66,170
Total	659,550

TOTAL 1,539,190

Alternative B

Establish objectives for managing visual values and provide design standards that do not limit livestock or mineral uses.

Class I	acres
SRRA	0
FPU	0
Total	0

Class II	acres
SRRA	492,230
FPU	4,140
Total	496,370

Class III	acres
SRRA	378,230
FPU	5,040
Total	383,270

Class IV	acres
SRRA	593,380
FPU	66,170
Total	659,550

1,539,190

Alternative C

Establish objectives for managing visual values and provide design standards that do not limit nonmotorized recreation opportunities and wildlife habitat.

Class I	acres
SRRA	469,430
FPU	2,700
Total	472,130

Class II	acres
SRRA	681,540
FPU	44,400
Total	725,940

Class III	acres
SRRA	163,610
FPU	3,240
Total	166,850

Class IV	acres
SRRA	149,260
FPU	25,010
Total	174,270

1,539,190

Alternative D

Establish objectives for managing visual values and provide design standards that do not limit watershed and cultural resources.

Class I	acres
SRRA	427,750
FPU	2,700
Total	430,450

Class II	acres
SRRA	166,780
FPU	1,440
Total	168,220

Class III	acres
SRRA	340,500
FPU	5,040
Total	345,540

Class IV	acres
SRRA	528,810
FPU	66,170
Total	594,980

1,539,190

Alternative E

Establish objectives for managing visual values and provide design standards that protect motorized recreation opportunities.

Class I	acres
SRRA	133,030
FPU	2,700
Total	135,730

Class II	acres
SRRA	915,210
FPU	44,400
Total	959,610

Class III	acres
SRRA	196,350
FPU	3,240
Total	199,590

Class IV	acres
SRRA	219,250
FPU	25,010
Total	244,260

1,539,190

Alternative F

Establish objectives for managing visual values and provide design standards that protect or enhance designated VRM classes.

Class I	acres
SRRA	229,050
FPU	2,700
Total	231,750

Class II	acres
SRRA	286,800
FPU	1,440
Total	288,240

Class III	acres
SRRA	359,000
FPU	5,040
Total	364,040

Class IV	acres
SRRA	588,990
FPU	66,170
Total	655,160

1,539,190

(Continued)

Designate ACECs	acres	Designate ACECs	acres	Designate ACECs	acres	Designate ACECs	acres	Designate ACECs	acres	Designate ACECs	acres
SRRA (1)	49,450	SRRA (0)	0	SRRA (7)	295,950	SRRA (7)	272,280	SRRA (3)	130,500	SRRA (6)	244,920
I-70 Scenic Corridor	49,450			I-70 Scenic Corridor	49,450	I-70 Scenic Corridor	49,430	I-70 Scenic Corridor	49,450	I-70 Scenic Corridor	49,430
				Muddy Creek	22,540	Muddy Creek	22,540	Muddy Creek	22,540	Muddy Creek	22,540
				San Rafael Canyon	58,510	San Rafael Canyon	58,510	San Rafael Canyon	58,510	San Rafael Canyon	35,240
				San Rafael Reef	67,520	San Rafael Reef	43,870			San Rafael Reef	68,720
				Segers Hole	7,120	Segers Hole	7,120			Segers Hole	7,120
				Sids Mountain	89,060	Sids Mountain	89,060			Sids Mountain	61,870
				Gilson Buttes	1,750	Gilson Buttes	1,750				
FPU (1)	2,700	FPU (0)	0	FPU (1)	2,700	FPU (1)	2,700	FPU (1)	2,700	FPU (1)	2,700
I-70 Scenic Corridor	2,700			I-70 Scenic Corridor	2,700	I-70 Scenic Corridor	2,700	I-70 Scenic Corridor	2,700	I-70 Scenic Corridor	2,700
Total (1)	52,150	Total	0	Total	298,650	Total	274,980	Total	133,200	Total	247,620

4341 SOIL, WATER, AND AIR MANAGEMENT

Management Common to All Alternatives

BLM will manage actions on the public lands to protect the soil resource and municipal watersheds. Additionally, BLM 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.

Areas with critical or special soil needs (map 69) have been identified based on unpublished Emery area and Henry Mountain area Soil Conservation Service (SCS) soil surveys (maps 69 and 70). 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 range 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 may be maintained.

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 continue to cooperate with the Bureau of Reclamation (BOR) and SCS on salinity control projects.

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.

Floodplains are managed in accordance with Executive Order 11988. Surface occupancy of floodplains and flood hazard areas will be allowed only where precautions are taken to prevent loss of property or human life. Floodplains will be excluded from construction of permanent structural improvements, except for fences, bridges, and watershed control structures unless no other practical alternative is available.

Floodplains improve bank storage potential, which, in turn, makes more moisture available for riparian vegetation. BLM will protect and preserve riparian areas to benefit the following natural functions:

(1) dissipating stream energy associated with high flows, which reduces erosive forces, allows sediment deposition, and aids in alluvial valley floor and floodplain development;

(2) developing root masses that stabilize stream banks against cutting action;

(3) providing a filter against overland flows that carry sediment and other pollutants;

(4) regulating sunlight on the stream surface which, in turn, regulates the water temperature; and

(5) raising the ground water table.

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 and through best available control technology as part of the state permitting process and any prevention of significant deterioration (PSD) review.

BLM will negotiate with the State of Utah on management of smoke from prescribed fires that could impact class I areas. The mechanism for this negotiation is the June 6, 1988 memorandum of understanding among BLM, USFS, and the State of Utah.

Management Under the Alternatives

With differing levels of emphasis on production or protection of other resources, the acreage available for improvement of watershed conditions or installation of watershed control structures would vary by alternative. Special management designations would be applied to certain areas under alternatives D and F.

Special Management Designations

Alternative D

A total of 915,820 acres would be designated as critical watersheds to protect areas subject to severe wind and water erosion or frequent flooding, high-runoff areas that have a potential for loss of vegetation when disturbed, and saline soils. Critical watershed areas would be managed for the least possible surface disturbance.

Under alternative D, critical watershed areas would be

- closed to mineral leasing;
- closed to disposal of mineral materials;
- withdrawn from 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;
- excluded from grazing in riparian and aquatic areas; in allotments containing critical watershed areas; AUMs would be reduced to 50 percent of existing use;
- excluded from spring grazing;
- available for land treatments or range improvements only where critical watershed, riparian or aquatic values would be maintained or improved;
- closed to ORV use.

Alternative F

A total of 574,320 acres would be designated as critical soils areas to protect soils that are either highly saline or highly susceptible to water erosion. Critical soils areas would be managed to maintain vegetation cover at or above the level necessary to avoid exceeding SCS critical soil loss threshold (appendix N). Management decisions would be based on all data available at that time. Under alternative F, critical soils areas would be

- open to mineral leasing subject to special conditions;
- 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 conditional fire suppression, with motorized suppression methods used only if necessary to protect life or property, and with reclamation to meet special conditions.

The following display summarizes soil, water, and air management actions that would occur under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A

Maintain soil productivity.

Consider developing watershed management plans

	acres
SRRA	1,463,840
FPU	75,350
Total	1,539,190

Maintain or improve watershed condition and water quality.

Acres available

SRRA	1,463,840
FPU	75,350
Total	1,539,190

Acres Excluded

SRRA	0
FPU	0
Total	0

Alternative B

Maintain soil productivity.

Consider developing watershed management plans

	acres
SRRA	1,459,820
FPU	75,350
Total	1,535,170

Maintain or improve watershed condition and water quality where livestock and mineral uses are not limited; work to meet state/federal water quality standards.

Acres available

SRRA	1,459,820
FPU	75,350
Total	1,535,170

Acres Excluded

SRRA	4,020
FPU	0
Total	4,020

Alternative C

Maintain soil productivity where nonmotorized recreation opportunities and wildlife uses are not limited.

Consider developing watershed management plans

	acres
SRRA	395,060
FPU	57,600
Total	452,660

Maintain or improve watershed condition and water quality where nonmotorized recreation opportunities and wildlife uses are not limited; work to meet state/federal water quality standards.

Acres available

SRRA	395,060
FPU	57,060
Total	452,660

Acres Excluded

SRRA	1,068,780
FPU	17,750
Total	1,086,530

Alternative D

Attain maximum soil productivity. Manage critical watershed areas to minimize surface disturbance.

Consider developing watershed management plans

	acres
SRRA	1,463,840
FPU	75,350
Total	1,539,190

Improve watershed condition and water quality in all areas.

Acres available

SRRA	1,463,840
FPU	75,350
Total	1,539,190

Acres Excluded

SRRA	0
FPU	0
Total	0

Alternative E

Maintain soil productivity where motorized recreation opportunities are not limited.

Consider developing watershed management plans

	acres
SRRA	1,440,130
FPU	75,350
Total	1,515,480

Maintain or improve watershed condition and water quality where motorized recreation opportunities are not limited; work to meet state/federal water quality standards.

Acres available

SRRA	1,440,130
FPU	75,350
Total	1,515,480

Acres Excluded

SRRA	23,710
FPU	0
Total	23,710

Alternative F

Maintain soil productivity by adjusting livestock season of use; develop and implement management plans; establish standards for surface-disturbing activities.

Consider developing watershed management plans

	acres
SRRA	1,446,850
FPU	75,350
Total	1,522,200

Maintain or improve watershed condition and water quality by adjusting livestock season of use; develop and implement management plans; construct watershed control structures; establish standards for surface-disturbing activities.

Acres available

SRRA	1,446,850
FPU	75,350
Total	1,522,200

Acres Excluded

SRRA	16,990
FPU	0
Total	16,990

4342 HAZARDOUS WASTE MANAGEMENT

Management Common to All Alternatives

BLM will manage actions on public lands to (1) protect the health and safety of the public, federal land users, and BLM employees; (2) comply with applicable federal and state laws, rules, and orders, within the context of BLM's statutory mission as a federal natural resource manager; and (3) clean up past problems, control current problems, and avoid or minimize future problems of hazardous materials on public lands in a cost-effective manner. At this time (1988), BLM policy regarding hazardous materials management is still being formulated.

Under all six alternatives, BLM would identify active and abandoned hazardous materials sites, if present, on a case-by-case basis and determine if further assessment of potentially hazardous materials is needed.

4351 HABITAT MANAGEMENT

Management Common to All Alternatives

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) and recommend population levels to the Board of Big Game Control. BLM will continue to cooperate with 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 (maps 75 and 76) 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.

Known raptor sites will be protected from human disturbance to the greatest extent possible. All permitted activities and ORV use within 0.5 mile of an active nest site would 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 work in cooperation 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. Re-establishment or augmentation 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 would 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.

Management Under the Alternatives

With differing levels of emphasis on production or protection of other resources, the acreage available for wildlife habitat management would vary by alternative. Livestock use on crucial big game range would continue with adjusted forage use levels being made at the activity plan level or in conjunction with grazing decisions to be issued following completion of 5 years of monitoring.

Protection of Crucial Habitat Areas

Certain crucial habitat areas would be given special protection under alternatives A, C, D, E, and .

Alternative A

Mule Deer and Elk Winter Range. Activities within 97,500 acres (maps 73 and 74) 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. Under alternative A, mule deer and elk winter range would be

- open to mineral leasing with special conditions;
- open to disposal of mineral materials with special conditions;
- open to mineral entry with special conditions where plans of operations are required;
- open to private or commercial use of woodland products with special conditions;
- open to land treatments and range improvements with special conditions;
- closed to ORV use during the seasonal restriction period.

Offsite Mitigation, Big Game Habitat. On the 97,500 acres identified above (maps 73 and 74), when unreclaimed disturbance caused by a user totals more than 10 acres in 2 years, offsite mitigation would be required within the mule deer and elk winter range. This would be in addition to standard reclamation requirements.

The offsite mitigation must be within the known habitat area but it does not have to be 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.

Alternative B

No special conditions would be applied to protect wildlife habitat under alternative B.

Alternative C

Desert Bighorn Sheep. Activities within 200,000 acres (map 71, SRRA only) would be limited during the lambing season (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 area would be managed with special conditions to protect the habitat from deterioration and the animals from interference with lambing. Under alternative C, desert bighorn sheep habitat would be

- open to mineral leasing with special conditions;
- 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;
- closed to ORV use during the seasonal restriction periods.

Antelope Habitat. Activities within 507,000 acres (map 72, SRRA only) would be limited during the fawning period (May 15 to June 15 annually). During this 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). Fawning areas fall within the total habitat acreage given, but have not been mapped separately. Antelope habitat would be managed with special conditions to protect it for antelope use. Under alternative C, antelope habitat would be

- open to mineral leasing with special conditions;
- 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;
- closed to ORV use during the seasonal restriction periods.

Mule Deer and Elk Winter Range. Activities within 98,000 acres (maps 73 and 74) 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 to protect it for deer and elk use. Under alternative C, mule deer and elk winter range would be

- open to mineral leasing with special conditions;
- open to disposal of mineral materials with special conditions;
- open to mineral entry with special seasonal 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;
- open to development of watershed control structures with special conditions;
- closed to ORV use during the seasonal restriction period.

Riparian and Aquatic Habitat. A total of 14,980 acres (maps 75 and 76) 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, stabilization of soils where erosion and leaching of natural salts have decreased riparian habitat quality, limitations on surface-isturbing 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. Under alternative C, riparian and aquatic habitat areas would be

- open to mineral leasing with special stipualtions to prevent surface occupancy 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;
- excluded from construction of livestock-related range improvements;
- designated as limited for ORV use, with use limited to designated roads and trails;
- subject to fire suppression methods which exclude motorized earth-moving equipment and aerial chemical fire retardants;

Offsite Mitigation, Big Game Habitat. On the 805,000 acres identified above (maps 71, 72, 73, and 74), 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. The offsite mitigation must be within the known habitat area and 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.

Alternative D

Desert Bighorn Sheep Crucial Habitat. Activities within 175,000 acres (map 71, SRRA only) would be limited during the lambing season (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). Desert bighorn sheep crucial habitat would be managed with special conditions to protect it from deterioration and the animals from interference with lambing and

rutting. Under alternative D, desert bighorn sheep crucial habitat would be

- open to mineral leasing with special conditions;
- 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;
- closed to ORV use during the seasonal restriction periods.

Antelope Habitat. Use within 507,000 acres (map 72, SRRA only) would be limited during the lambing season (May 15 to June 15 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). Antelope habitat would be managed with special conditions to protect the habitat for antelope use. Under alternative D, antelope habitat would be

- open to mineral leasing with special conditions;
- 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;
- closed to ORV use during the seasonal restriction periods.

Mule Deer and Elk Crucial Winter Range. Activities within 103,900 acres (maps 73 and 74) 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 activities 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. Under alternative D, mule deer and elk crucial winter range would be

- open to mineral leasing with special conditions;
- 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;
- closed for ORV use during the seasonal restriction period.

Riparian and Aquatic Habitat. A total of 15,030 acres (maps 75 and 76) would be inventoried, evaluated, and protected. 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; stabilization of soils 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 abondaned roads and mine tailings; restrictions on placement of erodible material; and cooperation with surface users to reduce surface disturbance. Under alternative D, riparian and aquatic habitat areas would be

- closed to mineral leasing within actual riparian and aquatic habitat areas;
- closed to disposal of mineral materials;
- withdrawn from 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;
- available for land treatments and range improvements only where critical watershed values would be maintained or improved;
- designated as closed to ORV use;
- subject to fire suppression methods which exclude motorized earth-moving equipment and aerial chemical fire retardants.

Alternative E

Desert Bighorn Sheep Crucial Habitat. Activities within 140,000 acres (map 71, SRRA only) would be limited during the lambing season (April 15 to May 31 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). Desert bighorn sheep crucial habitat would be managed with special conditions to protect the habitat from deterioration and the animals from interference with lambing and rutting. Under alternative E, desert bighorn sheep crucial habitat would be

- open to mineral leasing with special conditions;
- 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.

Antelope Habitat. Activities within 506,680 acres (map 72) 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. Under alternative E, antelope habitat would be

- open to mineral leasing with special conditions;
- 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.

Alternative F

Desert Bighorn Sheep Habitat. Activities within 174,590 acres (map 71, SRRA only) would be limited during the lambing season (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). Desert bighorn sheep crucial habitat would be managed with special conditions to protect the habitat from deterioration and the animals from interference with lambing. Under alternative F, desert bighorn sheep crucial habitat would be

- open to mineral leasing with special conditions;
- 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 (map 72) 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. Under alternative F, antelope habitat would be

- open to mineral leasing with special conditions;
- 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 55,720 acres (maps 73 and 74) 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. Under alternative F, mule deer and elk crucial winter range would be

- open to mineral leasing with special conditions;
- 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 (14,930 acres). A total of 14,930 acres (maps 75 and 76) 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, stabilization of soils 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, restricitions on placement of erodible material, and cooperation with surface users to reduce surface disturbance. Under alternative F, riparian and aquatic habitat areas would be

- open to mineral leasing with special stipulations to prevent surface occupancy 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 they would maintain or improve riparian and aquatic habitat;
- designated as limited to ORV use, with use limited to designated roads and trails;
- subject to fire suppression methods which exclude motorized earth-moving equipment and aerial chemical fire retardants.

Offsite Mitigation, Big Game Habitat. On the 736,970 acres identified above (maps 71, 72, 73, and 74), 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. 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.

The following display summarizes wildlife habitat management actions that would occur under the six alternatives. Refer to volume 1 for actions under the proposed RMP.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Support big game populations in suitable habitat areas.	Support big game populations in suitable habitat areas where livestock and mineral uses are not limited.	Support big game populations in suitable habitat areas so as to attain prior stable numbers.	Support big game populations in suitable habitat areas where watershed and cultural resource management are not limited.	Support big game populations in suitable habitat areas where motorized recreation opportunities are not limited.	Support 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.
Develop and Implement	Develop and Implement	Develop and Implement	Develop and Implement	Develop and Implement	Develop and Implement
new HMPs	*new HMPs*	*new HMPs*	*new HMPs*	*new HMPs*	*new HMPs*
SRRA (0) 0	SRRA (0) 0	SRRA (7) 595,000	SRRA (7) 595,000	SRRA (7) 595,000	SRRA (7) 595,000
FPU (0) 0	FPU (0) 0	FPU (0) 0	FPU (0) 0	FPU (0) 0	FPU (0) 0
Total (0) 0	Total (0) 0	Total (7) 595,000	Total (7) 595,000	Total (7) 595,000	Total (7) 595,000

(Continued)

Alternative A

Maximize wildlife species numbers and diversity to the extent possible, while resolving conflicts on a case-by-case basis.

Crucial habitat for bighorn sheep	acres
SRRA	150,000
FPU	0
Total	150,000

Habitat for antelope	acres
SRRA	507,000
FPU	0
Total	507,000

Crucial habitat for mule deer	acres
SRRA	16,450
FPU	19,060
Total	35,510

Crucial habitat for elk	acres
SRRA	6,000
FPU	12,200
Total	18,200

Alternative B

Support the maximum number and diversity of wildlife species without limiting livestock and mineral uses.

Crucial habitat for bighorn sheep	acres
SRRA	120,000
FPU	0
Total	120,000

Habitat for antelope	acres
SRRA	506,320
FPU	0
Total	506,320

Crucial habitat for mule deer	acres
SRRA	15,610
FPU	18,100
Total	33,710

Crucial habitat for elk	acres
SRRA	5,840
FPU	11,860
Total	17,700

Alternative C

Manage wildlife habitat to support a maximum of wildlife numbers and diversity.

Crucial habitat for bighorn sheep	acres
SRRA	200,000
FPU	0
Total	120,000

Habitat for antelope	acres
SRRA	507,000
FPU	0
Total	507,000

Crucial habitat for mule deer	acres
SRRA	32,200
FPU	37,800
Total	70,000

Crucial habitat for elk	acres
SRRA	9,250
FPU	18,780
Total	28,030

Alternative D

Support the maximum number and diversity of wildlife species possible without limiting cultural resource management.

Crucial habitat for bighorn sheep	acres
SRRA	175,000
FPU	0
Total	175,000

Habitat for antelope	acres
SRRA	507,000
FPU	0
Total	507,000

Crucial habitat for mule deer	acres
SRRA	34,730
FPU	40,770
Total	75,500

Crucial habitat for elk	acres
SRRA	9,382
FPU	19,048
Total	28,430

Alternative E

Support the maximum number and diversity of wildlife species possible without limiting motorized recreation opportunities.

Crucial habitat for bighorn sheep	acres
SRRA	140,000
FPU	0
Total	140,000

Habitat for antelope	acres
SRRA	506,680
FPU	0
Total	506,680

Crucial habitat for mule deer	acres
SRRA	16,100
FPU	18,900
Total	35,000

Crucial habitat for elk	acres
SRRA	5,851
FPU	11,879
Total	17,730

Alternative F

Manage wildlife habitats to protect certain riparian areas and crucial big game habitats.

Crucial habitat for bighorn sheep	acres
SRRA	174,590
FPU	0
Total	174,590

Habitat for antelope	acres
SRRA	506,660
FPU	0
Total	506,660

Crucial habitat for mule deer	acres
SRRA	16,910
FPU	19,850
Total	36,760

Crucial habitat for elk	acres
SRRA	6,260
FPU	12,700
Total	18,960

4352 ENDANGERED SPECIES MANAGEMENT

Management Common to All Alternatives

No management action will be permitted on public lands that would 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.

The T/E or candidate species and their habitats listed on tables 28 and 36, chapter 3 will be protected under all alternatives.

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 or informal consultation under Section 7 of the Endangered Species Act before approving or implementing any action that may affect a protected species.

Candidate species listed by the State of Utah will be managed in similar fashion, except that no Section 7 consultation is required. BLM will 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 would require an activity plan. Transplants would be done in compliance with the Endangered Species Act; transplants would require a cooperative agreement and an activity plan.

Under all six alternatives, BLM would protect and conserve all officially listed and candidate species and their habitats.

4360 FIRE MANAGEMENT

Management Common to All Alternatives

Wildfires will be suppressed promptly where necessary to protect life, property, and high-risk resource values. In other areas, the cost of fire suppression will be compared to the resource loss that would occur without suppression. Prescribed fire will be used to implement or maintain resource values where necessary.

Fires will be suppressed in accordance with fire management activity plans prepared to implement RMP decisions. This plan will detail levels of suppression action, values at risk to be protected, and constraints on equipment and suppression techniques. Fire management plans will be developed and implemented in SRRA (1,463,840 acres) and FPU (43,550 acres), covering a total of 1,507,390 acres under all six alternatives.

Full-suppression areas designated under all six alternatives (map 77) would total 195,890 acres in SRRA and 25,640 acres in FPU, for a total of 211,530 acres in the planning area.

Conditional suppression would be applied to 1,267,950 acres in SRRA and 19,710 acres in FPU, for a total of 1,317,660 acres in the planning area. Prescribed-burn areas are not identified under any of the six alternatives.

4630 FIRE REHABILITATION

Management Common to All Alternatives

Under all six alternatives, all burned areas would be evaluated and, if appropriate, site-specific rehabilitation plans would be developed and implemented.

COMPARISON OF ALTERNATIVES AND IMPACTS

The six alternatives were analyzed to assess their impacts (effects) on the human environment in the planning area or grazing area. The elements of the environment found to be affected, either beneficially or adversely, are described in chapter 3. Analysis assumptions and the environmental effects are described in chapter 4.

In general, alternative B shows the greatest economic return of use or production of public grazing and mineral resources; alternative C shows the greatest protection of nonmotorized recreation opportunities and wildlife resources; alternative D shows the greatest protection of watershed areas and cultural resources; alternative E shows the greatest opportunities for motorized recreation (ORV use) and provides maximum opportunity for access development; and alternative F (along with the proposed RMP) provides a balance between economic return and environmental protection.

Table 11 provides a summary comparison of the effects of the different alternatives on the environment. Alternative A provides an environmental baseline for comparing the impacts of the alternatives. For each element of the environment in the planning areas (or grazing area for grazing analysis) found to be affected, the specific indicator that would change is listed, along with the unit of change (usually acres). The change in the current conditions anticipated to occur by the year 2000 (12-year span) under present management is given for alternative A. For each of the other alternatives, the anticipated total amount is given for each indicator, along with the change from alternative A.

TABLE 11

Summary Comparison of Impacts, by Alternative
(By the Year 2000)

*See Table 73, page 4-120 for proposed plan

Environmental Component/ Specific Indicator	Unit	Alternative A Total Quantity	Alternative B Total Quantity (Change)	Alternative C Total Quantity (Change)	Alternative D Total Quantity (Change)	Alternative E Total Quantity (Change)	Alternative F Total Quantity (Change)
MINERAL COMPONENTS							
Oil and Gas							
Lease area Category 1	SRRA acres (change)	1,130,280	1,416,050 (+285,770)	181,450 (-948,830)	168,510 (-961,770)	442,730 (-687,550)	710,920 (-419,360)
	FPU acres (change)	51,770	75,350 (+23,580)	12,260 (-39,510)	3,820 (-47,950)	29,080 (-22,690)	50,850 (-920)
	Total acres (change)	1,182,050	1,491,400 (+309,350)	193,710 (-988,340)	172,330 (-1,009,720)	471,810 (-710,240)	761,770 (-420,280)
Category 2	SRRA acres (change)	43,130	45,730 (+2,600)	784,020 (+740,890)	77,990 (+34,860)	864,990 (+821,860)	505,430 (+462,300)
	FPU acres (change)	18,270	0 (-18,270)	58,270 (+40,000)	7,600 (-10,670)	43,570 (+25,300)	21,210 (+2,940)
	Total acres (change)	61,400	45,730 (-15,670)	842,290 (+780,890)	85,590 (+24,190)	908,560 (+847,160)	526,640 (+465,240)
Category 3	SRRA acres (change)	169,320	0 (-169,320)	28,250 (-141,070)	0 (-169,320)	154,210 (-15,110)	242,520 (+73,200)
	FPU acres (change)	5,310	0 (-5,310)	2,120 (-3,190)	0 (-5,310)	2,700 (-2,610)	3,290 (-2,020)
	Total acres (change)	174,630	0 (-174,630)	30,370 (-144,260)	0 (-174,630)	156,910 (-17,720)	245,810 (+71,180)
Category 4	SRRA acres (change)	121,110	2,060 (-119,050)	470,120 (+349,010)	1,217,340 (+1,096,230)	1,910 (-119,200)	4,970 (-116,140)
	FPU acres (change)	0	0 (no change)	2,700 (+2,700)	63,930 (+63,930)	0 (no change)	0 (no change)
	Total acres (change)	121,110	2,060 (-119,050)	472,820 (+351,710)	1,281,270 (+1,160,160)	1,910 (-119,200)	4,970 (-116,140)

TABLE 11 (Continued)

Environmental Component/ Specific Indicator	Unit	Alternative A Total Quantity	Alternative B Total Quantity (Change)	Alternative C Total Quantity (Change)	Alternative D Total Quantity (Change)	Alternative E Total Quantity (Change)	Alternative F Total Quantity (Change)
MINERAL COMPONENTS, Oil and Gas (Concluded)							
Oil Production	Barrels/year	13,200	13,200	13,200	3,000	13,200	13,200
	(change)		(no change)	(no change)	(-10,200)	(no change)	(no change)
Gas Production	MCF/year	754,000	754,000	754,000	244,000	754,000	754,000
	(change)		(no change)	(no change)	(-510,000)	(no change)	(no change)
Geophysical operations (seismic line)	Miles/year	100	125	100	25	100	100
	(change)		(+25)	(no change)	(-75)	(no change)	(no change)
Coal							
Exploration area	SRRA acres	32,440	33,720	32,440	15,930	33,720	32,430
	(change)		(+1,280)	(no change)	(-16,510)	(+380)	(-10)
	FPU acres	25,870	28,570	25,870	2,540	28,570	25,870
	(change)		(+2,700)	(no change)	(-23,330)	(2,700)	(no change)
	Total acres	58,310	62,290	58,310	18,470	62,290	58,300
	(change)		(+3,980)	(no change)	(-39,840)	(+3,980)	(-10)
Lease area	SRRA acres	29,620	29,620	28,340	11,830	29,620	29,610
	(change)		(no change)	(-1,280)	(-17,790)	(no change)	(-10)
	FPU acres	28,570	28,570	25,870	2,540	28,570	28,570
	(change)		(no change)	(-2,700)	(-26,030)	(no change)	(no change)
	Total acres	58,190	58,190	54,210	14,370	58,190	58,180
	(change)		(no change)	(-3,980)	(-43,820)	(no change)	(-10)
Production	SRRA tons/year	150,000	150,000	150,000	150,000	150,000	150,000
	(change)		(no change)	(no change)	(no change)	(no change)	(no change)
	FPU tons/year	0	0	0	0	0	0
	(change)		(no change)	(no change)	(no change)	(no change)	(no change)
	Total tons/year	150,000	150,000	150,000	150,000	150,000	150,000
	(change)		(no change)	(no change)	(no change)	(no change)	(no change)

Mineral Materials							
Disposal area	SRRA acres (change)	1,463,840	1,461,780 (-2,060)	961,620 (-502,220)	246,500 (-1,217,340)	1,307,720 (-156,120)	1,216,350 (-247,490)
	FPU acres (change)	75,350	75,350 (no change)	70,530 (-4,820)	11,420 (-63,930)	72,650 (-2,700)	72,060 (-3,290)
	Total acres (change)	1,539,190	1,537,130 (-2,060)	1,032,150 (-507,040)	257,920 (-1,281,270)	1,380,370 (-158,820)	1,288,410 (-250,780)
Production	Total cu yds/year (change)	320,000	320,000 (no change)	320,000 (no change)	50,000 (-270,000)	320,000 (no change)	320,000 (no change)
Locatable Minerals							
Open to mineral entry	SRRA acres (change)	1,462,060	1,460,000 (-2,060)	991,940 (-470,120)	245,700 (-1,216,360)	1,460,150 (-1,910)	1,457,090 (-4,970)
	FPU acres (change)	75,350	75,350 (no change)	72,650 (-2,700)	11,420 (-63,930)	75,350 (no change)	75,350 (no change)
	Total acres (change)	1,537,410	1,535,350 (-2,060)	1,064,590 (-472,820)	257,120 (-1,280,290)	1,535,500 (-1,910)	1,532,440 (-4,970)
BIOTIC COMPONENTS							
Soils							
Soil loss	Planning area tons/year	7,263,740 to 61,384,300	7,009,990 to 59,447,050	5,820,630 to 49,580,850	5,672,220 to 48,383,140	6,053,250 to 51,394,370	6,483,510 55,198,570
	(change)		(-253,750 to -1,907,250)	(-1,443,110 to -11,803,450)	(-1,591,530 to -13,001,170)	(-1,210,490 -9,989,930)	(-780,230 -6,185,730)
	Average tons/year (change)	34,324,020	33,243,520 (-1,080,500)	27,700,740 (-6,623,280)	27,027,680 (-7,296,350)	28,723,810 (-5,600,210)	30,841,040 (-3,482,980)

(Continued)

TABLE 11 (Continued)

Environmental Component/ Specific Indicator	Unit	Alternative A Total Quantity	Alternative B Total Quantity (Change)	Alternative C Total Quantity (Change)	Alternative D Total Quantity (Change)	Alternative E Total Quantity (Change)	Alternative F Total Quantity (Change)
BIOTIC COMPONENTS (Continued)							
Water							
Surface water quality							
Sediment Yield	Planning area tons/year (change)	2,905,500 to 24,553,710	2,804,000 to 23,790,820 (-101,500 to -762,890)	2,328,260 to 19,832,330 (-577,240 to -4,721,380)	2,268,890 to 19,353,240 (-636,610 to -5,200,470)	2,421,310 to 20,557,740 (-484,190 to -3,995,970)	2,593,410 to 22,079,420 (-312,090 to -2,474,290)
Average	Planning area tons/year (change)	13,729,605	13,297,410 (-432,195)	11,080,295 (-2,649,310)	10,811,065 (-2,918,540)	11,489,525 (-2,240,080)	12,336,415 (-1,393,190)
Salt Yield	Planning area tons/year (change)	29,470 to 430,917	27,735 to 418,154 (-1,735 to -12,763)	23,003 to 348,578 (-6,467 to -82,339)	22,034 to 340,636 (-7,436 to -90,281)	24,352 to 360,785 (-5,118 to -70,132)	25,731 to 387,776 (-3,739 to -43,141)
Average	Planning area tons/year (change)	230,194	222,945 (-7,249)	185,791 (-44,403)	181,335 (-48,859)	192,569 (-37,625)	206,254 (-23,440)
Vegetation							
Disturbance (short-term loss)	acres (change)	47,474	17,134 (-30,340)	18,479 (-28,995)	6,746 (-40,728)	40,104 (-7,370)	31,844 (-15,630)
(long-term loss)	acres (change)	7,070	250 (-6,820)	7,220 (+150)	1,670 (-5,400)	8,060 (+990)	7,980 (+910)
Total disturbed	acres (change)	54,544	17,384 (-37,160)	25,699 (-28,845)	8,416 (-46,128)	48,164 (-6,380)	39,824 (-14,720)

Wild Horses and Burros							
Habitat area	SRRA acres (change)	475,680	475,680 (no change)	475,680 (no change)	475,680 (no change)	[a]475,680 (no change)	475,680 (no change)
Forage consumed	SRRA AUMs (change)	2,835	495 (-2,340)	1,345 (-1,490)	1,540 (-1,295)	3,935 (+1,100)	2,135 (-700)
Wild horses	SRRA animals	200 to 235	20 to 35	70 to 100	90 to 115	250 to 325	75 to 125
	(change)		(-180 to -200)	(-130 to -135)	(-100 to -120)	(+50 to +90)	(-125 to -110)
Wild burros	SRRA animals	70 to 100	10 to 25	25 to 60	50 to 70	110 to 140	30 to 70
	(change)		(-60 to -15)	(-45 to -40)	(-20 to -30)	(+40 to +40)	(-40 to -30)

[a]No HMAP would be developed under alternative E.

Wildlife							
Crucial habitat: Desert bighorn sheep	Acres (change)	150,000	120,000 (-30,000)	200,000 (+50,000)	175,000 (+25,000)	140,000 (-10,000)	174,590 (+24,590)
Desert bighorn sheep	Animals (change)	500	350 (-150)	860 (+360)	750 (+250)	550 (+50)	800 (+300)
Habitat: Antelope	Acres (change)	507,000	506,320 (-680)	507,000 (0)	507,000 (0)	506,680 (-320)	506,660 (-340)
Antelope	Animals (change)	700	400 (-300)	1,060 (+360)	1,000 (+300)	950 (+250)	900 (+200)
Crucial habitat: Mule deer	SRRA acres (change)	16,450	15,610 (-840)	32,200 (+15,750)	34,730 (+18,280)	16,100 (-350)	16,910 (+460)
	FPU acres (change)	19,060	18,100 (+950)	37,800 (+18,750)	40,770 (+21,720)	18,900 (-160)	19,850 (+800)
	Total acres (change)	35,510	33,710 (-1,790)	70,000 (+34,490)	75,500 (+39,990)	35,000 (-510)	36,760 (+1,260)

(Continued)

TABLE 11 (Continued)

Environmental Component/ Specific Indicator	Unit	Alternative A Total Quantity	Alternative B Total Quantity (Change)	Alternative C Total Quantity (Change)	Alternative D Total Quantity (Change)	Alternative E Total Quantity (Change)	Alternative F Total Quantity (Change)
BIOTIC COMPONENTS, Wildlife (Continued)							
Mule deer	SRRA animals	5,890	4,335	7,930	7,930	5,740	7,400
	(change)		(-1,555)	(+2,040)	(+2,040)	(-150)	(+1,510)
	FPU animals	730	535	1,270	1,270	710	920
	(change)		(-195)	(+540)	(+540)	(-20)	(+190)
	Total animals	6,620	4,870	9,200	9,200	6,450	8,320
	(change)		(-1,750)	(+2,580)	(+2,580)	(-170)	(+1,700)
Crucial habitat: Elk	SRRA	6,000	5,840	9,240	9,370	5,840	6,260
	(change)		(-160)	(+3,240)	(+3,370)	(-160)	(+260)
	FPU	12,200	11,860	18,760	19,030	11,860	12,700
	(change)		(-340)	(+6,560)	(+6,830)	(-340)	(+500)
	Total amount	18,200	17,700	28,000	28,400	17,700	18,960
	(change)		(-500)	(+9,800)	(+10,200)	(-500)	(+760)
Elk	SRRA	110	70	140	140	105	130
	(change)		(-40)	(+30)	(+30)	(-5)	(+20)
	FPU	490	340	610	610	485	600
	(change)		(-150)	(+120)	(+120)	(-5)	(+110)
	Total amount	600	410	750	750	590	730
	(change)		(-190)	(+150)	(+150)	(-10)	(+130)
Habitat: Riparian and aquatic	SRRA acres	11,430	11,430	11,580	11,620	11,430	11,540
	(change)		(no change)	(+150)	(+190)	(no change)	(+110)
	FPU acres	3,350	3,350	3,400	3,410	3,350	3,390
	(change)		(no change)	(+50)	(+60)	(no change)	(+40)
	Total acres	14,780	14,780	14,980	15,030	14,780	14,930
	(change)		(no change)	(+200)	(+250)	(no change)	(+150)

HUMAN USES

Grazing

Grazing area	SRRA acres (change)	1,421,880	1,430,580 (+8,700)	1,345,240 (-76,640)	1,403,390 (-18,490)	1,418,810 (-3,070)	1,416,080 (-5,800)
	FPU acres (change)	190,240	190,240 (no change)	190,240 (no change)	190,240 (no change)	190,240 (no change)	190,240 (no change)
	Total acres (change)	1,612,120	1,620,820 (+8,700)	1,535,480 (-76,640)	1,592,630 (-18,490)	1,609,050 (-3,070)	1,606,320 (-5,800)
5-year average licensed use	AUMs (change)	56,161	96,006 (+39,845)	45,380 (-10,781)	28,682 (-27,479)	55,102 (-1,059)	55,751 (-410)
Active preference	AUMs (change)	87,542	96,006 (+8,464)	72,758 (-14,784)	44,258 (-43,284)	86,528 (-1,014)	86,198 (-1,344)

Forest Products

Forest Product use area							
Standard Conditions	SRRA acres (change)	395,350	401,130 (+5,780)	6,550 (-388,800)	85,110 (-310,240)	197,570 (-197,780)	138,610 (-256,740)
	FPU acres (change)	35,540	36,320 (+780)	18,040 (-17,500)	15,580 (-19,960)	22,730 (-12,810)	30,580 (-4,960)
	Total acres (change)	430,890	437,450 (+6,560)	24,590 (-406,300)	100,690 (-330,200)	220,300 (-210,590)	169,190 (-261,700)
Special Conditions	SRRA acres (change)	4,770	0 (-4,770)	168,290 (+163,520)	198,930 (+194,160)	197,570 (+192,800)	201,320 (+196,550)
	FPU acres (change)	0	0 (no change)	12,530 (+12,530)	2,200 (+2,200)	0 (no change)	4,790 (+4,790)
	Total acres (change)	4,770	0 (-4,770)	180,820 (+176,050)	201,130 (+196,360)	197,570 (+192,800)	206,110 (+201,340)

(Continued)

TABLE 11 (Continued)

Environmental Component/ Specific Indicator	Unit	Alternative A Total Quantity	Alternative B Total Quantity (Change)	Alternative C Total Quantity (Change)	Alternative D Total Quantity (Change)	Alternative E Total Quantity (Change)	Alternative F Total Quantity (Change)
HUMAN USES, Forest Product Use Area (Concluded)							
Excluded From Campfire Use	SRRA acres (change)	490	510 (+20)	1,100 (+610)	6,800 (+6,310)	510 (+20)	570 (+80)
	FPU acres (change)	0	0 (no change)	0 (no change)	0 (no change)	0 (no change)	0 (no change)
	Total acres (change)	490	510 (+20)	1,100 (+610)	6,800 (+6,310)	510 (+20)	570 (+80)
Excluded From Harvest	SRRA acres (change)	14,830	13,820 (-1,010)	240,110 (+225,280)	130,910 (+116,080)	237,660 (+222,830)	75,010 (+60,180)
	FPU acres (change)	780	0 (-780)	5,740 (+4,960)	18,540 (+17,760)	13,590 (+12,810)	950 (+170)
	Total acres (change)	15,610	13,820 (-1,790)	245,850 (+230,240)	149,450 (+133,840)	251,250 (+235,640)	75,960 (+60,350)
Cultural Resources							
Sites damaged	Sites (change)	6,735	6,712 (-23)	6,060 (-675)	1,507 (-5,228)	6,738 (+3)	6,707 (-28)
Sites available for use	Sites (change)	2,489	2,530 (+41)	2,477 (-12)	2,385 (-104)	2,489 (no change)	2,489 (no change)
Recreation							
Area Meeting Recreation Opportunity Spectrum Criteria							
P	Total acres (change)	69,680	18,650 (-51,030)	114,220 (+44,540)	114,240 (+44,560)	31,380 (-38,300)	81,500 (+11,820)
SPNM	Total acres (change)	183,410	194,650 (+11,240)	231,140 (+47,730)	232,950 (+49,540)	186,910 (+3,500)	211,700 (+28,290)

SPM	Total acres (change)	662,870	629,060 (-33,810)	603,400 (-59,470)	716,250 (+53,380)	675,550 (+12,680)	630,920 (-31,950)
RN	Total acres (change)	606,720	684,580 (+77,860)	581,420 (-25,300)	471,440 (-135,280)	626,110 (+19,390)	599,810 (-6,910)
R	Total acres (change)	10,670	12,210 (+1,540)	10,500 (-170)	5,260 (-5,410)	11,410 (+740)	10,630 (-40)
U	Total acres (change)	20	40 (+20)	20 (no change)	30 (+10)	20 (no change)	20 (no change)
ORV recreation area							
Open	Total acres (change)	1,539,190	0 (-1,539,190)	194,640 (-1,344,550)	172,360 (-1,366,830)	1,380,870 (-158,320)	761,820 (-777,370)
Open with seasonal restrictions	Total acres (change)	0	0 (no change)	246,700 (+246,700)	84,770 (+84,770)	0 (no change)	61,060 (+61,060)
Limited to existing roads and trails	Total acres (change)	0	1,493,230 (+1,493,230)	0 (no change)	0 (no change)	156,910 (+156,910)	0 (no change)
Limited to designated roads and trails	Total acres (change)	0	43,940 (+43,940)	606,110 (+606,110)	840 (+840)	1,410 (+1,410)	711,840 (+711,840)
Closed	Total acres (change)	0	2,020 (+2,020)	491,740 (+491,740)	1,281,220 (+1,281,220)	0 (no change)	4,470 (+4,470)
Visual Resources, VRM class area							
I	Total acres (change)	0	0 (no change)	472,130 (+472,130)	430,450 (+430,450)	135,730 (+135,730)	231,750 (+231,750)
II	Total acres (change)	496,370	496,370 (no change)	725,940 (+229,570)	168,220 (-325,150)	959,610 (+463,240)	288,240 (-208,130)
III	Total acres (change)	383,270	383,270 (no change)	166,850 (-216,420)	345,540 (-37,730)	199,590 (-183,680)	364,040 (-19,230)
IV	Total acres (change)	659,550	659,550 (no change)	174,270 (-485,280)	594,980 (-64,570)	244,260 (-415,290)	655,160 (-4,390)
Contrast rating scores exceeding VRM objectives	Total scores (change)	120	150 (+30)	106 (-14)	67 (-53)	136 (+16)	118 (-2)

TABLE 11 (Continued)

Environmental Component/ Specific Indicator	Unit	Alternative A Total Quantity	Alternative B Total Quantity (Change)	Alternative C Total Quantity (Change)	Alternative D Total Quantity (Change)	Alternative E Total Quantity (Change)	Alternative F Total Quantity (Change)
HUMAN USES, Lands							
Lands available for rights-of-way							
Within corridors	SRRA acres	0	22,870	0	0	12,890	21,540
	(change)		(+22,870)	(no change)	(no change)	(+12,890)	(+21,540)
	FPU acres	0	4,470	0	0	4,170	2,900
	(change)		(+4,470)	(no change)	(no change)	(+4,170)	(+2,900)
	Total acres	0	27,340	0	0	17,060	24,440
	(change)		(+27,340)	(no change)	(no change)	(+17,060)	(+24,440)
Outside corridors (standard conditions)	SRRA acres	1,412,950	1,393,180	181,450	168,510	429,840	704,510
	(change)		(-19,770)	(-1,231,500)	(-1,244,440)	(-983,110)	(-708,440)
	FPU acres	72,650	70,880	12,260	3,820	24,910	48,250
	(change)		(-1,770)	(-60,390)	(-68,830)	(-47,740)	(-24,400)
	Total acres	1,485,600	1,464,060	193,710	172,330	454,750	752,760
	(change)		(-21,540)	(-1,291,890)	(-1,313,270)	(-1,030,850)	(-732,840)
Avoidance areas	SRRA acres	50,890	45,760	812,070	77,990	1,019,200	732,820
	(change)		(-5,130)	(+761,380)	(+27,100)	(+968,310)	(+681,930)
	FPU acres	2,700	0	60,390	7,600	46,270	24,200
	(change)		(-2,700)	(+57,690)	(+4,900)	(+43,570)	(+21,500)
	Total acres	53,590	45,760	872,660	85,590	1,065,470	757,020
	(change)		(-7,830)	(+819,070)	(+32,000)	(+1,011,880)	(+703,430)
Exclusion areas	SRRA acres	0	2,030	470,120	1,217,340	1,910	4,970
	(change)		(+2,030)	(+470,120)	(+1,217,340)	(+1,910)	(+4,970)
	FPU acres	0	0	2,700	63,930	0	0
	(change)		(no change)	(+2,700)	(+63,930)	(no change)	(no change)
	Total acres	0	2,030	472,820	1,281,270	1,910	4,970
	(change)		(+2,030)	(+472,820)	(+1,281,270)	(+1,910)	(+4,970)

Lands available for disposal	SRRA acres	5,780	0	6,140	710	6,770	6,730
	(change)		(-5,780)	(+360)	(-5,070)	(+990)	(+950)
	FPU acres	1,040	0	830	710	1,040	1,000
	(change)		(-1,040)	(-210)	(-330)	(no change)	(-40)
	Total acres	6,820	0	6,970	1,420	7,810	7,730
	(change)		(-6,820)	(+150)	(-5,400)	(+990)	(+910)
Withdrawals from mineral entry	SRRA acres	1,780	3,840	471,900	1,218,140	3,690	6,750
	(change)		(+2,060)	(+470,120)	(+1,216,360)	(+1,910)	(+4,970)
	FPU acres	0	0	2,700	63,930	0	0
	(change)		(no change)	(+2,700)	(+63,930)	(no change)	(no change)
	Total acres	1,780	3,840	474,600	1,282,070	3,690	6,750
	(change)		(+2,060)	(+472,820)	(+1,280,290)	(+1,910)	(+4,970)
Lands identified for acquisition	SRRA acres	0	0	7,160	2,400	0	3,200
	(change)		(no change)	(+7,160)	(+2,400)	(no change)	(+3,200)
	FPU acres	0	0	1,420	0	0	0
	(change)		(no change)	(+1,420)	(no change)	(no change)	(no change)
	Total acres	0	0	8,580	2,400	0	3,200
	(change)		(no change)	(+8,580)	(+2,400)	(no change)	(+3,200)

ECONOMIC CONSIDERATIONS

Oil and Gas							
Employment	Jobs	353	359	353	80	353	unquantified
	(change)		(+6)	(0)	(-273)	(0)	(insignificant)
Earnings	Dollars	9,962,600	10,123,300	9,962,600	2,249,600	9,962,600	unquantified
	(change)		(+160,700)	(0)	(-7,713,000)	(0)	(insignificant)
Revenues	Dollars	135,700	137,900	135,700	30,600	135,700	unquantified
	(change)		(+2,200)	(0)	(-105,100)	(0)	(insignificant)
Coal and Electric							
Employment	Jobs	2,916	2,916	2,916	2,916	2,916	unquantified
	(change)	(0)	(0)	(0)	(0)	(0)	(insignificant)
Earnings	Dollars	75,766,200	75,766,200	75,766,200	75,766,200	75,766,200	unquantified
	(change)		(0)	(0)	(0)	(0)	(insignificant)
Revenues	Dollars	16,283,400	16,283,400	16,283,400	16,283,400	16,283,400	unquantified
	(change)	(0)	(0)	(0)	(0)	(0)	(insignificant)

TABLE 11 (Continued)

Environmental Component/ Specific Indicator	Unit	Alternative A Total Quantity	Alternative B Total Quantity (Change)	Alternative C Total Quantity (Change)	Alternative D Total Quantity (Change)	Alternative E Total Quantity (Change)	Alternative F Total Quantity (Change)
ECONOMIC CONSIDERATIONS (Continued)							
Metal Mining							
Employment	Jobs (change)	4	6 (+2)	3 (-1)	3 (-1)	3 (-1)	unquantified (insignificant)
Earnings	Dollars (change)	75,300	112,900 (+37,600)	56,400 (-18,800)	56,400 (-18,800)	56,400 (-18,800)	unquantified (insignificant)
Revenues	Dollars (change)	7,200	10,800 (+3,600)	5,400 (-1,800)	5,400 (-1,800)	5,400 (-1,800)	unquantified (insignificant)
Nonmetal Mining							
Employment	Jobs (change)	3	3 (0)	3 (0)	0.5 (-2.5)	3 (0)	unquantified (insignificant)
Earnings	Dollars (change)	55,300	55,300 (0)	55,300 (0)	8,500 (-46,800	55,300 (0)	unquantified (insignificant)
Revenues	Dollars (change)	3,900	3,900 (0)	3,900 (0)	600 (-3,300)	3,900 (0)	unquantified (insignificant)
Soil and Water							
Sediment Cost	Dollars (change)	218,000 to 1,841,600	210,300 to 1,784,300 (-7,700 to -57,200)	174,600 to 1,487,400 (-43,400 to 354,200)	170,200 to 1,451,500 (-47,800 to -390,100)	181,600 to 1,541,900 (-36,375 to -299,700)	194,475 to 1,655,900 (-23,500 to -185,600)
Salinity Cost	Dollars (change)	1,724,000 to 25,208,600	1,622,500 to 24,462,000 (-101,500 to -746,600)	1,345,700 to 20,391,800 (-378,300 to -4,816,800)	1,289,000 to 19,927,200 (-435,000 to -5,281,400)	1,424,600 to 21,105,900 (-299,400 to -4,102,700)	1,505,300 to 22,684,990 (-218,700 to -2,523,700)
Livestock							
Returns Above Variable Cost	Dollars (change)	912,200	1,759,000 (+846,800)	355,700 (-556,500)	113,900 (-798,400)	637,500 (-274,700)	690,300 (-221,900)

Wealth	Dollars	26,392,700	26,815,900 to 28,685,000	25,853,700	25,018,800	26,339,800	26,372,200
	(change)		(+423,200 to +1,992,300)	(-539,100)	(-1,374,000)	(-53,000)	(-20,500)
Employment	Jobs	156	228	124	57	154	148
	(change)		(+72)	(-32)	(-99)	(-2)	(-8)
Earnings	Dollars	459,500	671,600	365,900	166,700	453,900	435,400
	(change)		(+212,100)	(-93,600)	(-292,700)	(-5,600)	(-24,100)
Revenues	Dollars	319,400	466,900	254,400	115,900	315,600	302,700
	(change)		(+147,500)	(-65,000)	(-203,500)	(-3,900)	(-16,700)
Recreation							
Employment	Jobs	27	22	36	37	27	32
	(change)		(-5)	(+9)	(+10)	(no change)	(+5)
Earnings	Dollars	236,700	186,700	314,100	323,700	232,800	275,900
	(change)		(-50,000)	(+77,400)	(+87,000)	(-3,800)	(+39,200)
Revenues	Dollars	35,400	27,800	47,300	48,800	34,800	41,400
	(change)		(-7,700)	(+11,900)	(+13,400)	(-600)	(6,000)
Wildlife							
Employment	Jobs	20	14	28	30	19	24
	(change)		(-6)	(+8)	(10)	(-1)	(+4)
Earnings	Dollars	174,300	124,300	251,700	261,300	170,500	213,500
	(change)		(-50,000)	(+77,400)	(+87,000)	(-3,800)	(+39,200)
Revenues	Dollars	26,800	19,100	38,700	40,100	26,200	32,800
	(change)		(-7,700)	(+11,900)	(+13,400)	(-600)	(+6,000)
Other Land Uses							
Employment	Jobs	36	unquantified	unquantified	9	unquantified	unquantified
	(change)		(insignificant)	(insignificant)	(-27)	(insignificant)	(insignificant)
Earnings	Dollars	494,800	unquantified	unquantified	118,700	unquantified	unquantified
	(change)		(insignificant)	(insignificant)	(-376,000)	(insignificant)	(insignificant)
Revenues	Dollars	45,100	unquantified	unquantified	10,800	unquantified	unquantified
	(change)		(insignificant)	(insignificant)	(-34,300)	(insignificant)	(insignificant)
Payments in Lieu of Taxes	Dollars	419,100	412,300	419,300	413,700	420,100	420,100
	(change)		(-6,800)	(+200)	(-5,400)	(+1,000)	(+1,000)

TABLE 11 (Continued)

Environmental Component/ Specific Indicator	Unit	Alternative A Total Quantity	Alternative B Total Quantity (Change)	Alternative C Total Quantity (Change)	Alternative D Total Quantity (Change)	Alternative E Total Quantity (Change)	Alternative F Total Quantity (Change)
ECONOMIC CONSIDERATIONS (Concluded)							
Plan Budget							
Employment	Jobs (change)	9	12 (+3)	12 (+3)	10 (+1)	10 (+1)	12 (+3)
Earnings	Dollars (change)	105,700	138,000 (+32,337)	137,500 (+31,800)	120,300 (+14,600)	124,000 (+18,300)	143,500 (+37,800)
Revenues	Dollars (change)	2,400	3,100 (+700)	3,100 (+700)	2,700 (+300)	2,800 (+400)	3,200 (+800)

*SEE TABLE 73, PAGE 4-120 FOR PROPOSED PLAN

CHAPTER 3, AFFECTED ENVIRONMENT

INTRODUCTION

The affected environment is that which would be significantly changed by implementing any of the alternatives described in chapter 2 of this final environmental impact statement (EIS). The affected environment was determined through the analysis in chapter 4 and is described by environmental indicators (table 12), which were the basis for table 11 in chapter 2. The entire spectrum of the environment of the planning and grazing areas is described in the management situation analysis (MSA). Laws referenced are cited in appendix D.

For convenience, the environmental indicators are divided into groups: mineral components, biotic components, human uses, and economic considerations, and social conditions. Both the existing condition and the assumed changes over time (until the year 2000) are given for each indicator. These provide a basis for measuring changes and comparing the alternatives. Most of the general indicators are broken down into more narrow topics called specific indicators (table 12).

MINERAL COMPONENTS

OIL AND GAS

Location and Extent of Resource

Hydrocarbon resources are scattered throughout the entire planning area, but are minimal in Forest Planning Unit (FPU). The following discussion therefore concentrates on San Rafael Resource Area (SRRA). Oil and gas are found in both stratigraphic and structural traps. The planning area has many widespread sedimentary formations that either produce oil and gas or have potential for production: Devonian sandstones and limestones, Mississippian carbonates, Pennsylvanian carbonates, Permian carbonates and sandstones, Triassic sandstones, and Cretaceous sandstones. Combining these formations with structural features creates several potential oil and gas traps (figure 2).

Tar sand deposits have not been identified in FPU, but are found in SRRA. The San Rafael Swell Special Tar Sand Area (STSA) covers about 126,960 acres of public land and contains an estimated 385 million barrels of oil [Campbell, 1977].

Allocations

Hydrocarbon resources are allocated in three stages, beginning with a determination of which lands should be leased and under what conditions. The RMP process is used to make these determinations. Public lands are placed into one of four leasing categories (appendix E): (1) open to leasing with standard lease stipulations; (2) open to leasing with special conditions; (3) open to leasing with no-surface-occupancy stipulations; and (4) closed to leasing. Current category acreages in the planning area are shown in table 13 and on map 17.

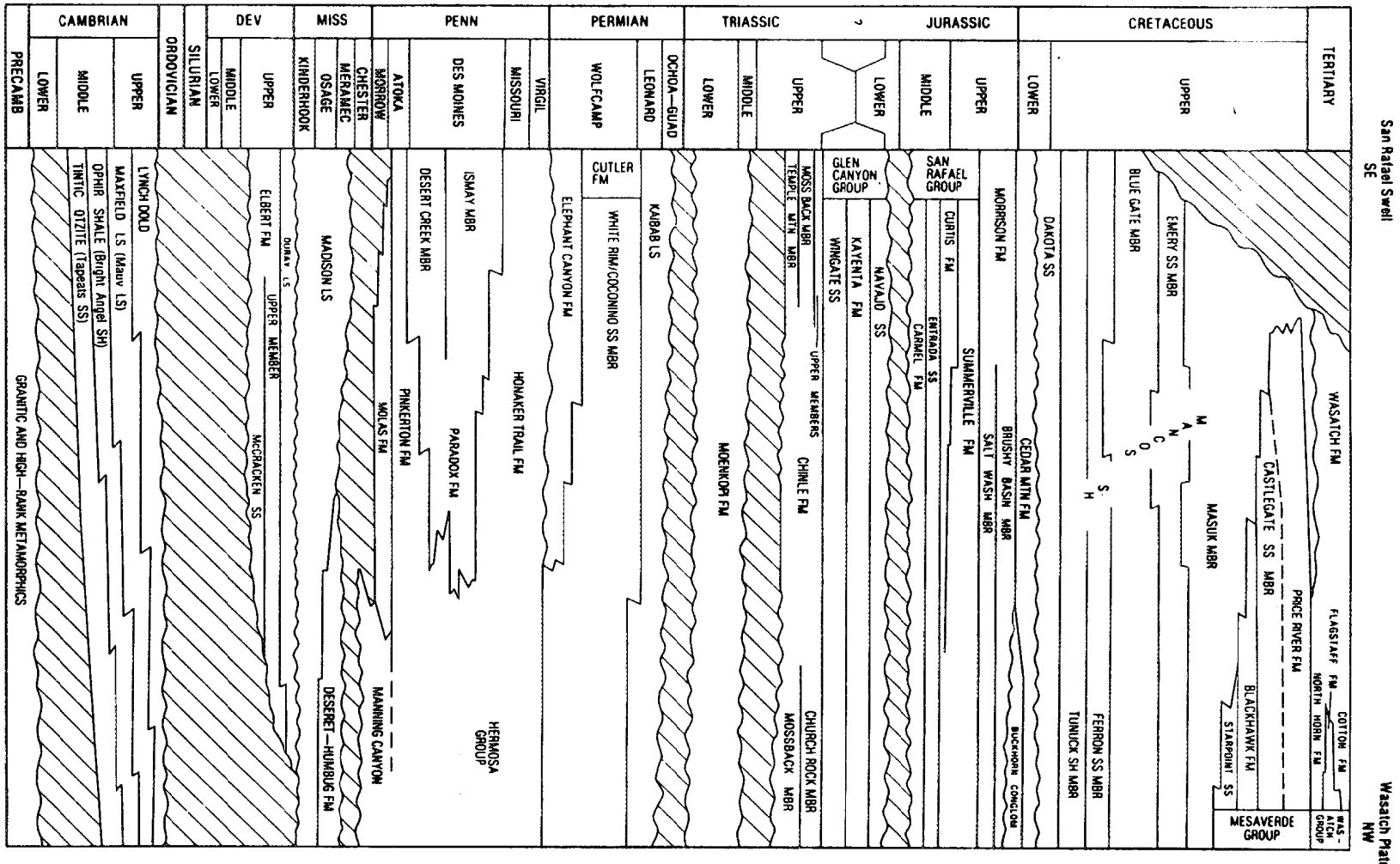


FIGURE 2

Correlation Chart, East-Central Utah

TABLE 12

General and Specific Environmental Indicators

Category	General Indicator	Specific Indicators
MINERAL COMPONENTS	Oil and Gas	Area available for lease; oil and gas production; geophysical operations
	Coal	Area available for exploration; area available for lease; coal production
	Mineral Materials	Area available for material disposal; mineral material production
	Locatable Minerals	Area available for location
BIOTIC COMPONENTS	Soils	Soil loss
	Water	Salt and sediment yield; ground water quality; salt in Colorado River
	Air	Visibility
	Vegetation	Area of vegetation loss; relict areas; ecological status
	Threatened or Endangered (T/E) Plants	Loss of individual plants; loss of habitat area
	Forest Products	Area available for forest product harvest and fuelwood; area available for gathering of dead fuelwood for campfires
	Wild horses and burros	Habitat area; available forage; population numbers
	Desert bighorn sheep	Crucial habitat; population numbers
	Antelope	Habitat; population numbers
	Mule deer	Crucial winter range; population numbers
	Elk	Crucial winter range; population numbers
	Riparian and aquatic habitat	Habitat area
	T/E animal species	Loss of individual animals; loss of habitat area
HUMAN USES	Grazing	Area available for grazing use; stocking levels
	Cultural Resources	Cultural sites damaged; cultural sites available for use
	Recreation	Area in each ROS class; area available for ORV recreation;
	Visual Resources	Area in each VRM class; visual contrast rating scores
	Lands	Lands available for rights-of-way; lands available for disposal; lands needed for acquisition; withdrawals
ECONOMIC CONSIDERATIONS	Minerals	Earnings; employment; costs; sales and revenues; profits; wealth; tax revenues
	Soil and Water	Earnings; employment; costs; sales and revenues; profits; wealth; tax revenues
	Livestock	Returns to labor and investment; earnings; employment; costs; sales and revenues; profits; wealth; tax revenues
	Recreation	Earnings; employment; costs; sales and revenues; profits; wealth; tax revenues
	Wildlife	Earnings; employment; costs; sales and revenues; profits; wealth; tax revenues
	Other Land Uses	Earnings; employment; costs; sales and revenues; profits; wealth; tax revenues
	Plan Budget	Earnings; employment; costs; sales and revenues; profits; wealth; tax revenues
	Land-Disturbing Activities	Earnings; employment; costs; sales and revenues; profits; wealth; tax revenues
SOCIAL CONDITIONS		Community lifestyles; individual lifestyles

TABLE 13

Oil and Gas Leasing Category Acreages

Category	SRRA	FPU
1	1,130,280	51,770
2	43,130	18,270
3	169,320	5,310
4	121,110	0
TOTALS	1,463,840	75,350

Source: Oil and Gas Leasing Category Plats.

The second allocation stage is leasing, which is handled by the Bureau of Land Management's (BLM's) Utah State Office (USO) (see chapter 2). The third stage includes exploration, development, and production operations.

Geophysical activity is measured in miles of seismic line. Approximately 500 miles of seismic line were run in the planning area between 1982 and 1985, none in 1986 or 1987. FPU has had no measurable geophysical exploration in the past 5 years.

Resource Condition and Potential

Generally, areas of high potential surround areas of current (1987) production; medium-potential areas have had oil and gas shows in favorable rocks; and low potential areas are those where there have been no shows and where no traps are apparent.

Potential for occurrence of oil and gas resources is high over approximately 106,310 acres (7 percent of the planning area), medium on 936,540 acres (64 percent), and low on 420,990 acres (29 percent) (map 78). Potential for occurrence of oil and gas is moderate over the entire FPU (75,350 acres). Production occurred on less than 1 percent of the planning area.

High potential for oil and gas production is from three fields: the Flat Canyon and Ferron fields in the Wasatch Plateau area and the South Last Chance field in the southern San Rafael Swell area.

Oil and gas potential is low in San Rafael Reef, where the rocks are faulted and folded at 90 degrees and exposed at the surface, and in the Green River corridor, where exposure has caused the hydrocarbons to degrade or migrate out of the potential reservoir rock.

The San Rafael STSA is located in the central portion of the San Rafael Swell. Campbell [1977] estimates the STSA contains 385 million barrels of oil.

Development of tar sand resources in the planning area before the year 2000 is considered unlikely. Future development will depend entirely on demand; as the world supply begins to dwindle, more exploration for small deposits such as those found in the planning area is expected to occur.

Oil and gas exploration has been active in SRRA since the first two wells were drilled in 1899. Production from SRRA-administered lands for the year 1987 is listed in table 14. At production, the lease owner is required to pay a royalty on all produced oil at a maximum rate of 12.5 percent.

Federal production totals in Emery County for 1987 were 21,336 barrels of oil and 77,059 thousand cubic feet (MCF) of gas. Total 1987 production from lands administered by SRRA was approximately 44,738 MCF of gas.

The three oil and gas fields within SRRA are designated known geologic structures (KGSs). Although KGSs no longer have any official standing due to passage of Federal Onshore Oil & Gas Leasing Reform Act of 1987, they are discussed here because of their high potential for oil and gas. The three KGSs cover 66,580 public land acres in SRRA and 5,760 U.S. Forest Service (USFS) acres and vary in size

TABLE 14

1987 Production Statistics for Federal and Nonfederal Lands

	San Rafael Resource Area				Emery County Total			
	Federal Minerals		State Minerals	Private Minerals	Federal Minerals		State Minerals	Private Minerals
	BLM	USFS			BLM	USFS		
Oil (barrels)	0	0	0	0	21,273	63	739	0
Gas (MCF)	44,738	0	0	144,567	55,244	21,815	59,084	144,567

Source: UDNR, 1987.

from 1,520 to 129,450 acres. As of December 1987, the Ferron and Flat Canyon fields were producing, and South Last Chance field was shut-in (table 15).

There is potential for further oil and gas production from Flat Canyon field in the Wasatch Plateau, Ferron Field in Castle Valley, and South Last Chance field in the southern San Rafael Swell. These fields produce from the Moenkopi Formation, the Ferron Sandstone member of the Mancos Formation, the Dakota Formation, and the Kaibab Formation. Several other formations have shows that indicate potential for future production (table 16).

Although there is no current oil production in SRRA, production has occurred in the past, and there are producing areas adjacent to the planning area; therefore, the possibility of future production from SRRA does exist.

COAL

Location and Extent of Resource

The Wasatch Plateau Coal Field and the Emery Coal Field occur within the planning area (map 18). The planning area includes the subsurface resources of the southern half of the Wasatch field, which is approximately 90 miles long and 7 to 20 miles wide, is located on the west boundary of the planning area, and extends through FPU. The Emery field, which is 6 miles wide and 35 miles long, is located in Emery and Sevier Counties about 70 miles south of Price, Utah. It covers nearly 210 square miles and is oriented northeast-southwest.

USFS manages the surface of most of the Wasatch Plateau coal field; however, under the Mineral Leasing Act, BLM is responsible for managing the coal resources and development operations. The Emery coal field underlies private and public lands.

Allocations

Before 1979, BLM allocated coal resources through known recoverable coal resource areas (KRCRAs). The Wasatch Plateau KRCRA was established in 1974 and amended in 1977. The Emery KRCRA was established in 1979. In 1979 new coal leasing regulations made all leasing competitive; since then, no new KRCRAs have been established.

KRCRAs are not used to classify areas for coal leasing; however, the Wasatch Plateau and Emery KRCRAs have been labeled as areas of high development potential. Coal of a minable thickness probably exists inside these areas.

Land use planning decisions, which include application of the coal unsuitability criteria (appendix F), identify lands within federal coal production regions that are acceptable for further consideration for leasing. The unsuitability criteria, updated in 1982 and 1983, have been applied to federal lands in the KRCRA outside Manti-LaSal National Forest (NF).

Regional coal activity planning (appendix F) will begin when the plan is complete. The regional coal team will guide leasing studies and recommend regional leasing levels and schedules to the Secretary of the Interior. If the demand will not support a regional lease sale, the region may be deactivated, or portions of it may be deleted.

The U.S. Department of the Interior (USDI) may consider applications to hold federal coal lease sales other than through the regional leasing process. There are two types of applications: (1) new leases by application outside federal coal production regions and (2) emergency lease sales, which are held when the coal is needed within 3 years to maintain production at existing mines, to meet contractual obligations, or to prevent the bypass of federal coal. Emergency lease sales may occur inside coal production regions, but leasing by application may not.

All coal leasing is by competitive bidding. Lease modifications are noncompetitive. Coal lease terms and conditions are subject to readjustment 20 years after the lease is issued and every 10 years after their first post-1976 readjustment. Leases issued before passage of the Federal Coal Leasing Amendment Act (FCLAA) are adjusted to conform to FCLAA upon their first post-1976 readjustment.

TABLE 15

Oil and Gas Fields and Production Statistics

Known Geologic Structures San Rafael Resource Area	Approximate Location Township	Approximate Location Range	Discovery Date	Acreage	Status (3/1/85)	1987 Production Oil (barrels)	1987 Production Gas (MCF)	Cumulative Production (as of 12/87) Oil (barrels)	Cumulative Production (as of 12/87) Gas (MCF)
Greater Ferron	15 S. 16 S. 17 S. 18, 19 S. 20, 21 S.	9, 10 E. 8, 9, 10 E. 8, 9 E. 7, 8 E. 7 E.	08/57	127,450 (Federal 65,060)	Producing	0	195,113	38,470	9,523,595
Flat Canyon	16, 17 S.	6 E.	06/53	6,600 (Federal 5,760)	Producing	124	79,992	1,545	1,452,122
South Last Chance[a]	26 S.	7 E.	02/35	1,520	Gas Shut-in	0	0	0	0
TOTAL						124	275,105	40,015	10,975,717

[a]Very remote location; no pipelines.

Source: UDNR, 1987.

TABLE 16

Oil and Gas Production Potential

Age	Formation	Hydrocarbon Type	Location in Planning Area	Potential
Devonian	Elbert and Ouray	oil and gas	throughout	medium
Mississippian	Madison Limestone Deseret-Humbug	oil and gas	throughout	medium
	Manning Canyon	oil and gas	northern part	medium
Pennsylvanian	Paradox	oil and gas	southern and eastern parts	medium to high
Permian	Kaibab	oil and gas		medium to high
	Cutler/Coconino	tar sand		medium
Triassic	Moenkopi	oil and gas	San Rafael Swell	productive
Jurassic	Navajo	oil and gas	throughout	medium
	Entrada			
Cretaceous	Dakota	gas	Wasatch Plateau	productive
	Mancos/Ferron	gas	Wasatch Plateau	productive

Resource Condition and Potential

Economic coal beds of the Wasatch Plateau south of Huntington Canyon lie in the Blackhawk Formation (figure 2). The Hiawatha coal seam, appearing at the base of the Blackhawk Formation, is the most prevalent and extends the length of the coal field. The Blind Canyon seam appears in the North Horn-East Mountain area and is located 50 to 100 feet above the Hiawatha seam. Several other economic coal seams appear in localized areas such as the Bear Canyon, Cottonwood, and Upper Hiawatha splits. Rock splits, igneous dikes, and coal wants (thinning of coal beds), render parts of the coal seams unminable. The Wasatch Plateau field has highly volatile bituminous coal with a low sulfur content.

The Emery coal field has many discontinuous beds; 13 have been defined, but only 6 achieve 5-foot thickness through the area. Coal in the Emery field is ranked as sub-bituminous.

The planning area's in-place coal reserves total approximately 2.7 billion tons [Doelling, 1972]. Actual development potential is based on several marketability factors; however, both coal fields are considered major mining districts.

Coal mining continues to be an integral part of the history of Emery and Sevier Counties. Coal was discovered in the Wasatch Plateau field in 1874. The first commercial production came the next year from mines in Huntington Canyon [Spieker, 1931]. In the next 25 years, many new mines were opened, mostly in the north end of the coal field in the Scofield and Hiawatha-Spring Canyon areas. Doelling [1972] estimates that over 70 small mines were operated at some time between 1880 and 1970 in the Wasatch Plateau south of Huntington Canyon and in the Emery coal field. All the mines south of Huntington Canyon were small operations providing coal for local space heating. This situation remained through the early 1970s.

In the 1970s, the demand for coal took a dramatic jump. In 1974, Utah Power and Light Company (UP&L) began constructing the first of five large coal-fired electricity-generating units in Emery County. Each of the five power units consumes approximately 1 million tons of coal per year. UP&L now (1988) has three large underground mines supplying coal to the three-unit Hunter generating plant near Castle Dale and the two-unit Huntington plant located at the mouth of Huntington Canyon.

Coal production levels peaked in 1982, but have fallen somewhat in the past 3 years. Production has been on a slight increase since 1986. The demand for electricity has fallen short of early 1980 projections, and oil is a strong competitor in the production of electricity. In 1985, coal production came from seven underground mines (table 17) in the planning area.

The best cumulative production estimate garnered from current figures and a 1970 estimate is 60 million tons mined from the Wasatch Plateau field south of Huntington Canyon since 1880 and 5 million tons mined from the Emery coal field since 1930 [Doelling, 1972].

As of October 1987, the planning area had 43 existing federal coal leases covering 43,800 acres; USFS manages the surface of 38 leases involving 38,800 acres.

Four coal tracts in the planning area were competitively bid and leased between 1981 and 1982. Three other tracts were offered but not sold. Nine additional tracts in the planning area were delineated but never offered. These tracts (table 18) would be likely targets for future leasing.

SRRA contains seven operating mines, including three of the largest underground coal mines west of the Mississippi River. All but one mine is operating in the Wasatch Plateau field under land managed by USFS. The planning area's main emphasis in coal management is monitoring compliance with mining and exploration plans, maximum economic recovery, coal production verification, diligence, and lease term requirements.

MINERAL MATERIALS

Location and Extent of Resource

Mineral materials, including sand and gravel, clay, building stone, fill dirt, decorative stone, crushed stone, petrified wood, and bentonitic clay, are found throughout the planning area.

TABLE 17

Producing Coal Mines in the Planning Area

Mine Name	Operator	Federal Coal Lessee	1985 Production (tons) Federal	Total
SUFCO No. 1	Southern Utah Fuel Company	Coastal States Energy	1,420,000	1,780,000
Emery Mine	Consolidation Coal Company	Consol & Chevron	0	300,000
Trail Mountain Mine	Diamond-Shamrock Trail Mountain Coal Company	Diamond-Shamrock	0	168,000
Wilberg-Cottonwood Mine Complex	Utah Power & Light	Utah Power & Light	280,000	[a]320,000
Des-Bee-Dove Mine Complex	Utah Power & Light	Utah Power & Light	302,000	650,000
Deer Creek Mine	Utah Power & Light	Utah Power & Light	1,970,000	2,000,000
Bear Canyon Mine	Co-op Mining Company	C.O.P. Coal Development Co.	42,000	400,000
TOTALS			4,014,000	5,618,000

NOTE: Current as of January 1986.

[a]Production figure is low because the mine is recovering from a fire.

Source: Company production records.

TABLE 18

Coal Tracts Delineated but Not Leased

Tract Name	Acreage	Surface Managing Agency	Coal Field
Accord	120	private	Wasatch
Blue Trail	320	BLM	Emery
Emery Central[a]	2,968	BLM	Emery
Emery South[a]	748	BLM	Emery
Ferron Canyon	2,680	USFS	Wasatch
Ivie	1,040	USFS	Wasatch
North Horn[a]	21,043	USFS	Wasatch
The Pines	8,921	USFS	Wasatch
Quitchupah	9,905	USFS	Wasatch
Skumpah	640	USFS & private	Wasatch
Trail Mountain	6,950	USFS	Wasatch
Walker Flat	1,520	BLM & private	Emery
TOTAL	56,855		

[a]These tracts were offered but received no bid.

Source: BLM, 1981c.

The primary source for asphalt-grade material is limestone and sandstone bedrock found throughout the planning area. Material for asphalt mix is sometimes made by crushing limestone, or other suitable material is brought in from outside the area.

Stone is used for riprap on stream banks and construction projects. The stone is obtained from the Moenkopi and Cedar Mountain Formations and the Emery Sandstone member of the Mancos Shale (figure 2).

Clay obtained from the Carmel Formation is used to stabilize sandy roads and sand dunes, while bentonitic clay from the Morrison Formation is used to line ponds and reservoirs.

Petrified wood occurs in the Chinle Formation, which crops out in SRRA. Use is incidental to recreation.

Allocations

Mineral materials are allocated through material sales or free-use permits. Currently utilized deposits of sand and gravel, clay, stone, and fill dirt are shown on maps 20, 21, and 22.

Resource Condition and Potential

The sand and gravel deposits in the planning area are generally too poor in quality to be used in asphalt or concrete, but make suitable road base material. Limestone in SRRA and FPU is of sufficient strength and density to be used in asphalt.

Common clay and bentonitic clay occurring in SRRA and FPU contain too many impurities to be useful as paper filler, ceramic clay, or bentonite for drilling mud.

The entire planning area has high potential for one kind of mineral material or another, but the particular type required for a project may not be found close to the project site.

Mining claims on large areas of SRRA effectively prevent disposal of the mineral materials present. During fiscal years 1984 and 1985, two free-use permit applications were rejected because of mining claims, and for the same reason several more applications were not filed.

Applications for sand and gravel, clay, and various types of stone make up over 98 percent of the mineral material workload in SRRA. The FPU mineral material workload is entirely attributable to sand and gravel applications.

Currently (1986), there are 35 free-use permits (2,230 acres, map 20), 4 material site rights-of-way (330 acres, map 21), and 6 com-

munity pits (770 acres, map 22) in SRRA. Production from the free-use permits in fiscal year 1987 was 164,095 cubic yards of sand and gravel and 1,050 tons of stone; the community pits produced 100 cubic yards of sand and gravel, 160 tons of stone, and 55 tons of clay. A material sale for 2,100 cubic yards of fill dirt was held in fiscal year 1985. Although mineral materials were not produced in FPU, the area has three free-use permits (160 acres), two community pits (100 acres), and two material site rights-of-way, which have been transferred to state ownership and therefore need not be discussed here.

Community pits are areas from which members of the public can purchase small amounts of material. There are presently (1988) two designated community pits for sand and gravel, two for building stone, and two for bentonitic clay within SRRA. Two community pits for sand and gravel have been designated in FPU. The community pits were established to ensure a continuous supply of material in strategic geographic locations, where all conflicts with other resources have been resolved before material applications are received. Free-use permits are issued to nonprofit organizations and government agencies, primarily Emery County in SRRA. Material site rights-of-way are granted to the Utah Department of Transportation (UDOT) and the Federal Highway Administration for use in constructing and maintaining federal-aid highways.

Actual sales, free-use permits, and production of sand and gravel for SRRA in fiscal years 1984 through 1987 are shown in table 19. Table 20 shows Emery County's production from federal and private sources.

Small quantities of petrified wood (25 pounds per day, not to exceed 250 pounds per year) may be removed by individuals for personal use, free of charge and without a permit. There was no recorded production of either petrified wood or topsoil from SRRA in fiscal years 1984 through 1987, but approximately 279,791 cubic yards of sand and gravel and 16,474 tons of stone were produced during that time period. No mineral materials were produced in FPU.

TABLE 19

Mineral-Material Production in the Planning Area

	Fiscal Year			
Method of Disposal	1984	1985	1986	1987
Mineral material sales (cubic yards)	0	2,100	0	0
Community pit production				
Sand and gravel (cubic yards)	117	400	1,050	100
Stone (tons)	72	44	80	100
Clay (tons)	0	0	80	55
Free-use permits				
Volume permitted				
Sand and gravel (cubic yards)	300,000	500,000	900,000	390,000
Stone (tons)	9,000	26,000	50,000	0
Volume produced				
Sand and gravel (cubic yards)	11,300	22,300	82,096	164,095
Stone (tons)	2,200	1,200	14,224	1,050

Source: SRRA files.

TABLE 20

Mineral-Material Production by Emery County

	Sand and Gravel (cubic yards)		Stone (tons)	
Fiscal Year	Private	Federal	Private	Federal
1984	29,082	11,300	0	0
1985	49,505	22,300	0	1,200
1986	N/A	82,096	N/A	14,224
1987	N/A	164,095	N/A	1,050
TOTAL	78,587	279,791	0	16,474

NOTE: N/A = data not available.

Source: SRRA files; letter from Emery County Road Department dated June 27, 1986.

LOCATABLE MINERALS

Location and Extent of Resource

Locatable minerals found in the planning area include uranium, vanadium, gypsum, manganese, sulfur, quartz sand, and copper, of which uranium, vanadium, and gypsum are the most frequently claimed.

Uranium and vanadium are found in the Morrison and Chinle Formations (figure 2). The Morrison Formation crops out around the flanks of the San Rafael Swell and in the northern part of the San Rafael Desert. The Chinle Formation crops out in the San Rafael Swell and along the Green River. In this area, uranium and vanadium deposits are usually small, scattered ore bodies of less than 10,000 tons.

Gypsum is found in the Carmel and Summerville Formations (figure 2), which crop out on the flanks of the San Rafael Swell and in the central and southern parts of the San Rafael Desert. Beds of pure or nearly-pure gypsum up to 11 feet thick occur in these formations.

One small body of copper occurs in the Navajo and Kayenta Sandstones of the San Rafael Swell.

Small low-grade manganese deposits occur near the town of Moore and along the Muddy River in the Morrison Formation, near Horse Bench in the Summerville and Curtis formations, and near Saucer Basin in the Entrada formation.

Small sulfur deposits occur along the San Rafael River along the contact between the Moenkopi formation and the Kaibab Limestone as the result of deposition from thermal springs.

A glass sand deposit is reported to occur in the Coconino Sandstone in the Cottonwood Wash and Straight Wash areas. Extent and quality of the deposit is not known.

Exploration and mining for uranium and vanadium occurred in previous decades in the San Rafael Swell area.

Allocations

Locatable minerals are allocated through location of mining claims. Exploration can take place without a claim, but an unclaimed discovery would be pre-empted by location of a claim. A mining claimant can apply for a patent on an unpatented mining claim. A patented mining claim is owned by the claimant and is no longer part of the public domain.

By law, all public lands are open to mineral entry (mining claim location) unless specifically segregated or withdrawn. Withdrawals are made at the USDI level, but may be in response to a recommendation originating at the resource area.

Lands are segregated in response to applications for certain forms of land disposal. The purpose of a segregation from mineral entry,

if applied, would be to prevent new mining claim locations from clouding title to lands that are to be classified for disposal or another specified purpose, since a mining claimant has an inherent right to carry to surface patent. This type of allocation is generally in small, scattered tracts and cannot be anticipated through the planning process.

Withdrawals of land from appropriation under the mining laws are governed by Section 204 of the Federal Land Policy and Management Act (FLPMA) of 1976. Only the Secretary of the Interior, the President, or the Congress can withdraw public lands. A withdrawal generally covers a large area set aside for a specific purpose, such as Capitol Reef National Park (NP). The land is withdrawn from mineral entry to protect certain resource values from the effects of mining or to prevent land from passing from federal ownership through patent. While withdrawals are beyond the resource area manager's discretion, the RMP can serve as a basis for recommendations through administrative channels that lands be withdrawn from mineral entry.

Over 19,000 mining claims have been located in SRRA, about 17 in FPU. Approximately 1,780 acres in the planning area have been withdrawn from mineral entry; the remainder is open or partially open to entry (map 23). Tables 21 and 22 compare management categories in the planning area to potential for occurrence of uranium and gypsum.

Resource Condition and Potential

The uranium and vanadium ore bodies range in size from a few tons to over 100,000 tons, but most contain fewer than 10,000 tons. Most ore bodies are either tabular or cylindrical [Hawley, et al., 1965; Hawley, et al., 1968; Trimble and Doelling, 1978].

There is high potential for uranium development where the Morrison and Chinle Formations occur under less than 1,000 feet of overburden; development potential is medium to low where these formations occur at deeper levels (map 79).

TABLE 21

Comparison of Management Category and Uranium Potential

	Potential for Occurrence (acres)			
	SRRA		FPU	
Management Category	High	Moderate Low or None	High	Moderate Low or None
Open	334,240	1,093,800	7,200	68,150
Open[a]	24,840	9,180	0	0
Closed[b]	0	1,780	0	0
TOTAL	359,080	1,104,760	7,200	68,150

[a]Powersite withdrawals. [b]Recreation and Public Purpose Leases.

Source: Master Title Plats; UDOT, 1971.

TABLE 22

Comparison of Management Category and Gypsum Potential

	Potential for Occurrence (acres)					
	SRRA			FPU		
Management Category	High	Moderate	Low or None	High	Moderate	Low or None
Open	290,560	458,550	671,220	6,860	14,300	54,010
Open[a]	0	13,560	20,460	0	0	0
Closed[b]	2,100	1,600	4,010	40	60	80
Closed[c]	10	710	1,060	0	0	0
TOTAL	292,670	474,420	696,750	6,900	14,360	54,090

[a]Powersite withdrawals.
[b]Public water reserves.
[c]Recreation and public purpose Leases.

Source: Master Title Plats; UDOT, 1971.

Gypsum occurs as large sheets extending for many miles. Several million tons of gypsum probably occur in each deposit. Trimble and Doelling [1978] estimated that 20 million tons of gypsum occur in the San Rafael River area alone.

Development potential for gypsum is high where the Summerville and Carmel Formations contain known gypsum beds 4 or more feet thick under less than 1,000 feet of overburden; gypsum development potential is medium where these formations occur at the same depth but gypsum beds are not known to occur. Development potential for gypsum is considered low where the Summerville and Carmel Formations are deeper than 1,000 feet (map 80).

A glass sand deposit reportedly occurs in the center of the San Rafael Swell. The extent and the quality of the deposit is not known. Development is not expected to occur by the year 2000.

There are no known gold deposits in the planning area; therefore, the occurrence of gold is not addressed.

Strategic and critical minerals and metals occurring in the planning unit include copper, manganese, and vanadium. The only known occurrence of copper in the planning area is a small deposit at the Copper Globe mine, located on the west flank of the San Rafael Swell. A few small, scattered, low-grade manganese deposits occur in the planning area. Since the deposits are small and low-grade, no development is expected to occur. Vanadium, produced as a by-product of uranium, is the only strategic or critical mineral or metal that has been produced in the planning area in any quantity. However, since no uranium is currently being produced, neither is vanadium.

Areas of high potential for uranium and gypsum occurrence cover about 575,000 acres; about 75 percent of the planning area has some potential (low to high) for either uranium or gypsum. As shown in tables 21 and 22, approximately 34,000 acres in the planning area under powersite withdrawals were opened to mineral entry under the Mining Claim Rights Restoration Act of 1955. Some 7,710 acres in SRRA are segregated from entry as public water reserves (PWRs), 180 acres in FPU (map 23).

Because mining claimants have the right to prospect for locatable minerals and locate mining claims without government approval, BLM's involvement in the location process for locatable minerals is minimal. Mining claims are recorded and adjudicated at USO. Resource area personnel process notices of intent for projects that would disturb 5 acres or less and process and approve plans of operation where more than 5 acres would be disturbed; they also perform mining claim validity examinations.

USFS manages mining claims on the Fishlake and Manti-LaSal NFs in much the same way as BLM manages claims on public land. The BLM USO records mining claims on USFS lands, and USDI has paramount responsibility for these claims. USFS processes notices of intent and plans of operation for exploration or mining on claims and initiates any contest complaints against the claims. The resource area has essentially no involvement in surface management of mining claims located on USFS lands, unless requested.

Capitol Reef NP was withdrawn from mineral entry in 1971. Most of the claims existing at that time have been either dropped by the claimants or invalidated. Two mining claims are presently (April 1988) located within the park. Access to mining claims that lie outside the park can be obtained through the park only on designated roads, on foot, or with pack animals.

Exploration and mining for uranium and vanadium occurred in previous decades in the San Rafael Swell area. Open mine tunnels carry the potential for exposure to radon gas and the resulting radioactive radon daughters. In a preliminary field survey of potentially hazardous sites in SRRA, Hare and Day [1986] identified approximately 100 open mine tunnels (table 23).

The first uranium ore mined in SRRA was taken from Temple Mountain in 1914. Only small amounts were removed until 1948, but between 1948 and 1956, 1,287,000 pounds of uranium oxide and 3,799,000 pounds of vanadium oxide were produced from the San Rafael Swell [Hawley, et al., 1965]. The Delta/Hidden Splendor mine, the largest in SRRA, was discovered in 1952 and produced over 100,000 tons of ore. The Lucky Strike mine, discovered in 1949, had produced over 10,000 tons of ore by 1957 [Hawley, et al., 1968].

TABLE 23

Hazardous Areas Identified in San Rafael Resource Area

Name of Area	Open Portals	Radon Hazard	Mine Shafts	Open Holes
Reds Canyon	x	x		x
Flat Top and Temple Mountain	x	x	x	x
Rods Valley	x	x		x
Head of Sinbad	x	x		x
Muddy Creek	x	x		x
Cistern, Bell, Chute, and Crack Canyons	x	x		x
Wild Horse Mesa	x	x		x
San Rafael Reef	x	x		
San Rafael Desert				x
Coal Wash, McCarty, Saddle Horse, and Virgin Spring Canyons	x	x		x
Bottleneck Peak	x	x		
Jessie's Twist and Horse Bench			x	x

Source: Hare and Day, 1986.

Demand for uranium was small until late 1965 when nuclear powerplants began to be planned and built across the United States. Nuclear power use has since declined, contributing to a downturn in the uranium market. In addition, foreign producers have been flooding the market with low-cost uranium. Essentially no production of uranium from the planning area has occurred since 1985.

To date (1988), uranium properties have been developed only where surface exposures of the Morrison and Chinle Formations occur, such as in canyon walls or on cliff faces. Most production has been from the Temple Mountain, Delta/Hidden Splendor, and Lucky Strike mines. Known uranium mines and surface exposures of the Morrison and Chinle Formations are shown on map 79.

No gypsum is currently (1988) being produced in the planning area, but two gypsum mines have been proposed in the Chalk Hills area to produce rock dust for use in coal mines. The manufacture of wallboard could be another potential gypsum market.

Copper occurs in the Navajo and Kayenta Sandstones. A small copper deposit was discovered in the late 1800s south of what is now Highway I-70 east of Sagebrush Bench. Three shipments of ore were removed during World War I, and additional ore was removed during World War II, but the quantity and grade are unknown. The mine currently (1988) produces small quantities of copper for jewelry and mineral specimens.

BIOTIC COMPONENTS

SOILS

Location and Extent of Resource

Soils in the planning area are described in the soil survey of the Emery County and Henry Mountain areas, which cover portions of Emery and Sevier Counties respectively. This manuscript is scheduled for final correlation in 1991. Copies of the completed soil maps and draft manuscript may be reviewed in the Moab District and SRRA offices.

Badland and gypsumland, natural sources of large amounts of salt and sediment, lack vegetation but frequently have a thin mantle of hard shale or rock fragments or cryptogamic cover, which provides some stability and helps prevent surface erosion.

The planning area has an estimated 637,770 acres of soils with surface textures that are highly susceptible to water erosion; these

soils cover about 611,350 acres in the grazing area. The surfaces of these soils generally have a high proportion of fine sands or silts with little binding material. When the vegetation on these soils is removed by surface disturbance, fire, or heavy grazing pressure, the soils are subject to erosion. Vegetation disturbance on these soils could result in erosion rates of 10 to 15 tons per acre per year. Estimated soil loss, sedimentation, and salinity under current management are shown in table 24.

The planning area has an estimated 467,060 acres of soils that are highly susceptible to wind erosion; these soils cover about 556,750 acres in the grazing area. These soils have a very high proportion of sands and little binding clay or organic matter. Under conditions of prolonged drought or large-scale surface disturbance, wind erodes these soils; structures such as fences, cattleguards, roads, and reservoirs can be damaged, covered, or removed by this erosion.

The planning area has an estimated 1,047,250 acres of soils that have a high runoff potential; these soils cover an estimated 1,053,480 acres in the grazing area. These soils consist chiefly of clays and shallow soils to bedrock or hardpan, badlands and rock outcrops. They have very slow infiltration rates when thoroughly wetted.

Approximately 9,930 acres of soils in the planning area and 18,380 acres in the grazing area occur along floodplains of major stream channels and are subject to flooding for some period of time. In addition, many small drainages are subject to infrequent flash flooding during intense localized convective storms. Approximately 15,530 acres in the planning area and 16,030 acres in the grazing area are subject to occasional flash floods. Many of these drainages have deeply incised cutbanks. Current estimates indicate that between 7,135,590 and 60,414,500 tons of soil per year are being lost.

Approximately 157,430 acres in the planning area and 145,420 acres in the grazing area could qualify as prime farmland if a dependable water supply were available in 7 out of 10 years. Currently a dependable supply is not available.

Allocations

Soil use, while not directly allocated, is an inherent part of any land development activity.

Resource Condition and Potential

The arid climate has affected soil development in the planning area. Soils developed in alluvium, residuum, and aeolian material contain little organic matter.

Soils developed on marine formations are high in gypsum and other salts. High concentrations of these salts at or near the soil surface limit the types and amounts of vegetation present. These areas are also major diffuse sources of salt and sediment to the Colorado River system.

Salt and sediment yield is of major concern in the Colorado River basin, and erosion from public lands is an important source of sediment and associated salts in the planning area. Some of this is natural or results from relatively stable conditions in an arid or semiarid climate with periodic high-intensity storms.

The actual contribution of salt and sediment yield to the total Colorado River basin from drainages in the planning area is unknown.

Many shallow soils and those with horizons high in gypsum have a cryptogamic cover and are therefore sensitive to surface disturbance. Critical soils contain very highly saline soils and/or are very highly susceptible to water erosion. Critical soils encompass 565,280 acres in SRRA, 9,040 acres in FPU, and 544,130 acres in the grazing area (map 69). Some soils in the planning area are at or near their potential for producing vegetation, but may not be at potential for plant species composition of potential natural communities (PNCs).

Watershed resources consist of the interaction between soils and water. The condition of the soil surface (including vegetation) largely determines the amount of runoff from an area.

TABLE 24

Current Soil Loss, Sediment Loading, and Salt Loading

Soils Category	Acres		Current Management (tons per acre per year)		
	Planning Area	Grazing Area	Soil Loss	Sediment Loss	Salinity
High potential for contributing salt and sediment	613,320	591,750	6.5 to 37.5	2.9 to 15	0.052 to 0.26
High susceptibility to wind or water erosion when disturbed	1,104,830	1,168,100	3.5 to 37.5	1.4 to 15	0.0041 to 0.26
High runoff potential	1,047,250	1,053,480	3.5 to 37.5	1.3 to 15	0.0039 to 0.27
High Potential for Loss in vegetation productivity under high rates of wind or water erosion	332,150	389,190	0.7 to 8.8	0.29 to 3.5	0.00085 to .01

Critical watershed areas include soils that (1) have a high potential for salt yield; (2) are subject to severe water and wind erosion when disturbed; (3) have high runoff potential during storm events; (4) are subject to frequent flooding; or (5) have a potential for loss of vegetation productivity under high rates of wind or water erosion. Critical watersheds encompass 1,013,560 acres in SRRA, 63,060 in FPU, and 1,131,240 in the grazing area (map 70).

The condition of a drainage includes the present channel geometry and the streambed characteristics. Stable drainages tend to have well vegetated banks and streambeds that are stable in bedrock, without steep or deeply incised banks. Unstable drainages show evidence of recent downcutting and gullying. There has been no inventory of drainage conditions in the planning area. Activity plans were written for Muddy Creek, Cottonwood, and Ferron Creek watersheds. No activity plan is currently in effect (1988) for the San Rafael drainage.

WATER

Location and Extent of Resource

Most of the planning area is within the upper Colorado River basin and includes portions of three smaller drainage basins: the San Rafael, Dirty Devil, and Green Rivers. About 800 acres in the northwestern part of the FPU are within the Sevier River drainage basin, which leads to Sevier Dry Lake. The surface of the planning area is divided among the four drainage basins approximately as follows: San Rafael River basin, 54 percent; Dirty Devil River basin, 40 percent; Green River basin, 6 percent; and Sevier River basin, less than 1 percent.

Concerned agencies, including U.S. Geological Survey (USGS), the State of Utah, and others have established a gauging network on the San Rafael River and Muddy Creek and their major tributaries to monitor salt content and compliance with water quality standards on major stream segments.

Waters in the planning area are used primarily for agricultural, municipal, and industrial purposes. Recreationists and fish and wildlife are also important users but, as a rule, do not consume appreciable quantities of water. Stock watering is also important. If water for livestock is not otherwise available, it is developed, but quantities are not great.

The following municipal watersheds cover a total of 14,070 acres in SRRA: Huntington, Cleveland and Elmo, which derive water from Huntington Creek; Castle Dale and Orangeville, which derive water from Cottonwood Creek; and Ferron, Clawson and Molen, which derive water from the Millsite Reservoir on Ferron Creek.

Allocations

Water rights are established by state law. BLM participated in two adjudications of state water rights which cover the planning area. The RMP cannot be used to determine water rights, but it may be used as a basis to develop future uses for water in the planning area.

Resource Condition and Potential

Water quality is the measurement of physical, chemical, and biological parameters of the streams in the area. The target parameters are set by state and federal regulations for particular stream segments or particular water uses. State water quality standards have been exceeded at several stations and reported by the Environmental Protection Acency (EPA) data, 1987. Short-term variances also occur.

Most surface water in the planning area flows from USFS land on the Wasatch Plateau. The perennial streams (Green River, San Rafael River, Muddy Creek, and Salina Creek) and their major tributaries are diverted for irrigation. During the summer most of the water in San Rafael River and Muddy Creek is return flow from irrigation. Surface water quality in most of the planning area is poor, with high total dissolved solids (TDS) levels and heavy sediment loads.

Irrigation return flow adds to the salinity problem. When the San Rafael River and Muddy Creek are diverted for irrigation, return flows are saline.

Runoff from public lands tends to accumulate salts and sediment and transport them into the main drainages during storms, adding to the salt content of San Rafael River and Muddy Creek.

Over 20 percent of the upper Colorado River basin's salt load comes from public lands; most of it from surface or near-surface transport of salt from saline geologic formations and saline soils. Salt yield is between 28,625 and 424,404 tons per year.

Activity plans may be required to bring some planning area stream segments up to state standards.

Ground water quality is highly variable, depending on the formation in which the aquifer is located and on the well location.

Ground water contamination is a continuing concern. Fresh water in the Navajo Formation is contaminated with high levels of TDS where this formation is exposed next to San Rafael River and Muddy Creek. Activities such as mining or drilling have the potential to contaminate this and other fresh-water aquifers.

Most ground water recharge occurs from areas of irrigation return flow and near the USFS boundary. Larger and more consistent quantities of water and a greater number of water sources are in demand, particularly for wildlife and livestock. More water sources could help to redistribute livestock and wildlife and assist in range management.

The natural water resource functions of riparian areas must be protected. These include (1) floodplain protection; (2) vegetation stabilization for stream bank stability; (3) providing a buffer strip for water purification; (4) raising the ground water table; and (5) regulating water temperature.

AIR QUALITY

Location and Extent of Resource

All of the planning area is included in the Upper Colorado River airshed, bounded on the west by the Wasatch Plateau and Wasatch Range and on the north and east by the Roan Plateau and Rocky Mountains.

Allocations

Since the entire planning area is in attainment with national ambient air quality standards (NAAQS), the air resource can be allocated by prevention of significant deterioration (PSD) classifications (table 25) and visibility protection regulations. Changes in PSD classifications, generally from class II to class I, could result from a state or congressional decision. Visibility protection could be required as a result of any state regulations that might be formulated.

TABLE 25

Prevention of Significant Deterioration Increments

Pollutant	Averaging Time	Maximum Allowable[a] Concentrations Class I	Class II
Sulfur dioxide	annual	2	20
	24-hour	5	91
	3-hour	25	512
Total suspended particulates	annual	5	19
	24-hour	10	37

[a]Micrograms per cubic meter.

Source: Aerocomp, Inc., 1984.

The entire planning area is a class II air quality area. However, Capitol Reef NP, adjacent to the planning area, as well as Canyonlands and Arches NPs, near the planning area, are class I areas and therefore protected against air quality degradation. The class I

designation prevents any activity that would allow sulfur dioxide or particulate matter concentrations to exceed allowable limits in the parks. Visibility considerations can also restrict activities affecting class I areas.

The State of Utah considered integral vista designations. The Secretary of the Interior declined to name any integral vistas, stating that the states could adequately make any needed designations themselves [Federal Register Vol. 51, No. 15, January 23, 1986, Page 3048]. The state has opted, in their final rulemaking, not to identify or protect integral vistas or scenic views.

The RMP does not play a part in PSD classifications or integral vista designations.

Resource Condition and Potential

The planning area's air is clean because populations are small and spread out and because industrial activity is somewhat limited.

Powerplants in the planning area are major polluting sources as defined by the State of Utah. Construction, road development activity, and sand and gravel operations are potential sources of particulate matter. Particulate concentrations can be a local problem but are not considered major polluting sources.

BLM evaluates potential impacts to air quality from proposed activities by considering topographic or airshed features, atmospheric stability, mixing height, average wind speed through the mixed layer, and the interaction of these variables. Management of polluting activities requires a balance between protection of air quality and perpetuation of multiple-use resource development.

Air quality above the public lands has an influence on and is influenced by activities on public lands, and on other adjoining federal, state and private lands.

Generally, air quality for the area is good. The entire planning area is an attainment area with respect to NAAQS. NAAQS (table 26) are exceeded occasionally when strong winds suspend high concentrations of particulate matter. Such wind-blown dust is considered natural to the area does not constitute a violation of NAAQS.

TABLE 26

Applicable State and Federal Ambient Air Quality Standards

Pollutant		Averaging Time	Standard[a]
Sulfur dioxide	Primary	annual	80
		24-hour[b]	365
	Secondary	3-hour	1,300
PM-10[c]	Primary	annual	50
		24-hour[b]	150
	Secondary	same as primary	
Ozone		1-hour[d]	235
Nitrogen dioxide		annual	100
Lead		0.25 year	1.5
Carbon monoxide[e]		8-hour	10,000
		1-hour	40,000

[a]In micrograms per cubic meter unless otherwise noted.

[b]Not to be exceeded more than once per year.

[c]Particulate matter less than 10 microns in size.

[d]Expected number of days in a calendar year with maximum hourly values above 235 cannot exceed one.

[e]Milligrams per cubic meter.

Source: NPS and BLM, 1984.

Concentrations of various pollutants are predictably higher near towns and industrial facilities. Site-specific data are available in three major EISs that cover the planning area [BLM, 1977b; BLM, 1979b; USGS, 1979]. Ambient concentrations for San Rafael Swell are shown in table 27. The total suspended particulate (TSP) values in

table 27 reflect monitoring accomplished before the PM-10 regulations were in effect.

TABLE 27

San Rafael Swell Ambient Air Quality Concentrations

	Micrograms per Cubic Meter				
	24-Hour Maximum	Annual	1-Hour	8-Hour	1-Hour Maximum
Total suspended particulates	90	19			
Sulfur dioxide	13	13			
Nitrogen dioxide		13			
Carbon monoxide				---	---
Ozone					132

Source: Aerocomp Inc., 1984.

A major polluting source is one that emits 100 tons or more of any air pollutant from 27 established stationary sources or 250 tons per year or more of any air pollutant. Major polluting sources in the planning area would include the Huntington powerplants, which were built and operating before PSD regulations were adopted and therefore not considered under PSD review. Hunter units 1 and 2 are also major polluting facilities, but elected to implement scrubbing technology that allowed them to avoid PSD review and permitting. Hunter unit 3 did trigger PSD review; the unit was permitted by the State Bureau of Air Quality. Unit 3 is consuming allowable class II increments of both sulfur dioxide and TSP. Other sources that occur in the designated impact area around unit 3 will also consume increment above the background concentrations established for that area [Dave Kopta, Manager of Engineering, Utah Bureau of Air Quality, personal communication, August 1986].

In addition to the three nearby class I areas, BLM has identified four other areas as being of special interest in relation to air quality [BLM, 1979a; BLM, 1979b; and USGS, 1979]. The four special interest areas include Sids Mountain, Mexican Mountain, San Rafael Reef, and the lower Green River. Visibility protection was the reason for interest in these areas, because they are considered scenic and isolated [USGS, 1979].

Background median visual range from Cedar Mountain was reported to be 128 miles [Aerocomp Inc., 1984]. Actually, visibility varies considerably throughout the year. National Park Service data collected at Capital Reef National Park shows distinct differences between seasons. Their data is summarized in percentiles. For the 50th percentile, visual range is less than or equal to a particular value 50 percent of the time. Averaging 50th percentiles from 1978 to 1987 gives the following seasonal differences: 112 miles for spring, 145 miles for winter, 118 miles for fall, and 102 miles for summer. [Bill Malm, National Park Service (NPS) Air Quality Specialist, personal communication, 1988.]

The San Rafael Management Framework Plan (MFP) [BLM, 1979a] sets a goal to protect and enhance air quality of San Rafael Swell by managing it to maintain present visual quality. Although BLM cannot change an area's air quality class, the MFP discussed managing the swell as a class I area. However, for economic reasons associated with restricted industrial growth, the MFP opted to work within visual air quality class II requirements to maintain the high visual quality existing at that time. Class II regulations require the use of best available control technology, which could be used to obtain tighter control than would normally be required for class II areas if visibility is identified as needing that additional protection [Bill Wagner, Natural Resource Specialist, BLM USO, personal communication, July 1986].

VEGETATION

Location and Extent of Resource

Vegetation has been mapped for the San Rafael grazing area, which lies within parts of three defined geographic regions: the Colorado

and Green River Plateaus; the Central Desertic Basins, Mountains, and Plateaus; and the Wasatch and Uinta Mountains (map 81).

The San Rafael Desert falls within the Colorado and Green River Plateaus area, a 6 to 12-inch precipitation zone where the vegetation includes blackbrush and grassland.

The majority of the grazing area falls within the Central Desertic Basins, Mountains, and Plateaus area, a 6 to 9-inch precipitation zone where the vegetation is primarily pinyon-juniper and saltbush.

The western side of the grazing area falls within the Wasatch and Uinta Mountains area, a 15 to 18-inch precipitation zone where the higher elevations support mostly woodlands, timber (Douglas fir, limber pine), and aspen.

Distribution of vegetation types within the grazing area can be attributed primarily to a combination of climatic, edaphic, and topographic factors. Water availability and soil composition are particularly important. Altitude changes between valley floors and plateau tops also affect vegetation; saline and alkaline soils influence plant growth.

Four known areas of isolated, relict plant communities developed without the influence of domestic livestock grazing exist in the SRRA. The areas of Bowknot Bend (1,830 acres), North Big Flat Top (190 acres), Hebes Mountain (960 acres) and the San Rafael Reef (43,870 acres) have potential value for scientific study and for comparison with similar vegetation communities that have been grazed.

Allocations

Specific vegetation uses allocated are forest product use and grazing, both described later in this chapter. For this RMP, vegetation in the San Rafael Grazing Area is classified into vegetation zones: blackbrush, pinyon-juniper, sagebrush, grassland, salt shrub, vegetation manipulations, and miscellaneous landforms (map 81).

Although a few small areas in the northwestern portion of the grazing area are dominated by the conifer vegetation type or the greasewood vegetation type (found mainly on valley floors and floodplains), these areas are not shown on map 81.

Blackbrush

Blackbrush (Coleogyne ramosissima) is found in the San Rafael Desert. Blackbrush and related plants are thought to be survivors of older groups that were once more widespread [Bowns and West, 1976]. Other plants associated with blackbrush are Indian ricegrass, galleta, and Mormon tea.

Pinyon-Juniper

The pinyon-juniper associations inhabit semidesert and upland zones throughout the grazing area. The dominant species are Utah juniper (Juniperus osteosperma) and pinyon pine (Pinus edulis). The most common understory shrubs are shadscale (Atriplex confertifolia) and Mormon tea (Ephedra spp.). Major grasses are galleta (or curlygrass) (Hilaria jamesii), blue gramma (Bouteloua gracilis), Indian ricegrass (Oryzopsis hymenoides), and sand dropseed (Sporobolus cryptandrus) [BLM, 1978]. The perimeter, or ecotone, of the pinyon-juniper type comprises a mixed association of shrubs such as sagebrush or grassland/sagebrush. Open stands provide forage for livestock and wildlife, while closed stands usually provide little more than cover.

Sagebrush

The sagebrush vegetation zone occurs on the drier portions of the pinyon-juniper zone and the wetter fringes of the salt shrub zone. The major species are big sagebrush (Artemisia tridentata var. tridentata), Wyoming sagebrush (A. tridentata var. wyomingensis), and bigelow sagebrush (A. bigelovii).

Grassland

The grassland zone includes both desert and semidesert zones. Grasslands within the area consist primarily of perennial grasses intermixed with shrubs and annual grasses. The dominant grass species are Indian ricegrass, galleta, and blue gramma. Other

grasses include sand dropseed, threeawn (Aristida spp.), needle-and-thread (Stipa comata), squirreltail (Sitanion hystrix), and western wheatgrass (Agropyron smithii).

Salt Shrub

The salt shrub zone is characterized by low-growing shrub communities, which frequently occur in saline-alkaline soils at lower elevations. Dominant species are shadscale; Castle Valley clover (Atriplex cuneata); mat saltbush (A. corrugata); fourwing saltbush (A. canescens); wedgeleaf nuttal saltbush (A. nuttallii cuneata); and winterfat (Ceratoides lanata). Galleta and Indian ricegrass are the most important understory plants; both are salt-tolerant.

Vegetation Manipulations

Vegetation manipulations are areas where humans have changed the vegetation through chaining, plowing and seeding, or contour furrowing. Plant species that were introduced vary from project to project.

Miscellaneous Landforms

Miscellaneous landforms include badlands, rock outcrop, gypsumland, duneland, rubbleland, and riverwash. These are areas where conditions are so severe that only sparse vegetation exists. These areas are unstable and unproductive; they have low forage value for livestock or wildlife and minimal potential for improvement.

Threatened or Endangered Plant Species

The grazing area contains several endangered, threatened, or sensitive plants. The U.S. Fish and Wildlife Service (USFWS) lists broad areas of recognized habitat for T/E species in the Federal Register. Because of danger of illegal collection, USFWS has not designated any critical T/E plant species habitat within the planning area. Species listed or officially proposed for listing and species recognized by the state are afforded special management consideration. When the species is proposed for listing as T/E, BLM treats it as though it had already received T/E status under the 1973 Endangered Species Act. Protected plant species are listed in table 28.

Resource Condition and Potential

A range inventory between 1983 and 1985 determined ecological status of the grazing area. Ecological status can be summarized as follows: 9 percent early seral stage; 47 percent mid-seral; 22 percent late seral; and 9 percent PNC.

All ecological sites would naturally progress toward PNC with the absence of disturbance. However, between now and the year 2000, little change in ecological status would be evident if all human influences were removed from the rangelands. This lack of change is due primarily to the short time frame involved (12 years). Plant vigor and density may increase, but species composition would be slower to change. As well, wildlife grazing and natural occurring disturbances (such as fire, flood, drought) would inhibit the natural succession toward the potential natural community in some areas.

FOREST PRODUCTS

Location and Extent of Resource

There are about 414,950 acres of forested land in the SRRA and about 36,320 acres in the FPU. Only noncommercial forest products sales occur in the SRRA. Commercial fuelwood areas have been established in the FPU. The predominant species are pinyon and juniper, which can be used for fuelwood, fence posts, and Christmas trees and have additional value for watershed, wildlife habitat, recreation, and visual resources. Pinyon nuts are also produced in the planning area.

Under each alternative, the planning area is divided into three management categories for forest products: (1) lands available for restricted management of forest products (extensive management areas); (2) lands where forest products would be managed for the enhancement of other uses; and (3) lands not available for management of forest products.

TABLE 28

Status of Threatened, Endangered, or Sensitive Plants

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

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.

All forested areas in the planning will be treated as extensive woodland management areas. When additional inventory work is completed, extensive management areas will be further refined and the lack of intensive management areas will be verified. Under current management (map 40) there are no areas where forest products are managed for the enhancement of other uses.

Allocations

Forest products in demand are sold by permit. In the planning area, fuelwood and Christmas trees are the forest resources most in demand; post permits have also been sold. Areas subject to forest product use are shown on map 41. There is little interest in commercial use in SRRA, but such interest has been expressed in FPU.

Until 1983 BLM issued free-use permits for collection of dead wood. Present BLM policy is to sell forest products that are in demand, by bid or permit. Green wood is usually offered for sale by bid to establish fair market value. Live specimen plants are also sold by permit. Pinyon nuts are free if gathered for personal consumption; otherwise, they are subject to permit.

Historically, the harvest of forest products in SRRA has been limited to gathering dead fuelwood from specific chained areas. Since 1985, a small area south of Highway I-70 has been open for Christmas tree cutting (map 41). Post cutting is presently (1988) not allowed. Many of the trees are stunted or poorly formed, making them unsuitable for this use.

In FPU, green fuelwood can be cut only in designated areas. The entire FPU is open to harvest of dead and downed wood and Christmas trees. Post cutting is allowed in designated green wood cutting areas. Commercial fuelwood areas have also been established in FPU (map 41).

The average harvest in FPU is 330 cords per year. Up until 1987, the average harvest was 70 cords per year. However, in 1987, commercial areas were open ahead of a chaining project.

Both dead and live wood exist on the same acreage. Under current management, harvest has not exceeded 60 cords per year in SRRA and has occurred on less than 1 percent of the forested area each year.

Resource Condition and Potential

The planning area has a large enough supply of woodland products to meet current public demand.

About 8,000 acres of pinyon-juniper chainings (less than 1 percent of the planning area) are susceptible to pinyon-juniper invasion (map 81).

A few small areas in the northwestern part of the planning area are dominated by the conifer vegetation type. Ponderosa pine (*Pinus ponderosa*) and Douglas fir (*Pseudotsuga menziesii*) occur on the west boundary of the planning area. The portion on BLM land is too small for commercial cutting.

The BLM has authority to identify and establish areas for use under various types of sales.

No forest development projects are planned or currently in progress (1988) in SRRA. In FPU, three vegetation manipulations totaling 2,600 acres are in various stages of implementation in the Rock Springs, Deer Peak, and Willow Springs Allotments.

WILD HORSES AND BURROS

Location and Extent of Resource

In SRRA, 475,680 public land acres are within the wild horse and burro herd management area (table 29 and map 42). Of these acres, 399,130 are wild horse range and 76,550 are wild burro range. Within these areas, 178,090 acres are considered critical. Critical wild horse range includes 142,240 acres of public land, wild burro critical range 35,850.

TABLE 29

Wild Horse and Burro Counts

Herd Management Area and Unit	Kind	1973	1976	1977	1978	1981	1982	1983	1984	1985	1987	1988	% Change 1973 to Last Count	Estimated Herd Size
Robbers Roost (UT-653)														
Flat Top	H	5	7	6	8(1)	NC	12(1)	20(3)	12	NC	NC	NC	+140	10
Muddy Creek (UT-651)														
Globe Link	H	17	44	10	27(7)	35	28(1)	46(8)	39	NC	NC	NC	+129	50
Canyon Pond	H	6	0	2	5(1)	NC	5(1)	4	NC	NC	NC	9(1)	-33	9
Sinbad (UT-652)														
Mckay Flat	H	9	14	0	5(1)	10(1)	5(1)	24(4)	NC	NC	NC	NC	+167	45
Black Dragon	B	17	0	0	7(1)	NC	7	6(1)	34	26	50	NC	+194	45
Mexican Mountain	B	8	0	0	0	NC	0	17	0	NC	NC	NC	+112	25
TOTAL	Horses	37	65	18	45	45	50	94	51	NC	NC	9	+175	114
	Burros	25	0	0	7	0	7	23	34	26	50	0	+100	70

NOTE: NC = not counted in this area, this year. Also, wild horses and burros were not counted in 1974, 1975, 1979, 1980 or 1986.

Parentheses indicate the number of colts in the total count. For example, 27 (7) indicates that 7 of the 27 horses were colts.

No information is available concerning the distribution of the animals in 1971.

Source: BLM inventory.

Wild horses and burros in SRRA are most likely descendants of horses and burros left by early travelers on the Old Spanish Trail, as well as horses turned out with the advent of the automobile and mechanized farming. Finken [1977] estimated that there were between 200 and 500 unclaimed horses and hundreds of burros on San Rafael Desert and San Rafael Swell by 1939. These animals were declared a nuisance, and many were shot [Finken, 1977].

The first inventory after passage of the Wild and Free-Roaming Horses and Burros Act was taken in 1973. Wild horses in SRRA are estimated to have increased 185 percent and wild burros 100 percent (an average annual increase of 15 percent in horses and 8 percent in burros). Today (1989) an estimated 184 horses and burros are found on the San Rafael Desert and Swell (table 30).

The animals range over a fairly large area (table 29). Food and water dictate the animals' movements; the more limited the food or water, the farther the animal travels [BLM, 1983c].

There are differences of opinion regarding the number of wild horses required to maintain a viable reproductive herd with sufficient diversity to prevent inbreeding problems. The nature of wild horses to congregate in small bands (three to eight head) with one dominant stud provides opportunity for inbreeding, since the dominant stud mates with closely related mares. Inbreeding intensifies both good and bad qualities. It is doubtful that 20 or fewer wild horses in a herd unit can provide the genetic diversity needed, unless new studs are added on a regular basis. If the needed diversity is not provided, the normal inbreeding traits of large heads, weak legs and skeletal structure, high birth mortality, and short life expectancy would be expected to occur. The end product is wild horses that are difficult to place by adoption [BLM, 1986a].

Wild horses are found in the following SRRA grazing allotments: Dry Wash, Globe-Link, Hondo, Lone Tree, McKay Flat, Moonshine, Mussentuchit, Red Canyon, South Sid and Charley, Sweetwater, and Temple Mountain. Burros are found in the Black Dragon, Mexican Bend, and North Sinbad Allotments [BLM, 1976a].

Allocations

Grazing allotments within SRRA were adjudicated through the 1950s and 1960s. Wild horses and burros were not considered in the adjudication, and no forage was allotted to them.

Resource Condition and Potential

Some reports of harrassment of wild horses and burros have been received.

Increases in herd populations threaten other habitat areas.

The wild horses and burros do not have seasonal ranges in the planning area since most of the range is year long. Their movement is primarily dictated by water location, forage availability, and snow depth. Whenever conditions are right, the horses may choose to be in any part of their range. Certain horses, however, seem to prefer certain areas (map 42). Table 31 lists grazing allotments inhabited by wild horses and the estimated number of horses in each allotment.

Critical habitat for horses and burros should provide forage, water, space, and protection. All of these features except water are available throughout SRRA. Forage is generally available except in certain areas where competition with domestic livestock has reduced the forage and also during winter when snow is deep enough to cover all forage.

WILDLIFE

Location and Extent of Resource

All population estimates presented in this document were derived through cooperative efforts of BLM and Utah Division of Wildlife Resources (UDWR) personnel, as were delineations of summer, winter, and yearlong habitat areas. The figures presented as prior stable populations are also UDWR's long-term herd management goals.

TABLE 30

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 (Map Y-1)	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
Sinbad (UT-652)	Big Pond	Horses	8,190		8,190
McKay Flat (Map Y-2)	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
Black Dragon (Map Y-6)	Big Pond	Burros	10		10
	Black Dragon	Burros	6,770	17,920	24,690
SUBTOTAL			6,780	17,920	24,700
Mexican Mountain (Map Y-7)	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

(Continued)

TABLE 30 (Concluded)

Herd Management Area and Unit	Grazing Allotment	Kind of Animal	BLM Acres Yearlong	Critical	Total
Muddy Creek (UT-651)	Globe Link	Horses	730		730
Globe Link (Map Y-3)	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] (Map Y-3A)	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] (Map Y-3B)	Lone Tree	Horses		6,420	6,420
	Mussentuchit	Horses		1,310	1,310
SUBTOTAL				7,730	7,730
Globe Link[c] (Map Y-3C)	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
GRAND TOTAL			297,590	178,090	475,680

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

TABLE 31

Grazing Allotment Use by Wild Horses and Burros

Herd Management Area	Herd Unit Name	Herd Unit Number	Grazing Allotment	Animals Number	Animals Kind
Robbers Roost (UT-653)	Flat Top	1	Horseshoe North	Incidental	H
			Iron Wash	Incidental	H
			Jeffery Well	Incidental	H
			Moonshine	Incidental	H
			Pasture Canyon	Incidental	H
			Sweetwater	10	H
Sinbad (UT-652)	McKay Flat	2	Big Pond	Incidental	H
			Georges Draw	Incidental	H
			Head of Sinbad	Incidental	H
			Hondo	Incidental	H
			McKay Flat	30	H
			Red Canyon	10	H
			Taylor Flat	Incidental	H
			Temple Mountain	5	H
	Black Dragon	6	Black Dragon	45	B
			Big Pond	Incidental	B
	Mexican Mountain	7	Black Dragon	25	B
			Mexican Bend	Incidental	B
			North Sinbad	Incidental	B
Muddy Creek (UT-651)	Globe-Link	3	Globe-Link	10	H
			Last Chance	Incidental	H
			Lone Tree	30	H
			Mussentuchit	10	H
			South Sid & Charley	Incidental	H
	Canyon Pond	4	Dry Wash	Incidental	H
			Lone Tree	9	H
			South Ferron	Incidental	H
			South Sid & Charley	Incidental	H

Source: BLM estimates.

Desert Bighorn Sheep Habitat

Approximately 225 desert bighorn sheep inhabit about 500,930 acres year-round in the San Rafael Reef and San Rafael Swell portions of the planning area (map 71). The prior stable populations of this species is 2,920 (UDWR). Surface ownership and management responsibilities for desert bighorn sheep habitat are shown in table 32. Crucial desert bighorn sheep habitat consists of rutting and lambing areas (approximately 109,600 acres, (map 71). Desert bighorn sheep lambing grounds require protection between April 1 and June 1.

TABLE 32

Desert Bighorn Sheep Habitat Ownership and Management

Management	Planning Area Acreage	Percent
BLM	448,170	89
Private	0	0
State	52,760	11
TOTAL	500,930	100

BLM records.

A large part of the planning area's desert bighorn sheep habitat cannot be used because water is unavailable during all or part of the year. Animals tend to congregate around water sources in summer. Where limited water sources are shared, desert bighorn sheep are often excluded because of their intolerance for the other species present. Water developments are needed to improve habitat for desert bighorn sheep.

Under present management, desert bighorn sheep population is expected to increase, and the extent of habitat is expected to remain sufficient. Current competition is not generally a problem.

Diseases carried by domestic livestock may adversely affect desert bighorn sheep populations.

Several transplants of desert bighorn sheep onto the planning area have been undertaken since 1978. Desert bighorn sheep were removed from Canyonlands NP and public lands west of Moab, Utah and placed in San Rafael Reef and San Rafael Swell. UDWR has used radio telemetry to monitor them.

A study to inventory and analyze desert bighorn sheep crucial habitat elements has been proposed. There are no habitat management plans (HMPs) covering desert bighorn sheep in the planning area; however, if the proposed study is completed, data and analyses generated from it would be incorporated into an HMP for the area.

Desert bighorn sheep within the planning area were hunted in the 1988 season. Two permits were issued for this hunt.

Antelope Habitat

Antelope within the planning area are divided into herd units 9 (San Rafael, in the southeast part of the planning area) and 11 (Icelander, in the north). The 500 antelope in San Rafael herd unit occupy approximately 589,000 habitat acres. Of the San Rafael herd unit's 517,900 public land acres, the Henry Mountain Resource Area, Richfield District, manages 51,000 acres in the grazing area (9 percent), and the remaining 512,800 acres are in the planning area.

The Icelander herd unit contains about 104 antelope and occupies approximately 42,800 acres of public land in the planning area. All antelope habitat in the planning area is used yearlong (map 72). Surface ownership and management responsibilities for antelope habitat are shown in table 33.

TABLE 33

Antelope Habitat Ownership and Management

Herd Unit	Management	Planning Area Acreage	Entire Herd Unit Acreage	Percent
9	BLM	434,900	517,900	88
San Rafael Herd	Private	5,600	5,100	1
	State	55,300	66,000	11
TOTAL		495,800	589,000	100
11	BLM	72,440	664,960	84
Icelander Herd	Private	2,700	85,760	11
	State	15,490	42,880	5
TOTAL		90,630	587,600	100

Source: Jense, et al., 1986.

Fawning areas have not been mapped for the planning area; acreage figures are therefore unknown. Antelope fawning generally occurs between May 1 and June 20, with an additional 3-week period following fawning (until July 15) when fawns are extremely vulnerable to predation.

The habitat areas provide the low, rolling, wide-open, expansive terrain that antelope prefer, but limited water affects distribution. Antelope need to be within 3 or 4 miles of water to produce and maintain adequate herd densities. Additional waters are needed to ensure an adequate water supply within this desired distance.

Cattle grazing occurs mainly during winter and early spring, causing competition between cattle and antelope for browse species. Adequate amounts of grass species provide good early spring forage for the Icelander herd, and forb species present provide antelope with a good source of summer forage.

The antelope population is expected to increase because the available habitat is sufficient to support additional animals. Predation, lack of water, and competition for forage will likely continue to influence the rate of herd size increase.

The San Rafael herd unit was closed to hunting from 1979 through 1982 and opened again in 1983 with the issuance of five buck permits. Now that the herd has been increased with transplants, it will probably not be closed to hunting again in the foreseeable future. The Icelander herd unit has been hunted from 1975 to the present; because the herd is growing, the number of permits allowed has continued to increase.

Mule Deer Habitat

The planning area contains part of eight mule deer herd units: 29 (San Rafael), 33 (Gordon Creek), 34 (Huntington), 35 (Joes Valley), 36 (Muddy-Ferron), 43 (Salina-Boobe Hole), 45 (Last Chance), and 46 (Thousand Lake Mountain). A small population of nonmigratory mule deer inhabit portions of the planning area year-round, and concentrated winter use occurs in the western part of the planning area (map 73).

The eight herd units occupy a total of about 1,818,900 acres, of which 155,100 acres are winter range, 6,640 acres are summer range, and 1,657,100 acres are yearlong range. Of this total, approximately 85,900 acres of winter range which contains 35,510 acres of crucial winter range, 2,400 acres of summer range, and 1,246,100 acres of yearlong range fall on BLM-administered lands. See table 34 for range area and ownership and management responsibility.

The planning area provides winter habitat for approximately 5,100 mule deer, summer habitat for approximately 100 mule deer, and yearlong habitat for approximately 900 mule deer.

Crucial mule deer habitat consists of fawning and wintering areas where high-density use occurs, usually due to limited area availability. Fawning areas within the planning area are not known and thus have not been mapped. Seasonal protection from disturbance is

TABLE 34

Mule Deer Habitat Ownership and Management

Deer Herd Unit	Managing Agency	Acres Winter Range (percent) Planning Area Portion	Entire Herd Unit
29	BLM	0	1,446,300 (90%)
	State	0	80,400 (5%)
	Private	0	80,400 (5%)
TOTALS		0	1,607,100
33	BLM	200	52,700 (60%)
	USFS	0	1,200 (1%)
	Private	300	10,800 (12%)
	State	0	13,200 (15%)
	UDWR	0	10,000 (12%)
TOTALS		500	87,900
34	BLM	15,900	15,900 (73%)
	USFS	0	500 (2%)
	Private	600	2,300 (11%)
	State	2,900	1,900 (9%)
	UDWR	0	1,000 (5%)
TOTALS		19,400	21,600
35	BLM	18,200	18,300 (21%)
	USFS	0	60,300 (70%)
	Private	2,600	4,700 (5%)
	State	2,400	3,100 (4%)
TOTALS		23,200	86,400

(Continued)

usually needed between November 15 and May 1; these dates may vary in any given year because of weather conditions.

TABLE 34 (Concluded)

Deer Herd Unit	Managing Agency	Acres Winter Range (percent) Planning Area Portion	Entire Herd Unit
36	BLM	8,200	14,200 (16%)
	USFS	0	70,100 (80%)
	Private	600	1,500 (2%)
	State	1,500	2,100 (2%)
TOTALS		10,300	87,900
45	BLM	38,400	51,900 (48%)
	USFS	0	41,400 (39%)
	Private	7,100	8,100 (8%)
	State	3,200	5,900 (5%)
TOTALS		48,700	107,300
46	BLM	4,120	6,600 (7%)
	USFS	0	59,900 (66%)
	Private	400	19,000 (21%)
	State	200	3,500 (4%)
	NPS	900	1,400 (2%)
TOTALS		5,620	90,400

Source: Jense, et al., 1986.

Water is a limiting habitat feature on the yearlong mule deer range in the planning area. Much of the winter range is without reliable water sources. Mule deer water along the perennial and intermittent watercourses, causing problems for private land owners.

The planning area provides ample cover for deer, but foraging areas in many of the herd units are well under the optimum ratio of forage

to cover. The vegetation is of poor quality, and the species mix does not contain enough of the nutritious species that mule deer prefer. Mule deer compete with elk and livestock for forage, particularly on the winter range.

Mule deer have not been transplanted to or from the planning area.

HMPs have not been developed for deer in the planning area, but one water catchment was placed for mule deer and elk in Huntington Canyon in 1983 to allow use of forage areas away from distant water sources during fall and spring and to improve yearlong habitat.

The Wildlife Allotment is also used by mule deer.

Elk Habitat

The planning area contains winter habitat for herd units 12 (Manti) and 14 (Fish Lake). Approximately 6 elk in the Manti herd winter on 84,000 public land acres in the planning area, and about 550 elk in Fish Lake herd winter on 69,750 acres, while a portion of the Manti elk herd winter on 21,300 acres in the planning area; a part of the Fish Lake elk herd winter on 45,520 acres (in the planning area). Surface ownership and management responsibility is shown in table 35.

Crucial elk range consists of calving areas (none are found in the planning area) and wintering areas. Approximately 18,200 acres of crucial elk winter habitat are found in the planning area (map 74). These crucial wintering areas require protection from disturbance between November 15 and May 1 each year, depending upon snow conditions.

During the fall and early spring and in years with light snowfall, much of the elk winter range is without reliable water sources. Elk water along the perennial and intermittent watercourses, where they sometimes cause problems for private land owners.

Elk forage areas make up less than the recommended 60 percent of their habitat and are of poor vegetative composition. Few native forbs are present; elk use privately owned agricultural areas, especially alfalfa crops, in the spring. Ample cover exists, although of less than desirable height or canopy closure.

TABLE 35

Elk Habitat Ownership and Management

Herd Unit	Management	Planning Area Acreage	Entire Herd Unit Acreage	Percent
12	BLM	84,000	181,760	14
	USFS	155,780	748,800	56
	Private	60,300	351,360	26
	State	14,800	54,400	4
TOTAL		314,880	1,336,320	100
14	BLM	69,750	80,720	14
	USFS	59,100	438,400	74
	Private	43,000	57,600	10
	State	10,100	10,880	2
TOTAL		181,950	587,600	100

Source: Jense, et al., 1986.

Because of strong similarities in their diets, cattle and elk compete for forage. Several grazing allotments in the planning area provide crucial winter habitat for elk and are also used by livestock in winter and spring. Elk compete with domestic sheep for forage on the Rock Canyon and Ferron Mills allotments. Elk are intolerant of other species and tend to stay at least 0.5 mile from the sheep.

Elk have not been transplanted into the planning area, but onto the adjacent NFs, Fish Lake (10 elk in 1912 and 37 in 1913) and Manti-LaSal (24 elk in 1915). The resulting population increases have caused herds to expand onto public lands. At the present rate of increase the elk population is expected to increase past the habitat carrying capacity within the next 12 years (before 2000).

HMPs have not been developed for elk within the planning area, but a water catchment was placed in Huntington Canyon in 1983 to allow elk and deer to use forage areas away from distant water sources during fall and spring. The Wildlife Allotment (630 acres) has been designated for use solely by wildlife, including elk. Approximately 60 to 70 elk often winter in this allotment.

Riparian and Aquatic Habitat

Streams, watercourses, and rivers in the planning area total about 357 miles. Only 270 miles of these contain riparian habitat (14,770 acres). The remainder has steep cliffs or bluffs meeting the stream or course edge, precluding any riparian vegetation. Not all riparian areas support aquatic habitats, but permanent pools are scattered along all drainages listed, and perennial streams also provide permanent aquatic habitats. Riparian habitat areas are shown on map 75, aquatic habitat areas on map 76.

Millsite and Huntington North Reservoirs and Huntington, Cottonwood, Salina, and Ferron Creeks are important trout fisheries.

Canyon Pond, a livestock-watering reservoir, has a population of sunfish; catfish can be caught on the Green and San Rafael Rivers.

Riparian areas attract many different types of use. Because scenic values are usually high, recreationists concentrate their use in these areas. Roads are often located in riparian areas in canyon and drainage bottoms.

General information is available from the ecological inventory completed in fiscal year 1985; however, the ecological status of riparian habitat in the planning area has not been determined. In most riparian areas, evidence of soil erosion, downcutting, headcutting, and vegetation removal can be seen.

Inventories will be initiated to quantify the condition of this habitat, and measures taken to stabilize or improve the habitat.

An HMP has not been developed for any riparian, aquatic, or fishery habitat within the planning area.

Threatened and Endangered Species

Three endangered fish and one sensitive fish occur in the planning area. The endangered humpback chub is found in the Green River, but since the Green and San Rafael Rivers do not contain the deep canyon habitats generally favored by humpback chubs, it is believed that those identified in the planning area were young fish moving to preferred habitats.

The endangered bonytail chub may be present in the planning area; it has not been reported in recent years.

Endangered Colorado squawfish are found along the entire length of the Green River within the planning area and are believed to spawn in two areas: a few miles south of the town of Green River, Utah, downstream to around river mile 93; and from the BLM/Canyonlands NP boundary upstream 19 miles to Bowknot Bend.

The razorback sucker, a sensitive species, also occurs along the entire Green River portion of the planning area and is suspected to spawn from a point 8 river miles south of the confluence of the San Rafael and Green Rivers upstream for approximately 20 miles.

The planning area provides winter habitat for bald eagles; they arrive during October and November and depart by March or April. Most bald eagle observations in the planning area are along the Green River. The cottonwood trees in this riparian habitat along this river provides crucial roosts for bald eagles.

One peregrine falcon eyrie has been confirmed within the planning area. The birds are sensitive to human presence and extremely vulnerable to theft.

The ferruginous hawk, a candidate species, is an active nester in the planning area. A few ferruginous hawks nest on the ground or in trees on hilly, open terrain outside San Rafael Desert; these birds winter outside the planning area.

The Swainson's hawk may also be found in the planning area, as it migrates between nesting areas in the north and wintering areas in South America.

The black-footed ferret historically occurred within the planning area, although it is not known to exist here presently. Prairie dogs, the ferret's primary food source, occupy 9,240 acres.

Threatened, endangered, and sensitive animal species known to occur in the planning area, along with those that may occur, are listed in table 36.

Raptor Habitat

Raptor habitat includes nest sites, foraging areas, and roosting or resting sites (trees, cliffs, power poles, etc.). Golden eagles, red-tailed hawks, and prairie falcons nest in cliffs or trees in San Rafael Reef, San Rafael Swell and west of Highway U-10. Rough-legged hawks winter in the planning area, with the highest concentrations found in San Rafael Desert and along U-10.

The planning area also provides habitat for two endangered and two candidate raptor species.

Crucial habitat areas for raptors include nest sites (territories), foraging areas, and hunting perches in the San Rafael Desert. Nesting raptors generally require protection from disturbance within a half-mile radius around their nests. Because ferruginous hawks build their nests on the ground or in trees only 10 feet high, they are sensitive to activities on the ground and may require a buffer radius of 1 mile.

Nest sites are in ample supply. Raptors are generally limited by the food source in the planning area. Riparian habitat supports the greatest diversity and numbers of non-game species, thus providing the greatest food supply for raptors. Human activities may cause abandonment of nesting territories.

In the 1980s, BLM and Mountain Bell installed 19 telephone pole perches for raptors in the San Rafael desert. The San Rafael Desert HMP recommends installation of additional perches (poles) throughout the desert.

Allocations

Use of wildlife resources is generally either consumptive (hunting, fishing, and trapping) or nonconsumptive (observation and photography). Most nonconsumptive use is incidental to hiking, horseback riding, skiing, backpacking, or sightseeing, all of which take place throughout the year.

BLM is responsible for managing the habitat for game species, while UDWR manages the hunting and fishing seasons and enforces game laws. BLM recognizes UDWR's big game herd unit boundaries and allocates forage for big game, but does not allocate use of wildlife resources.

BLM identifies and protects crucial wildlife habitat areas while managing other resource uses. Types of management restrictions will be defined through the RMP.

HUMAN USES

GRAZING

Location and Extent of Resource

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 acreage 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.

Allocations

BLM administers grazing on units of land called grazing allotments. Grazing allotments are shown on map 43, and also on pocket map B. Topography and fences define allotment boundaries. An allotment is assigned for use by a single permittee or a group (sometimes organized as a grazing association).

TABLE 36

Status of Threatened, Endangered, or Sensitive Animals

Common Name	Status	Scientific Name	Known to Occur in Planning Area	Habitat Use
Bald eagle	Endangered	*Haliaeetus leucocephalus*	Yes	Winter
Peregrine falcon	Endangered	*Falco peregrinus* var. *anatum*	Yes	Nesting[a]
Ferruginous hawk	Candidate	*Buteo regalis*	Yes	Nesting[a]
Western snowy plover	Candidate	*Charadrius alexandrinus nivosus*	No	Nesting[a]
Mountain plover	Candidate	*Charadrius montanus*	No	Nesting[a]
Long-billed curlew	Candidate	*Numenius americanus*	Yes	Nesting[a]
White-faced ibis	Candidate	*Plegadis chihi*	No	Nesting[a]
Southern spotted owl	Candidate	*Strix occidentalis lucida*	No	Nesting[a]
Black-footed ferret	Endangered	*Mustela nigripes*	No	Yearlong
Spotted bat	Candidate	*Euderma maculata*	No	Unknown
Southwestern river otter	Candidate	*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	Candidate	*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.

A permittee may not graze livestock on BLM lands without authorization. This authorization is an annual or 10-year-term grazing permit, renewable to the same permittee as long as he abides by the grazing regulations (43 CFR 4100).

Base property is private land used as a base for the grazing operation. Grazing privileges are attached to base property and remain with it through change of land owners unless transferred. The base property must be capable of sustaining the livestock for 2 months out of the year. Permittees who use the San Rafael grazing area have base property in either Emery, Wayne, or Sevier County. A permittee continues to use the same allotment year after year unless the grazing privileges are transferred to another permittee or unless he loses them because of serious infractions of the grazing regulations or leases or sells the base property.

The permittee must own the rights to the base waters in order to run livestock on the Horseshoe North, Horseshoe South, Iron Wash, and Sweetwater Allotments. The four allotments have a total of 6,472 water-based animal unit months (AUMs) of livestock forage. Key forage species, by grazing allotment, are listed in appendix O.

Allotment boundaries can be changed administratively; such changes are sometimes made to combine allotments or parts of allotments when grazing privileges are transferred, or to correspond to natural barriers.

SRRA administers grazing on 95 allotments held by 142 permittees; the Sevier River Resource Area administers grazing on 6 allotments held by 5 permittees in FPU.

Allotments are grouped into three categories according to their potential to respond to management: (M) maintain; (I) improve; or (C) custodial. Table 37 summarizes allotment categorization. Appendix G explains the categorization criteria and lists the current management category for each allotment.

All of the allotments were adjudicated in the 1960s, based on range surveys conducted at that time. Some reductions in grazing use were required to be taken over a 3-year period, with one-third of the cuts to be taken each year. Most of the third-year reductions were never imposed.

TABLE 37

Allotment Categorization Summary

Admin Unit	Current Category	No. of Allotments	Acreage	Percent of Allotments
SRRA[a]	M	33	423,750	30
	I	27	941,940	66
	C	35	51,890	4
SUBTOTAL		95	1,427,580	100
FUP[b]	I	6	190,240	100

[a]Includes all the allotments where SRRA administers the grazing (Emery, Wayne and part of Sevier Counties), public lands only. Unallotted lands, Buckhorn Draw and the Wildlife Allotment were not assigned to a management category.

[b]Includes only the allotments where Sevier River Resource Area administers the grazing.

Sources: SRRA allotment monitoring plan; Sevier River Resource Area rangeland program summary update.

Since adjudication, some allotment boundaries have been changed, two areas have been closed to livestock grazing, and some areas are unallotted. The Wildlife Allotment has been allotted to wildlife, principally deer and elk. The area known as Buckhorn Draw was closed to grazing in 1963 for aesthetic and recreation values. The closure allows for trailing of livestock through the draw, but does not permit stopping there overnight. There are approximately 1,730 acres of unallotted lands within SRRA and 920 in FPU.

Current grazing use and season are shown for each allotment in appendix I. Of the 101 total allotments, 75 have use between April 16 and June 15 each year. The Iron Wash Allotment is used from March 1 to December 31. The Sweetwater Allotment has year-round use. The grazing period for the remaining allotments is between 1 and 8 months, during various times of the year. Currently (1988) the 5-year average licensed use is 56,871 AUMs, and active preference is 88,252 AUMs.

One allotment is stocked with cattle and sheep, six with sheep, and one with horses. The remaining 93 allotments are stocked with cattle, and three of these also have licensed use for horses.

Resource Condition and Potential

Vegetation production in the grazing area is believed marginally sufficient to meet the forage demand for active preference, but livestock cannot use an estimated 15 to 20 percent of the forage because it is inaccessible or because adequate water is not available. This situation could be remedied with vegetation treatments (chainings and seedings), intensive grazing management systems, or water developments. However, vegetation treatments are considered risky due to shallow soils and limited precipitation (5 to 9 inches) in SRRA.

Rangeland monitoring studies have been established throughout the grazing area since 1965, and new studies are continually being established (appendix H).

Cattle and sheep were first brought into the Castle Valley area in 1875 and moved east onto San Rafael Swell in the early 1880s [Finken, 1977]. Five permittees currently graze sheep on public lands, but historical sheep use in the area was higher than at present.

In this area, historical use on public lands has been primarily for winter and spring grazing, but also for yearlong grazing where livestock water was available. USFS lands adjacent to the grazing area provide summer and fall (June to October) grazing for many of the livestock that winter on public lands.

During the late 1960s, BLM endeavored to prepare an allotment management plan (AMP) for every grazing allotment. For allotments within the San Rafael grazing area, 23 AMPs were written. Of these, 6 were implemented in whole or in part (map 43).

Water facilities exist throughout the planning area; most were constructed to benefit livestock and facilitate improved grazing distribution.

Vegetation is a basic component of the grazing resource (see Vegetation, this chapter). Livestock use four main vegetation zones: pinyon-juniper, saltbush, grassland, and blackbrush. Other areas of concern are riparian areas, poisonous and noxious plants, and ecologically unique areas. Water is another basic component.

Pinyon-Juniper

The pinyon-juniper zone produces little forage for livestock because the tree roots deplete the soil of available moisture and nutrients; as a result, understory forage species are often scarce or altogether absent.

Sagebrush

The sagebrush zone consists mainly of browse species with a few grasses present. Most areas are accessible to livestock, but use is often limited or precluded by a lack of water. Cattle use these areas mainly in the fall and winter; some areas are used in the spring.

A number of acres were chained and seeded in the late 1960s and early 1970s to support more desirable forage species (map 81); many of these treatments were ineffective. Some of the treated areas have reverted to native vegetation.

Saltbush

The saltbush zone generally produces a mixture of browse and grass species for livestock. Most of these areas are accessible to livestock, but use is often limited or precluded by a lack of water.

Reservoirs, the main sources of water, are often dry during the winter and spring use periods.

Blackbrush

Blackbrush areas that support stands of forage species are useful for livestock grazing in fall, winter, and spring. Cattle generally do not use blackbrush itself if other forage is available.

Grassland

The grassland zone produces a mixture of grasses and shrubs. Most of these areas are used by cattle during the fall, winter, and spring or by sheep in the winter and spring.

Riparian Areas

Riparian areas are generally accessible to livestock and are heavily utilized because of their relatively lush vegetation, available water, and shade.

Poisonous and Noxious Plants

Poisonous and noxious plants are present throughout the grazing area, but generally do not occur in concentrations that would pose a significant threat to livestock. Halogeton and locoweed poisonings are occasionally reported. Broom snakeweed, common throughout the grazing area, is also toxic.

Ecologically Unique Areas

Some of the isolated mesa tops scattered throughout the area are ecologically unique and could be considered relict areas, since inaccessibility limits or prevents livestock and wildlife grazing.

In the 1960s, Link Flats (912 acres) was identified as having ecologically unique rangeland value [McNulty and Harper, 1966] and was nominated for natural area designation. The area was never properly studied nor designated as a natural area; the original rationale for designation appears to be in error, as does the legal description published in the Federal Register; and there is a discrepancy between the actual area of Link Flats and the area described.

Link Flats was segregated from mineral entry under the general mining laws and from surface use and occupancy under the mineral leasing laws. The area did have a history of grazing use, and it was recommended that the natural area listing be discontinued. The area does not, in fact, contain unique rangeland values or rare plants, and it is not an ungrazed plant community.

Water Developments

Livestock water is generally scarce over the entire area. The numerous reservoirs are generally not dependable. Springs, wells, and pipelines are more reliable, but are difficult or infeasible to construct in many areas. Constructed rock tanks are somewhat more successful than reservoirs. Some areas have no surface water and can be used by livestock only when snow covers the area or when water is hauled in. Livestock forage near available water is heavily utilized, with little or no grazing use in areas without water.

Range Improvements

Land treatments and management facilities in the area provide additional livestock forage; make unusable areas usable by adding water and access; provide more uniform distribution of livestock; provide more intensive management, including rest periods for improved ecological status on native range; and aid in control and handling of livestock. Grazing permittees are generally responsible to maintain structural improvements such as fences, wells, and reservoirs, while BLM maintains seedings and other nonstructural improvements.

Contour furrowing projects (totaling 3,900 acres) were developed primarily to control watershed erosion, but also to provide forage for livestock. Most SRRA staff specialists agree that contour furrowing projects have not been highly successful.

Most fences throughout the planning area were constructed to control livestock movement and to establish allotment boundaries.

CULTURAL RESOURCES

Location and Extent of Resource

Cultural resources consist of (1) physical remains of past human activities, occupations, and endeavors, (2) areas where significant human events occurred, even though evidence of the event no longer remains, and (3) the environment immediately surrounding the actual resource. Cultural resources, including both prehistoric and historic remains, represent a part of the continuum of events from the earliest evidences of man to the near present.

A wide range of cultural resources are contained in the planning area [Hauck, 1979; Coulam, et al., 1983]. These resources range in time from a 12,000-year-old buried Clovis site to the remains of present-day uranium mines. In importance they range from world-famous rock art sites [Smith, 1980] to obscure artifact scatters with only minimal scientific value.

The location and extent of most of the resources are unknown. It is estimated that about 70,000 archaeological sites exist in the planning area, of which about 1,500 (2 percent) are recorded. Two sites, Swasey Cabin and the Buckhorn Pictographs, are fenced and used as recreation sites.

Allocations

Cultural resources can be nominated to the National Register of Historic Places (for which NPS has designation authority), nominated to the National Historic Landmark System, or designated as areas of critical environmental concern (ACECs).

Through BLM's planning process, management objectives are established for all cultural resources known and projected to occur in the planning area. Objectives are determined for defined classes of similar cultural resources or for individual cultural sites, as appropriate.

Cultural resources managed for their information potential are capable of contributing useful scientific, historic, or management information. This information potential is to be protected to the extent needed, by physical or administrative means, until it has been realized through appropriate study.

Cultural resources that possess identified socio-cultural, educational, recreational, or other public values are to be managed in a manner that gives adequate consideration to these values (management for public values).

Cultural resources that have overriding scientific or historic importance are to be managed by the means necessary to maintain them in their present condition and to protect them from potentially conflicting land or resource uses (management for conservation).

Resource Condition and Potential

Mineral exploration and development, recreation use, livestock grazing, and vandalism are damaging some cultural resources; impacts are noted on all sites presently being recorded.

The potential of cultural resources is limited only by the ability to preserve them intact for study. The planning area is considered to be the center of the Fremont culture [Jennings, 1978], and its abundant cultural resources show human presence in the area over the past 12,000 years. The information that could be gained from cultural resources in the planning area is not available elsewhere.

Current management emphasizes identification and mitigation of direct effects on cultural resources from permitted and licensed projects on the public lands. Some cultural resources in the planning area are well preserved, while others have been totally destroyed. Many sites have been damaged, intentionally or unintentionally, through human activity over the past 100 years. It is now difficult to find undisturbed cultural resource sites within the planning area.

Cultural resource values are being lost in those parts of the planning area where energy exploration and development, recreation use, and pot hunting take place. In the few areas where those activities do not occur, there is probably little change in the

condition of cultural resources. Resource condition, however, continues to deteriorate because of the indirect effects of permitted activities and because the direct effects of such unlicensed activities as dispersed recreation are not controlled. Cultural sites are used as campsites, trampled, driven over with vehicles, dismantled for fuelwood, enhanced for better photographs, or otherwise disturbed.

Although cultural resource laws emphasize preserving the resource for the enjoyment of the American people and future generations, no sites in the planning area have been designated and interpreted for public use.

Most of the currently available information about cultural resources in the planning area has come from mitigation of impacts from surface disturbance. Some excavations have been done by academic institutions pursuing research. An Archaeological Resources Protection Act (ARPA) permit is required and must include evidence of the applicant's qualifications, the purpose of the proposed work, and the methods to be used. Because funding for academic research is extremely limited, little excavation work is currently being done (1988). However, opportunities for archaeological research in the planning area are believed unlimited.

The resource area manager's responsibility for cultural resource management includes making recommendations and stipulations concerning (1) protective designations of cultural resources; (2) the effect an undertaking may have on eligible cultural resources; and (3) the issuance or denial of cultural permits.

RECREATION

Location and Extent of Resource

Recreation use occurs throughout the entire planning area, much of it concentrated in the eastern part of San Rafael Swell, although similar recreation opportunities are available elsewhere in the planning area. Developed recreation sites in use are San Rafael Campground and Swasey Cabin. Existing and potential recreation sites are shown on map 57.

The SRRA recreation management program is geared primarily toward management of San Rafael Swell and Labyrinth Canyon Special Recreation Management Areas (SRMAs) (map 55). The remainder of SRRA has been designated as the San Rafael Extensive Recreation Management Area (RMA). The entire FPU is referred to as the Forest Planning Unit Extensive RMA. Because most recreation use in the extensive RMAs is dispersed, there is less need for resource protection and user conflict resolution than within SRMAs.

Because of its unique recreation opportunities, SRRA attracts recreationists from throughout the United States and abroad, although about 70 percent of the visitors reside in the region. Opportunities are ample for backcountry uses such as hiking, nature study, photography, camping, and observing scenery, archaeology, historic sites, geology, and other natural features. Water-based recreation opportunities include swimming, river running, canoeing, and fishing. Other recreation uses in the semiprimitive motorized (SPM) and roaded natural (RN) ROS classes include auto touring, picnicking, rock collecting, and ORV use. Opportunities are limited for winter activities. Wildlife are present in sufficient numbers to allow considerable opportunities for hunting big and small game.

Allocations

Recreation use is allocated through designation of SRMAs and ORV use areas, as well as through regulation of special recreation use permits.

The resource area manager can designate an SRMA administratively when special management is needed to protect recreation values, reduce resource damage, solve health and safety problems, mitigate surface use conflicts, or provide the public with scarce recreation opportunities that would not otherwise be available (43 CFR 8372.0-5). Recreation use in an SRMA may or may not require a special recreation permit (43 CFR 8372.1).

The BLM is required to allocate ORV use by designating all the lands within the resource area as open, closed, or limited for ORV use (43 CFR 8342). This is done through the RMP process by identifying conflicts among various surface uses and determining whether ORV

designations are an appropriate means of conflict resolution. The designations do not distinguish between recreational and nonrecreational ORV use. No ORV designations have been made for lands within the planning area.

BLM studies rivers to determine their eligibility as wild, scenic, or recreational under the Wild and Scenic Rivers Act. Studies are made in accordance with the final USDI-USDA (U.S. Department of Agriculture) Guidelines for Eligibility Classification and Management of River Areas (September 7, 1982). Three river segments in SRRA are under study: Green River, San Rafael River, and part of Muddy Creek. No segments in FPU are under study. The RMP/EIS provides background data for the suitability studies (appendix J). Only Congress can designate a river or a segment of a river to the National Wild and Scenic Rivers System.

Permits are required for competitive and commercial recreation activities. Noncommercial recreation activities are not currently allocated (1988).

Resource Condition and Potential

Recreation opportunities are identified through the recreation opportunity spectrum (ROS) system. Through ROS, management can characterize various types of recreation settings and opportunities and the capability of the resource to provide different types of experiences. ROS classes are established as the result of an inventory and used as an analysis tool in the RMP process. All possible combinations of recreation experience, setting, and activity opportunities can be arranged along a continuum. ROS is divided into six classes: primitive (P); semiprimitive nonmotorized (SPNM); semiprimitive motorized (SPM); roaded natural (RN); rural (R); and modern urban (U). Each class is defined in terms of a combination of activity, setting, and experience opportunities (appendix K).

Table 38 shows the approximate acres in each ROS opportunity class in the planning area; the ROS class areas are shown on map 58.

Overall recreation use is moderate, and use patterns are sporadic. The resource base upon which recreation opportunities depend has been affected by motorized recreation, mostly in certain areas of crowding and concentrated use. Other resource uses, such as livestock grazing and mineral development, have changed the character of available recreation opportunities.

For those recreation activities taking place in the planning area, participation is expected to increase by 20 to 30 percent between 1985 and 2000 [Hof and Kaiser, 1983a]. These increases cannot be correlated with the capability of public lands to meet future demand without carrying capacity studies, but it is believed that the recreation resource has good potential for meeting recreation demand in all ROS classes.

Current management in SRRA is directed toward management of two SRMAs and dispersed recreation use in the remainder of SRRA. Current management in FPU is directed wholly toward dispersed recreation use. Current management is described separately for each of the SRMAs and the extensive RMAs.

San Rafael Swell Special Recreation Management Area

The San Rafael Swell SRMA includes 846,340 acres of public land. Thousands of visitors each year are attracted to its scenic vistas, red-rock canyons, archaeological resources, and abundant wildlife.

San Rafael/Buckhorn Canyons and Labyrinth Canyon were designated SRMAs in 1981. For the purpose of this planning effort, the boundaries of San Rafael/Buckhorn SRMA have been expanded to form a more logical unit, referred to as San Rafael Swell SRMA. Acreages are shown in table 38.

The primary activities include ORV exploration (primarily three- and four-wheel all-terrain vehicles (ATVs and motorcycles), camping, sightseeing, hiking, floatboating, backpacking, and climbing. Mountain bicycling has recently become popular.

Few visitor use statistics are available regarding the amount or distribution of recreation use in the SRMA. Visitation estimates are compiled annually in the swell for the Easter weekend. Estimates have ranged from 1,500 to 4,000 visitors during that weekend period between 1985 and 1988.

TABLE 38

Recreation Opportunity Spectrum Class Acreages

Area	Opportunity Class (approximate BLM acres)						Area Total
	Primitive	Semiprimitive Nonmotorized	Semiprimitive Motorized	Roaded Natural	Rural	Urban	
San Rafael Swell SRMA	100,070	212,210	336,110	197,950	0	0	846,340
Labyrinth Canyon SRMA	17,620	21,790	9,800	10	0	0	49,220
San Rafael Extensive RMA	30	15,190	353,560	205,220	3,480	40	577,520
FPU Extensive RMA	0	0	44,330	31,080	0	0	75,410
TOTAL	117,720	249,190	743,800	434,260	3,480	40	1,548,490

NOTE: Labyrinth Canyon SRMA contains 9,300 acres in GRA. Of those 9,300 acres, 6,800 acres are within the SPNM class, and 2,500 acres are within the SPM class.

Source: BLM records.

Use drops dramatically around Memorial Day when fishing activity increases in other areas, drawing people away from San Rafael Swell.

Major use areas are on the eastern side of the swell. In the areas surrounding the many dispersed, well established campsites, vegetation losses and dry soils contribute to excessive dust. Since 1983, motorized use has fanned out to other areas. Motorized uses tend to displace nonmotorized uses in many areas of the swell during spring and fall [SRRA files]. SRRA staff reports have documented heavy impacts to soils and vegetation from ATV and motorcycle activities on Buckhorn Flat; the Wedge; the bench areas just north of San Rafael River between the campground and Mexican Bend; the Swasey Cabin vicinity; Justensen Flats; Muddy Creek (near Tomsich Butte); the North Salt Wash area; the eastern flanks and southern end of San Rafael Reef; and areas north and west of Goblin Valley.

Recreation use in San Rafael Swell SRMA is most concentrated at the following popular locations, which receive different types of use, depending on the values offered.

(1) Highway travel corridors, particularly along I-70 and U-24: scenic quality, natural appearance, and rest stops and overlooks.

(2) The Head of Sinbad area: scenic quality, proximity to I-70, camping and picnicking. The Mountain Man Rendezvous in the Swasey Cabin vicinity attracts over 150 visitors annually. The Swasey Cabin historic site was stabilized in 1976 to protect cultural values. No facilities are provided at Swasey Cabin.

(3) The Justensen Flat/Copper Globe area: late spring and early fall weekend visitors, camping, and spectacular views.

(4) The Wild Horse/Temple Mountain area: ORV-oriented weekend visitors, sightseeing, rockhounding, hiking, and backpacking.

(5) The Buckhorn Draw/San Rafael Campground area: scenic quality, and a major petroglyph panel. On a high-use spring weekend, it is not unusual to count over 100 vehicles in the draw. The San Rafael Campground, the only developed campground in the SRMA, covers 10 acres and provides 15 overnight camping units, individual and group tables, water, one vault toilet, an interpretive board, and trash collection service. The area has been vandalized repeatedly, and soils and vegetation have been disturbed.

(6) The Wedge: scenic views, sightseeing, and ORV exploration. Proximity to communities in Castle Valley adds to its attractiveness as a day-use site.

(7) The Buckhorn Reservoir/Flat: social gatherings, ORV use.

(8) San Rafael River (Upper and Lower Black Boxes, Mexican Bend, and the Little Grand Canyon): floatboating, hiking, tubing, and kayaking.

(9) One special recreation use permit for commercial use of the Little Grand Canyon segment of San Rafael River was issued in 1985, two in 1986 and 1987.

(10) Sids Mountain Complex: backpacking, hiking, horsepack trips, and motorcycle use. Two special recreation use permit requests have recently (1988) been received for commercial horse trips in this area.

(11) San Rafael Reef (San Rafael River Canyon to Hidden Splendor on the Muddy River): highly visible landmark from I-70, motorcycling, hiking, and backpacking.

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

Labyrinth Canyon Special Recreation Management Area

Labyrinth Canyon SRMA encompasses the Green River from Green River, Utah to Canyonlands NP and contains approximately 49,220 acres of

public land. The eastern and western boundaries follow the rims of tributaries to the Green River. Approximately 9,300 acres of the SRMA lie within the Grand Resource Area in BLM's Moab District; the remainder lies in SRRA. The SRMA is managed jointly by SRRA and the State of Utah.

Canoeing and smooth-water floatboating opportunities, which do not require whitewater rafting experience, attract visitors from many areas. Evidence of both early river expeditions (such as D. Julien inscriptions) and prehistoric cultures can be found along the riverway and in side canyons.

Because Labyrinth Canyon has been adjudicated and determined a navigable waterway, the State of Utah has jurisdiction over the river and lands below the high-water line. BLM management is limited to the lands above that line. The estimated user days has increased from 2,016 in 1981 to 4,192 in 1987.

BLM has cooperated with the Utah Division of Parks and Recreation to install interpretive and visitor registration facilities at Green River State Park and to manage two annual events: the Canyon Country Marathon (Friendship Cruise) and the State Parks Green River Canoe Trip. Facilities are also located at Mineral Bottom, within Grand Resource Area and include an interpretive display board, visitor register, and restrooms. Mineral Bottom is a stop-over or take-out point for Labyrinth Canyon river trips and the launch site for trips through Stillwater Canyon, within Canyonlands NP.

More than eight commercial tour operators currently (1988) use the SRMA. Commercial operations generally occur below the high-water line, thus falling under state jurisdiction. Commercial recreation use of public lands in the SRMA is seasonal and limited.

San Rafael Extensive Recreation Management Area

Most lands within the extensive RMA generally do not receive substantial recreation use at this time (1988).

San Rafael Desert receives intensive periodic ORV use during Easter, Memorial Day, and Labor Day weekends. A motorcycle race, which was called San Rafael Mail Run through 1983, is generally held each September. The race, which was not held in 1984 or 1985, was renamed San Rafael Desert Race in 1986. Major management considerations include conflicts between ORV use and management of livestock grazing and wildlife habitat. Conflicts have involved harrassment of livestock, gates left open, and interference with antelope bowhunters on opening weekend.

Huntington Canyon provides the only opportunity in SRRA for a non-desert recreation experience, with picnicking, trout fishing, hunting, and winter sports (snowmobiling, cross-country skiing, and snowshoeing) being the major activities. Camping is prohibited along Huntington Creek between Emery County's Bear Creek Campground and Manti-LaSal NF, because no restroom facilities are available in the area. Two visitor register boxes are located in Huntington Canyon.

Forest Planning Unit Extensive Recreation Management Area

Public lands in FPU offer dispersed recreation use. Visitor use statistics are not available for areas within FPU. Dispersed recreation activities include camping, picnicking, ORV use, hunting, fishing, and snowmobiling. No recreation facilities are provided within FPU.

VISUAL RESOURCES

Location and Extent of Resource

The planning area is characterized by scenic canyons, colorful geologic strata, terraced plateaus, and mesas bounded by steep cliffs. Spectacular scenic value lies in the area's exposed colorful rock layers, rugged and broken terrain, and naturally sculpted sandstone formations.

Cultural changes in the landform, water form, or vegetation create visual contrasts to the natural landscape character. In the planning area, these changes include oil and gas developments, powerlines, fences, pipelines, chainings, powerplants, reservoirs, mining operations, roads, and evidence of ORV use.

Allocations

Since it is neither desirable nor practical to apply the same management intensity to all visual resources, they must be evaluated to determine the appropriate management level.

Visual resource allocations involve classification as to scenic quality, visual sensitivity, and distance zones and the application of certain management objectives for visual resources in each VRM class (appendix M).

Scenic quality is classified as A, B, or C, with A being the most scenic. Table 39 lists the scenic quality classes, acreages, and percent of the planning area. Visual sensitivity, the degree of concern expressed by the user, is rated as high, medium, or low. Distance zones represent actual distances from an observation point or travel route and are designated as foreground/middleground, background, or seldom seen.

TABLE 39

Scenic Quality Class Acreages

	SRRA		FPU	
Scenic Quality Class	Acres	Percent	Acres	Percent
A	472,050	32	0	0
B	538,720	37	51,470	68
C	453,080	31	23,880	32
TOTALS	1,463,850	100	75,350	100

Source: BLM records.

VRM classes, which are the result of inventory, form the basis for visual resource input into management decisions. The resulting VRM classes for the planning area are shown on map 82, and their acreages are listed in table 40.

TABLE 40

Visual Resource Management Class Acreages

	SRRA		FPU	
VRM Class	Acres	Percent	Acres	Percent
Class I	0	0	0	0
Class II	492,230	34	4,140	5
Class III	378,230	26	5,040	7
Class IV	593,380	40	66,170	88
TOTALS	1,463,840	100	75,350	100

Source: BLM records.

Objectives of the four VRM classes are expressed as degrees of contrast that can be allowed in areas with various combinations of scenic quality, visual sensitivity, and distance zones (appendix M). The contrast rating process determines whether a proposed project would meet VRM class objectives. This process measures the level of change against the VRM class objective for the area in which a proposed project is to be located. To meet the objective, the project's level of visual change must be equal to or less than that allowed under the objective.

If the objective is met, little mitigation is needed to reduce visual contrast. If the objective is not met, reasonable and practical mitigation measures (which BLM management does not consider to be unduly economically restrictive) are applied to reduce contrasts as much as possible. The project is then approved with stipulations to implement the mitigation.

If, over time, sufficient projects occurred that did not meet class objectives, the scenic quality of an area would become degraded. At this point, the VRM class could not be maintained, and the class boundaries would have to be adjusted to shift the degraded area into a lower VRM class.

Resource Condition and Potential

Visual resource inventories for SRRA and FPU were begun in 1976 and completed in 1978. VRM class II, III, and IV areas were formally adopted in the San Rafael Management Framework Plan (MFP) [BLM, 1979a]. The foreground/ middleground zone along Highway I-70 was recommended for designation as a scenic corridor with no development allowed along I-70 between Highways U-24 and U-10.

The Sevier River MFP [BLM, 1977a] recommended that any activity disruptive to scenery, including, but not limited to, right-of-way structures, gravel pits, dumps, and vegetation conversions, be severely restricted in four visual corridors: (1) Highway I-70, (2) Rock Springs/Last Chance Road, (3) Highway U-72, and (4) Highway U-10.

The Multiple Use Management Plan for National Resource Lands in the San Rafael Swell [BLM, 1973] recommends that national resource lands within the visual corridor and service zone be withdrawn from all forms of entry, and that construction of buildings or structures outside road rights-of-way within the visual corridor be prohibited.

Cultural modifications are human-caused changes in the landform, water form, or vegetation, or the addition of a structure that creates a visual contrast in the basic elements of a landscape's natural character. In the planning area, these changes include, but are not limited to, fences, pipelines, chainings, powerplants, reservoirs, mining operations, roads, oil and gas developments, powerlines, and evidence of ORV use. Oil and gas developments and powerlines probably have the most significant adverse impact on the visual qualities of the area, and their influence is likely to continue.

VRM allocations are reviewed periodically, when the resource area staff determines that a review is needed. Changes to scenic quality, visual sensitivity, and distance zones are based on changing field conditions, and the VRM class is adjusted accordingly.

LANDS

Location and Extent of Resource

The land pattern in the planning area consists of

(1) private land, mostly in Castle Valley and along some of the drainages where the land was settled and farmed, along with a few scattered patented mining claims;

(2) state land, generally sections 2, 16, 32, and 36 of most townships, required in the Statehood Act for the support of schools, as well as other sections of land transferred to the state in lieu of unavailable school sections; and

(3) public land, most of which is in a blocked pattern with the state school sections interspersed, with some scattered, isolated parcels of public land in Castle Valley and in the western part of FPU.

Lands actions may be initiated by BLM or in response to an application. A lands action can take place anywhere in the planning area, subject to restrictions and conditions required by law, regulation, or management of other resource values.

Allocations

Land use allocations are made through a variety of means. Generally speaking, lands allocations fall into three broad categories: rights-of-way; other lands actions, such as leases and disposals; and withdrawals.

Certain authorizations, such as right-of-way grants, recreation and public purpose (R&PP) leases, and land use permits and leases, respond to public demand for specialized, more or less temporary uses of the public lands and do not cause the lands to leave the public domain, although they may restrict or benefit certain uses.

They may be for a set period of time or may be open-ended. They tend to cover small, scattered areas.

No transportation or utility corridors have been designated in the planning area, but such corridors have been identified on lands that border the planning area.

State lands were identified for possible acquisition where they would enhance or facilitate management of special designation areas. These include lands within the I-70 Scenic Corridor, Dry Lake Archaeological District, Tomsich Butte Historical District, Little Black Mountain, The Wedge, Muddy Creek, and Big Flat Tops ACECs.

Disposal actions, usually in response to public requests or applications, result in a title transfer, and the lands leave the public domain. Examples are state indemnity selections, private or state exchanges, desert land entries, public sales, and mineral patents. Disposal may depend upon the recipient's meeting certain conditions, such as in an R&PP patent, or may be absolute, as in a sale. These tend to involve scattered, discrete parcels.

Each proposal or application is considered on a case-by-case basis and either authorized or rejected. Rights-of-way have been authorized in the planning area for oil and gas lease access and pipelines, off-lease coal facilities, electric power transmission and distribution lines, county road system changes, telephone lines, primary and secondary water systems and pipelines, access to private land, etc. Other land actions include R&PP leases for recreation facilities and a public school; permits for short-term uses such as motion picture filming, geologic core sampling, and seismograph lines not connected with the minerals program; sales of land in response to public requests or sales of isolated tracts identified by BLM for disposal; and exchanges of land. Existing land leases are shown on map 30.

Withdrawals withhold lands from disposal or other types of appropriation to maintain certain resource values or to reserve the lands for a particular purpose. They may be imposed only by the Secretary of the Interior or by Congress (see Section 204 of FLPMA). A withdrawal may remove areas from the public lands to be managed under the the authority of another federal agency or department, but the land does not leave federal ownership. Withdrawals remain in effect until specifically revoked. The RMP can serve as a basis for recommendations through administrative channels that lands be withdrawn from certain uses or appropriations.

Resource Condition and Potential

The condition of other resources must be considered when processing lands cases. These resource conditions may necessitate restrictions or conditions to be met in authorizing lands actions or may cause a proposed action to be rejected. Overall, there should be no problem in meeting the demands for rights-of-way, leases, permits, community expansion, and other lands actions although, on a case-by-case basis, some proposed actions may not be authorized.

In 1968 the public lands in Emery County, except certain specified lands, were classified for retention and multiple use management under the authority of the Classification and Multiple Use (C&MU) Act of September 19, 1964, and in accordance with 43 CFR 2400. The classification segregated the lands from appropriation under the agricultural land laws and from sales under R.S. 2455 (43 U.S.C. 1171). In addition, those lands shown in table 41 were also segregated from entry under the general mining laws and from surface use and occupancy under the mineral leasing laws. Under the withdrawal review program the classification was removed and no lands are classified under the C&MU Act.

Rights-of-way across the public lands are generally granted under Title V of FLPMA and Title I of the Mineral Leasing Act (43 CFR 2800). These are issued for many purposes and change over time (are granted and expire). They are generally recorded on the master title plats found at the SRRA and Sevier River Resource Area offices, Moab and Richfield district offices, and at the USO, but are not shown on a map.

The lands leased for R&PP are segregated from entry under the public land laws including the mining laws (43 CFR 2091.3-2) (map 30).

TABLE 41

Bureau of Land Management Classifications

Site	Acres Classified
San Rafael Bridge campground	80
The Wedge recreation area	120
Link Flats Natural Area	792
TOTAL	992

Source: Master Title Plats

Though minerals remain reserved to the United States, there is no provision for mineral entry or development on R&PP patents. R&PP patents contain provisions allowing for reversion of the lands to the United States under certain circumstances.

The Huntington Airport lease, issued under 43 CFR 2911 to Huntington City and transferred to Emery County, covers 340 acres near Huntington (map 30). In accordance with the regulations, these lands are segregated from mineral location. Approximately 40 to 60 acres of the lands under lease are not currently being used as part of the airport.

As of August 1986, 7,710 acres within SRRA and 180 acres within FPU were under withdrawal by BLM as public water reserves (PWRs) (map 39). A PWR is segregated from agricultural entry and ultimately from disposal.

Four powersite withdrawals affect 34,020 acres within SRRA (map 39). BLM manages the surface with concurrence of the Federal Energy Regulatory Commission (FERC), the withdrawing agency. The FERC withdrawals are for possible powersite developments. No power projects are presently (1989) proposed. Three withdrawals are located on the Green River, and one withdrawal on the Green and San Rafael Rivers (table 42).

TABLE 42

Lands Actions Supporting Public Demands

Lands Action and Site	Economic Activity Enhanced	Acres
Agency withdrawals (SRRA)		
FERC	energy	34,020
R&PP patents (SRRA)		
Goblin Valley State Park	recreation	2,240
Emery Rodeo Grounds	recreation	40
Bear Creek Campground	recreation	120
Clawson Cemetery	infrastructure	10
SUBTOTAL		2,410
R&PP leases (SRRA)		
Goblin Valley Extension	recreation	720
Millsite Park	recreation	40
Millsite Golf Course	recreation	190
Clawson Motocross	recreation	160
Castle Dale Fairgrounds	recreation	290
Emery School	infrastructure	40
SUBTOTAL		1,440

Source: BLM records.

Short-term land permits are issued as needed. These permits are for short-term uses such as filming and seldom number more than five at any one time. Because of their short duration and minimal effect, they are not shown on a map.

Lands managed for disposal must meet the criteria of the specific authority including Section 203 of FLPMA (see also 43 CFR 2710).

The San Rafael MFP identified 26 isolated tracts as sui73ble for disposal, three of which have been sold. Other lands were not included in the MFP but are suitable for disposal.

The Sevier River MFP recommended transfer of 840 acres of isolated public land to the USFS or to Johnson Livestock Company through an exchange. The transfer or exchange did not take place; 640 acres south of I-70 and 200 acres north of I-70 are to be offered for sale. Other lands were not included in the MFP but are suitable for disposal.

Some occupancy or agricultural trespass is known or suspected to occur in the planning area. It usually occurs adjacent to private land, is generally considered to be inadvertent or unintentional, and usually involves fewer than 5 acres.

The potential right-of-way corridors within the planning area would continue some of these corridors along the routes already established by existing groupings of rights-of-way (map 24). The Western Regional Corridor Study [Western Utility Group, December 1986] was considered in developing the potential utility corridor.

ECONOMIC CONSIDERATIONS

The format for this section includes an overview of the affected area, followed by a detailed discussion of the economic activity that would be most impacted by the alternative management actions. Economic measures emphasize personal, local, and regional revenues, costs, earnings, wealth, and employment.

Most management actions would primarily affect Emery County. Although Carbon County lies outside the planning area, it is included in the discussion because there is a strong trading, and commuting link between Carbon and Emery Counties. Most information is presented for both Emery County and the Carbon-Emery County area. The strong economic link between the two counties prevents isolating the economic importance of planning area activities to Carbon County.

Some economic activity in Sevier and Sanpete Counties relies on resources within the planning area (mostly coal and livestock forage); however, none of the actions proposed in any of the alternatives would affect economic activity in either of these two counties. For a more complete description of the methodologies and assumptions used in this section, refer to appendix P.

DEMOGRAPHICS

The 1987 Carbon and Emery County populations were 22,400 and 11,600 respectively, about 1.3 percent and 0.7 percent of the state's population respectively [Barber and Taylor, 1987]. Most of the settlement in Emery County is located in Castle Valley, the northwestern part of the county. There are two service centers in northwestern Emery County: Castle Dale, the county seat (1986 population 2,070) and Huntington (1986 population 2,350) [Utah, 1987]. Other towns in Castle Valley are Elmo (population 350), Clawson (population 100) Cleveland (population 560), Orangeville (population 1,570), Ferron (population 1,910), and Emery (population 400). The Town of Green River is located in the southeastern part of the county and has a population of 920.

The Carbon-Emery County region experienced a 62 percent increase between 1970 and 1980, and during this period Emery County experienced the highest rate of growth in the state [USDC, 1981a]. Much of this growth can be traced to the construction of the Castle Dale (Hunter) Power Complex and the Huntington Canyon Power Complex. The towns nearest to the plants grew most rapidly. Huntington became the largest city in the county, growing 10.45 percent annually. The neighboring towns of Castle Dale, Ferron, and Orangeville had annual growth rates of 13.44 percent, 10.00 percent, and 9.86 percent respectively during the 1970s. Although Green River was the largest city in the county in 1970, its location on the eastern border of the county excluded it from energy-related growth. Consequently,

Green River was the only city in the region to lose population between 1970 and 1980. The coal industry has declined since 1980, resulting in out-migration from the region. Between 1982 and 1986 Carbon and Emery Counties experienced 7 and 9 percent population decreases respectively [Barber and Taylor, 1987].

Emery County contains 4,449 square miles of land or about 2 million acres. About 82 percent of the county is owned by the Federal Government, 10.7 percent by the State of Utah, and 7 percent by the private sector.

EMPLOYMENT AND EARNINGS

Growth and decline in Carbon and Emery Counties are linked with the coal industry. The industry has experienced a recent contraction but has remained stable over the past several years. The mining industry is the largest employer, and accounts for the largest share of earnings in the region. The construction and operation of electricity-generating plants also provide a large share of employment in the area. The local earning and employment attributable to these powerplants is reflected the construction, public utilities, and mining sectors, see tables 43 and 44. A number of other businesses depend on the mines and powerplants to purchase their products, and many retail and service businesses depend on the workers' local expenditures.

Agriculture, and more recently coal, have formed Emery County's economic base. Powerplant construction and an expansion of coal production transformed many of the communities in the area. Huntington, Castle Dale, Orangeville and Ferron have been most affected by the increased mining and electricity generation. Cleveland, Elmo and Emery have been changed to a lesser degree. Green River, located on Highway I-70, has become increasingly dependent on tourism.

Price (1986 population 8,980) has been the coal capital of Utah since the early 1900s, and has always served as a regional trading center [Utah, 1987]. East Carbon, Hiawatha, and Sunnyside (populations 1,660, 240, and 500, respectively) all developed as company towns for the coal industry. Helper (population 2,724) is also a

TABLE 43

1986 Employment for Utah and for Carbon and Emery Counties

Industry	Utah (percent)	Emery County (percent)	Carbon County (percent)
Farm	2.5	10.7	2.7
Nonfarm			
Private			
Ag Services	0.6	0.3	0.3
Mining	1.1	23.4	15.3
Construction	5.7	5.3	4.0
Manufacturing	11.9	0.3	2.8
Trans. and Utilities	5.1	20.5	5.3
Wholesale	4.7	0.7	3.7
Retail	16.7	8.7	19.4
Fire	7.4	1.7	3.5
Services	24.5	10.9	22.9
Government			
Federal	7.2	2.8	3.7
State and local	12.4	14.5	16.6
Total employment (jobs)	800,649	4,820	9,468
Employment (UDES)	634,138	3,682	7,465
Labor force			
Participation (percent)	45.3	34.1	38.7
Unemployment rate (percent)	6.0	12.4	10.1

NOTE: Includes proprietor and wage and salary employment.

Sources: UDES, 1986; BEA, 1988.

TABLE 44

1986 Industry Earnings for Utah and for Carbon and Emery Counties

Industry	Utah (percent)	Emery County (percent)	Carbon County (percent)
Farm	1.0	1.8	1.2
Nonfarm			
Private			
Ag Services	0.3	0.1	0.1
Mining	2.3	41.3	35.7
Construction	7.4	4.8	5.1
Manufacturing	16.8	0.1	2.3
Trans. and Utilities	8.5	31.6	8.9
Wholesale	6.4	0.6	4.6
Retail	1.0	2.7	9.1
Fire	5.5	0.6	2.1
Services	20.3	5.5	13.8
Government			
Federal	8.7	1.1	3.3
State and local	12.8	9.4	13.8
Total earnings ($000)	$14,107,930	$121,415	$181,885
Total personal income ($000)	$18,296,370	$105,474	$268,497
Per capita personal income	$10,986	$8,634	$11,851

Sources: UDES, 1986; BEA, 1988.

coal town, but has a more diversified economy. Scofield (population 105) is an old coal mining community. Wellington (population 1,640), unlike the rest of the county, is a farming, trade, and residential center.

COMMUNITY INFRASTRUCTURE

Neither community infrastructure nor the levels of services provided by communities in Carbon and Emery Counties would be affected by any of the alternatives.

FISCAL CONDITIONS

Property taxes are a major source of income for taxing districts in Carbon and Emery Counties. These districts also receive a large portion of their revenue from intergovernmental transfers including federal payments in lieu of taxes (PILT) and state reallocation of fuel taxes and vehicle registration fees. See tables 45 and 46.

RELATED ECONOMIC ACTIVITY

Minerals

In 1985 the average annual employment in Emery County's oil and gas extraction industry was 52 jobs [UDES, 1986]. Permanent residents of the area are usually employed for oil and gas production, while drilling and geophysical exploration mostly employ nonresidents.

Including indirect and induced affects, oil and gas activity in the planning area generates 57 jobs (40 percent of which are held by residents), $1,606,871 earnings, and $21,892 taxing district revenues in Emery County and 90 jobs, $1,983,609 earnings, and $56,921 taxing district revenues in the Carbon-Emery County area (tables 45, 46, 47, and 48).

Oil and gas drilling and geophysical exploration have decreased significantly since 1985, as has their related local importance.

In 1985, the average annual employment in Emery County's coal industry was 1,099 jobs, and the average annual employment in Sevier County's coal industry was 260 jobs [UDES, 1986]. Approximately 75 percent of the coal produced in Emery County is used in coal-fired powerplants within the county. These plants and the related local economic activity depend entirely on coal produced in Emery County, 80 percent of which is produced from the planning area.

TABLE 45

Taxing District Revenues, by Source, Carbon and Emery Counties (1985)

Source	Total Taxing District Revenues	Attributable to Land Use Activity in the Planning Area: Oil and Gas Activity	Coal and Electric Generation	Nonmetal Mineral Activity[a]	Metal Mining Activity[b]	Livestock Production	Recreation-Related Activity	Wildife-Related Activity	Other Land Use Activities
Taxes	$27,299,532	$21,935	$15,681,258	$1,265	$5,147	$442,169	$19,314	$11,797	$23,229
Licenses and permits	$370,401	$323	$50,787	$25	$66	$2,682	$407	$249	$490
Intergovernment	$17,122,706	$29,400	$4,617,000	$2,300	$6,000	$243,800	$37,000	$22,600	$44,500
Charges for Services	$2,005,188	$1,382	$216,999	$108	$282	$11,458	$1,739	$1,062	$2,092
Fines and forfeitures	$472,724	$294	$46,170	$23	$60	$2,438	$370	$226	$445
Miscellaneous	$4,710,999	$3,587	$563,274	$281	$732	$29,744	$4,514	$2,757	$5,429
TOTALS	$51,981,550	$56,921	$21,175,488	$4,002	$12,287	$732,291	$63,344	$38,691	$76,185

[a]Nonmetal mineral activity includes mineral materials such as stone, sand, and gravel.

[b]Metal mining activity includes locatable minerals such as uranium/vanadium and gold, as well as mining claim assessment activities.

Sources: Utah, 1985; Hansen, et al., 1986; Utah State Tax Commission, 1986.

TABLE 46

Taxing District Revenues, by Source, Emery County (1985)

Source	Total Taxing District Revenues	Attributable to Land Use Activity in the Planning Area: Oil and Gas Activity	Coal and Electric Generation	Nonmetal Mineral Activity[a]	Metal Mining Activity[b]	Livestock Production	Recreation Related Activity	Wildife Related Activity	Other Land Use Activities
Taxes	$27,299,532	$9,703	$13,271,184	$450	$3,071	$160,126	$5,544	$4,884	$8,844
Licenses and permits	$370,401	$12	$2,916	$2	$4	$157	$21	$19	$34
Intergovernment	$17,122,706	$11,800	$2,916,000	$1,500	$4,000	$156,700	$21,000	$18,500	$33,500
Charges for Services	$2,005,188	$118	$29,160	$15	$40	$1,567	$210	$335	
Fines and forfeitures	$472,724	$35	$8,748	$5	$12	$470	$63	$101	
Miscellaneous	$4,710,999	$224	$55,404	$29	$76	$2,977	$399	$637	$2,757
TOTALS	$51,981,550	$21,892	$16,283,412	$2,001	$7,203	$321,997	$27,237	$24,476	$45,135

[a]Nonmetal mineral activity includes mineral materials such as stone, sand, and gravel.

[b]Metal mining activity includes locatable minerals such as uranium/vanadium and gold, as well as mining claim assessment activities.

Sources: Utah, 1985; Hansen, et al., 1986; Utah State Tax Commission, 1986.

TABLE 47

Carbon and Emery County 1985 Employment and Earnings by Economic Activity in Emery County and the Planning Area
(by place of employment)

	Direct, Indirect, and Induced Effects			
	Attributable to Emery County Activity		Attributable to Planning Area Activity	
Economic Activity	Earnings (dollars)	Employment (jobs)	Earnings (dollars)	Employment (jobs)
Oil and gas	2,614,242	148	1,983,609	90
Coal & Electric	120,264,127	5,495	99,378,186	4,617
Metal Mining[a]	413,147	25	97,653	6
Non Metal Mining[b]	NA	NA	37,775	2
Livestock grazing	2,357,848	516	1,112,791	244
Recreation use	7,233,369	700	386,993	38
Wildlife use	694,482	67	232,696	23
Other	NA	NA	644,766	48

[a]Locatable mineral including: uranium/vanadium, gold, and mining claim assessment activities.
[b]Mineral materials including: stone, sand, and gravel

Sources: UDES, 1986; USDC, 1985a; USDC, 1985b; USDC, 1985e; USDC, 1985f; IORT, 1984; Dalton, 1982; Various officials of Southern Utah Fuel Company; Trail Mountain Mine; Emery Mine; Utah Power and Light Company, Mining Division; and Dear Canyon Mine; personal communications, February 1987; USFS, 1982; and BLM records.

TABLE 48

Emery County 1985 Employment and Earnings by Economic Activity in Emery County and the Planning Area
(by place of employment)

	Direct, Indirect, and Induced Effects			
	Attributable to Emery County Activity		Attributable to Planning Area Activity	
Economic Activity	Earnings (dollars)	Employment (jobs)	Earnings (dollars)	Employment (jobs)
Oil and gas	1,850,278	82	1,606,871	57
Coal & Electric	93,480,362	3,523	75,766,196	2,916
Metal mining[a]	310,464	16	75,257	4.0
Non Metal Mining[b]	NA	NA	28,384	1.5
Livestock grazing	645,509	217	463,174	157
Recreation use	3,402,582	387	182,052	21
Wildlife use	385,781	44	159,333	18
Other Uses	NA	NA	494,767	36

[a]Locatable mineral including: uranium/vanadium, gold, and mining claim assessment activities.

[b]Mineral materials including: stone, sand, and gravel.

Sources: UDES, 1986; USDC, 1985a; USDC, 1985b; USDC, 1985e; USDC, 1985f; IORT, 1984; Dalton, 1982; Various officials of Southern Utah Fuel Company; Trail Mountain Mine; Emery Mine; Utah Power and Light Company, Mining Division; and Dear Canyon Mine; personal communications, February 1987; USFS, 1982; and BLM records.

Including the indirect and induced effects, coal originating from the planning area generates a total of 5,198 jobs, $110,874,906 of earnings, and $22,636,516 of taxing district revenues in Carbon, Emery, Sevier, and Sanpete Counties. By place of employment, 2,916 of the jobs, $75,766,196 of the earnings, and $16,283,412 of taxing district revenues are in Emery County; 1,701 of the jobs, $23,611,990 of the earnings, and $4,892,076 of the taxing district revenues are in Carbon County; 55 of the jobs, $109,941 of the earnings, and $89,485 of the taxing district revenues are in Sanpete County; and 526 of the jobs, $11,086,779 of the earnings, and $1,371,543 of the taxing district revenues are in Sevier County (tables 45, 46, 47, and 48).

Although coal production and related economic activities are significant in all four counties and have played a major role in the economic and social conditions of the area, none of the proposed alternatives would affect these activities, and no further discussion is warranted.

The mineral materials in the planning area that generate the most economic activity include sand and gravel, stone, clay, and fill dirt. No businesses in Emery County are directly involved in the production and sale of these resources; however, some economic activity is generated by the production of mineral materials for use in the manufacture of other products. Sand and gravel are used primarily in road construction and maintenance; stone is used primarily for riprap (channel bank stabilization) and decorative building material; and clay is used to stabilize soils and line reservoirs.

Countywide production of mineral materials is unknown. Including indirect and induced affects, extracting mineral materials from the planning area generates 1.5 jobs, $28,384 earnings, and $2,001 taxing district revenues in Emery County and 2 jobs, $37,775 earnings, and $4,002 taxing district revenues in the Carbon-Emery County area (tables 45, 46, 47, and 48).

Although mineral materials are commonly available from other nearby lands, their location with respect to their point of end use often makes materials in the planning area a less costly source of supply.

There is no active metal mining in either Emery County or the planning area. During the 1960s, uranium mining was an important local industry; however, the industry declined in importance during the 1970s, and since 1983 there has been no local production. The only existing metal mining activity is associated with exploring and developing mining claims. Based solely on the notices of intent and plans of operation received (ignoring some non-surface-disturbing expenditures) approximately $160,000 was spent on assessment work in the planning area. These local expenditures, including their indirect and induced effects, generate 4 jobs, $75,257 earnings, and $7,203 taxing district revenues in Emery County and 6 jobs, $97,653 earnings, and $12,287 taxing district revenues in the Carbon-Emery County area (tables 45, 46, 47, and 48).

Soil, Water, and Air

Wind erosion, flooding, salinity, sedimentation and soil productivity are the major soil- and water-related concerns that can affect economic activity.

Soil productivity and related economic activity are discussed under livestock and wildlife-related recreation.

Wind erosion has increased road maintenance costs along Highway U-24. Flooding from planning area watersheds has occasionally resulted in downstream economic losses.

Salt loading and salt concentration from the planning area affect water users in the lower Colorado River basin. For municipal and industrial users downstream, higher salt concentrations increase water treatment costs, pipe corrosion, appliance wear, and soap and detergent needs, while decreasing the palatability of the water. For those who irrigate, the higher salt concentrations cause decreased crop yields, loss of productive land, increased leaching and draining needs, and increased management costs, sometimes making it necessary to change to a more salt-tolerant crop.

Several studies [Kleinman, et al., 1974; Kleinman and Brown, 1980; BOR, 1980] have attempted to quantify the downstream user cost of increasing salinity levels in the Colorado River. BOR updates these

figures using gross national product (GNP) price deflators along with projected baseline salinity levels to estimate impacts of salinity control and water development projects (table 49). These figures do not account for all salinity costs, and they do include indirect costs which, under conditions of capital and labor mobility, are not true cost from a national perspective.

TABLE 49

Increased Water-User Cost of Increasing Salinity at Imperial Dam by 1 Milligram per Liter

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	388,000	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.

Drainages from the planning area contribute an estimated 342,000 tons of salt into the Colorado River system annually. The annual downstream cost resulting from salt loading amounts to an estimated $20 million. Salt loading from public lands is unknown.

The use of many capital investments including streets, buildings, sewers, reservoirs, irrigation ditches, and culinary water systems can be severely hampered with sediment. Either the sediment has to be removed to regain use of the capital investment, or the use of the capital investment will deteriorate over time.

Because sediment yields cannot be quantified, their economic significance cannot be quantified. Sedimentation of capital investments has generally been a problem only at Lake Powell and livestock reservoirs in high-erosion areas, and it is projected to become a problem for the Joes Valley-Huntington Canal within the next 10 years.

Livestock

Agriculture was Emery County's major economic base in the late 1800s and early 1900s. Since the early 1900s, agriculture has declined in relative importance, but remains a stable industry and is the county's second largest source of employment. In 1984, agriculture directly accounted for 495 jobs (10 percent of local employment) and earnings of $583,000 in Emery County (5 percent of local earnings) [USDC, 1985a]. Livestock is the county's major agricultural product, accounting for 56 percent of all agricultural sales in 1982 [USDC, 1982].

The planning area supplies forage for livestock not only in Emery County, but also in Carbon and Sevier Counties. Eighty-eight percent of the operators reside in Emery County, 5 percent in Carbon County, and 3 percent in Sevier County.

One hundred thirty-eight active livestock operators have been identified. Of the 132 cattle operators, 81 have a herd size of under 100 head and 51 have a herd size of greater than 100 head. There are 9 sheep operators.

Of the 138 operators who graze livestock in the planning area, 37 (23 percent) have been identified as full-time operators, a proportion significantly lower than the state's 44 percent average [USDC, 1982]. Fourteen of the 37 full-time operators identified are retired from other occupations. The availability of better-paying

alternative employment is a major reason for the low proportion of full-time operators.

Livestock operators who use public rangeland forage in the planning area and reside in Emery County account for 73 percent of the county's livestock production; those residing in Carbon County account for 8 percent of that county's livestock production; and those residing in Sevier County account for 3 percent of Sevier County's livestock production.

The majority of livestock operators have cow-calf operations. Generally, cows are calved in early spring, and the calves are then sold in late fall. Planning area forage is important in maintaining the cow herd during the winter and providing nutritious forage in spring when cows are calving. On the average, these operators depend on public rangeland forage to provide 35 percent of their livestock feed (table 50).

Ranch budgets have been developed for six livestock groupings. Each ranch has a unique set of characteristics affecting its operation that cannot be fully represented by models of typical ranches. However, data from these typical ranch budgets can be used to estimate aggregate costs, returns, hired labor, and ranch values. These aggregate statistics are summarized in table 51.

The budgets suggest that over 100 head of cattle are generally needed to support a full-time operator. With existing economic conditions, most operators, particularly those with a low debt load, can earn a return above their variable cost. However, returns to family labor and investment are lower than existing market rates of return, and returns to risk and management are generally negative. Although these conditions vary, depending particularly on management ability and debt loads, there does not appear to be much economic incentive to stay in the livestock business. Higher earnings in other county industries have drawn many operators to alternative employment and have led many to convert their operations into part-time businesses.

Escalating farm real estate values between 1970 and 1981 contributed to fair market returns; however, this economic incentive has diminished as farm real estate values have remained static since 1981 [Drabenstott and Duncan, 1984; Federal Reserve Bank of Kansas City, 1987].

Based on the ranch budgets for the direct effect, and the indirect and induced effect derived from county economic models, it is estimated that local operators who use planning area forage gener-

TABLE 50

Dependency on Planning Area Forage by Season of Use

	AUMs Average Use		Percent Dependency	
	Cattle	Sheep	Cattle	Sheep
January	6,221	530	47	61
February	6,147	530	47	61
March	7,044	327	54	38
April	6,940	204	53	23
May	6,692	116	51	13
June	3,061	25	0.23	2
July	990	7	0.07	0
August	992	0	0.07	0
September	1,223	0	0.09	0
October	2,231	310	0.17	36
November	6,030	364	0.46	42
December	6,917	364	0.53	42
TOTAL	54,494	2,777	37	27

[a]Dependency represents the percentage of total feed requirements supplied by forage from the planning area.

[b]Numbers are not additive because of rounding.

Source: BLM records.

TABLE 51

Preliminary Aggregate Costs and Returns for all Operators Grazing in the Planning Area

	1984 Dollars		
	Cattle	Sheep	Total
Gross revenues	$2,635,577	$306,119	$2,941,696
Variable cost	$1,885,423	$130,329	$2,015,752
Returns above variable costs	$750,154	$175,790	$925,944
Returns to family labor and investments	$28,593	$138,332	$166,925
Ranch Value	$23,648,843	$2,779,400	$26,428,243

Source: BLM Records.

ate 157 jobs, $463,174 earnings, and $321,997 taxing district revenues in Emery County and 244 jobs, $1,112,791 earnings, and $732,291 taxing district revenues in the Carbon-Emery County area (tables 45, 46, 47, and 48).

Although BLM does not recognize a capitalized value for grazing preferences, the market recognizes such a value whenever grazing fees are lower than their true economic worth [USDA and USDI, 1977]. Recent permit sales in the area have ranged from $20 to $75 per AUM. Local private lease rates for forage also suggest that grazing fees are lower than their true economic worth [Tittman and Brownell, 1984].

There is some uncertainty as to how much of a permit's value, if any, is capitalized in an operator's base property. Although most operators have purchased their grazing privileges from other operators, the uncertain nature of both future grazing privileges and grazing fees may have reduced much of the previously capitalized value. If a permit's value is $50, and the entire permit value is capitalized in the ranch's value, then grazing privileges in the planning area account for $4.2 million, about 16 percent of the aggregate ranch value of operators using planning area forage [USDC, 1982].

Recreation

Recreation-related purchases of goods and services have spinoff earnings, employment, population, and fiscal effects.

Table 52 presents visitor use statistics by region. Emery County receives significant resident and nonresident use, some of which is due to attractions within the planning area. Approximately 50 percent of the tourists traveling through the county actually visit attractions within the county. Approximately 10 percent of those who visit attractions in the county visit attractions in the planning area.

Including indirect and induced effects of recreation related expenditures, recreation in the planning area generates 21 jobs, $182,052 earnings, and $27,237 taxing district revenues in Emery County and 38 jobs, $386,993 earnings, and $63,344 taxing district revenues in the Carbon-Emery County area (tables 45, 46, 47 and 48).

Three commercial river operators use the San Rafael River, and approximately eight commercial river operators use the Green River through Labyrinth Canyon. Commercial use of the San Rafael River generates an estimated $1,600 of sales per year; however, commercial use has just begun in this area and is projected to increase. None of the commercial operators using the San Rafael River is local.

TABLE 52

Estimated Number of Annual Recreation Visits, 1979-1984

Region	Resident: In Community	Resident: Out of Community	Nonresident	Total
Southeastern District	967,800	944,400	1,623,700	3,535,900
Castle Country Region	604,343	401,370	744,400	1,750,113
Emery County	451,007	301,028	558,300	1,310,335
Planning Area				70,075

NOTE: The Southeastern district includes Carbon, Emery, Grand, and San Juan Counties. The Castle Country region includes Carbon and Emery Counties.

Source: IORT, 1984; Dalton, 1982; BLM records.

Based on recorded use, Labyrinth Canyon generates an estimated $8,000 of sales for the eight outfitters using the area. However, these sales comprise only a small part of each operator's total business. Three of the eight outfitters are located in Green River, Utah.

Some recreational visitation and therefore jobs, earnings, and taxing district revenues in the county can be attributed to consumptive and nonconsumptive wildlife uses (table 53). Public lands within the planning area account for only a portion of wildlife habitat for most species. Based on the proportion of the habitat for each species that lies on public lands, wildlife-related activities in the planning area generate 18 jobs, $159,333 in earnings,

TABLE 53

Estimated Total Use of Wildlife Herds that Extend into Emery County and the Planning Area

Wildlife Use	Activity Days: Emery County	Activity Days: Planning Area
Consumptive use	73,385	18,391
Primary nonconsumptive use	95,401	23,908
TOTALS	168,786	42,299

Sources: Jense, et al. 1986; Leatham and Roberson, 1985; Leatham, et al., 1986; UDWR, 1986; Provan, et al., 1980; USFWS, 1982.

and $24,476 in taxing district revenues in Emery County and 23 jobs, $232,696 in earnings, and $38,691 in taxing district revenues in the Carbon-Emery County area (tables 45, 46, 47, and 48).

Tourism's importance is greatest in Green River, less in Castle Valley. The industry forms a fairly stable economic base, which has been growing with the regional population. The industry does experience annual fluctuations and is highly susceptible to economic recessions. However, these fluctuations are not of the size or duration of mining booms and busts. A larger proportion of temporary jobs with relatively low salary levels are associated with the recreation industry, particularly with the businesses most dependent upon tourism.

Other Land Uses

Other economic uses of public lands in the planning area include:

- land use permits for filming and miscellaneous temporary facilities;

- rights-of-way for access, transportation, utilities, and water structures;

- sales for residential, agricultural and commercial uses; and

- R&PP patents for lands used for recreation and other public purposes.

Including indirect and induced effects, other land uses over the past 3 years have generated an annual average of 36 jobs, $494,767 earnings, and $45,135 taxing district revenues in Emery County and 48 jobs, $644,766 earnings, and $76,185 taxing district revenues in the Carbon-Emery County area (tables 45, 46, 47, and 48).

Counties receive a PILT for entitlement land within their boundaries. In 1985 Emery County received $410,521 in PILT [BLM, 1985b]. The payment is based on both congressional appropriations to the fund and either the county's entitlement acreage or the county's population. Payments can be as high as $0.75 per acre. Emery County's population currently limits PILT, and 1,735,371 acres of entitlement lands could be transferred to alternative ownership before PILT payments to the county would be reduced. Payments to the county now average $0.18 per acre.

PILT payments per acre are generally far lower than revenues the county receives on lands under alternative ownership. Only entitlement land transfers to the state could reduce local jurisdictional revenues, and then only if over 1,735,371 acres of entitlement lands were transferred to state ownership.

SOCIAL CONDITIONS

The history and development, and therefore social conditions, of Carbon and Emery Counties have been dissimilar.

The Castle valley area of Emery County was originally settled by Mormon pioneers, and economic development was based mostly on agriculture. Communities in the area remained small, isolated, and culturally homogeneous. Cultural values emphasized personal independence, local government, and local control.

During the 1970s, nearby energy developments brought rapid population and economic growth and significant in-migration to the area. The residents had little experience in coping with growth-related problems, and the in-migration of a culturally diverse population resulted in rapid changes to social conditions.

The recent downturn in the coal industry has exposed residents to the other side of rapid growth, with high unemployment rates, outmigration, and reduced taxing district revenues after having financed large a infrastructure buildup during the "boom." Cultural and economic diversity have increased, although not to the extent of the diversity in Carbon County, and communities have more experience and are better equipped to deal with future energy-related growth. These changes are more pronounced in northern Castle Valley and less pronounced in the southern part.

Carbon County was originally settled like Emery County, but in 1881 with the decision to route the Denver and Rio Grande Railroad through Price, coal mining soon became the area's major industry. Through the years, this economic development has brought in a culturally diverse population and has forced communities in the area to deal with boom-bust growth ever since. Communities in Carbon County are politically and economically diverse and displayed a high level of cooperation and coordination during the last boom-bust cycle.

Federal agencies have exerted increasing management and control over land upon which the local economy depends. Residents are sensitive to federal actions that either restrict traditionally unrestricted activities or appear to have a negative effect on economic conditions, particularly during the current economic slump and high rates of unemployment. However, public land--much of it undeveloped--is an important component of the lifestyle many local residents desire.

CHAPTER 4, ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

Chapter 4 presents the environmental consequences or impacts of the six alternatives described in chapter 2 and the proposed resource management plan (RMP) described in volume 1. The impacts depict the projected change that would occur in the human environment by the year 2000 if the alternatives were implemented. Impacts were summarized in chapter 2, table 11.

All of the alternatives would meet the requirements of the National Environmental Policy Act (NEPA) and other environmental-quality-related laws, regulations, and policies, including the requirement to prevent unnecessary and undue degradation of the public lands and resources, as prescribed by the Federal Land Policy and Management Act of 1976 (FLPMA). However, because the alternatives are quite different, each would have an environmentally preferable result for different components of the human environment.

Alternative A presents a continuation of current management.

Alternative B would be the least restrictive to development of minerals resources and livestock uses.

Alternative C favors nonmotorized recreation and would allow wildlife to attain prior stable numbers.

Alternative D would enhance watershed conditions and provide maximum cultural resource protection. This alternative would be the most restrictive to surface-disturbing land uses.

Alternative E presents opportunities to maximize motorized recreation (off-road vehicle (ORV)) and provides maximum opportunity for access development.

Alternative F represents a mix of the other alternatives.

The proposed RMP is similar to alternative F, but has been revised to reflect public and other agency comments to the draft RMP/environmental impact statement (EIS), changes and additions identified by the EIS team, and changes in management direction and policy.

Following the impact analysis in this chapter is a discussion of

(1) unavoidable adverse impacts under the alternatives;

(2) the relationship between short-term use of the human environment and maintenance and enhancement of long-term productivity; and

(3) the major environmental consequences and irreversible or irretrievable commitments of resources.

ANALYSIS METHODS

Not all environmental components would be affected by the alternatives analyzed. For example, no impacts would occur to air quality under any alternative. The present (1989) condition of those that would be changed by implementing any of the six alternatives or proposed RMP was described in chapter 3.

Specific indicators were listed in chapter 3, table 12. Change (impact) is measured in increase or decrease of a specific environmental indicator, such as acres open for oil and gas leasing.

Changes to some facets of the human environment (for example, visitor-use days) could not be projected because they would depend on factors other than the alternatives presented, and so were not used as environmental indicators.

The environmental baseline is alternative A, which represents no action, or no change in management (continuation of management under the management framework plans (MFPs)) [BLM, 1977a and BLM, 1979a]. The change to each component that would occur by the year 2000 under current management is described under alternative A. The environmental consequences of management under the other alternatives are compared to the change that would occur under alternative A.

Impacts are seldom known with certainty and must be based on certain assumptions. Broad planning assumptions, which have guided development of all phases of this final EIS were given in chapter 1.

Assumptions for surface disturbance caused by resource use and development are stated in table 54. These were used to project secondary impacts, such as soil loss. The assumptions for projecting impacts to specific indicators are given for the components under each alternative.

The impact of surface restrictions on mineral production depends on the quality and quantity of the mineral in place, which cannot be determined prior to exploration and development. The potential for minerals occurrence, however, can be projected. For each mineral commodity assessed, appendix Q shows the correlation of mineral potential with surface restrictions under each alternative, based on potential as discussed in chapter 2.

To analyze impacts to livestock forage and grazing use, changes were projected by alternative for each grazing allotment. The anticipated change in ecological condition, by allotment, is shown in appendix R. Appendix I shows the management actions under the various alternatives as they would apply to specific allotments.

In the impact assessment for each alternative, short-term impacts are those that would occur during implementation of a management action, or within 2 years after its completion. Revegetation normally begins within 2 years and becomes well established in 5. Long-term impacts are those remaining after 5 years. Residual impacts are those that would remain after the year 2000.

The acreage calculations presented in this chapter consider public lands only.

ANALYSIS ASSUMPTIONS

General planning assumptions are contained in chapter 1. Assumptions for analysis of anticipated surface disturbance and reclamation for activities, by alternatives, are shown in table 54. Additional specific assumptions are contained in resource sections and specific appendixes.

The following assumptions were used in preparing the impact analysis.

- Existing laws and policies will remain in effect without substantial change during the analysis period. The RMP team is aware that laws, regulations, and agency policy often change, sometimes in response to litigation. However, for the purposes of this analysis, it is assumed that the current regulatory framework would remain constant.

- All management actions and designations will be adequately funded and staffed. All alternatives assessed are feasible and could be implemented within normal funding guidelines.

- No tar sand exploration will occur during the analysis period. No impacts concerning tar sands were assessed.

- No geothermal exploration or leases will occur during the analysis period (until the year 2000). Accordingly, impacts from this type of development are not assessed.

- Under management program 4133, only potash-related activities would occur in the planning area. It is further assumed that no

TABLE 54

Acres of Anticipated Surface Disturbance and Reclamation for Activities, by Alternative (Including the Proposed Plan)

	Acres Disturbed, by Alternative, including Proposed Plan						
Activity	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Oil and Gas	600	660	600	120	600	600	600
-Reclaimed	370	420	370	80	370	370	370
-Not Reclaimed	230	240	230	40	230	230	230
Geophysical	1,440	1,800	1,440	360	1,440	1,440	1,440
-Reclaimed	960	1,200	960	240	960	960	960
-Not Reclaimed	480	600	480	120	480	480	480
Coal	48	48	32	16	48	48	48
-Reclaimed	40	40	27	13	40	40	40
-Not Reclaimed	8	8	5	3	8	8	8
Mineral Material	300	300	300	60	300	300	300
-Reclaimed	100	100	100	20	100	100	100
-Not Reclaimed	200	200	200	40	200	200	200
Locatable Minerals	240	360	180	180	180	240	240
-Reclaimed	150	230	110	110	110	150	150
-Not Reclaimed	90	130	70	70	70	90	90
Watershed	20	20	20	20	20	160	160
-Reclaimed	0	0	0	0	0	100	100
-Not Reclaimed	20	20	20	20	20	60	60
Livestock Grazing	120	480	0	0	120	120	120
-Reclaimed	40	150	0	0	40	40	40
-Not Reclaimed	80	330	0	0	80	80	80

(Continued)

TABLE 54 (Concluded)

Activity	Acres Disturbed, by Alternative, including Proposed Plan						
	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Recreation (ORV)	46,430	15,390	17,230	6,310	38,770	30,490	20,080
-Reclaimed	0	0	0	0	0	0	0
-Not Reclaimed	46,430	15,390	17,230	6,310	38,770	30,490	20,080
Rights-of-Way	120	120	120	12	120	120	120
-Reclaimed	60	60	60	5	60	60	60
-Not Reclaimed	60	60	60	7	60	60	60
Fire Management	156	156	156	156	156	156	156
-Reclaimed	80	80	80	80	80	80	80
-Not Reclaimed	76	76	76	76	76	76	76

NOTE: The following are examples of how acreages of surface disturbance were derived. It was assumed that 10 oil and gas wells per year would be drilled between 1988 and 2000, and that each well pad and associated access road would total about 5 acres (10 wells x 12 years x 5 acres = 600 acres disturbed). It was further assumed that 24 of the 120 wells would be productive (and would not be reclaimed) (24 wells x 5 acres = 120 acres not reclaimed); that the remaining 74 would be abandoned and reclaimed (74 wells x 5 acres = 370 acres to reclaim); and that reclamation would be successful, with site-specific seed mix of native and exotic grasses and shrubs within 5 years. There would be 20 wells in the process of being reclaimed (20 wells x 5 acres = 100 acres not reclaimed) and reclamation on 2 wells would not be successful (2 wells x 5 acres = 10 acres not reclaimed). The remaining 230 acres would not be reclaimed by 2000 because of area in production or reclamation not yet completed or not successfully reclaimed.

It was assumed that two water developments, one each in San Rafael Resource Area (SRRA) and Forest Planning Unit (FPU), and 2 miles of fence per year, 1 each in SRRA and FPU, would be constructed between year 1988 and 2000, and that each water site would disturb 3 acres and each fence would disturb 2 acres. Of the 120 acres disturbed, all fence disturbance would be reclaimed while 80 acres of water sites would remain unreclaimed by 2000.

Under Recreation, it was assumed that while disturbed areas are being reclaimed, additional acres would be disturbed.

exploration or production of potash would occur during the analysis period.

- The analysis for big game species assumes the species would be allowed to achieve maximum numbers possible for the crucial habitat involved.

IMPACT ASSESSMENT

The following section, arranged by alternative, analyzes each environmental component. None of the alternatives has the potential to affect threatened or endangered (T/E) fish species of the Colorado River drainages air quality or social conditions in local communities.

ALTERNATIVE A

MINERAL COMPONENTS

Oil and Gas

The following category restrictions would continue to direct the leasing of oil and gas. Tar sand leasing categories are included in those for oil and gas.

Category 1, which imposes no special requirements on development, covers 1,130,280 acres in San Rafael Resource Area (SRRA) and 51,770 acres in Forest Planning Unit (FPU) or 1,182,050 acres in the planning area.

Category 2 covers 43,130 acres in SRRA and 18,270 acres in FPU or 61,400 in the planning area. Category 2 includes special lease conditions, such as seasonal conditions on mule deer and elk winter range and surface use restrictions along streams or on slopes in excess of 50 percent. The high-potential areas are located in areas covered by categories 1 and 2. These restrictions increase the difficulty of planning exploration programs and maintaining production operation, thereby increasing industry's exploration and production costs. The other restrictions occur in areas that have low to moderate potential for new discoveries or do not have any present or past production; therefore, the restrictions would have little, if any, effect on production.

Category 3 covers 169,320 acres in SRRA and 5,310 acres in FPU or 174,630 acres in the planning area. Category 3 allows leasing with no surface occupancy, so these areas could be developed only by directional drilling from adjacent land, which would increase costs to industry.

Category 4, no leasing, covers 121,110 acres in SRRA and none in FPU. The areas covered by categories 3 and 4 have low to moderate potential for new oil and gas discoveries and no past or present production (appendix Q).

Lands in categories 3 and 4 include primitive areas, scenic corridors, the river corridor, airport lease, and recreation sites.

Although no wells are currently (1989) producing petroleum in the planning area, there are producing wells in Emery County, and it is assumed that future petroleum production in the planning area will occur. For analysis purposes, it was assumed that 2 of the 10 wells drilled each year would become producers, with production beginning the following year.

Producing wells are assumed to produce 600 barrels of petroleum and 30,000 MCF (thousand cubic feet) of natural gas per year. Production during the planning period (22 wells producing half of the time) is estimated to average 6,600 barrels of petroleum and 424,000 MCF of natural gas per year (94,000 MCF from existing wells and 330,000 from projected wells). It is assumed that annual production would increase to 13,200 barrels of petroleum and 754,000 MCF of natural gas by the year 2000.

Geophysical exploration would remain steady with 100 miles of seismic line being completed every year, which would be distributed throughout the planning area. Geophysical work would not be restricted, as access and methods of acquiring geophysical data would remain constant.

Conclusion

Neither the area open to leasing nor the area in any leasing category would change (category 1, 1,182,050 acres; category 2, 61,400 acres; category 3, 174,630 acres; and category 4, 121,110 acres).

Production would increase to 13,200 barrels of petroleum and 754,000 MCF of natural gas at year 2000. Geophysical exploration would remain constant at 100 miles per year by the year 2000.

Coal

Currently, 33,720 acres in SRRA and 28,570 acres in FPU (a total of 62,290 acres in the planning area) are available for coal exploration. However, because of no-surface-occupancy stipulations, coal drilling would be precluded and the total area available for exploration would be less than explained above. Most of these available lands are underlain by the Emery Coal Field (or Emery Known Recoverable Coal Resource Area (KRCRA)). This field and the Wasatch Plateau Coal Field (or Wasatch KRCRA) are the only parts of the planning area where coal resources are known to exist.

Fewer than 6,000 acres of public land overlie the Wasatch KRCRA; these lands are on the cliff edges of the Wasatch Plateau. The U.S. Forest Service (USFS) boundary and the cliff edge do not coincide but leave small, isolated parcels of public land on the cliff edge outside the national forest (NF) boundary.

Regulations governing coal exploration include special stipulations to protect unique resource values and require a detailed plan, total reclamation, and bonding.

Coal drilling is the only current feasible method of exploration. One cannot drill with a no-surface-occupancy stipulation; therefore, the effective amount of area available for exploration is 58,310 acres (32,440 in SRRA and 25,870 in FPU). This is the baseline quantity that shows in alternative A in table 11.

Under alternative A, all coal exploration in the Wasatch KRCRA would occur on USFS lands. Some exploration would be conducted in the Emery KRCRA by the year 2000. The I-70 Scenic Corridor would exclude from surface occupancy 1,280 acres in SRRA and 2,700 acres in FPU, effectively removing this land from coal exploration. Coal drilling was not addressed in the MFP; therefore, the no-surface-occupancy requirement is new.

Drilling and geophysical listening methods are currently the only feasible methods of exploring for coal away from known outcrops. No coal quantity or quality information would be available for this area. This lack of information could hamper future underground mining operations in the I-70 Scenic Corridor. However, no mining is anticipated from the I-70 Scenic Corridor area by the year 2000.

The large unused capacity from existing mines on the Wasatch KRCRA and the one operation on the Emery KRCRA, where coal quality is superior, would satisfy the demand for coal. Therefore, the no-surface-occupancy requirement for the I-70 Scenic Corridor is expected to result only in the loss of 3,980 total acres to coal exploration in the Emery KRCRA. This may reduce the number of coal drill holes by one per year. A total of 32,440 acres in SRRA and 25,870 acres in FPU would be available for exploration under standard conditions, 91 percent being within the Emery KRCRA.

Federal coal production from the one operation in the Emery KRCRA has been sporadic in recent years, averaging roughly 150,000 tons per year. The Emery Mine operates on a permit area of 5,180 acres, of which only 880 acres are federal leases; the remainder cover private and state coal. This mine has reserves for 15 to 20 years based on current production. With the tight coal market and the estimated 5 to 10 years to lease and permit a new mine, all production from the Emery KRCRA is expected to come from the Emery Mine (Consolidation Coal Company) until well after the year 2000.

The unsuitability study (appendix F) identified 3,940 acres of the Wasatch KRCRA as unsuitable for any mining or leasing because of municipal watershed areas and 160 acres of Emery KRCRA unsuitable for any mining or leasing because of public land in a municipality (the town of Emery). Both these areas (4,100 acres) are in SRRA.

There would be no impacts from identification of 3,940 acres as unsuitable for leasing due to municipal watersheds. These acres are on the Wasatch Plateau just outside the NF boundary on the cliff edges. A total of 3,800 acres are already under existing leases with stipulations to protect water quality and can be mined by underground methods only. Surface facilities would not be built in these areas. The existing mining operations would not affect water quality to municipal watersheds.

The 160-acre area determined unsuitable for coal leasing due to its inclusion in the town of Emery lies on the extreme northwest corner of the Emery KRCRA, where coal quality and quantity are suspect. Also, the large Joes Valley fault system runs adjacent to this 160 acres and makes mining impossible under current technologies and economics. Therefore, the unsuitability finding would have no effect on coal production.

A total of 58,190 acres (29,620 in SRRA and 28,570 in FPU), all within the two KRCRAs, are available for coal leasing.

A total of 3,980 acres of the lands available for leasing (1,280 in SRRA and 2,700 in FPU) have a no-surface-occupancy requirement. This would have no impact on leasing, since underground mining plans that protect the surface from subsidence damage would be approved and surface facilities for the mine would be placed outside the I-70 Scenic Corridor. Future mining, therefore, could still take place under the corridor. Since no production is anticipated from unleased areas by the year 2000, there would be no impact to coal production.

Conclusion

Areas available for coal exploration would be reduced by 3,980 acres from the KRCRAs due to the I-70 Scenic Corridor no-surface-occupancy requirement. A total of 58,310 acres would be available for coal exploration, of which 58,190 acres would be available for leasing. Since no coal production is anticipated from unleased areas, current coal production (150,000 tons per year) would continue.

Mineral Materials

The entire SRRA (1,463,840 acres) would be available for mineral material disposal, as would the entire FPU (75,350 acres, for a total in the planning area of 1,539,190 acres), unless disposal is precluded by site-specific conditions such as mining claims or an archaeological site.

The 1987 production of 164,000 cubic yards of mineral materials (sand and gravel) shows a steady increase from 83,000 cubic yards in 1986, 23,000 in 1985, and 11,000 in 1984. No new roads are being built, but existing roads are being maintained or upgraded. Highway I-70 is expected to be completed with the addition of two more lanes by 1990. Projected use appears to be increasing and is expected to average 210,000 cubic yards per year for SRRA, but FPU is not expected to have any production as most of I-70 is completed in that planning unit. By the year 2000, mineral material production in SRRA could increase to 320,000 cubic yards per year.

Conclusion

The area available for disposal of mineral materials under alternative A would total 1,539,190 acres. Production would increase to 320,000 cubic yards per year by the year 2000.

Locatable Minerals

The majority of SRRA (1,462,060 acres) is open to entry, as is the entire FPU (75,350 acres), for a total of 1,537,410 acres in the planning area. In SRRA, 1,780 acres would be withdrawn from entry under alternative A. The withdrawn area has moderate to no potential for uranium. For gypsum, 720 acres of the area withdrawn from entry has high to moderate potential; the remainder, low to no potential (appendix Q). Certain lands actions can close areas to entry, but these cannot be predicted with any certainty.

Currently (1989), there is no production of any locatable minerals in SRRA or FPU, and no production is expected by the year 2000. Several thousand mining claims have been located for uranium and gypsum in SRRA and a few for uranium in FPU. No gypsum has been

produced; the uranium market is currently (1989) depressed and is not expected to change by the year 2000. Since 1983, one uranium mine has produced for less than 3 months. Since no further production is expected until after the year 2000, no impact to production is projected. Locatable mineral activity is expected to be confined to assessment work in areas of high potential for uranium and high to moderate potential for gypsum.

Under alternative A, standard conditions would be applied to 1,412,610 acres in SRRA and 75,350 acres in FPU, for a total of 1,487,960 acres in the planning area. To protect the I-70 Scenic Corridor Area of Critical Environmental Concern (ACEC), special conditions would be applied to 49,450 acres in SRRA. Compliance with special conditions would be required to the extent possible without curtailing the operators' rights. Filing plans of operation and complying with the special conditions would increase the operators' costs, which could result in an unquantified decrease in exploration and development work in those areas to which special conditions apply.

Present management has little effect on mining claim location, but various actions under alternative A could affect the acreage open to entry. If 6,820 acres identified for land disposal are sold, this would reduce the area open for mineral entry. Although minerals are generally reserved to the Federal Government during land disposals, there are presently no regulations to provide for location of mining claims on such areas.

Areas designated for disposal of mineral materials have priority over extraction of locatable minerals, but there is no known conflict in the area.

A total of 1,780 acres under R&PP leases are withdrawn from mineral entry. Any new such grants or leases would remove additional lands from the area open to entry, but the loss of acreage cannot be quantified because applications cannot be predicted with any certainty; however, the potential loss would not be significant.

A total of 7,890 acres under public water reserves (PWRs) are withdrawn from the location of nonmetalliferous locatable minerals only. This partial closure is not significant, as the areas are still open to location of metalliferous locatable minerals.

Conclusion

The area available for location of mining claims under alternative A would total 1,537,410 acres.

BIOTIC COMPONENTS

Soils

Impacts to soils are often secondary to surface-disturbing activities or grazing and are in addition to the base rate. Soil loss reflects actual loss through erosion. A ton of soil loss per acre is equivalent to 27 cubic feet of material being removed from an area 66 by 660 feet (1 acre, approximately the size of 1.25 football fields). However, the soil loss in tons per acre is not equally distributed in all parts of the planning area. The resulting sediment and salt yields cause tertiary impacts to water quality and are discussed separately.

Soil loss and sediment yield estimates were based on a sedimentation study on small reservoirs in the San Rafael Swell [King and Mace, 1953] except for estimates on disturbed lands. Analysis of impacts from specific activities causing surface disturbance were based on King and Mace [1953], Dissmeyer [1981], Schumm and Gregory [1987], and Lusby, et al., 1971]. Badger Wash is an ecosystem similar to that of a large part of the planning area. The range of values was determined as discussed in appendix N.

With continuation of present management, the base rate of soil loss should remain constant at between 7,135,590 and 60,414,590 tons per year (averaging 33,775,060 tons per year). These values include soil loss due to surface-disturbing activities (see table 54) (between 3,345,590 and 27,914,550 tons per year) as well as natural geologic erosion (between 3,790,000 and 32,500,000 tons per year) including wind erosion.

In addition to the reasons stated for this range of values, other factors, such as variations in climate, can affect soil loss and sediment yield variability. During any one year, precipitation events could occur as short-duration, high-intensity localized storms which could cause a large and rapid amount of soil movement due to overland flow. These types of storms often cause flash floods, which transport a great deal of soil from ephemeral and perennial channels. Precipitation events in the form of long-duration, low-intensity storms could also occur. These types of storms often allow time for moisture to infiltrate into the soil, rather than run off, and therefore transport little or no soil. The quantity of snow and timing of snowmelt is also a factor in this range of values. Other factors include, but are not limited to, slope, slope length, aspect, localized variation in soil characteristics, depth to bedrock, compaction, porosity, quantity and quality of vegetation, and soil surface factors such as rocks, litter, soil crust, soil structure and cryptogamic cover.

ORVs are estimated to contribute between 427,300 and 3,232,500 tons of soil loss per year. These values are calculated only from vegetation losses and may actually be much higher due to, but not limited by, some of the following causes discussed by Webb and Wellshire [1983].

1. ORVs often establish a major network of rills and gullies which concentrate and channel runoff increasing erosion on and off site. Soil is often lost in these newly created and unvegetated channels.

2. On steep slopes, ORVs make deep grooves which are then deepened by runoff energies, thus transporting more soil particles. Erosion becomes more severe if the slopes exceed 20 percent, but slope does not limit the machines until it exceeds 40 percent.

3. ORVs can compact and disrupt the soil surface which (1) reduces the infiltration capacity, causing more water to run off and allowing more soil transport; (2) reduces the soil's capability to absorb water, leaving less water available to the plants; (3) allows more soil particles to be available for transport by disrupting the soil's crust; and (4) results in a loss of plant cover, which opens areas to wind erosion onsite and offsite. Soil particles, particularly sands, can spread downwind, burying and killing vegetation that was not directly damaged by ORVs.

Therefore, continuing to leave the entire planning area open to ORV use would allow a continued decrease in soil productivity, as ORV use disturbs soils, destroys vegetation, and accelerates soil erosion. This soil deterioration would be most significant in those areas receiving the greatest amount of ORV use, such as Buckhorn, along the San Rafael Reef from Goblin Valley to Temple Mountain, Tomsich Butte, Swasey Cabin, and the Head of Sinbad. With an increase of up to 30 percent in recreational activity and ORV use over the life of the plan, there would be a corresponding increase in soil loss of 128,200 to 969,900 tons per year by the year 2000.

Livestock grazing is estimated to contribute 2,935,000 to 24,820,000 tons per year of soil loss. Ungrazed watersheds average 30 percent less runoff and 45 percent less sediment than do grazed watersheds during periods of similar rainfall [Lusby, 1970].

While soil losses were estimated from actual acres grazed, they were not estimated for different grazing practices. Reductions in soil loss and sediment yield could result from changes in livestock management techniques, such as range improvements to alter livestock distribution or changes in season of use. These could alter plant vigor, density, canopy and ground cover, and species composition. The effects of these vegetation changes could not be quantified or converted to soil losses.

Surface-disturbing activities associated with livestock-related range improvements are estimated to contribute between 750 and 5,500 tons per year.

Geophysical activities may contribute between 6,480 and 49,700 tons of soil loss per year. Coal development may contribute between 70 and 550 tons per year. Mineral material activities may contribute between 1,850 and 14,000 tons per year, and mining claim assessment and development, between 750 and 6,300 tons per year. These surface-disturbing activities could decrease short-term soil productivity through soil compaction, erosion, vegetation loss, reduced

soil moisture capabilities, and mixing of the soil horizon. Accidental fluid discharges during oil and gas drilling operations could contaminate soils.

Impacts from rights-of-way would be similar to those from mineral activities. Rights-of-way may contribute between 470 and 3,500 tons per year.

Estimates of soil loss are based on the amount of public land in the planning area. Disposal of public lands results in less BLM acreage available to contribute to total soil loss. With land disposals under alternative A, between 26,830 and 216,500 fewer tons of soil may be contributed from public lands.

Other activities would have a negligible impact to soils, although specific projects could have a substantial local impact. These cannot be predicted.

Conclusion

The base rate of soil loss should remain constant at between 7,135,590 and 60,414,550 tons per year. Soil loss could increase, however, to between 7,263,740 and 61,384,300 tons per year due to increased disturbance from ORVs by the year 2000. This would include an increase of 128,200 to 969,900 tons per year.

Water

Impacts to water can be measured by change to the quality of surface and ground water. Surface water quality is generally a tertiary impact governed by soil loss resulting from surface disturbance. Surface water quality is also affected by geologic conditions, such as natural erosion or salts leaching directly out of rock formations. This baseline rate has been estimated and is reflected in this analysis.

Increased soil loss results in increased sediment yields, which degrade water quality. A fixed percentage of salt is associated with sediment; therefore, an increase in sediment yield has a corresponding increase in salt loading.

Sediment yields and salt loading are given in reference to the Colorado River. The intent is not to give annual concentrations of suspended sediment and salt in the Colorado River, but rather to indicate how much sediment and salt would be delivered to the Colorado River through various management programs and change agents.

Sediment and salt yields were estimated based on King and Mace [1953], Schumm and Gregory [1987], and Lusby, et al. [1971].

The base rate of soil loss should remain constant at between 7,135,590 and 60,414,550 tons per year, for an average of 33,775,070 tons per year (see Soils). The corresponding sediment yield should remain constant at between 2,854,230 and 24,165,810 tons per year (averaging 13,510,020 tons per year). Shumm and Gregory [1987] found that salt production is closely related to sediment concentrations. That relationship is used throughout this analysis (see Soils). Salt yield should remain constant at between 28,625 and 424,404 tons per year (averaging 226,515 tons per year). These values include sediment (between 1,338,230 and 11,165,810 tons per year) and salt yields (between 14,255 and 195,200 tons per year) due to surface-disturbing activities as well as natural geologic erosion (sediment, between 1,516,000 and 13,000,000 tons per year; salt, between 14,370 and 229,200 tons per year). This range of values is described in appendix N. Other factors that could contribute to this wide range of values were discussed in this alternative under Soils.

Rates of salt and sediment yields correspond to a 1987 total dissolved solids (TDS) level of 600 milligrams per liter, as evaluated at Imperial Dam in southern Arizona. Several unusually wet years preceding 1987 caused the salt concentration to be diluted by higher flow levels; drier years would result in a higher TDS level.

ORVs are estimated to contribute between 170,900 and 1,293,000 tons per year of sediment and between 2,820 and 21,710 tons per year of salt to the drainage systems. These values are based on vegetation losses only. The actual values may be higher due to factors described under Soils in this alternative and some of the following factors discussed by Webb and Wellshire [1983]:

1. The quality of water at an ORV site is reduced by the increased runoff that results from the removal of vegetation cover and soil compaction. ORV tracks become partly sealed to infiltration and act as channels for overland flow, again increasing runoff.

2. Increased runoff and decreased plant cover can cause an increase in the frequency and magnitude of flooding.

3. Much of the soil that is eroded from the land by ORV use ultimately enters surface waters, where it contributes to the sediment and salt load and accelerates siltation of the streams.

4. ORV users can add biological and chemical contaminants to the soils, and hence to the surface or ground water, with small quantities of gas or oil spilled or leaked from their machines.

Therefore, continuing to leave the entire planning area open to ORV use could allow a continued increase in sediment and salt yield because of increased surface disturbance (destruction of vegetation, soil compaction, disruption of the soil surface, destruction of surface stabilizers, reduction of infiltration capacity, increased frequency and intensity of runoff, and concentration and channeling of runoff) caused by ORVs. The effects are greatest in those areas of saline soils receiving heavy use. With an increase of up to 30 percent in recreational activity and ORV use, there would be a corresponding increase of between 51,270 and 387,900 tons per year of sediment and between 845 and 6,513 tons per year of salt by the year 2000.

Livestock grazing could contribute between 1,173,900 and 9,927,600 tons per year of sediment and between 11,500 and 174,700 tons per year of salt. Surface disturbance associated with livestock-related range projects could increase sediment between 300 and 2,200 tons per year and increase salt yields between 5 and 38 tons per year.

Geophysical activity and oil and gas development could affect surface and ground water. Construction of roads and drill pads could increase sediment and salinity yields in local surface water. Geophysical activity could add between 2,600 and 19,880 tons of sediment and between 33 and 192 tons of salt per year to drainage systems. Unplugged or improperly plugged holes can cause aquifers to interact, which could result in low water levels. Blasting can alter aquifer characteristics, affecting existing wells. Although impacts normally occur only from shots closer than 500 feet, a safe working distance must be determined on a case-by-case basis. With adherence to standard operating procedures, ground water should not be degraded.

Coal leasing and development could result in increased sediment and salt yields from roads, mine facilities and associated surface-disturbing activities. Coal leasing could result in an increase of sediment of between 30 and 220 tons per year and an increase in salt by as much as 2 tons per year.

Minerals exploration and development may cause an increase in sediment and salt yield. Road construction and other mine-related disturbances could increase sediment and salt loads in local surface waters. It is estimated that sediment may increase by between 740 and 5,600 tons per year and salt by between 9 and 54 tons per year due to removal of mineral materials. Sediment may increase by between 300 and 2,520 tons per year and salt by between 4 and 24 tons per year due to assessment work on mining claims.

Mineral material operations in close proximity to perennial watercourses could destabilize and alter natural stream channels and disrupt the beneficial values of floodplains. These impacts could change the water table and surface water flows and could make floods more destructive.

Ground water can be affected directly or indirectly by development. Minerals development could contaminate ground water in the planning area.

Rights-of-way could increase sediment by between 190 and 1,400 tons per year and salt yield by between 2 and 14 tons per year. The presence of roads in an area may increase sediment yield and subsequent salt yield because sediment is produced from the road surfaces and because erosion could increase where the roads concentrate runoff. Proper design and maintenance can minimize increased

yields. Increased use of existing roads can slightly increase existing sediment yield by increased disturbance of the road surface.

The estimates of sediment and salt yield are based on the amount of public land in the planning area. Disposal of public land results in less BLM acreage available to contribute to total sediment and salt yield. With land disposals identified under alternative A, between 10,730 and 86,610 fewer tons of sediment and between 118 and 1,530 fewer tons of salt per year may be transported from public lands in the planning area.

Fire management in SRRA is limited. Historically, fires have been small and infrequent, and the effects from fire on water resources are negligible. Site-specific information would be necessary to predict or quantify the exact effects. The impacts from fire management, therefore, will not be discussed further.

Hazardous waste management is a potentially critical contaminant of water. Since standard operating procedures are meant to prevent any problems, water quality degradation would be limited to accidents and inadequate enforcement. These cannot be predicted, and this type of impact has not been assessed.

Conclusion

Surface water quality could continue to degrade due to the continued input of sediment and salt. Sediment base yield rate of between 2,854,230 and 24,165,810 tons per year (averaging 13,510,020 tons per year) could increase to between 2,905,500 and 24,553,710 tons per year (averaging 13,729,605 tons per year) due to increased disturbance from ORVs by the year 2000. This would include an increase of between 29,470 and 403,920 tons per year. Salt base yield rate of between 28,625 and 424,404 tons per year (averaging 230,194 tons per year) could increase to between 29,470 and 430,917 tons per year due to increased disturbance by ORVs by the year 2000. This would include an increase of 845 to 6,513 tons per year. Ground water quality would remain constant. The existing level of TDS, in milligrams per liter, is unquantified.

Air

Current (1989) air quality in the planning area is good. The entire planning area is in attainment with national ambient air quality standards (NAAQS) and is protected by prevention of significant deterioration (PSD) air quality regulations. Four special-interest areas, Sids Mountain, Mexican Mountain, San Rafael Reef, and the lower Green River, have been identified as having air quality values that are important attributes to those areas. Protection of these air quality values will require special management attention if and when the special interest areas are developed. This special management attention would occur during a PSD review of any major polluting activity that would influence visibility in the special interest areas. Any needed protection could be provided using best available control technology.

An impact area has been designated around Hunter Powerplant Unit 3, and polluting activities are controlled within this area by the relatively stringent class II PSD allowable increment limitations. Impacts within this area will be assessed on a case-by-case basis through the State of Utah's permitting process.

Under alternative A, polluting activities would continue and possibly expand; however, no new large industrial or mineral extraction activities are expected through the year 2000. Temporary (less than 6 months) degradation of air quality could occur from individual projects.

Visibility and air quality in nearby class I areas are vulnerable to impacts. Surface-disturbing activities and secondary impacts, such as an increase in the number of people present, could cause significant impacts, particularly to the Capitol Reef National Park (NP) class I area. Protection provided these class I areas could constrain BLM management options for activities occurring in class II lands, if they occur close to the class I area. The extent of such constraints must also be determined on a case-by-case basis.

Conclusion

Under alternative A, air quality in the planning area would remain good until the year 2000.

Vegetation

Vegetation resources affected by BLM management include (1) the general vegetation cover that would be removed by surface-disturbing activities or development, and (2) forage removal. Changes to livestock forage are discussed under Human Uses, Grazing. Forest products use, T/E plants, and riparian and aquatic habitats are discussed in other sections.

Change in vegetation cover is usually a short-term impact. When a site is reclaimed, the vegetation is regained, although species composition may be different.

Under current management, short-term loss of vegetation would occur on 47,474 acres, long-term loss on 7,070 acres, for a total area of 54,544 acres where vegetation would be disturbed, an increase of 16,064 acres over the current situation. Disturbance would be short-term on approximately 8,994 of these acres. (Short-term disturbance on about 46,180 acres would result from ORV use, but the majority of this loss would be recovered through natural succession.) The long-term loss of vegetation would result from land disposals (6,820 acres) and the proposed Green River Scenic Loop (250 acres). General analysis assumptions are explained in appendix S. Acres of expected disturbance are listed by activity in table 54.

Anticipated changes in ecological condition under alternative A are shown in table 55. Changes to lower seral stages would result from the lack of allotment management plans (AMPs) or intensive grazing management under which rest could be provided for livestock forage species during the grazing season. The lack of periodic rest would decrease plant vigor and density and change plant composition, thus reducing the acres in the later seral stages.

The Bowknot Bend (1,830 acres), North Big Flat Top (190 acres), Hebes Mountain (690 acres), and San Rafael Reef (43,870 acres) relict vegetation areas would not be designated as ACECs under alternative A. Therefore, these isolated areas would not receive special protection.

TABLE 55

Anticipated Changes in Ecological Condition, Alternative A

Ecological Condition Class	Ecological Condition by Percent of Resource Area	
	Present (1985)	Future (2000)
Potential Natural Community	9	8
Late Seral	22	20
Mid Seral	47	46
Early Seral	9	13
Rock Outcrop/Badlands	13	13

Threatened or Endangered Plants

There would be no impact to T/E species from controlled activities. T/E plants could be damaged by the uncontrolled use of ORVs and by mining activities that disturb fewer than 5 acres. The T/E plant habitat would be monitored, and management would be implemented to prevent any impacts on the plants.

Conclusion

Vegetation would be lost on approximately 54,544 acres (47,474 acres of short-term loss, 7,070 acres of long-term loss). Changes to lower seral stages would result. Relict vegetation areas would not be protected under alternative A. Less than 1 percent of the area is affected by forest products. There would be no adverse impacts to T/E plants.

Wild Horses and Burros

Under alternative A, 475,680 acres are used by wild horses and burros. The current estimated number of wild horses is 114 head.

Wild burros are estimated to be 70 head. No forage was allocated to wild horses or burros during the adjudication period. Under this alternative, wild horse numbers would be managed within the range of 200 to 235 head and wild burros between 70 and 100 head. At the upper limits, wild horses would require 2,115 animal unit months (AUMs) and wild burros 720 AUMs, for a total of 2,835 AUMs.

Conflicts between wild equids and livestock may be resolved and adjustments in specific forage use levels would be made at the activity plan level, in conjunction with grazing decisions, or at any time deemed necessary as a result of rangeland monitoring.

Conclusion

The wild horse and burro range includes 475,680 acres of public land. Wild horse numbers would be maintained beween 200 and 235 head and wild burros between 70 and 100 head. At the upper limits, 2,835 AUMs would be required for these animals. Forage use levels may be adjusted for wild equids and livestock when monitoring information is available. When wild equid numbers reach the upper limit, they would be reduced to the lower limit; animal reductions would be made as often as necessary.

Wildlife

Impacts to wildlife species are analyzed as the area of crucial habitat available and the effect on wildlife numbers.

Desert Bighorn Sheep

Because surface disturbance would be reclaimed and herds could expand into available areas, the amount of crucial bighorn sheep habitat would grow from 109,600 acres to about 150,000 acres under alternative A. However, the desert bighorn sheep population would not reach its full potential, primarily because of the following factors.

- Continuation of livestock grazing at current levels and seasons of use would not allow the desert bighorn sheep population to expand at more than 9 percent per year for two reasons: because livestock are using range that desert bighorn sheep would require to continue their present level of population increase, and because desert bighorn sheep can acquire diseases from livestock.

- Without special or seasonal conditions, ORV use and development activities, especially if occurring in crucial habitat areas, would cause stress to the animals or direct loss of forage.

- Oil and gas development, mineral material development and disposal activities, and mineral entry could affect 192 acres; assuming that 100 acres will support one desert bighorn sheep, two sheep would be lost.

- An undetermined degree of conflict between desert bighorn sheep and wild burros exists at present on at least 150 acres of crucial habitat; if either population should increase, the conflict would increase proportionately.

Assuming a continuation of the natural growth rate of 18 percent per year, the desert bighorn sheep population has the potential to grow from about 225 to over 500 in the sixth year of the plan and to 1,390 by the year 2000. However, because of the reasons stated above, desert bighorn sheep would increase to about 500 under alternative A.

Antelope

Even though all but 340 acres of potential disturbance would be reclaimed, antelope habitat would decrease from 507,340 to about 507,000 acres under alternative A. The antelope population would not reach its full potential on the remaining habitat, primarly because of the following factors.

- Antelope would continue to compete for water, although existing wildlife waters would be maintained and five more water facilities would be constructed in antelope habitat.

- Maintaining livestock grazing at current levels and seasons of use would result in continued competition for spring grasses and

forbs and reduce the potential for antelope populations to increase.

- Development activities and ORV use without special or seasonal conditions could cause the direct loss of 100 animals or could displace antelope from at least 340 acres of habitat (340 acres is thought to be a conservative estimate).

Assuming a natural growth rate of 10 percent per year, the pronghorn antelope population has the potential to grow from about 600 to 1,200 animals by the year 2000. The population is increasing at present and probably would maintain a modest increase. However, under alternative A, pronghorn antelope would increase by 100 animals to about 700 animals by the year 2000 because of the reasons stated above.

Mule Deer and Elk

Crucial habitat areas for deer and elk would not change under alternative A (35,510 acres for deer and 18,200 acres for elk). These crucial habitats partially overlap. The mule deer and elk use of crucial habitat would remain at less than full potential, primarily because of the following factors.

- The activities associated with harvesting of woodland products on the 35,500 acres of crucial deer winter range and the 18,200 acres of crucial elk winter range would continue to impact mule deer and elk during the winter, stressing the animals and causing them to avoid areas of active wood harvest; however, the removal of pinyon and juniper trees also has the potential to release desirable vegetation for utilization by deer and elk.

- Continuation of livestock grazing at current levels and seasons of use would not allow the mule deer and elk populations to expand more than 10 percent per year.

- Without special or seasonal conditions, ORV use, especially if occurring in crucial habitat areas, would stress the animals or cause direct loss of forage.

Assuming a natural growth rate of 5 percent per year, the mule deer population has the potential to grow from about 6,100 to about 9,200 animals (prior stable numbers; a 62 percent increase) by the year 2000. The elk population has the potential to grow from about 550 to about 800 animals. However, under alternative A, deer and elk would increase to only about 6,620 and 600, respectively.

Riparian and Aquatic Habitat

The riparian and aquatic habitat area affects many wildlife species, including T/E species (bald eagle, peregrine falcon, and certain fish). While new riparian areas would not be created, existing areas would increase in vigor and size (by 10 acres), and the density of riparian vegetation would also increase. Under alternative A, there would be 11,430 acres of riparian and aquatic habitat in SRRA and 3,350 acres in FPU for a total of 14,780 acres in the planning area.

Threatened or Endangered Animals

Any loss of cottonwood trees in the riparian habitat of the Green River would be detrimental to the wintering bald eagle. Cutting or other destruction of these trees is prohibited. Therefore, there would be no impact to the eagle under this alternative.

The peregrine falcon nest would be protected from development activities under alternative A with monitoring and restriction of activity to prevent impacts from uncontrolled activities such as recreation use and mining claim work on fewer than 5 acres.

Nest sites of ferruginous hawks are not mapped and change from year to year. The nests are protected from controlled activities. Nest sites would be monitored, and mitigation measures would be applied to prevent impacts from uncontrolled activities such as recreation use and mining claim work.

The planning area contains numerous prairie dog towns that are potential habitat for black-footed ferrets. For any proposed action that could affect the prairie dog towns, approval would not be

granted without evaluation to determine whether ferrets are actually present.

Conclusion

Crucial habitat for desert bighorn sheep would increase to 150,510 acres from 109,600 acres, allowing a population increase from about 225 animals to 500 by the year 2000.

Habitat for pronghorn antelope would be reduced to 507,000 acres, a loss of 340 acres from the existing situation. Despite the loss of crucial habitat, antelope populations would increase from about 600 animals to about 700 animals.

Mule deer and elk crucial habitat would remain constant at 35,510 acres for mule deer and 18,200 acres for elk; their populations would increase from about 6,100 mule deer and 550 elk to about 6,620 deer and 600 elk.

Riparian and aquatic habitat and related T/E wildlife species habitat would increase to 14,780 acres. There would be no adverse impacts to T/E species.

HUMAN USES

Grazing

Under alternative A, 1,421,880 acres in SRRA would be available for grazing in 91 allotments. Four isolated allotments have been identified for disposal, and it is assumed that these tracts would be disposed of by the year 2000. An additional 190,240 acres would be available for grazing in FPU (6 allotments administered by Sevier River Resource Area). The total area available for grazing under alternative A would be 1,612,120 acres. Areas closed to livestock grazing would include the Wildlife Allotment (630 acres), Buckhorn Draw (4,520 acres), and unallotted lands (1,730 acres).

Currently, livestock grazing occurs at approximately the level of the past 5-year average licensed use (56,871 AUMs); operator demand is less than allowable active preference (88,252 AUMs). It is assumed that operator demand for livestock forage will remain at current levels, but it may increase to allowable active preference. Therefore, a range of AUMs is used in this analysis.

Livestock grazing could continue at somewhat less than the past 5-year average licensed use, or it could increase to somewhat less than active preference because of decreases in available forage in some areas. Such a decrease would result primarily from land disposals (325 AUMs) and ORV disturbance (300 AUMs). An additional loss of 85 AUMs would result from oil and gas production, seismic exploration, mineral material sites, mining operations, wildfires, rights-of-way, and the Green River Scenic Loop. Such a loss is insignificant for analysis purposes in alternatives A through F, because the affected areas are scattered throughout the grazing area and are not concentrated in any specific area or allotment (appendix I). Also, the majority of this loss would be regained following reclamation. The long-term loss of livestock forage would result from land disposals. Surface disturbance from ORVs results in a short-term vegetation loss, most of which would eventually be restored.

The overall net change would be a 710-AUM decrease from the past 5-year average licensed use to 56,161 AUMs and from active preference to 87,542 AUMs. Licensed use would be within that range (between 56,161 and 87,542 AUMs), depending on operator demand. Analysis assumptions for determining changes in AUMs were given at the beginning of this chapter and in appendix T. Existing grazing management practices would continue with current stocking levels, seasons of use, and grazing systems. Grazing during the critical spring growth period without periodic rest would continue on 77 allotments. Six existing AMPs would remain implemented.

Conclusion

The public land area available for grazing would decrease from 1,618,940 to 1,612,120 acres.

The past 5-year average licensed use would decrease from 56,871 to 56,161 AUMs; active preference would decrease from 88,252 to 87,542

AUMs. Licensed use would be between 56,161 and 87,542 AUMs, depending on operator demand.

Forest Product Use

About 451,270 acres in the planning area are forested (414,950 acres in SRRA and 36,320 in FPU). Both dead and live wood exist on the same acreage. Under current management, normal harvest has not exceeded 130 cords per year and has occurred on less than 1 percent of the forested area each year. Historically, fires in the planning area have been so small and infrequent that their impacts are minimal. Therefore, the impacts from fire were not considered.

Impacts to forest resources are measured in terms of forest acreage removed from harvest, either by actually removing vegetation through surface disturbance or by restrictive conditions that would prevent harvest. Of the 451,270 forested acres, all but 490 acres of the forested area is available for campfire use, while 435,660 acres are available for designation for private and commercial forest product harvest (430,890 acres under standard conditions, and 4,770 acres under special conditions).

Since forest resources are renewable, impacts would not affect the overall resource value by the year 2000.

Conclusion

Based on past use and present harvest, an adequate supply of dead and live forest products would be available on 430,890 acres through the year 2000.

Cultural Resources

Impacts to cultural resources are often inadvertent, but much of the time they are intentional and illegal activities such as vandalism, illegal excavation, and artifact collecting. Site trampling, caused by animals, humans, or vehicles, is an inadvertent effect that results in soil loss, artifact relocation, and breakage or changes to the physical context of a site. Even in areas where projected impacts are mitigated through standard operating procedures, inadvertent impacts can result from human error or the failure of an inventory to locate buried sites not visible on the surface. Under alternative A, it is assumed that 6,735 cultural resources of the estimated 70,000 would be damaged or destroyed (appendix U). These impacts would be residual and not mitigated by standard operating procedures.

It is estimated that 989 cultural resource sites would be discovered within the 12-year planning horizon. Therefore, 2,489 sites would be available for uses such as scientific study, education and recreation opportunities, and conservation of sites for future generations.

Conclusion

About 6,735 cultural resource sites would be damaged or destroyed under alternative A, and about 2,489 sites would be available for use.

Recreation

The planning area is expected to experience substantial increases (up to 30 percent) in demand for motorized and nonmotorized recreation activities such as hiking, camping, sightseeing, ORV exploration, horsepacking, and river running.

Under current management, the recreation opportunity spectrum (ROS) classes would change significantly, continuing to shift from the resource-dependent end of the spectrum (primitive) to the facility-dependent end (rural and urban). Uncontrolled ORV use and development activities would cause extensive landscape changes, some of which would be irreversible.

The primitive (P)-class area would decrease by 48,040 acres (from 117,720 to 69,680 acres). The changes in P-class and actions under other settings would decrease the semiprimitive nonmotorized (SPNM) class by 58,980 acres (from 242,390 to 183,410 acres) and decrease the semiprimitive motorized (SPM) class by 78,430 acres (from 741,300 to 662,870 acres). The roaded natural (RN)-class area would increase by 172,460 acres (from 434,260 to 606,720 acres), and the

rural (R)-class area would increase by 7,190 acres (from 3,480 to 10,670 acres). The urban (U)-class area would decrease by 20 acres (from 40 to 20 acres).

Losses to the P and SPNM classes would be attributable mainly to geophysical and mining activities, range improvements, road construction, and the creation of additional informal vehicle routes from ORV use in the San Rafael Swell and Labyrinth Canyon Special Recreation Management Areas (SRMAs). With the loss of P-class and increased demand for this setting, management actions to limit visitor use would probably be required to maintain the primitive social setting. Some users would be displaced to locations outside SRRA due to the use restrictions and loss of primitive recreation opportunities.

Commercial outfitters rely heavily on the P and SPNM settings. Visitor days associated with commercially guided river trips and horsepacking or sightseeing tours would be negatively affected by the reduction of scenic values and opportunities for isolated recreation experiences.

A slight increase in wildlife numbers under this alternative would increase wildlife viewing and hunting opportunities, resulting in a beneficial secondary impact to recreation.

All of the planning area (1,539,190 acres) would continue to be managed as open to ORV use. It is projected that the 662,870 acres of SPM class and the 606,720 acres of RN-class area would accommodate the increased motorized recreation use; however, conflicts between motorized and nonmotorized uses would continue to increase. Development activities within the P, SPNM, and SPM areas could benefit ORV recreationists by making these areas more accessible; however, the shift toward the facility-dependent end of the spectrum could adversely affect the quality of ORV experience.

Developed recreation sites would not be able to meet the demands brought on by the large increase in visitation. Dispersed camping use would increase, with existing and additional undeveloped campsites experiencing surface disturbance and trash and human waste problems.

Conflicts between livestock use and recreation would continue to increase. Livestock use would continue to reduce the quality of recreation experiences due to trampling and depletion of vegetation and deposition of fecal material.

Unusual recreation opportunities and scenic values identified in the wild and scenic rivers eligibility and potential classification study for the San Rafael River, Labyrinth Canyon (Green River), and Muddy Creek (appendix J) could be reduced with resource development in or adjacent to the canyons.

Conclusion

The overall effects of alternative A would be (1) a continued decline in opportunities for recreation associated with undeveloped settings, and (2) an increase in opportunities for recreation related to more developed types of settings. Additional roads and informal vehicle routes would be the primary type of development. The P-class would decrease by 48,040 acres to 69,680 acres; the SPNM-class area would decrease by 58,980 acres to 183,410 acres; the SPM-class area would decrease by 78,430 acres to 662,870 acres; the RN-class area would increase by 172,460 acres to 606,720 acres; the R-class area would increase by 7,190 acres to 10,670 acres; and the U-class area would decrease by 20 acres to 20 acres.

All of the planning area (1,539,190 acres) would continue to be managed as open to ORV use.

Visual Resources

Under current management, no visual resource management (VRM) class I acreage exists (this is consistent with the MFPs [BLM, 1977a and BLM, 1979a]). Class acreages are based on inventory data as described in the MSA. Acreages are class II, 496,370 acres; class II, 383,270 acres; and class IV, 659,550 acres.

Under continuation of current management (see appendix V for impact analysis assumptions), increased development would cause a change in the VRM class acreage, as areas shift to a lower management class (higher class number) as they become increasingly developed. It

cannot be predicted when this shift would occur, which classes would change, and to what extent. It is estimated, based on a case-by-case analysis through application of VRM objectives, that in 120 cases the contrast rating score would be found to exceed the VRM class objective. The number of scores that would exceed the class standards for the areas in which they are located could, over time, result in a change to the VRM class for a specific area.

Conclusion

VRM class acreages would remain the same (class I, 0 acres; class II, 496,370 acres; class III, 383,270 acres; and class IV, 659,550 acres). In about 120 cases, the VRM contrast rating scores would exceed class objectives.

Lands

Right-of-way corridors would not be designated under alternative A; however, a total of 1,485,600 acres would be available for rights-of-way under standard conditions (1,412,950 acres in SRRA, and 72,650 acres in FPU). Avoidance areas would total 53,590 acres (50,890 in SRRA, and 2,700 in FPU). No areas would be excluded from right-of-way grants.

The lands identified for disposal in alternative A represent a continuation of the existing situation and could be used by the public at large or for community expansion. A total of 6,820 acres are identified for disposal (5,780 acres in SRRA, and 1,040 in FPU).

Onsite cultural resource inventories may prevent disposal of some tracts under the laws that protect these resources. Other lands may be sold or patented after application and assessment, but these actions cannot be predicted and have not been included in this analysis.

A total of 1,780 acres (all in SRRA) would remain withdrawn from entry under alternative A. Additional acres could be closed to entry due to withdrawals applied on a case-by-case basis for specific lands actions.

No lands were identified for acquisition under alternative A.

Conclusion

Under alternative A, no corridors for rights-of-way would be designated, 1,485,600 acres would be available (standard conditions) for rights-of-way, 53,590 acres would be avoided, and no areas would be excluded from right-of-way use. A total of 6,820 acres would be identified for disposal. Lands withdrawn from entry would be 1,780 acres. No lands would be acquired.

ECONOMIC CONSIDERATIONS

The following discussion concentrates on Emery County and the Carbon-Emery multi-county area. Economic impacts are grouped by resource use. Only those anticipated changes of greater than 1 percent to personal, local, or regional revenues, costs, earnings, wealth, or employment are discussed. Those resource uses that could have an effect of this degree include minerals, soil and water, livestock, recreation, and other land uses. The BLM's budget impact on the local economy is also discussed.

Minerals

Use restrictions, such as leasing categories 2 (special conditions), 3 (no surface occupancy), and 4 (no lease), can affect the local economy by changing either the cost of conducting mineral activities or the amount of mineral activity.

Special conditions and the no-surface-occupancy requirement can increase the cost of mineral exploration and development by (1) changing the location, method, or equipment; (2) increasing the amount of coordination required with the BLM; (3) temporarily idling labor and equipment; (4) lengthening the duration of mineral exploration and development; and (5) delaying production and hence receipt of revenues.

In addition to increasing activity costs, special conditions and the no-surface-occupancy requirement can also lower the output value of mineral exploration and development. For example, changing the

method of geophysical exploration can reduce the accuracy of the geophysical data obtained.

Much of the additional cost of complying with special conditions is spent in the local economy, thereby increasing local employment and earnings. However, these costs also decrease the amount of mineral activity, thereby decreasing local employment and earnings. The relationship between cost and the amount of mineral exploration and development has not been quantified, nor have the added costs imposed by most stipulations and special conditions. The net effect on local employment and earnings is unknown.

Excluding oil and gas activity in no-lease areas would result in a net decrease in mineral-related economic activity.

The I-70 Scenic Corridor ACEC would require plans of operation to be submitted for locatable mineral activity whenever the surface of the ACEC would be disturbed. Any special conditions imposed would be minor and would not affect the activity.

Except for the plans of operation required in the I-70 Scenic Corridor ACEC, management of mineral resources would not change. However, future oil and gas exploration is assumed to yield producing wells with a total production of 13,200 barrels of petroleum and 754,000 MCF of natural gas by the year 2000. Based on this greater level of mineral activity in the planning area, the following changes would occur.

		Current	Total in Year 2000	Change from Current
Emery County	Employment (jobs)	2,979	3,276	+298
	Earnings ($)	77,475,700	85,859,400	+8,382,700
	Revenue ($)	16,314,500	16,430,200	+115,700
Carbon-Emery County	Employment (jobs)	4,715	5,185	+470
	Earnings ($)	101,497,200	111,847,900	+10,350,700
	Revenue ($)	21,248,700	21,548,500	+299,800

Soil and Water

Most of the sediment that originates in the planning area enters Lake Powell, where it decreases the lake's electrical production, flood control, recreation, and water storage values by decreasing its useful life and by its gradual loss of size and storage capacity. Some sediment also enters downstream structures, such as small livestock reservoirs and diversion points, where it must be removed or the structure abandoned. Sediment yield resulting from the surface disturbance projected under this alternative would cause between $218,000 and $1,841,600 damage annually to downstream capital investments.

Salt picked up by water originating in or passing through the planning area increases the municipal, industrial, and agricultural costs associated with the use of saline water in the lower Colorado River basin. Salt loading resulting from the surface disturbance projected under alternative A would cause between $1,724,000 and $25,208,600 damage annually to water users in the lower Colorado River basin.

Livestock Grazing

One livestock operator would have more available public rangeland forage, and 32 would have less. Changes in available forage would change rancher earnings by affecting herd size, weight gain, calf survival rates, or operating costs. (Forage losses and gains under each alternative are discussed in the Grazing sections of this chapter.)

The number of operators affected, the degree of impact, and the related effects on local employment and earnings are presented in tables 56 and 57. The aggregate effect of the loss in available forage would decrease operator returns above variable cost by $13,710, a 5 percent decrease.

Based on the direct effects from the budget analysis and on the indirect and induced effects derived from a county economic model, it is estimated that the following changes would occur.

TABLE 56

Number and Degree of Livestock Operator Impacts, Alternative A

	Operators with an Increase from Existing Use and Net Revenues			Operators Not Affected	Operators with a Decrease from Existing Use and Net Revenues		
	Over 51%	11 to 50%	1 to 10%		1 to 10%	11 to 50%	Over 51%
Public rangeland forage	0	0	1	106	25	6	1
Total feed requirements	0	0	1	106	32	0	0
Operator returns above variable costs	0	0	1	106	32	0	0

TABLE 57

Aggregate Economic Impacts to Livestock Operators, Alternative A

Livestock Operators	Existing Situation	Alternative A
Gross Revenue	$2,941,700	$2,920,700
Total Variable Cost	2,015,800	2,008,400
Returns Above Variable Cost	925,900	912,200
Returns to Labor and Investment[a]	166,900	158,100
Livestock Numbers (cattle)	9,282	9,206
(sheep)	3,776	3,761
Total Earnings, Emery County	$463,200	$459,500
Total Employment, Emery County (jobs)	157	156
Total Earnings, Carbon-Emery County	1,112,800	1,103,900
Total Employment, Carbon-Emery County	244	242

NOTE: These budgets assume that ranchers have no long-term outstanding debt, that all operating capital is borrowed, and that existing ranchers would not go out of business.

[a]Returns to labor and investment equal returns minus variable and fixed costs to management, non-hired labor, machinery, equipment, and land.

		Current	Total in Year 2000	Change from Current
Emery County	Employment (jobs)	157	156	-1
	Earnings ($)	463,100	459,400	-3,700
	Revenue ($)	322,000	319,400	-2,600
Carbon-Emery County	Employment (jobs)	244	242	-2
	Earnings ($)	1,112,800	1,103,900	-8,900
	Revenue ($)	732,300	726,400	-5,900

Any grazing permit change could affect ranch value and therefore operator wealth, particularly if the changes affect the ranch's total carrying capacity. The loss in available forage could decrease aggregate operator wealth by $35,500, a 0.1 percent decrease.

Lending institutions base loans on a number of factors, including the rancher's ability to repay the loan. The repayment ability is usually measured by the rancher's likely future income with the loan. Because aggregate rancher earnings are projected to decrease under this alternative, ranchers' abilities to repay loans should likewise decrease.

Base properties are used as collateral for some types of loans. Since base property values are either not affected or projected to decrease under this alternative, the level of total indebtedness allowed should decrease.

Recreation

Recreation-related impacts can affect the local economy by changing either (1) the number of people who visit the area, (2) their length of stay, or (3) their expenditure patterns.

Greater visitation, longer lengths of stay, or greater expenditures per day would increase visitor expenditures and resulting local employment and earnings. Because it has not been possible to quantify the relationship between management actions and visitation, length of stay, or expenditure patterns, most recreation-related economic impacts could not be quantified.

Recreation use of the planning area is projected to increase 30 percent by the year 2000 as a result of increasing incomes and populations in the western United States. This increase in use is projected to bring the following changes.

		Current	Total in Year 2000	Change from Current
Emery County	Employment (jobs)	21	27	+6
	Earnings ($)	182,100	236,700	+54,600
	Revenue ($)	27,200	35,400	+8,100
Carbon-Emery County	Employment (jobs)	38	49	+11
	Earnings ($)	387,000	503,100	+116,100
	Revenue ($)	63,300	82,300	+19,000

The relative mix of uses may change as a result of a changing mix of recreational opportunities (see impacts to recreation). The effect on total numbers of people, length of stay, or visitor expenditure patterns is unknown. Judging from the projected economic importance of recreation in the planning area (less than 0.1 percent of local employment, earnings, and taxing district revenues), the projected changes to the opportunity spectrum would have little effect on the local economy.

Existing commercial outfitters rely heavily on the P, SPNM, and SPM opportunity settings available in the planning area. The 30 percent loss of P and SPNM, and 11 percent loss of SPM opportunity settings could reduce the existing demand and/or projected increased demand for outfitter services. However existing and projected demand for commercial services in the planning area is small and would comprise a small portion of any outfitters business. The projected change in opportunity settings would therefore have little economic effect.

Desert bighorn sheep, antelope, deer, and elk populations are projected to increase slightly. The distance which hunters must travel and hunter success rates have been found to be the primary determinants of hunter pressure on many wildlife species [Cory and Martin, 1985; Wennergren, et al., 1973; Loomis, et al., 1985; Shalloof, 1985].

There is also evidence to suggest that primary nonconsumptive use is also influenced by the availability of wildlife [Krannich and Cundy, 1987; Kellert and Berry, 1985; Standard Research, Inc., 1987; Fletcher and King, 1987]. Since larger wildlife populations should increase both success rates and opportunities for viewing, more hunters and primary nonconsumptive users should be drawn to the area. Assuming that population/harvest, harvest/hunter, and population/primary nonconsumptive use ratios remain constant, projected wildlife use and related expenditures would bring the following changes.

		Current	Total in Year 2000	Change from Current
Emery County	Employment (jobs)	18	20	2
	Earnings ($)	159,300	174,300	15,000
	Revenue ($)	24,500	26,800	2,300
Carbon-Emery County	Employment (jobs)	23	25	2
	Earnings ($)	232,700	254,600	21,900
	Revenue ($)	38,700	42,300	3,600

Other Land Uses

The economic importance of other land uses in the planning area would not change. The lands identified for disposal, widely scattered through Castle Valley, would represent an increase of 4.3 percent in the existing private land base, having little or no effect on nearby land values. Under private ownership, these lands would increase taxing district revenues in Emery County by at least $8,600.

Plan Budget

Government personnel would be directly employed to implement the proposed plan. This plan would require the purchases of goods and services from the local economy, and government employees would also spend a portion of their income in the local economy. The 10 percent increased budget needed to implement this alternative would bring the following changes.

		Current	Total in Year 2000	Change from Current
Emery County	Employment (jobs)	8	9	+1
	Earnings ($)	96,200	105,700	+9,500
	Revenue ($)	2,100	2,400	+200
Carbon-Emery County	Employment (jobs)	33	36	+3
	Earnings ($)	619,900	680,800	+60,900
	Revenue ($)	17,300	19,000	+1,700

Conclusion

Mineral-related local employment, earnings, and taxing district revenues would increase. Sediment yield and salt loading from projected surface disturbance would increase. Livestock operator returns above variable cost, ranch value and associated local employment, earnings, and taxing district revenues would decrease. Due to increases in projected use, recreation-related employment, earnings, and taxing district revenues would increase The aggregate loss of P, SPNM, and SPM acreage could reduce the demand for commercial outfitter services in the area, although this effect would be insignificant. Larger big game populations would increase consumptive and nonconsumptive wildlife use and increase related local employment earnings and taxing district revenues. The land disposals would increase taxing district revenues in Emery County. The 10 percent increased budget needed to implement this alternative

would increase local employment, earnings, and taxing district revenues.

SOCIAL CONDITIONS

None of the management actions would impact local communities so far as to noticeably affect existing social conditions.

Conclusion

Social conditions would not be affected.

ALTERNATIVE B

MINERAL COMPONENTS

Oil and Gas

Alternative B offers the least restrictive management concerning development of oil and gas resources in the planning area. Under this alternative, an additional 119,050 acres would be available for lease (an 8 percent increase over alternative A). Fewer areas would be closed. Leasing category acreages under alternative B compare as follows to those under alternative A.

Category	Unit	Acres	Change from Alternative A
1	SRRA	1,416,050	+285,770
	FPU	75,350	+23,580
	Subtotal	1,491,400	+309,350
2	SRRA	45,730	+2,600
	FPU	0	-18,270
	Subtotal	45,730	-15,670
3	SRRA	0	-169,320
	FPU	0	-5,310
	Subtotal	0	-174,630
4	SRRA	2,060	-119,050
	FPU	0	0
	Subtotal	2,060	-119,050

Areas in category 2 would include one vegetation ACEC and R&PP leases, while category 4 would include the I-70 Pictographs and two vegetation ACECs.

The opening of these areas to leasing is not expected to affect production, since most of the opened areas have low to moderate potential for oil and gas. The area remaining in category 4 is not large enough to affect oil and gas exploration.

Under alternative B, with fewer restrictions on geophysical operations, seismic work would increase 25 miles per year over alternative A to a total of 125 miles per year and then remain constant.

Production would be the same as under alternative A (13,200 barrels of petroleum and 754,000 MCF of natural gas) at year 2000.

Conclusion

Under alternative B, 119,050 more acres would be open to lease than under alternative A. Category 1 would increase from 1,182,050 acres to 1,491,400 acres; category 2 would decrease from 61,400 acres to 45,730 acres; category 3 would decrease from 174,630 acres to 0; and category 4 would decrease from 121,110 acres to 2,060 acres.

Geophysical work would increase from 100 to 125 miles per year.

Oil and gas production would be the same as that projected under alternative A, 13,200 barrels of petroleum and 754,000 MCF of natural gas in the year 2000.

Coal

Under alternative B, the no-surface-occupancy requirement would be lifted for the I-70 Scenic Corridor, increasing the acres available for coal exploration by 3,980 acres from alternative A to a total of

62,290 acres (33,720 in SRRA, 28,570 in FPU). The number of drill holes could increase by one per year, which is insignificant. There would be no change from alternative A in the acreage available for lease. Lifting the no-surface-occupancy requirement from the I-70 Scenic Corridor area would not affect production of 150,000 tons per year, since production is expected only from existing leases (no production would occur from any new leases before the year 2000).

Conclusion

While the acres available for lease (58,190 acres) would not change from alternative A, 3,980 more acres (a total of 62,290) would be available for coal exploration under standard conditions (without the no-surface-occupancy requirement). Coal production of 150,000 tons per year would not change.

Mineral Materials

Under alternative B, the establishment of two vegetation ACECs (both in SRRA) would reduce the area open to mineral material disposal by 2,060 acres from alternative A to 1,461,780 acres in SRRA and 75,350 acres in FPU (no change), for a total of 1,537,130 acres in the planning area.

Because there is no demand for mineral materials in the areas that would be closed to disposal, production would not change.

Conclusion

The area open to mineral material disposal would decrease by 2,060 acres (from 1,539,190 acres to 1,537,130 acres). The annual production rate would remain at 320,000 cubic yards by the year 2000, the same as under alternative A.

Locatable Minerals

Under alternative B, there would be a decrease of 2,060 acres in the area open to mineral entry, with 1,460,000 acres in SRRA, 75,350 acres in FPU, and a total of 1,535,350 acres in the planning area being open to mining claim location. Of the areas withdrawn from entry, 1,860 acres (all in SRRA) have high potential for uranium. The remainder of the withdrawn area has moderate, low, or no potential for uranium. Of the areas with high or moderate potential for gypsum, 910 acres would be withdrawn from entry. The remainder of the area withdrawn would have low to no gypsum potential. Areas withdrawn from entry would include two vegetation ACECs.

Under alternative B, standard conditions would be applied to 1,416,050 acres in SRRA and 75,350 acres in FPU, for a total of 1,491,400 acres in the planning area; special conditions would be applied to 43,950 acres of a vegetation ACEC (all in SRRA). Compliance with the special conditions would be required to the extent possible without curtailing operators' rights. Filing plans of operation and complying with special conditions would increase the operators' costs, which could result in an unquantified decrease in exploration and development work in those areas to which the special conditions apply. No lands were identified for disposal under alternative B.

Conclusion

The area open to entry would be 1,535,350 acres, 2,060 fewer acres than under alternative A.

BIOTIC COMPONENTS

Soils

Under alternative B, there would be an estimated decrease in soil loss from alternative A, because decreases in soil loss resulting from limiting ORV use would be greater than increases resulting from mineral activities, grazing increases, and lands actions.

Limiting ORV use may cause a decrease in soil loss of between 284,750 and 2,155,250 tons per year compared to between 427,300 and 3,232,500 under alternative A. However, concentration of ORV use may cause greater soil losses in those specific areas due to more compaction, more rilling and gullying, more vegetation losses, etc. In areas where ORV use is limited to designated roads and trails,

however, the limitation may cause less soil to be lost as the non-designated roads and trails revegetate.

Although there is a net decrease in soil loss under this alternative, there would be increases in soil loss associated with some activities. An increase in soil loss of between 1,200 and 9,100 tons per year could be expected from the surface-disturbing activities associated with oil and gas and geophysical activity. An increase of between 370 and 2,800 tons per year of soil loss could be due to mining claims and assessment work. An increase of between 2,600 and 19,600 tons per year could be expected from livestock related range improvements.

The loss estimates are based on the amount of public land in the planning area. Disposal of public lands results in less BLM acreage available to contribute to total soil loss. Retention of public lands that would be disposed of under alternative A could account for an increase of between 26,830 and 216,500 tons of soil loss per year.

A 2,000-acre vegetation manipulation would be done in FPU. The value of land treatments, such as chainings, in reducing erosion and sediment yield is not clear. Long-term effects appear to be beneficial, not only for increasing ground cover (which stabilizes soils), but also for improving rilling and gullying on the soil types that would be treated in the resource area. Short-term losses occur from nearly any treatment technique but this would be balanced out by the improvement in cover over the long term [Hansen, 1986].

The soil losses contributed by other factors would continue to be as described under alternative A. Therefore, soil losses from all causes could represent a decrease of between 253,750 and 1,907,250 tons per year. Total soil loss could be between 7,009,990 and 59,447,050 tons per year (averaging 33,243,520 tons per year) by the year 2000.

Conclusion

Total soil loss per year could be between 7,009,050 and 59,447,050 tons per year (averaging 33,243,520 tons per year), a decrease of between 253,750 and 1,907,250 tons per year from alternative A.

Water

Surface water quality should improve slightly under alternative B compared to alternative A, a result of the lower rate of soil loss under alternative B (see Soils). This is because decreases in sediment and salt yield resulting from limiting ORV use would be greater than increases resulting from mineral activities, grazing increases, and lands actions.

Limiting ORV use may cause a decrease in sediment of between 113,900 and 862,100 tons per year and a decrease in salt of between 1,878 and 14,470 tons per year. Limiting ORV use should help keep sediment and salt yields at the present levels. Concentration of ORV use would occur. More sediment and salt may be produced in these concentrated areas due to more compaction, rilling and gullying, greater vegetation losses and other effects. In the case of limited to designated roads, however, the limitation may cause sediment and salt yields to decline as the nondesignated roads and trails are revegetated. The effect of these limitations would be greatest where ORV use is heavy.

Although there is a net decrease in sediment and salt yield under this alternative, there could be increases in sediment and salt yield associated with some activities.

An increase of 86 livestock waters and 56 miles of fence would occur under alternative B over alternative A. This could account for an increase of sediment of between 1,040 and 7,840 tons per year and an increase in salt of between 17 and 131 tons per year.

Oil and gas and geophysical activities could result in impacts to both surface and ground water. Sediment and salt yield increases could be expected from new roads and drilling pads. Sediment yield could increase by between 480 and 3,640 tons per year. Salt yield could increase by between 6 and 35 tons per year. Accidental fluid discharges during drilling operations could degrade surface water quality. Drilling could also cause aquifers to mix, resulting in ground water degradation. Blasting can alter aquifer characteristics affecting existing wells. Although impacts normally occur only from shots closer than 500 feet, a safe working distance must be determined on a case-by-case basis.

Activities associated with mining claims could adversely impact water resources. Road construction and extraction of materials could increase sediment by between 150 and 1,120 tons per year and increase salt yield by between 2 and 11 tons per year. Drilling and underground mining could cause aquifer mixing resulting in ground water degradation.

Mineral material operations in close proximity to perennial watercourses could destabilize and alter natural stream channels and disrupt the beneficial values of floodplains. These impacts could result in changes in the water tables and surface water flows and could make floods more destructive.

Estimates of sediment and salt yield are based on the amount of public land in the planning area. Retention or acquisition of public lands results in more BLM acreage available to contribute to sediment and salt yield. Sediment and salt may increase due to the retention of public lands disposed of under alternative A. This could account for an increase in sediment of between 10,730 and 86,610 tons per year. This land retention could also account for an increase in salt yield in SRRA of between 118 and 1,530 tons per year.

The 2,000-acre vegetation manipulation would have a negligible effect on water resources.

Other impacts to surface and ground waters would be as described under alternative A. The rate of sediment yield to the Colorado River could decrease by between 101,500 and 762,890 tons per year. Total sediment yield could be between 2,804,000 and 23,407,920 tons per year (averaging 13,297,410 tons per year) by the year 2000.

The rate of salt yield to the Colorado River could decrease by between 1,735 and 12,763 tons per year. Total salt yield could be between 27,735 and 418,154 tons per year (averaging 229,945 tons per year) by the year 2000.

Conclusion

Surface water quality should improve slightly under alternative B over alternative A. Total sediment yield could be between 2,804,000 and 23,407,920 tons per year (averaging 13,297,410 tons per year), a decrease of between 101,500 and 762,890 tons per year from alternative A. Total salt yield could be between 27,735 and 418,154 tons per year (averaging 229,945 tons per year), a decrease of between 1,735 and 12,763 tons per year from alternative A.

Ground water quality could decline slightly but the level of TDS in milligrams per liter cannot be quantified.

Air

Under alternative B, impacts to air quality would not change from alternative A.

Conclusion

Under alternative B, air quality in the planning area would remain good until the year 2000.

Vegetation

Under alternative B, a total of 17,384 acres of vegetation could be disturbed through the year 2000, a decrease of 37,160 acres from alternative A.

Disturbance would be short-term on approximately 17,134 of these acres and long-term on the remaining 250 (the Green River Scenic Loop). No lands have been identified for disposal under alternative B. The remainder of the decrease in vegetation disturbance would result from restrictions on ORV use (30,790 fewer disturbed acres). Most short-term vegetation losses would be regained through natural succession or within 5 years following reclamation with a site-specific seed mix. Causes and amounts of anticipated disturbance were listed by activity in table 54.

Anticipated changes in ecological condition under alternative B are shown in table 58. Impact analysis assumptions are given in appendix S.

TABLE 58

Anticipated Changes in Ecological Condition, Alternative B

Ecological Condition Class	Ecological Condition by Percent of Resource Area	
	Present (1985)	Future (2000)
Potential Natural Community	9	11
Late Seral	22	22
Mid Seral	47	45
Early Seral	9	9
Rock Outcrop/Badlands	13	13

Implementation of existing AMPs would allow the vegetation periodic rest from grazing, thus producing a higher density of livestock forage species and changing more acres to a higher seral stage.

The Bowknot Bend (1,830 acres), North Big Flat Top (190 acres), and San Rafael Reef (43,870 acres) relict vegetation areas would be designated as ACECs under this alternative, whereas no such designations were identified under alternative A. The Hebes Mountain relict vegetation area would not receive special protection under alternative B.

Threatened or Endangered Plants

The activities under this alternative that would have the potential to disturb habitat for T/E plants are uncontrolled ORV use, mining activities that disturb fewer than 5 acres, and the estimated 200 acres of surface disturbance from mining. The T/E plant habitat areas would be monitored and management actions implemented to prevent impacts to the plants.

Conclusion

Short-term loss of vegetation would decrease from 47,474 acres to 17,134 acres, and long-term loss would decrease from 7,070 acres to 250 acres, for a total of 17,384 acres disturbed. Changes to higher seral stages would result. Three relict vegetation areas would receive special protection. There would be no adverse impact to T/E species.

Wild Horses and Burros

Under alternative B, domestic livestock numbers would be allowed to increase to the maximum number the range could support. Livestock management would be more intense. Most forage available would be used by livestock. About 2,340 AUMs would no longer be available for wild equid use. This, added to the fact that no forage was reserved for equids during adjudication, would limit the capacity of the range to support these animals. While the habitat area would remain at 475,680 acres, wild horse and burro populations would have to be reduced to 1971 numbers. Wild horses would be reduced from a range of 200 to 235 head to a range of 20 to 35 head; wild burros would be reduced from a range of 70 to 100 head to a range of 10 to 25 head, when compared to alternative A.

Conflicts in use between wild equids and livestock would be resolved and adjustments in specific forage use levels would be made at the activity plan level, in conjunction with grazing decisions, or at any time deemed necessary as a result of rangeland monitoring.

Conclusion

Wild horses would be maintained at a range between 20 and 35 head and wild burros between 10 and 25 head. The forage required to support these animals at the upper limits is 495 AUMs.

Forage use levels may be adjusted beween wild equids and livestock based on monitoring data.

Wildlife

Desert Bighorn Sheep

Crucial habitat for desert bighorn sheep would decrease from 150,000 acres under alternative A to about 120,000 acres, a decrease of 30,000 acres from alternative A.

The desert bighorn sheep population would not reach its full potential, primarily because of the following factors.

- The lack of seasonal conditions on oil and gas leases and other development activities to protect lambing and rutting on crucial habitat would result in the loss of about 50 sheep, primarily due to stress.

- Allowing ORV use on existing roads and trails would result in the loss of approximately 20,000 acres of crucial desert bighorn sheep habitat and the loss of about 45 sheep;

- The allocation of 3,480 acres of Buckhorn Draw to livestock would reduce the number of desert bighorn sheep from 6 assumed to be currently using the area to about 1 sheep; and

- Livestock grazing at active use would increase competition for forage and space; the increase in livestock numbers would also increase the potential for disease transmission between domestic livestock and desert bighorn sheep, making possible a disease outbreak that could result in the loss of at least 50 desert bighorn sheep.

Under alternative B, the population of desert bighorn sheep would decrease from 500 to about 350, about 150 fewer animals by the year 2000 than under alternative A.

Antelope

The antelope habitat area would decrease from 507,000 acres under alternative A to 506,320 acres, a decrease of 680 acres from alternative A. The decrease in antelope habitat and numbers would result from the following factors.

- The projected increase in development activities and the lack of seasonal or special conditions on these activities would result in the loss of 680 acres of antelope habitat from alternative A.

- Maximizing livestock use would increase competition for spring grasses and forbs and for available water sources in the crucial antelope habitat area.

The population of antelope would decline from 700 to about 400, 300 fewer animals than under alternative A.

Mule Deer and Elk

Crucial habitat for mule deer and elk would decrease to 33,710 acres and 17,700 acres respectively, a decrease from alternative A of 1,790 acres for mule deer and 500 acres for elk.

The decline in the mule deer and elk habitat would result from the following factors.

- Livestock grazing at full active use would allow the livestock numbers on allotments containing crucial mule deer and elk winter range to increase to 32,714 AUMs, an increase of 13,671 AUMs (72 percent); this increase would cause a direct loss of forage available to mule deer and elk on the winter and spring range (mule deer and elk reproductive success and fawn survival depend largely on this forage); approximately 1,600 fewer mule deer and 125 fewer elk would be supported (25 percent of population) because of livestock grazing at full active use.

- Within the Wildlife Allotment, 630 acres would be allotted to livestock, reducing the number of elk from 70 assumed to be currently using the allotment to about 48. The allotment does not contain any crucial mule deer winter range.

- Of the 1,730 acres of unalloted rangeland in the planning area, 1,240 acres are crucial mule deer and elk winter range. Allotting this range to livestock would reduce its capacity to support mule deer and elk. The land currently supports about 62 mule deer and 16 elk; these numbers would be reduced to about 16 mule deer and 4 elk;

- Assuming that each mule deer needs 10 acres of crucial habitat and elk need 40 acres of crucial habitat, oil and gas and mineral material activity on 550 acres would lessen the number of animals the habitat could support (55 fewer deer and 15 fewer elk by the year 2000).

- The removal of seasonal conditions from oil and gas leases, rights-of-way, and other development activities on 35,500 acres of mule deer crucial winter range and on 18,200 acres of elk crucial winter range would allow surface disturbance related to development activities, resulting in 51 fewer mule deer and 24 fewer elk.

- Limiting ORV use to existing roads and trails would reduce the amount of crucial mule deer and elk habitat affected. (ORV use would not be seasonally restricted.)

The populations of mule deer and elk would decline from about 6,620 and 600 respectively to about 4,870 and 410 respectively, a decrease of about 1,750 mule deer and 190 elk from alternative A at year 2000.

Riparian and Aquatic Habitat

Protection from ORV use would favor riparian and aquatic habitat; however, the increase in livestock grazing would prevent any significant improvement. Riparian and aquatic habitat would remain at its current size and condition (11,430 acres in SRRA and 3,350 acres in FPU, for a total of 14,780 acres in the planning area).

Threatened or Endangered Animals

Maintaining the current size and condition of riparian habitat would ensure reproduction of cottonwood trees for bald eagle roosts. There would be no impact to the bald eagle under this alternative.

The restriction on development activities and limiting ORV use to existing roads and trails would limit any potential impact to the peregrine falcon's nest and the ferruginous hawk nests. Mining claim work (if less than 5 acres) would have the potential to impact these birds, but habitat would be monitored and management actions implemented to prevent such impacts. The prairie dog towns, potential black-footed ferret habitat, would be protected from potential disturbance from ORV use in this alternative.

Conclusion

Habitat for desert bighorn sheep would decrease to 120,000 acres. Desert bighorn sheep populations would decrease to 350 animals.

Habitat for antelope would decrease to 506,320 acres. Antelope populations would decline to 400 animals, 300 fewer than under alternative A.

Crucial habitat for mule deer and elk would decrease to 33,710 acres and 17,700 acres respectively. Mule deer and elk populations would decline to about 4,870 mule deer and 410 elk.

Riparian and aquatic habitat would remain at 14,780 acres; related habitat for T/E wildlife species would remain unchanged. There would be no adverse impacts to T/E animals under this alternative.

HUMAN USES

Grazing

Under alternative B, all available public land would be allotted for grazing except Bowknot Bend (1,830 acres) and the North Big Flat Top (190 acres). However, since these areas are inaccessible to livestock, the exclusions would not represent a decrease in grazing area. Grazing would be allowed on 1,620,820 acres (8,700 more than in alternative A), in a total of 101 allotments. An additional two allotments would be created by licensing previously unallotted public lands. Two allotments would be combined with other allotments for improved management.

Livestock AUMs could increase under alternative B due to the construction of livestock water developments which would enable currently unusable areas to be grazed by livestock. The 5 year average licensed use could increase to 96,006 AUMs, an increase of 39,845 AUMs over alternative A. Active preference could also increase to 96,006 AUMs, an increase of 8,464 AUMs over alternative A.

The increase in active AUMs would result from the construction of 118 livestock water developments (7,182 AUMs), and a reduction in disturbance from ORVs (8,721 AUMs).

Grazing during the critical spring growth period without periodic rest would continue on 32 allotments, as compared to 77 allotments in alternative A. In addition to the 6 existing allotment management plans (AMPs) implemented, 17 previously written plans would be modified before implementation and 44 new plans would be implemented. These 67 AMPs would provide for periodic winter and spring seasonal rest to allow an increase in vigor and density of livestock forage species. Range improvements in the allotments covered by these AMPs would also help correct problems of uneven livestock distribution. The construction of livestock waters would aid livestock distribution as well as enabling previously unusable acres to be grazed by livestock.

Conclusion

The area available for livestock grazing would increase to 1,620,820 acres, an increase of 8,700 acres compared to alternative A.

Livestock forage could increase to 96,006 AUMs, an increase of 39,845 AUMs from 5-year average licensed use and an increase of 8,464 AUMs from active preference.

Forest Product Use

Of the 451,270 forested acres, the area available for designation for private and commercial forest product harvest would increase by 1,790 acres from alternative A to 437,450 acres because of relict vegetation and cultural ACECs and developed recreation site restrictions. A 2,000-acre vegetation manipulation in FPU would allow these areas to be better utilized for woodland harvest but would not increase acreage available for harvest because the areas were already considered available. These changes in acreage would not affect the available supply to meet the demand for dead wood and forest product harvest. Under alternative B, all of the areas excluded from harvest (13,820 acres) except 510 acres would be available for campfire use. That area would be excluded for cultural ACECs and developed recreation site restrictions.

The area used for harvest of woodland products would be increased by a 2,000-acre vegetation manipulation, which would remove pinyon and juniper trees and replace them with grasses, forbs, and shrubs. The total area of use would be 2,000 acres more than alternative A, but still less than 1 percent of the forested area.

Conclusion

As in alternative A, based on past use and present harvest, an adequate supply of dead and live forest products should be available through the year 2000, or 437,450 acres, an increase of 1,790 acres from alternative A.

Cultural Resources

Under alternative B, about 6,712 of the estimated 70,000 cultural resources would be damaged or destroyed, a decrease of 23 from alternative A. Although more sites would be damaged by increasing mineral exploration and grazing, the overall impact would be smaller because no sites would be affected by land disposal actions.

The number of cultural resources available for use would increase to 2,530, an increase of 41 over alternative A. Most of these sites would be recorded in inventories required by the standard operating procedures for increases in mineral and grazing activities.

Conclusion

Under alternative B, about 6,712 cultural resource sites would be damaged or destroyed (a decrease of 23 from alternative A). About 2,530 cultural resource sites (41 more than under alternative A) would be available for use.

Recreation

Under alternative B, opportunities to engage in activities in undeveloped settings would decrease, and opportunities to engage in

activities in more developed (roaded) types of settings would increase. The current ROS classes would continue to shift toward the RN class. The P-class would total 18,650 acres, a decrease of 51,030 acres from alternative A. The SPNM-class area would total 194,650 acres, a slight gain of 11,240 acres over alternative A. The SPM-class area would total 629,060 acres, a decrease of 33,810 acres from alternative A. The RN-class area would total 684,580 acres, an increase of 77,860 acres over alternative A. The R class areas would total 12,210 acres, an increase of 1,540 acres over alternative A. The U-class area would total 40 acres, an increase of 20 acres over alternative A.

Alternative B would virtually eliminate P-class areas, leading to a reduction in the availability of primitive recreation opportunities and displacing visitors to other locations. Intensive mineral and grazing development and the resultant support facilities, rights-of-way, utility corridors, pipelines, and roads would permanently change primitive and semiprimitive class areas. Restrictions and constraints on recreation activities would increase as both recreation use and development of other resources expanded, displacing some users to other locations. The decrease in scenic quality resulting from the additional increase in development activities would negatively affect commercial recreation visitor days.

Cross-country recreational ORV use would be constrained under alternative B. Opportunities for cross-country travel would be foregone. ORV use would be limited to existing roads and trails on 1,493,230 acres to protect land leases, the I-70 Pictographs, and to eliminate conflicts with livestock grazing. ORV use would be limited to designated roads and trails on 43,940 acres to protect relict vegetation areas. A total of 2,020 acres would be closed to ORV use to protect relict vegetation on Bowknot Bend and the North Big Flat Top. The increased recreation use would damage undeveloped camping locations.

The large increase in livestock numbers would reduce the quality of the recreation experience due to trampling of vegetation and increased deposition of fecal matter in dispersed campsites. The increase in livestock numbers would reduce wildlife populations, creating a negative secondary impact to recreation by reducing wildlife viewing and hunting opportunities.

Unusual recreation opportunities and scenic values identified in the wild and scenic rivers eligibility and potential classification study for the San Rafael River, Labyrinth Canyon (Green River), and Muddy Creek (appendix J) could be reduced with resource development in or adjacent to the canyons.

Conclusion

Opportunities for activities in undeveloped settings would decrease, and opportunities for activities in a facility-dependent setting would increase. The P-class would total 18,650 acres, a decrease of 51,030 acres; the SPNM-class area would total 194,650 acres, a slight increase of 11,240 acres; the SPM-class area would total 629,060 acres, a decrease of 33,810 acres; the RN-class area would total 684,580 acres, an increase of 77,860 acres; the R-class area would total 12,210 acres, an increase of 1,540 acres; and the U-class area would total 40 acres, an increase of 20 acres over alternative A.

Opportunities for ORV exploration and cross-country travel would be reduced by the limitation of ORV use to existing roads and trails on 1,493,230 acres, the limitation to designated roads and trails on 43,940 acres, and the closure of 2,020 acres to ORV use.

Visual Resources

Alternative B impacts to the visual resources would be similar to those described under alternative A. VRM class acres would remain the same with class II, 496,370 acres; class III, 383,270 acres; and class IV, 659,550 acres. However, because of the increased level of development under this alternative, in 150 cases, the VRM contrast rating scores would exceed class objectives. This is an increase of 30 over alternative A projections.

Conclusion

VRM class acreages would remain the same, with 496,370 acres in class II; 383,270 acres in class III; and 659,550 acres in class IV.

It is projected that by the year 2000, in 150 cases (an increase of 30 cases from alternative A), visual contrast rating scores would exceed the VRM class objectives for that area.

Lands

Under alternative B, 27,340 acres would be designated as right-of-way corridors (22,870 acres in SRRA, and 4,470 in FPU, all increase over alternative A). Lands available (standard conditions) for rights-of-way outside corridors would total 1,464,060 acres (1,393,180 in SRRA (a decrease of 19,770 acres), and 70,880 acres in FPU (a decrease of 1,770 acres)). A total of 45,760 acres (all in SRRA) would be avoided (a decrease of 7,830 acres from alternative A (5,130 fewer acres in SRRA, and 2,700 fewer in FPU)). Exclusion areas would total 2,030 acres (all in SRRA and all increase from alternative A).

Because parcels that may be valuable for grazing would be eliminated from consideration for disposal, no lands would be available for disposal under alternative B (a decrease from alternative A of 5,780 acres in SRRA, and 1,040 acres in FPU).

Lands withdrawn from entry would increase by 2,060 acres to total 3,840 acres (all SRRA). Bowknot Bend and North Big Flat Top relict vegetation ACECs would be withdrawn.

No lands were identified for acquisition under alternative B.

Conclusion

Corridors for rights-of-way would be designated on 27,340 acres; lands available (standard conditions) for rights-of-way would decrease; avoided areas would be decreased to 45,760 acres; and excluded areas would be increased to 2,030 acres. No lands would be available for disposal (a decrease from alternative A), and lands withdrawn from entry would increase to 3,840 acres. No lands would be acquired.

ECONOMIC CONSIDERATIONS

Minerals

The area covered by special conditions would decrease 15,670 acres (25 percent) relative to alternative A, which should reduce mineral exploration and development costs in these areas. The 293,680-acre (99 percent) reduction in area closed to surface occupancy or permanent resource use or production would essentially increase the area available for mineral activity. Overall, the reduced cost and added available area would encourage increased oil and gas and locatable mineral activity. The lower cost would also reduce mineral-related expenditures within the local economy, while activity in newly opened areas would increase mineral-related expenditures. The net effect on the local economy is unknown.

Based on the assumed increase in oil and gas exploration and on increased locatable mineral exploration and mineral-related employment, the following economic changes are anticipated.

		Total	Change from Alternative A
Emery County	Employment (jobs)	3,284	8
	Earnings ($)	86,057,700	+198,316
	Revenue ($)	16,436,000	+5,800
Carbon-Emery County	Employment (jobs)	5,197	12
	Earnings ($)	112,095,100	+247,200
	Revenue ($)	21,560,300	+11,800

Soil and Water

Sediment yield resulting from the surface disturbance projected under this alternative would decrease annual damage to downstream capital investments by $7,700 to $57,200 over alternative A. Salt loading resulting from the surface disturbance projected under this alternative would decrease annual damage to water users in the lower Colorado River basin by $101,500 to $746,600 from alternative A.

Livestock Grazing

Of the 139 livestock operators, 134 would have more forage, 1 would have less, and 4 would not be affected. (Forage losses and gains under the alternatives are discussed in the Grazing sections of this chapter.) Changes in available forage would change rancher income by affecting herd size, weight gain, calf survival rates, or operating costs.

The number of operators affected, the degree of impact, and the related effects on local employment and earnings are presented in tables 59 and 60.

These changes would aggregate to an average 71 percent increase in public rangeland forage available to 54 livestock operators. Because a determination on how to divide the forage from the new areas among operators, all forage was analyzed as belonging to a single hypothetical operator. None of the livestock operators would have less available forage. The aggregate effect of the additional available forage would increase operator returns above variable cost by $846,700, a 93 percent increase.

Based on the direct effects from the budget analysis and on the indirect and induced effects derived from a county economic model, local employment, earnings, and taxing district revenues would increase as follows.

		Total	Change from Alternative A
Emery County	Employment (jobs)	228	+72
	Earnings ($)	671,600	+212,100
	Revenue ($)	466,900	+147,500
Carbon-Emery County	Employment (jobs)	354	+112
	Earnings ($)	1,613,500	+509,700
	Revenue ($)	1,061,800	+335,400

Any grazing permit change could affect ranch value and therefore operator wealth, particularly if the changes affect the ranch's total carrying capacity. The increase in available forage would increase aggregate operator wealth by between $423,200 and $1,992,200, a 1.6 to 7.6 percent increase.

Lending institutions base loans on a number of factors, including the rancher's ability to repay the loan. The repayment ability is usually measured by the rancher's likely future income with the loan. Because aggregate rancher income is expected to increase under this alternative, ranchers' abilities to repay loans should likewise increase.

Base properties are used as collateral for some types of loans. Since base property values are either not affected or projected to increase under this alternative, the level of total indebtedness allowed should increase.

Recreation

Most recreation-related economic impacts could not be quantified because it has not been possible to quantify the relationship

TABLE 59

Number and Degree of Livestock Operator Impacts, Alternative B

	Operators with an Increase from Existing Use and Net Revenues			Operators Not Affected	Operators with a Decrease from Existing Use and Net Revenues		
	Over 51%	11 to 50%	1 to 10%		1 to 10%	11 to 50%	Over 51%
Public rangeland forage	54	58	22	4	1	0	0
Total feed requirements	11	50	73	4	1	0	0
Operator returns above variable costs	33	45	56	5	1	0	0

TABLE 60

Aggregate Economic Impacts to Livestock Operators, Alternative B

Livestock Operators	Alternative A	Alternative B
Gross Revenue	$2,920,700	$4,193,700
Total Variable Cost	2,008,400	2,434,700
Returns Above Variable Cost	912,200	1,759,000
Returns to Labor and Investment[a]	158,100	707,300
Livestock Numbers (cattle)	9,206	13,500
(sheep)	3,761	5,645
Total Earnings, Emery County	$459,500	$671,600
Total Employment, Emery County (jobs)	156	338
Total Earnings, Carbon-Emery County	1,103,900	1,613,500
Total Employment, Carbon-Emery County	242	353

NOTE: These budgets assume that ranchers have no long-term outstanding debt, that all operating capital is borrowed, and that existing ranchers would not go out of business.

[a]Returns net of variable and fixed costs to management, non-hired labor, machinery, equipment, and land.

between management actions and visitation, length of stay, and/or expenditure patterns. The relative mix of uses may change as a result of a changing mix of recreational opportunities. Eliminating recreational cross-country travel would probably reduce overall ORV use of the area. However, judging from the projected economic importance of recreation in the planning area (less than 0.1 percent of local employment, earnings, and taxing district revenues, the 16 percent area loss of P and SPNM settings and corresponding increase of other recreation settings, and the reduced level of ORV use, would have little effect on local economic conditions.

Existing commercial outfitters rely heavily on the P, SPNM, and SPM opportunity settings available in the planning area. The 10 percent loss of P and SPNM, and 16 percent loss of SPM opportunity settings from alternative A could reduce the existing demand and/or projected increased demand for outfitter services. Because projected demand for commercial services is small and would comprise a small portion of any outfitter's business, these changes in opportunity settings would have little economic effect.

Desert bighorn sheep, antelope, deer, and elk populations are projected to decrease from alternative A. Assuming that population/harvest, harvest/hunter, and population/primary nonconsumptive use ratios remain constant, projected wildlife use and related expenditures would decrease local employment, earnings, and taxing district revenues as shown here.

		Total	Change from Alternative A
Emery County	Employment (jobs)	14	6
	Earnings ($)	124,300	-50,000
	Revenue ($)	19,100	-7,700
Carbon-Emery County	Employment (jobs)	18	-7
	Earnings ($)	181,500	-73,100
	Revenue ($)	30,200	-12,100

Other Land Uses

Other land uses are affected by special conditions, no surface occupancy, and closed to resource use and production zones in a similar manner to mineral activities. The less restrictive nature of alternative B is not expected to affect these other land uses and their related local economic importance. Some activities, within areas of restricted ORV use would require additional coordination with the BLM through a lands action.

The lack of land disposals relative to alternative A would not affect nearby land values, but would decrease local taxing revenues by at least $6,820.

The cost of environmental review of major utility lines is typically $8,000 to $15,000 per mile. This review would cost only an estimated $1,500 to $2,000 per mile in the 27,340 acres of utility corridors proposed for designation under this alternative [Pacific Gas, 1981].

Plan Budget

The 31 percent increased budget over alternative A needed to implement this alternative would bring the following economic changes.

		Total	Change from Alternative A
Emery County	Employment (jobs)	12	+3
	Earnings ($)	138,000	32,300
	Revenue ($)	3,100	+700
Carbon-Emery County	Employment (jobs)	47	+11
	Earnings ($)	889,000	+208,200
	Revenue ($)	24,800	+5,800

Conclusion

Mineral-related local employment, earnings, and taxing district revenues are projected to increase. Sediment- and salinity-related costs would decrease. Livestock operator returns above variable costs, ranch value, and associated local employment, earnings, and taxing district revenues would increase. The aggregate loss of P, SPNM, and SPM acreage could reduce the demand for commercial outfitter services in the area, although this effect would be insignificant. Wildlife-related local employment, earnings, and taxing district revenues would decrease. Fewer management restrictions would reduce the cost of surface-disturbing activities in some areas; but the net effect would be insignificant. The fewer land disposals would decrease taxing district revenues. The environmental review cost of major utility lines would decrease within the utility corridors. The increased budget needed to implement this alternative would slightly increase employment, earnings, and taxing district revenues.

SOCIAL CONDITIONS

None of the management actions would impact local communities so far as to noticeably affect existing social conditions.

Conclusion

Social conditions would not be affected.

ALTERNATIVE C

Mineral Components

Oil and Gas

The establishment of scenic ACECs would reduce the area open to lease by 351,710 acres from alternative A, but this decrease would not affect production, since most of the closed area has low to moderate oil and gas potential (appendix Q). Leasing category acreages under alternative C compare as follows to those under alternative A.

Category	Unit	Acres	Change from Alternative A
1	SRRA	181,450	-948,830
	FPU	12,260	-39,510
	Subtotal	193,710	-988,340
2	SRRA	784,020	+740,890
	FPU	58,270	+40,000
	Subtotal	842,290	+780,890
3	SRRA	28,250	-141,070
	FPU	2,120	-3,190
	Subtotal	30,370	-144,260
4	SRRA	470,120	+349,010
	FPU	2,700	+2,700
	Subtotal	472,820	+351,710

The decrease in acreage under category 1 and the increase under category 2 would result from the addition of seasonal restrictions for wildlife habitat (desert bighorn sheep, elk, mule deer, and antelope) and restrictions on ROS class areas. Such restrictions would increase operating and production costs, but are not expected to affect production. The category 2 area includes high, moderate, and low oil and gas potential (appendix Q).

Restrictions on surface occupancy (category 3) would include riparian and aquatic habitat and cultural ACECs. These areas mostly have low to moderate oil and gas potential.

The closures to leasing (category 4) would affect developed recreation sites, primitive areas, and scenic ACECs. Most of the areas that would be closed have low and moderate oil and gas potential.

Protective conditions would be imposed on geophysical operations in the primitive areas and ACECs, but as in alternative A, 100 miles of seismic line are expected.

Oil and gas production would be the same as in alternative A, 13,200 barrels of petroleum and 754,000 MCF of natural gas.

Conclusion

Under alternative C, the area open to leasing would decrease by 351,710 acres. The acreage in category 1 would decrease from 1,130,280 acres to 193,710 acres; the acreage in category 2 would increase from 61,400 acres to 842,290 acres; the acreage in category 3 would decrease from 174,630 acres to 30,370 acres; and the acreage in category 4 would increase from 121,110 acres to 472,820 acres. The miles of seismic line run per year would be 100, the same as under alternative A. The annual oil and gas production rates would be the same as under alternative A, 13,200 barrels of petroleum and 754,000 MCF of natural gas in the year 2000.

Coal

Under alternative C, 58,310 acres (32,440 acres in SRRA, and 25,870 acres in FPU) would be available for coal exploration (no change from alternative A). However, the coal lease area would decrease by 3,980 acres from alternative A to a total of 54,210 acres because of the I-70 Scenic Corridor no-lease-or-permit requirement. Since coal leasing would not be allowed in the scenic corridor, there would be no interest in obtaining coal information from that area.

In addition, coal exploration would be precluded on 210 acres in SRRA and 70 acres in FPU by no-surface-occupancy requirements to protect riparian lands. However, these requirements would not affect coal drilling, because (1) coal exploration companies would not drill in stream areas, since the ground is prone to drill hole sloughage; and (2) coal drilling regulations already require protection of riparian zones.

Special conditions would be imposed to protect wildlife habitat and SPM ROS class areas. The rest of the KRCRA would be available for coal exploration under standard conditions (11,900 acres in SRRA, and 7,580 in FPU).

Under alternative C, the areas available for leasing would be 3,980 fewer acres than under alternative A (1,280 in SRRA, and 2,700 in FPU) because of the no-lease requirement inside the I-70 Scenic Corridor. A total of 54,210 acres (28,340 in SRRA, and 25,870 in FPU) would be available for leasing. Of these areas, special conditions would be applied to leases on 20,330 acres in SRRA and 18,220 acres in FPU to protect wildlife habitat and ROS class areas.

The special conditions would not affect coal production (150,000 tons per year), since current production is from existing leases where underground mining methods are used exclusively. No new surface facilities are planned for coal operations on public lands, and no new leasing is projected in the Emery Coal Field by the year 2000. Should leasing interest occur, stipulations can be attached to the lease to mitigate or eliminate impacts to resources identified for protection under alternative C.

No-surface-occupancy restrictions to protect riparian areas would cover 210 acres in SRRA and 70 acres in FPU. This action would not affect coal production, since underground-mining-only stipulations can be attached to the lease, and because surface facilities would not otherwise be allowed in riparian areas.

Conclusion

Under alternative C, 58,310 acres would be available for coal exploration. The area available for leasing would be 3,980 fewer acres than under alternative A. Coal production (150,000 tons per year) would not change from alternative A.

Mineral Materials

Under alternative C, the area open for disposal of mineral materials would be reduced to protect ACECs, riparian and aquatic habitat, and ROS classes P and SPNM. The area available for disposal of mineral materials would total 1,032,150 acres (961,620 acres in SRRA and 70,530 acres in FPU); this represents a decrease of 507,040 acres from alternative A (502,220 fewer acres in SRRA, and 4,820 fewer acres in FPU).

The reduction in disposal area would not affect production of 320,000 cubic yards because the areas closed to mineral material disposal are generally roadless areas, where there is no demand for mineral materials.

Conclusion

Under alternative C, the area open to mineral material disposal would decrease to 1,032,150 acres, a decrease of 507,040 acres from alternative A. Annual production rate would be 320,000 cubic yards, the same as projected under alternative A.

Locatable Minerals

Under alternative C, 1,064,590 acres would be open to mineral entry (991,940 acres in SRRA, and 72,650 in FPU) This would be a decrease of 472,820 acres (470,120 fewer in SRRA, and 2,700 fewer in FPU) from alternative A. Of the areas withdrawn from entry, a total of 177,270 acres (all in SRRA) have high potential for uranium. The remainder of the withdrawn area has moderate, low, or no potential for uranium. Of the areas with high or moderate potential for gypsum, 133,440 acres (all in SRRA) would be withdrawn from entry. The remainder of the area withdrawn would have low to no gypsum potential (appendix Q). Areas withdrawn from entry would include scenic ACECs and ROS classes P and SPNM.

Under alternative C, standard conditions would be applied to 377,140 acres in SRRA and 55,480 in FPU, for a total of 432,620 acres in the planning area. Special conditions would be applied to 614,800 acres in SRRA and 17,170 in FPU, for a total of 631,970 acres in the planning area. The special conditions would apply to vegetation and cultural ACECs, developed recreation sites, riparian and aquatic habitat, and SPM ROS class areas. Compliance with the special conditions would be required to the extent possible without curtailing operators' rights. Filing plans of operation and complying with the special conditions would increase the operators' costs, which could result in an unquantified decrease in exploration and development work. If 6,970 acres identified for land disposal are sold, the area open for mineral entry would be reduced.

Conclusion

The area open to mining claim location would decrease by 472,820 acres to 1,064,590 acres.

BIOTIC COMPONENTS

Soils

Under alternative C, there could be a decrease in soil loss over alternative A. This is because decreases in soil loss from ORV designations, changes in livestock management and mineral activities would be greater than increases resulting from lands actions.

ORV use designations may cause a decrease in soil loss of between 267,750 and 2,026,500 tons per year under this alternative (see alternative A). Continuing to leave a portion of the resource area open to ORVs could allow continued increase in soil loss because of the increased surface disturbance (destruction of vegetation, soil compaction, and disturbance of the soil surface). These impacts could be stopped in areas closed to ORV use. The effects should gradually taper off to pre-ORV levels as vegetation and soils recover to natural levels.

Limiting ORV use in the rest of the area (seasonal closures, existing roads and trails) may help keep soil loss at present levels. In the case of limited to designated roads, the limitation may cause soil loss to decline as the nondesignated roads and trails are revegetated. The effect of these limitations would be greatest where ORV use is heavy.

Another decrease in soil loss under this alternative may be due to changes in livestock grazing management. These changes are either closing areas to livestock grazing or changing the season of use. Soil loss due to livestock changes could decrease by between 1,200,500 and 9,897,500 tons per year. Soil loss due to surface-disturbing activities associated with livestock-related range improvements could decrease by between 750 and 5,600 tons per year. Riparian and aquatic area closures to livestock grazing could decrease soil loss by between 17,230 and 156,000 tons per year.

Coal operations could decrease soil loss from between 50 and 320 tons per year in the planning area.

Reductions in mining claim activity and related assessment work could result in a decrease in soil loss of between 180 and 1,400 tons per year from alternative A.

Although there is a net decrease in soil loss under this alternative, there could be an increase in soil loss associated with some activities. Soil loss may increase because public lands are retained that would be disposed of under alternative A or because of land acquisitions that would not have occurred under alternative A. Estimates of soil loss are based on the amount of public land in the planning area. Disposal of public lands results in less BLM acreage available to contribute to total soil loss. Retention or acquisition of public lands results in more BLM acreage available to contribute to total soil loss. Land disposals could account for a decrease in soil loss of between 7,500 and 44,380 tons per year from alternative A. Land acquisition could increase soil loss by between 50,850 and 328,300 tons per year.

A 2,000-acre vegetation manipulation would be done in FPU. The value of land treatments such as chainings in reducing erosion and sediment yield is not clear. Long-term effects appear to be beneficial, not only for increasing ground cover (which stabilizes soils), but also for improving rilling and gullying on the soil types that would be treated in the resource area. Short-term losses occur from nearly any treatment technique but this would be balanced out by the improvement in cover over the long term [Hansen, 1986].

The soil losses contributed by other factors would continue to be as described under alternative A. Therefore, soil losses from all causes could represent a decrease of between 1,443,110 and 11,803,450 tons per year of soil loss. Total soil loss could be between 5,820,630 and 49,580,850 tons per year, averaging 27,700,740 tons per year (a decrease of 6,623,280 tons per year) by the year 2000.

Conclusion

Total soil loss could be between 5,820,630 and 49,580,850 tons per year, a decrease of between 1,443,110 and 11,803,450 tons per year. The average soil loss is estimated at 27,700,740 tons per year, a decrease of 6,623,280 tons per year.

Water

Surface water quality should improve under alternative C compared to alternative A, a result of the lower rate of soil loss that would occur under this alternative. Decreases in sediment and salt yield from ORV use designations and changes in livestock management and mineral activities would be greater than increases resulting from lands actions.

ORV use designations may cause a decrease in sediment yield of between 107,100 and 810,600 tons per year and a decrease in salt yield of between 1,766 and 13,610 tons per year under this alternative. Continuing to leave areas open to ORV use may allow continued increases in sediment and salt yield because of increased surface disturbance (destruction of vegetation, soil compaction, and disturbance of the soil surface). The effects would be greatest in those areas of saline soils receiving heavy use.

Closing some areas to ORV use should stop the impacts to water resources in those areas where ORV use has been a problem. The effects should gradually taper off to the pre-ORV levels as vegetation and soils recover to natural levels.

Limiting ORV use in the rest of the planning area (seasonal closures, existing roads and trails) should help keep sediment and salt yields at present levels. In the case of limited to designated roads and trails, the limitation may cause sediment and salt yield to decline as the nondesignated roads and trails are revegetated.

Another decrease in sediment and salt yield under this alternative results from livestock grazing management. These changes are either closing areas to livestock grazing or by changing the season of use. Sediment yield due to changes in livestock grazing management may decrease by between 480,200 and 3,959,000 tons per year. Salt yield could decrease by between 4,900 and 69,600 tons per year. A decrease of 24 water developments and 24 miles of fence would be constructed under this alternative compared to alternative A. Sediment yield, therefore, should decrease by between 300 and 2,240 tons per year and salt yield should decrease by between 5 and 38 tons per year. Riparian and aquatic area closures to livestock grazing could decrease sediment by between 6,890 and 62,400 tons per year. Salt yield could decrease by between 50 and 1,030 tons per year.

Less coal activity would take place under this alternative than under alternative A. This should result in a decrease of between 20 and 130 tons per year of sediment and up to 1 ton per year of salt. Less activity would take place on mining claims and assessments which should result in a decrease of between 70 and 560 tons of sediment per year and between 1 and 5 tons of salt per year.

Mineral material operations in close proximity to perennial watercourses could destabilize and alter natural stream channels and disrupt the beneficial values of floodplains. These impacts could result in changes in the water tables and surface water flows and could make floods more destructive.

Although there is a net decrease in sediment and salt yield under this alternative, there could be increases in sediment and salt yield associated with some activities. Estimates of sediment and salt yield are based on the amount of public land in the planning area. Disposal of public lands results in less BLM acreage available to contribute to sediment and salt yield. Retention or acquisition of public lands results in more BLM acreage available to contribute to sediment and salt yield. Sediment and salt could increase due to the retention of public lands disposed of under alternative A or additional acquisitions of land. Land disposal could account for a decrease of between 3,000 and 17,750 tons per year of sediment and between 48 and 315 tons per year of salt over alternative A. Land aquisition could account for an increase of between 20,340 and 131,300 tons per year of sediment and between 303 and 2,260 tons per year of salt.

A 2,000-acre vegetation manipulation would be done in FPU (see Soils), but this would have a negligible effect on water resources.

Other impacts to surface and ground waters would be as described under alternative A. Total sediment loss could be between 2,328,260 and 19,832,330 tons per year, averaging 11,080,295 tons per year by the year 2000. The rate of sediment yield to the Colorado River could decrease by between 577,240 and 4,721,380 tons per year, an average decrease of 2,649,310 tons per year. Total salt yield could be between 23,003 and 348,578 tons per year, averaging 185,791 tons per year by the year 2000. The rate of salt yield to the Colorado River could decrease by between 6,467 and 82,339 tons per year, an average decrease of 44,403 tons per year.

Conclusion

Surface water quality should not degrade as rapidly under alternative C as under alternative A. Total sediment yield per year could be between 2,328,260 and 19,832,330 tons (averaging 11,080,295 tons per year), a decrease of between 577,240 and 4,721,380 tons per year (average decrease of 2,649,310 tons per year). Total salt yield per year could be between 23,003 and 348,570 tons (averaging 185,791 tons per year), a decrease of between 6,467 and 82,339 tons per year (average decrease of 44,403 tons per year) in the planning area.

Ground water quality would probably remain as in alternative A. The level of TDS in milligrams per liter cannot be quantified.

Vegetation

Under this alternative, about 25,699 acres could be disturbed through the year 2000, 28,845 fewer than under alternative A. Disturbance would be short-term on 18,479 acres, long-term on 7,220 acres. In addition, 8,550 acres would be gained from aquisition of state lands within ACEC boundaries.

The decrease in vegetation disturbance from alternative A would result primarily from decreases in ORV disturbance (28,950 fewer acres). This loss of vegetation is short-term. Most short-term losses would be regained within 5 years following reclamation (with a site-specific seed mix) or natural succession. Appendix S presents impact analysis assumptions, and acres of anticipated disturbance were listed by activity in table 54.

The long-term loss from land disposals would increase (150 acres more than under alternative A).

Anticipated changes in ecological condition under alternative C are shown in table 61.

TABLE 61

Anticipated Changes in Ecological Condition, Alternative C

Ecological Condition Class	Ecological Condition by Percent of Resource Area	
	Present (1985)	Future (2000)
Potential Natural Community	9	11
Late Seral	22	22
Mid Seral	47	46
Early Seral	9	8
Rock Outcrop/Badlands	13	13

Changes to higher seral stages would result from implementation of existing AMPs and elimination of continual spring grazing. AMPs and elimination of continual spring grazing would allow periodic rest of vegetation to recover from grazing thus producing a higher density of livestock forage, and changes in plant composition, thus resulting in more acres moving to a higher seral stage.

The Bowknot Bend (1,830 acres), North Big Flat Top (190 acres), and San Rafael Reef (43,870 acres) relict vegetation areas would be designated as ACECs under this alternative, whereas no such designations were identified under alternative A. The Hebes Mountain relict vegetation area would not receive special protection under alternative C.

Threatened or Endangered Plants

There would be no impact to T/E species from controlled activities. T/E plants would be protected from potential ORV impacts on 12,420 acres of the 18,500 acres of T/E plant habitat in the planning area. The plants would also be protected from potential mining disturbance by requiring plans of operation on any mining operations within 1,810 acres of T/E plant habitat. There would be no impact to T/E plants under alternative C.

Conclusion

Short-term vegetation loss would be reduced by 28,995 acres to 18,479 acres. Long-term loss of vegetation would increase by 150 acres to 7,220 acres. In addition, 8,550 acres would be gained through aquisition of state and private lands. Changes to higher seral stages would result. Three relict vegetation areas would receive special protection. There would be no adverse impact to T/E species.

Wild Horses and Burros

Under alternative C, 475,680 acres would be available for wild horse and burro use. There would be some reduction in livestock use to accommodate nonmotorized recreation use and big game management. Desert bighorn sheep are projected to increase to 860 head by the year 2000. In some areas there may be a conflict between wild burros and bighorn sheep. Wild burros apparently graze rather than browse more than bighorn sheep, so some forage made available for big game (by livestock reductions) may be available for the wild burros.

Under this alternative it is considered that wild horses would be maintained at a range of 70 to 100 head and wild burros between 25 and 60 head. By managing for this range of wild burros the conflict

with desert bighorn sheep should be reduced. These animals would provide a positive value for nonmotorized recreational users.

Forage required to maintain these animals at the maximum number is 900 AUMs for wild horses and 435 AUMs for wild burros, for a total of 1,345 AUMs.

Conflicts in use between wild equids, livestock and big game would be resolved and adjustments in specific forage use would be made at the activity plan level in conjunction with grazing decisions or at any time deemed necessary as a result of rangeland monitoring.

Conclusion

Wild horses would be maintained at a range of 70 to 100 head and wild burros between 25 and 60 head. Forage requirement for these animals at the maximum number is 1,345 AUMs.

Forage use levels may be adjusted between wild equids, livestock, and big game based on monitoring data.

When the high level of numbers is reached, the wild equids would be reduced to the lower level of numbers.

Wildlife

Desert Bighorn Sheep

Crucial desert bighorn sheep habitat would increase from 150,000 acres to 200,000 acres, about 50,000 acres more than under alternative A. Because of habitat restrictions on other resource uses and activities, the herds would be expected to expand into protected areas. Desert bighorn sheep would not reach prior stable numbers by the year 2000. The following are specific habitat changes:

- Seasonal conditions to oil and gas leases on 85,690 acres would protect the desert bighorn sheep habitat.

- Management of six ACECs and ROS classes would keep large tracts of land in relatively undisturbed condition and preserve vegetation used by the sheep for food and cover, increasing crucial habitat by about 30,000 acres and allowing populations to increase by about 300 animals.

- Throughout the habitat area, offsite mitigation would be required if more than 10 acres of habitat were disturbed, so as to replace food and cover lost. Offsite mitigation would increase crucial habitat by 150 acres and result in a gain of about 15 animals.

- Livestock grazing in desert bighorn sheep habitat would be reduced by 2,050 AUMs, providing more forage for the sheep and reducing the potential for disease transmission. This would allow sheep population to increase by about 250 animals.

- ORV use and development activities would be prevented on 335,670 acres of desert bighorn sheep habitat, increasing crucial habitat by 5,000 acres and allowing desert bighorn sheep to increase their numbers by 75.

- The conflict between desert bighorn sheep and wild burros would increase with the increase in wild burros and sheep in this alternative. The acres involved in this conflict would increase from 150 to 58,410 acres of crucial habitat and would reduce the potential increase in sheep numbers by about 380 animals.

The population of desert bighorn sheep would increase from 500 under alternative A to about 860 animals by the year 2000, an increase of 360 animals.

Antelope

Antelope habitat would remain at 507,000 acres, the same as in alternative A. However, a net gain of about 360 animals would result primarily from the following factors:

- Applying protective seasonal conditions to all develpment activities and limiting ORV use to designated roads and trails would reduce stress and improve habitat conditions on about 360,000 acres, allowing an approximate 15 percent increase in the antelope population.

- Assuming that there would be an increase of one antelope for every 40 acres treated under the offsite mitigation requirement, application of the requirement to 660 acres of crucial habitat would result in a gain of about 16 antelope.

- The change in season of livestock use on 504,900 acres of habitat and reduction of livestock AUMs by 1,200 would decrease competition for forage, particularly for spring grasses and forbs, and would result in an increase of 250 antelope.

The population of antelope would increase from 700 to about 1,060 animals by the year 2000. This is 360 animals more than under alternative A.

Mule Deer and Elk

Crucial winter range habitat would increase from 35,510 acres to 70,000 acres for mule deer and from 18,200 to 28,000 acres for elk (an increase of 34,490 acres for mule deer and 9,800 acres for elk over alternative A).

The increase in mule deer and elk crucial winter habitat would result primarily from the following factors:

- Applying protective seasonal conditions to all development activities and limiting ORV use to designated roads and trails would reduce stress and improve habitat conditions on about 4,880 acres of mule deer habitat and 2,440 acres of elk habitat (until the year 2000). Assuming a 2 percent per acre population increase, there would be a gain of about 430 mule deer and 50 elk.

- Assuming an increase of one deer for every 10 acres and one elk for every 40 acres treated under the offsite mitigation requirement, application of the requirement of 660 acres of crucial habitat would result in a gain of about 60 mule deer and 15 elk;

- The change of season of livestock use on 15,800 acres of mule deer habitat and 16,500 acres of elk habitat and elimination of livestock grazing on 41,690 acres of mule deer winter range and 6,750 acres of elk winter range would decrease competition for winter and spring forage, allowing an increase of 2,500 mule deer and 85 elk.

Populations would increase from 6,620 to 9,200 mule deer (prior stable) and from 600 to 750 elk. This is 2,580 mule deer and 150 elk more than under alternative A.

Riparian and Aquatic Habitat

The area of riparian and aquatic habitat would increase from 14,780 acres to 14,980 acres, an increase of 200 acres from alternative A. Vigor and density of riparian vegetation would improve or increase. The increase in riparian and aquatic habitat would result primarily from the following factors:

- Elimination of losses now occurring on riparian and aquatic habitat by restricting ORVs and development activities to designated roads and trails or excluding from riparian and aquatic areas would allow a 100-acre increase in riparian habitat.

- Livestock exclusions within riparian areas and reduced stocking rates for livestock would allow for complete rest through the growing season and increase riparian and aquatic habitat by 100 acres.

Threatened or Endangered Animals

The bald eagle and peregrine falcon would benefit from the improved managment of riparian habitat with its improved condition and 200-acre increase to a total of 14,980. Uncontrolled activities that have the potential to affect T/E species habitat would be controlled under alternative C. The known peregrine falcon nest and the prairie dog towns that provide potential habitat for black-footed ferrets would be protected from development activities, ORV use and mining claim work under this alternative.

Conclusion

Crucial habitat for desert bighorn sheep would increase to 200,000 acres (50,000 acres more than under alternative A), allowing desert

bighorn sheep populations to grow to 860 animals, about 360 more than alternative A.

Although habitat for antelope would remain at 507,000 acres, improved habitat condition would allow antelope populations to grow to 1,060 animals, about 360 more than alternative A.

Crucial winter habitat would increase to 70,000 acres for mule deer and 28,000 acres for elk (increases of 34,490 acres for mule deer and 9,800 acres for elk from alternative A). Mule deer and elk populations would increase to about 9,200 mule deer and 750 elk, about 2,580 more mule deer and 150 more elk than under alternative A.

Riparian and aquatic habitat and related T/E wildlife species habitat would increase to 14,980 acres, a 200-acre increase over alternative A. There would be no adverse impacts to T/E wildlife species under alternative C.

HUMAN USES

Grazing

Grazing would be allowed on 76,640 fewer acres than in alternative A, in a total of 73 allotments (appendix I). Eight allotments would be lost to land disposal and two allotments would be combined for improved management. Under this alternative, Bowknot Bend ACEC (1,830 acres) and North Big Flat Top ACEC (180 acres) would be excluded from livestock grazing. Since these areas are inaccessible to livestock, the exclusion would not represent a decrease in grazing area. Additional areas excluded from grazing would include 16 allotments with crucial deer and elk winter range (52,720 acres) and developed recreation sites (60 acres). An additional 150 acres would be lost to land disposals, for a total of 6,970 acres.

Currently, livestock grazing occurs at approximately the level of the past 5-year average licensed use (56,871 AUMs); operator demand is not equal to the allowable active preference of 88,252 AUMs. It is assumed that operator demand for livestock forage will remain at the 5-year average use level, but may increase to allowable active preference. Therefore, a range is used for analysis purposes.

Livestock AUMs would decrease in this alternative primarily because of potential conflicts between livestock and wildlife (deer, elk, antelope, and bighorn sheep). The 5-year average licensed use could decrease by 10,781 AUMs, and active preference could decrease by 14,784 AUMs. This licensed use would be within the range of 45,380 to 72,758 AUMs, depending upon operator demand.

Spring grazing on 69 allotments would be changed to winter use to protect the P, SPNM, and SPM ROS class areas during times when visitor use is greatest. In areas where forage conflicts could occur in winter, livestock AUMs would be reduced to allow for wildlife (AUMs were reduced by subtracting wildlife AUMs from 5-year average licensed use and active preference AUMs of each allotment). In some allotments with heavy deer and elk use, livestock AUMs would be reduced to zero (appendix I). This would result in a long-term loss of 11,743 5-year average licensed use AUMs and 15,746 active preference AUMs.

Changes in kind of livestock from cattle to domestic sheep would not be allowed on 24 allotments containing crucial bighorn sheep habitat. Allotments currently being grazed by domestic sheep would not be required to change to cattle (see Appendix I for allotments).

Land disposals (160 AUMs more) would account for additional long-term loss of AUMs. The only increase would be from a decrease in disturbance from ORVs (1,447 AUMs). ORV disturbance would cause a short-term vegetation loss, since most vegetation would be regained through natural succession. No additional AUMs would result from the aquisition of state and private lands (35,430 acres) because most of the state land already has exchange-of-use agreements and private lands are minimal.

This alternative would allow implementation of 25 new AMPs, modification and implementation of 7 existing AMPs and the continuation of 6 existing AMPs. These AMPs would be managed to maintain ROS classes and to protect wildlife habitat, particularly crucial deer and elk winter range. The elimination of spring grazing in allotments would allow for increased vigor and density of cool season grasses.

Spring use without periodic rest from grazing would continue on three allotments.

Conclusion

The area available for grazing would decrease to 1,535,480 acres. Livestock forage use could decrease to 76,640 5-year average licensed use AUMs and to 72,758 active preference AUMs. The licensed use would be within the range of 45,380 to 72,758 AUMs, depending upon operator demand.

Forest Product Use

Under alternative C, 1,100 acres would be excluded from collection of wood for campfire use because of relict vegetation and cultural ACECs and developed recreation site restrictions. Designation of private and commercial forest product harvest areas would be excluded on 245,850 acres because of relict vegetation and cultural ACECs, developed recreation sites, ROS classes and riparian and acquatic habitat restrictions. A 2,000-acre vegetation manipulation in FPU would allow these areas to be better utilized for woodland harvest but would not increase the available acreage because it was already available for harvest. While the change in acreage would affect the available supply, adequate area would remain available to meet the demand for dead wood and forest product harvest. The area excluded from campfire use would increase 610 acres over alternative A, while the area excluded from private and commercial use would be 230,240 more than alternative A.

The area used for harvest of woodland products and 2,000 acres of vegetation manipulation would affect less than 1 percent of the 451,270 forested acres.

Conclusion

As in alternative A, based on past use and present harvest, an adequate supply of dead wood and live forest products would be available on 205,410 acres, a decrease of 230,250 acres from alternative A through the year 2000.

Cultural Resources

Under alternative C, about 6,060 of the estimated 70,000 cultural resources would be damaged or destroyed, a decrease of 675 from alternative A. This decrease in sites damaged or destroyed would result from fewer areas being affected by ORV use, grazing, and mineral activities.

The number of cultural resources available for use would decrease to 2,477, 12 fewer than under alternative A. This decrease would result from reductions in required inventories.

Conclusion

About 6,060 cultural resources would be damaged or destroyed under alternative C. The number of cultural resources available for use would decrease to 2,477.

Recreation

Alternative C would increase primitive and semiprimitive recreation opportunities, while decreasing ORV-user access and opportunities for cross-country travel. The P-class would total 114,220 acres, an increase 44,540 acres from alternative A; the SPNM-class area would total 231,140 acres, an increase of 47,730 acres; the SPM-class area would total 603,400 acres, a decrease of 59,470 acres; the RN-class area would total of 581,420 acres, a decrease of 25,300 acres; and the R-class area would total 10,500 acres, a decrease of 170 acres from alternative A. The U class (20 acres) would not change.

The increased demand for nonmotorized activities would probably be accommodated in existing settings; however, management actions to encourage dispersed use could be required in a few areas. Commercial visitation would increase under alternative C because natural and scenic values associated with commercial recreation ventures would be preserved.

A large increase in wildlife numbers under alternative C would result in a beneficial secondary impact to recreation by increasing wildlife viewing hunting opportunities.

Cross-country ORV recreation use would be constrained under alternative C; however, scenic values important to ORV recreationists would be protected. Only 194,640 acres would be open to ORV use, decreasing access and opportunities for cross-country travel. ORV use would be limited by seasonal restrictions on 246,700 acres to protect mule deer, elk, desert bighorn sheep, and antelope. ORVs would be limited to designated roads and trails on 606,110 acres to protect riparian and aquatic habitat, SPM class areas, and developed recreation sites. The remaining 491,740 acres would be closed to protect P and SPNM class areas and ACECs. Limiting and closing these areas would help to retain the nonmotorized settings and focus management attention on recreation use, maintaining natural, scenic, and cultural values.

The development and expansion of recreation facilities would help to meet the increased demand for motorized and nonmotorized recreation. Recreation sites would be developed or expanded at the San Rafael Campground, Justensen Flats, Tomsich Butte, the Wedge, and Swasey Cabin, reducing user conflicts, human waste, and trash.

Adjustments in the season of use for livestock (eliminating spring and fall use) and overall reduction of livestock numbers could increase the quality of the recreation experience.

Management objectives would help assure the retention of unusual recreation opportunities and scenic values identified in the wild and scenic rivers eligibility and potential classification study (appendix J) for the majority of the San Rafael River, the lower portion of Labyrinth Canyon (Green River), and Muddy Creek.

Conclusion

Compared to alternative A, alternative C would shift the ROS class acreages toward the resource-dependent (primitive) end of the spectrum, increasing the acreage available for activities in undeveloped settings and decreasing ORV access and opportunities for cross-country exploration. The P-class would increase to 114,220 acres; the SPNM-class area would increase to 231,140 acres; the SPM-class area would decrease to 603,400 acres; the RN-class area would decrease to 581,420 acres; and the R-class area would decrease to 10,500 acres. The U class (20 acres) would not change.

Areas open to ORV use would decrease to 194,640 acres, reducing access and opportunities for cross-country travel. Areas limited by seasonal restrictions would increase to 246,700 acres; areas limited to designated roads and trails would increase to 606,110 acres; and areas closed to ORV use would increase to 491,740 acres.

Visual Resources

Alternative C would place 472,130 acres in VRM class I (all increase from alternative A). The increase includes all P and SPNM ROS class areas (401,950 acres total), and Bowknot Bend, North Big Flat Top, I-70 Scenic Corridor, Gilson Buttes, Muddy Creek, San Rafael Canyon, San Rafael Reef, Segers Hole, and Sids Mountain ACECs (some overlap with P and SPNM class areas).

VRM class II acreage would increase to 725,940 acres (an increase of 229,570 acres over alternative A). The increase includes SPM class areas (603,400 acres).

Other VRM class areas would remain the same as under alternative A, except where acreage was shifted into classes I and II. Class III would decrease 216,420 acres to 166,850 acres, and class IV would decrease 485,280 acres to 174,270 acres.

It is projected that by the year 2000, in 106 cases, visual contrast rating scores would exceed the VRM class objectives for that area (a decrease of 14 from alternative A).

Conclusion

The area in VRM class I would increase to 472,130 acres (all increase over alternative A); VRM class II acreage would increase to 725,940 acres. The area in other VRM classes would decrease a corresponding amount: class III would decrease to 166,850 acres; and class IV would decrease to 174,270 acres. In 106 cases, visual contrast rating scores would exceed the VRM class objectives.

Lands

Under alternative C, no right-of-way corridors would be designated (no change from alternative A). Lands available (standard conditions) for rights-of-way would total 193,710 acres (181,450 in SRRA (a decrease of 1,231,500 acres)) and 12,260 in FPU (a decrease of 60,390 acres). A total of 872,660 acres would be avoided (812,270 in SRRA (an increase of 761,380) and 60,390 in FPU (an increase of 57,690)). Exclusion areas would total 472,820 acres (470,120 in SRRA (all increase) and 2,700 in FPU (all increase)).

A total of 6,970 acres would be managed for disposal (6,140 in SRRA (an increase of 360 acres) and 830 in FPU (a decrease of 210 acres)); there would be a net increase of 150 acres in lands managed for disposal over alternative A.

The amount of land withdrawn from entry would total 474,600 acres (471,900 acres in SRRA (an increase of 470,120 acres over alternative A) and 2,700 acres in FPU (all increase)). Withdrawn areas would include the Bowknot Bend, Tomsich Butte, Gilson Buttes, I-70 Scenic Corridor, Muddy Creek, San Rafael Canyon, San Rafael Reef, I-70 Pictographs, Segers Hole, and Sids Mountain ACECs, developed recreation sites, and P and SPNM ROS class areas.

State lands within the I-70 Scenic Corridor ACEC are identified for possible acquisition under alternative C. These areas would total 8,580 acres (7,160 in SRRA and 1,420 in FPU, all increase over alternative A). Actual acreages acquired may be adjusted for ease of management.

Conclusion

No right-of-way corridors would be designated (no change). Lands available (standard conditions) for rights-of-way would total 193,710 acres. A total of 872,660 acres would be avoided. Exclusion areas would total 472,820 acres.

A total of 6,970 acres would be managed for disposal.

The amount of land withdrawn from entry would total 474,600 acres.

State lands identified for possible acquisition would total 8,580 acres. Actual acreages acquired may be adjusted for ease of management.

ECONOMIC CONSIDERATIONS

Minerals

The proposed special conditions, and no surface occupancy would increase the cost and lower the output value of mineral exploration and development over alternative A by (1) changing the location, method, or equipment used in mineral exploration and development; (2) increasing the amount of coordination required with the BLM; (3) temporarily idling labor and equipment; (4) lengthening the duration of mineral exploration and development; and (5) delaying production and hence delaying receipt of revenues.

The effect on mineral exploration and development would vary by type and location of stipulation and special condition. Appendix Q describes the mineral potentials by type of special condition for locatable and leasable minerals.

The area covered by special conditions would increase 780,890 acres, a 1,172 percent increase relative to alternative A.

Exploration techniques required in no-surface-occupancy areas can be four times more expensive than standard techniques, and sometimes yield poorer quality data, which can reduce drilling success rates and decrease production. The no-surface-occupancy stipulation would not affect exploration costs in areas where access is poor and special techniques such as directional drilling would be used regardless of management. However, under standard conditions, directional drilling and production cost about 20 to 30 percent more than standard drilling and production. The added production costs would also render production uneconomical at an earlier date, and thereby decrease total production. Current economics and technology restricts slant drilling in the area to less than 1 horizontal mile

from the drill site. Areas further away would essentially be closed to production.

The special condition in SPM class areas requiring revegetation to blend with surrounding conditions within 1 year would essentially eliminate mineral activity in some vegetation communities, and would increase reclamation cost by over 20 percent in other areas.

With effective coordination of manpower and equipment, seasonal special conditions would not add to activity cost. However, the seasonal conditions could be costly (more than a 1 percent cost increase) if they idle equipment and labor. Seasonal conditions could also force demobilizing and remobilizing equipment when an exploratory well is followed up with development wells, adding more than 5 percent to development cost. This has rarely been a problem with existing seasonal stipulations.

Oil and gas drilling costs would increase an average of 1 percent where big game offsite mitigation would be required. Other stipulations and special conditions would have little or no effect on oil and gas activity.

Locatable mineral exploration and development which disturbs less than 5 acres and is not within an ACEC or an area of restricted ORV use would not be affected by special conditions. Special conditions would be required to the extent possible without rendering the activity uneconomic. Many of the more stringent conditions could not be enforced. On the average, these more stringent requirements would increase reclamation costs by over 20 percent and total activity costs by less than 5 percent.

The proposed special conditions would either increase the cost of developing mineral materials or cause the development to be relocated to a site farther away from the point of use. The I-70 Scenic Corridor exclusion would have the greatest effect on developing and stockpiling of mineral materials. Increased two-way hauling distances would average 5 miles, adding an average $2.50 per cubic yard, or approximately 25 percent, to the cost of getting mineral materials to the point of use. Other special conditions and exclusions would not be located in areas with a demand for developing and stockpiling of mineral materials.

Under this alternative there would be a much larger area where, because of special conditions, mineral exploration and/or development would be more costly. Much of these increased exploration and development costs would be spent in the local economy, thereby increasing local employment and earnings. However, the increased costs would also decrease the amount of mineral activity, thereby decreasing local employment and earnings. The net effect on the local economy cannot be quantified

The large increased acreage where mineral activities would be excluded, either outright or by special conditions so stringent that mineral activities cannot comply, would result in a net decrease in economic activity. The resulting local employment and earnings decrease cannot be projected.

Based on the assumed decrease in oil and gas activity, and locatable mineral exploration and development, it is estimated that mineral-related employment, earnings, and taxing district revenues would decrease as follows.

		Total	Change from Alternative A
Emery County	Employment (jobs)	3,275	-1
	Earnings ($)	1,007,430	-18,800
	Revenue ($)	16,428,400	-1,800
Carbon-Emery County	Employment (jobs)	5,183	-1
	Earnings ($)	111,823,500	-24,400
	Revenue ($)	21,545,400	-3,100

Soil and Water

Sediment yield resulting from the surface disturbance projected under this alternative would decrease annual damage to downstream capital investments by $43,400 to $354,200 over alternative A. Salt loading resulting from the surface disturbance projected under this alternative would decrease annual damage to water users in the lower Colorado River basin by $378,300 to $4,816,800 over alternative A.

Livestock Grazing

Altogether, 6 operators would have more forage, 112 would have less, and 21 operators would not be affected. (Forage losses and gains under the alternatives are explained in the Grazing sections of this chapter.) Changes in available forage would change rancher income by affecting herd size, weight gain, calf survival rates, or operating costs.

The number of operators affected, the degree of impact, and the related effects on local employment and earnings are presented in tables 62 and 63.

The spring (April and May) livestock exclusions would affect 120 of the 139 livestock operators. Most operators would have few options with which to respond to these exclusions. They would have to either purchase feed to replace the lost forage, shift to forage that is normally used during other months, or reduce herd sizes so that the forage produced from base properties would last longer.

Replacing forage lost through spring exclusions with hay would represent a worst-case analysis Feeding hay during the spring may adversely affect livestock weight gains and reduce gross revenues. If the feeding were to be done on alfalfa-producing property during the spring, alfalfa yields could be affected, and bloating problems could arise. The analysis assumes that operators would respond to the spring exclusions by feeding hay.

The combined effect of spring exclusions and changes in available forage would reduce operator returns above variable cost by $556,500, a 61 percent decrease.

Based on the direct effects from the budget analysis and on the indirect and induced effects derived from a county economic model, it is estimated that local employment, earnings, and taxing district revenues would decrease as shown here.

		Total	Change from Alternative A
Emery County	Employment (jobs)	124	-32
	Earnings ($)	365,900	-93,600
	Revenue ($)	254,400	-65,000
Carbon-Emery County	Employment (jobs)	193	-49
	Earnings ($)	879,100	-224,800
	Revenue ($)	578,500	-147,900

Any grazing permit change could affect ranch value and therefore operator wealth, particularly if the changes affect the ranch's total carrying capacity. The decrease in available forage would decrease aggregate operator wealth by $539,100, a 2.1 percent decrease.

Lending institutions base loans on a number of factors, including the rancher's ability to repay the loan. The repayment ability is usually measured by the rancher's likely future income with the loan. Because aggregate rancher income is expected to decrease under this alternative, ranchers' abilities to repay loans should likewise decrease.

Base properties are used as collateral for some types of loans. Since base property values are either not affected or projected to increase under this alternative, the level of total indebtedness allowed should increase.

The analysis accounts for those projects that either would not be allowed or would be abandoned due to stipulations and special

TABLE 62

Number and Degree of Livestock Operator Impacts, Alternative C

	Operators with an Increase from Existing Use and Net Revenues			Operators Not Affected	Operators with a Decrease from Existing Use and Net Revenues		
	Over 51%	11 to 50%	1 to 10%		1 to 10%	11 to 50%	Over 51%
Public rangeland forage	0	5	1	21	22	47	44
Total feed requirements	0	2	4	21	69	42	1
Operator returns above variable costs	0	1	0	1	21	77	39

TABLE 63

Aggregate Economic Impacts to Livestock Operators, Alternative C

Livestock Operators	Baseline Situation	Alternative C
Gross Revenue	$2,920,700	$2,357,000
Total Variable Cost	2,008,400	2,001,300
Returns Above Variable Cost	912,200	355,700
Returns to Labor and Investment[a]	158,000	-267,800
Livestock Numbers (animals)	9,206	7,315
Hired Labor (jobs)	3,761	2,864
Total Earnings, Emery County	$459,500	$365,900
Total Employment, Emery County (jobs)	156	124
Total Earnings, Carbon-Emery County	1,103,900	879,100
Total Employment, Carbon-Emery County	242	192

NOTE: These budgets assume that ranchers have no long-term outstanding debt, that all operating capital is borrowed, and that existing ranchers would not go out of business.

[a]Returns net of variable and fixed costs to management, non-hired labor, machinery, equipment, and land.

conditions. Some stipulations and special conditions, such as those that limit ORV use or require projects to blend with the natural environment, would not prevent livestock use and rangeland projects, but would increase their cost.

The limitations on range improvements may increase the cost of maintaining and replacing range improvements. These limitations cannot render existing improvements uneconomic to maintain or replace; however these limitations may prevent new improvements from being installed by either outright exclusions or by rendering the projects uneconomic through special conditions.

Recreation

Recreation use of the planning area and its related local importance is projected to increase as described in alternative A. The relative mix of uses may change because of changes in recreational opportunities from alternative A (see impacts to recreation). The large area closed to recreational cross county ORV travel could reduce total ORV use of the area. The local economic effect of this decrease in ORV use and changing mix of opportunity settings is unknown. However, judging from the existing economic importance of recreation in the planning area (less than 0.1 percent of local employment and earnings), these changes would have little effect on the local economic conditions.

Existing commercial outfitters rely heavily on the P, SPNM, and SPM opportunity settings available in the planning area. The 36 percent gain of P and SPNM, opportunity settings from alternative A could increase the demand for outfitter services in these areas. The 9 percent loss of SPM opportunity settings could decrease the demand for outfitter services in these areas. Because projected demand for commercial services is small and would comprise a small portion of any outfitter's business, these changes in opportunity settings would have little economic effect. The additional developed recreation sites should have little to no effect on use and related local expenditures. The services offered should not compete with, and therefore not affect, privately owned recreation developments or commercial outfitters.

There is no known relationship between special management designations and recreation use. Publicity following designation could increase public awareness of these lesser known areas, and therefore increase visitation and related local expenditures. Even if visitation to these special designation areas were doubled, the local economic effect would be insignificant. This effect, however, could be significant to outfitters who might use these areas.

Desert bighorn sheep, antelope, deer, and elk populations are projected to increase from alternative A. Assuming that population/harvest, harvest/hunter, and population/primary nonconsumptive use ratios remain constant, projected wildlife use and related expenditures would bring the following increases.

		Total	Change from Alternative A
Emery County	Employment (jobs)	28	+9
	Earnings ($)	251,700	+77,400
	Revenue ($)	38,700	+11,900
Carbon-Emery County	Employment (jobs)	36	+11
	Earnings ($)	367,700	+113,100
	Revenue ($)	61,100	+18,800

Other Land Uses

Special conditions, the no-surface-occupancy stipulation, areas closed to resource use or production would affect other land uses in much the same way as they affect mineral activities. Some activities within areas of restricted ORV use would require additional coordination with BLM through a lands action which would not otherwise be required. Much of the increased costs associated with activities in special-condition and no-surface-occupancy zones would be spent in the local economy, thereby increasing local employment and earnings. However, the increased costs would also decrease the

amount of other land use activity, thereby decreasing local employment and earnings. The net effect on the local economy cannot be quantified

The proposed land disposals would be widely scattered through Castle Valley and would represent a 0.1 percent increase from the private land base relative to alternative A. This increase in private land base would not affect nearby land values, but would increase local taxing district revenues by at least $200 from alternative A.

The large area avoided and excluded from major utility lines could force the relocation of new facilities, thereby increasing their cost.

Plan Budget

The 30 percent increased budget over alternative A needed to implement this alternative would bring the following increases.

		Total	Change from Alternative A
Emery County	Employment (jobs)	12	+3
	Earnings ($)	137,500	+31,800
	Revenue ($)	3,100	+700
Carbon-Emery County	Employment (jobs)	47	+11
	Earnings ($)	885,400	+204,600
	Revenue ($)	24,700	+5,700

Conclusion

Mineral-related local employment, earnings, and taxing district revenues are projected to decrease. Sediment- and salinity-related costs would decrease. Livestock operator returns above variable costs, ranch value, and associated local employment, earnings, and taxing district revenues would decrease. The aggregate increase of P, SPNM, and SPM acreage could increase the demand for commercial outfitter services in the area, although this effect would be insignificant. Wildlife-related local employment, earnings, and taxing district revenues would increase. Increased management restrictions would increase the cost of land disturbing activities in some areas, but the net effect on the economy is unknown. The land disposals would increase taxing district revenues in Emery County. The large area avoided and excluded from major utility lines could increase their construction cost. The increased budget needed to implement this alternative would increase local employment, earnings, and taxing district revenues.

SOCIAL CONDITIONS

None of the management actions would impact local communities so far as to noticeably affect their social conditions. A number of livestock operators would be significantly affected. Some operators may be forced to seek a second job, and operators who are forced to sell their operations would have to change their way of life entirely. Some ranchers do not have the training and skills to enter new job markets.

Conclusion

Social conditions of nearby communities would not be affected. The lifestyles of some ranchers would change.

ALTERNATIVE D

MINERAL COMPONENTS

Oil and Gas

Under alternative D, establishment of scenic ACECs and closure of critical watershed and riparian habitat areas and R&PP leases to leasing would reduce the area open to lease by 1,160,160 acres compared to alternative A. This decrease would cause a decrease in production from that described in alternative A, as the closed areas

have high, moderate, and low potential for oil and gas (appendix Q). Leasing category acreages under alternative D compare as follows to those under alternative A.

Category	Unit	Acres	Change from Alternative A
1	SRRA	168,510	-961,770
	FPU	3,820	-47,950
	Subtotal	172,330	-1,009,720
2	SRRA	77,990	+34,860
	FPU	7,600	-10,670
	Subtotal	85,590	+24,190
3	SRRA	0	-169,320
	FPU	0	-5,310
	Subtotal	0	-174,630
4	SRRA	1,217,340	+1,096,230
	FPU	63,930	+63,930
	Subtotal	1,281,270	+1,160,160

The increase in category 2 acreage results from addition of seasonal restrictions to protect R&PP leases and habitat for wildlife such as desert bighorn sheep, elk, mule deer, and antelope. These restrictions would increase operating and production expenses, but are not expected to affect production. The category 2 area has high, moderate, and low potential for oil and gas.

Category 4 areas would include critical watersheds, aquatic and riparian habitat, P and SPNM ROS class areas, and ACECs. Because these occur in areas with high, moderate, and low oil and gas potential, the annual production rate for oil and gas would be reduced.

Because of the amount of area closed to leasing under alternative D, the average annual rate of oil and gas production would decrease to 1,500 barrels of oil (a decrease of 5,100 barrels per year) and 169,000 MCF of natural gas (a decrease of 255,000 MCF per year). Production at year 2000 is expected to be 3,000 barrels of oil and 244,000 MCF of natural gas.

In most of the planning area, project conditions would be imposed on geophysical operations which would reduce the miles of seismic line to 25 miles per year (a decrease of 75 miles per year).

Conclusion

The area open to lease would decrease by 1,160,160 acres, to 172,330 acres in category 1; 85,590 acres in category 2; and no acres in category 3. The area in category 4 (no leasing) would increase to 1,281,270. Production rates would be reduced to 3,000 barrels of petroleum and 244,000 MCF of natural gas at year 2000. The number of miles of seismic line would be reduced from 100 miles per year to 25 miles per year.

Coal

Under alternative D, 18,470 acres would be available for coal exploration (15,930 acres in SRRA, and 2,540 in FPU), a decrease of 39,840 acres from alternative A. This equals a 60 percent reduction from alternative A in the amount of land available for exploration. It is estimated that two fewer drill holes would be drilled per year.

Alternative D would close to coal leasing 43,820 acres (17,790 in SRRA, and 26,030 in FPU), leaving 14,370 acres (11,830 in SRRA, and 2,540 in FPU) available for coal leasing. These closures to leasing are not expected to affect coal production by the year 2000, since all production would come from existing leases. However, continued production from existing leases at present levels would exhaust the currently leased coal reserves by the year 2010. Actions under alternative D would effectively withdraw an estimated 400 million tons of coal (60 percent of the Emery Coal Field's available resources).

Conclusion

Under alternative D, 18,470 acres would be available for exploration (39,840 fewer than under alternative A), and 14,370 acres would be available for leasing (43,820 fewer acres than under alternative A). The acreage reductions would not affect coal production (150,000 tons per year).

Mineral Materials

Under alternative D, 246,500 acres would be open to mineral material disposal in SRRA (a decrease of 1,217,340 acres) and 11,420 would be open in FPU (a decrease of 63,930 acres), for a total of 257,920 acres open in the planning area (a decrease of 1,281,270 acres) (appendix Q). Reductions in the area open to mineral material disposal would be due to critical watershed designations and protection of SPNM ROS class areas. These reductions would cause production to drop as free use permits in closed areas expired and could not be renewed. Production would average 80,000 cubic yards per year, rising until 1992 and then beginning to decrease in 1994, leveling off in 1999 at 50,000 cubic yards per year, 270,000 less than alternative A.

Conclusion

The area open to mineral material disposal would decrease to 257,920 acres. The average annual production rate would decrease to 50,000 cubic yards at year 2000.

Locatable Minerals

Under alternative D, 245,700 acres would be open to entry in SRRA (a decrease of 1,216,360 acres from alternative A) and 11,420 acres would be open in FPU (a decrease of 63,930 acres from alternative A), for a total of 257,120 acres open in the planning area (a decrease of 1,280,290 acres from alternative A). In SRRA, 328,150 acres with high potential for uranium would be withdrawn from mineral entry, and 6,710 acres in FPU with high potential for uranium would be withdrawn, for a total of 334,860 withdrawn acres of high potential in the planning area. The remainder of the withdrawn area falls into moderate, low, and no potential areas. Of the areas with high and moderate potential for gypsum, 669,010 acres in SRRA would be withdrawn from entry, along with 17,860 acres in FPU, for a total of 686,870 acres in the planning area. The remainder of the area withdrawn would be in areas of low to no gypsum potential (appendix Q). ACECs, critical watershed, riparian and aquatic habitats, and ROS class SPNM make up the area withdrawn from entry.

In alternative D, standard conditions would be applied to areas open to leasing. Special conditions would not be applied. Closure of a large part of the planning unit would decrease exploration and development work. If 1,420 acres identified for land disposal are sold, the area open to mineral entry would be reduced.

Conclusion

The area open to mining claim location would decrease to 257,120 acres.

BIOTIC COMPONENTS

Soils

Under alternative D, there should be a decrease in soil loss from alternative A because decreases in soil loss resulting from ORV use designations, changes in livestock management, and mineral activities would be greater than increases resulting from lands actions.

ORV use designations as discussed in alternatives A and C may cause an estimated decrease of between 368,750 and 2,790,000 tons per year of soil loss.

Another decrease in soil loss under this alternative may be due to changes in livestock grazing management. These changes are either closing areas to livestock grazing or changing the season of use. Soil loss due to livestock changes could decrease by between 1,227,250 and 10,255,000 tons per year. Soil loss due to surface-disturbing activities associated with livestock related range

improvements could decrease by between 750 and 5,600 tons per year. Closure of riparian and aquatic areas to livestock grazing could decrease soil loss by between 16,420 and 149,400 tons per year in either area.

A decrease of between 5,100 and 38,500 tons per year of soil loss could occur because of a decrease in the surface-disturbing activities associated with oil and gas and geophysical activities. Accidental fluid discharges during oil and gas drilling operations could contaminate soils. A decrease of between 50 and 360 tons per year could be expected due to the decrease in surface-disturbing activities associated with coal. A decrease of between 1,500 and 11,180 tons per year of soil may be expected from the decrease in mineral material activities. A decrease in soil loss of between 180 and 1,400 tons per year may be expected due to the decrease in mining claims and assessment work. Fewer rights-of-way would be issued, which could decrease soil loss by between 400 and 3,000 tons per year.

Although there would be a net decrease in soil loss under this alternative, there could be an increase in soil loss associated with some activities. Soil loss may increase because public lands retained would be disposed of under alternative A or because of land acquisition that would not have occurred under alternative A. Estimates of soil loss are based on the amount of public land in the planning area. Retention or acquisition of public lands results in more BLM acreage available to contribute to total soil loss. Soil loss may increase due to the retention of public lands disposed of under alternative A. This could account for an addition of between 20,780 and 163,280 tons per year. Land acquisition could account for an increase in soil loss of between 8,100 and 90,000 tons per year.

A 2,000-acre vegetation manipulation would be done in FPU. The value of land treatments such as chainings in reducing erosion and sediment yield is not clear. Long-term effects appear to be beneficial, not only for increasing ground cover (which stabilizes soils), but also for improving rilling and gullying on the soil types that would be treated in the resource area. Short-term losses occur from nearly any treatment technique but this would be balanced out by the improvement in cover over the long term [Hansen, 1986].

The soil losses contributed by other factors would continue to be as described under alternative A. Therefore, total soil loss could be between 5,672,220 and 48,383,140 tons per year (averaging 27,027,680 tons per year) by the year 2000. The decrease in soil losses from all causes could be between 1,591,530 and 13,001,170 tons per year (average decrease of 7,296,350 tons per year).

Conclusion

Total soil loss per year could be between 5,672,220 and 48,383,140 tons (averaging 27,027,680 tons per year).

Water

Surface water quality should improve under alternative D compared to alternative A. The improvement would correspond to the decreased rate of soil loss compared to alternative A (see Soils). Decreases in sediment and salt yield resulting from ORV use designations, changes in livestock management and minerals activities would be greater than increases resulting from lands actions.

ORV use designations as discussed under alternatives A and C may cause an estimated decrease of between 147,500 and 1,116,000 tons per year of sediment and between 2,432 and 18,740 tons per year of salt.

Another decrease in sediment and salt yield under this alternative could be due to changes in livestock grazing management. These changes are either closing some areas completely to livestock grazing or changing the season of use. Sediment yield due to changes in livestock grazing may decrease by between 490,900 and 4,102,000 tons per year. Salt yield may decrease by between 4,920 and 72,100 tons per year. Construction of 24 fewer water developments and 24 fewer miles of fence would take place under this alternative than under alternative A. Thus, sediment yield should decrease by between 300 and 2,240 tons per year and salt yield

should decrease by between 5 and 35 tons per year. Closures of riparian and aquatic habitat to livestock grazing could decrease sediment by between 6,570 and 59,760 tons per year and decrease salt yield by between 56 and 980 tons per year.

Less oil and gas and geophysical activity would take place under this alternative than under alternative A. This could account for a decrease in sediment of between 2,040 and 15,400 tons per year and a decrease in salt of between 25 and 150 tons per year.

Less coal activity would take place, which could result in a decrease of between 20 and 150 tons per year of sediment and about 1 ton per year of salt.

Less surface-disturbing activity would take place due to mineral material disposal. Sediment could decrease by between 600 and 4,470 tons per year and salt could decrease by between 7 and 43 tons per year. Fewer mining claims and less assessment work would take place, which could result in a decrease in sediment yield of between 70 and 560 tons per year and a decrease in salt yield of between 1 and 5 tons per year.

Mineral material operations in close proximity to perennial watercourses could destabilize and alter natural stream channels and disrupt the beneficial values of floodplains. These impacts could result in changes in the water tables and surface water flows and could make floods more destructive.

Fewer rights-of-way would be issued which could decrease sediment by between 160 and 1,200 tons per year and decrease salt yield by between 2 and 12 tons per year.

Although there would be a net decrease in sediment and salt yield under this alternative, there could be increases in sediment and salt yield associated with some activities. Estimates of sediment and salt yield are based on the amount of public land in the planning area. Retention or acquisition of public lands results in more BLM acreage available to contribute to sediment and salt yield. Sediment and salt yield may increase due to the retention of public lands disposed of under alternative A. This could account for an increase in sediment of between 8,310 and 65,310 tons per year. Salt yield could increase by between 2 and 1,149 tons per year. Land acquisition could account for an increase of between 3,240 and 36,000 tons per year of sediment. Salt yield could also increase by between 10 and 636 tons per year.

A 2,000-acre vegetation manipulation would be done in FPU (see Soils) but this would have a short-term negligible effect on the water resources.

Other impacts to surface and ground waters would be as described under alternative A.

Total sediment yield per year could be between 2,268,890 and 19,353,240 tons per year (averaging 10,811,065 tons per year) by the year 2000. The rate of sediment yield to the Colorado River should decrease by between 636,610 and 5,200,470 tons per year (average decrease of 2,918,540 tons per year). Total salt yield could be between 22,034 and 340,636 tons per year (averaging 181,335 tons per year) by the year 2000. The rate of salt yield to the Colorado River should decrease by between 7,436 and 90,281 tons per year (an average decrease of 48,859 tons per year).

Ground water quality would probably remain the same. The level of TDS in milligrams per liter cannot be quantified.

Conclusion

Surface water quality should improve under alternative D over alternative A. Total sediment yield could be between 2,268,890 and 19,353,240 tons per year (averaging 10,811,065 tons per year), a decrease of between 636,610 and 5,200,470 tons per year (average decrease of 2,918,540 tons per year) from alternative A. Total salt yield could be between 22,034 and 340,636 tons per year (averaging 181,335 tons per year), a decrease of between 7,436 and 90,281 tons per year (an average decrease of 48,859 tons per year) from alternative A.

Vegetation

Under this alternative, a total of 8,416 acres of vegetation could be disturbed (short-term disturbance on 6,746 acres and long-term disturbance on 1,670 acres). This would be 46,128 fewer acres than under alternative A.

The decrease in vegetation disturbance would result primarily from fewer acres of land disposal (5,400 fewer acres). Short-term vegetation disturbance from ORV use would decrease by 39,870 acres. Most of this vegetation loss would be regained within a 5-year period through reclamation (with a site specific seed mix) and natural succession. Appendix S presents vegetation impact analysis assumptions, and acres of anticipated disturbance were listed by activity in table 54.

An additional 2,400 acres of vegetation would be gained through aquisition of state lands within ACECs.

Anticipated changes in ecological condition under alternative D are shown in table 64.

TABLE 64

Anticipated Changes in Ecological Condition, Alternative D

Ecological Condition Class	Ecological Condition by Percent of Resource Area	
	Present (1985)	Future (2000)
Potential Natural Community	9	13
Late Seral	22	22
Mid Seral	47	45
Early Seral	9	7
Rock Outcrop/Badlands	13	13

Changes to higher seral stages would result from implementation of existing AMPs and elimination of continual spring grazing. AMPs and elimination of continual spring grazing would allow periodic rest of vegetation to recover from grazing, thus producing a higher density of livestock forage, and changes in plant composition, thus resulting in more acres moving to a higher seral stage.

The Bowknot Bend (1,830 acres), North Big Flat Top (190 acres), San Rafael Reef (43,870 acres), and Hebes Mountain (960 acres) relict vegetation areas would be designated as ACECs and would receive special protection under alternative D. No such designations were identified under alternative A.

Threatened or Endangered Plants

There would be no impact to T/E species from controlled activities. T/E plants would be protected from potential ORV impacts on 14,170 acres of the 18,500 acres of T/E plant habitat in the planning area. The plants would also be protected from potential mining disturbance by requiring plans of operation on any mining operations within 2,120 acres of T/E plant habitat. There would be no impact to T/E plants under alternative C.

Conclusion

Short-term vegetation loss would decrease to 6,746 acres. Long-term vegetation loss would decrease to 1,670 acres. An additional 2,400 acres would be gained through acquisition of state lands. Changes to higher seral stages would result. All relict vegetation areas would receive special protection. There would be no adverse impact to T/E species.

Wild Horses and Burros

Under alternative D, the area available for wild horses and burros would remain the same as alternative A, which is 475,680 acres. Because of the need to protect the critical soils, wild horse numbers would range between 90 and 115 head and wild burros between 50 and 70 head.

Forage requirements for the wild equids and livestock would be resolved and adjustments in specific forage use would be made at the activity plan level in conjunction with grazing decisions or at any time deemed necessary as a result of rangeland monitoring.

Conclusion

The forage required to maintain the wild equids at the upper limit of the numbers would be 1,540 AUMs. When the equids reach the upper limits of numbers, they would be reduced to the lower limits.

Forage use levels may be adjusted for wild equids and livestock based on monitoring data.

Wildlife

Desert Bighorn Sheep

Crucial habitat for desert bighorn sheep would increase to 175,000 acres. This is 25,000 acres over alternative A. This expansion would result from offsite mitigation and restriction of other activities that impact the sheep. The following are specific changes to the sheep habitat.

- Seasonal conditions applied to oil and gas leases on desert bighorn sheep habitat would also protect the crucial habitat area.

- Throughout the habitat area, offsite mitigation would be required if more than 10 acres of crucial habitat were disturbed, so as to replace food and cover lost. Offsite mitigation would increase crucial habitat by 77 acres to support an additional eight animals.

- Livestock grazing (5-year average licensed use) in desert bighorn sheep habitat would be reduced by 4,518 AUMs, making more forage available for sheep and reducing the potential of disease transmission. This would allow the sheep to increase by about 300 animals, and increase crucial habitat by 17,000 acres.

- ORV use and development activities would be prevented on 373,560 acres of desert bighorn sheep habitat and limited to designated roads and trails on 40,330 acres of desert bighorn sheep habitat. This would allow the desert bighorn sheep to increase their numbers by 82 (16 percent) and increase their crucial habitat by 8,000 acres;

- The conflict between desert bighorn sheep and wild burros would increase with the increased sheep in this alternative. The acres involved in this conflict would increase from 150 to 29,200 acres of crucial habitat and would reduce the potential increase in sheep numbers by about 140 animals.

- Wildlife developments would be restricted on 156,350 acres of critical watersheds to those needed to better distribute the desert bighorn sheep. These would reduce the rate of increase for these animals by about 1 percent.

The population of desert bighorn sheep would increase from 500 to about 750 animals by the year 2000. This is an increase of 250 from alternative A.

Antelope

All of the antelope habitat would remain available (507,000 acres). Antelope populations would increase, primarily because of the following factors:

- Livestock grazing in the habitat areas within critical watersheds would be eliminated from spring grazing (approximately 329,100 acres) and their AUMs reduced 50 percent (reduction of 17,260 AUMs active use or 10,064 AUMS 5-year average use). These AUMs would be available to antelope. The antelope would increase about 250 animals by the year 2000;

- Wildlife developments would be restricted on 329,100 acres of critical watershed to those needed to better distribute the antelope. This would reduce the rate of increase for the antelope by about 8 percent (50 animals by the year 2000);

- Applying protective seasonal conditions to all development activities and closing 287,720 acres of antelope habitat to ORV use would reduce stress and improve habitat conditions, allowing the population to increase by 100 animals.

The pronghorn antelope population would increase from 700 to about 1,000 animals, about 300 more than alternative A.

Mule Deer and Elk

The crucial habitat would increase from 35,510 to 75,500 acres for mule deer (an increase of about 39,990 acres over alternative A) and from 18,200 to 28,400 acres for elk (10,200 acres more than under alternative A).

Changes to deer and elk would result primarily from the following factors.

- Livestock grazing in the crucial habitat areas within critical watershed areas would be eliminated during the spring and reduced to 50 percent of AUMs on 43,679 acres of mule deer winter range and on 45,300 acres of elk winter range. A total of 7,885 AUMs on mule deer and elk winter range would be reserved for watershed. These AUMs would be available to wildlife. The mule deer numbers would be expected to increase by 2,080 animals and the elk would increase by 135 animals over alternative A, by the year 2000.

- Wildlife developments would be restricted on 40,160 acres of critical watersheds to those needed to better distribute the mule deer and elk. These would reduce the rate of increase for these animals by about 1 percent.

- Woodland products collection and ORV use would be restricted on critical watersheds. This would protect 75,000 acres of mule deer and elk winter range from disturbance and habitat loss from these uses. The mule deer numbers would be expected to increase by 350 animals and the elk would increase by 50 animals.

- ORV use and development disturbance would be excluded from 40,160 acres of mule deer and elk winter habitat. Seasonal restrictions would protect an additional 11,560 acres (10,370 acres for mule deer and 1,190 acres for elk) during a critical time. Mule deer and elk numbers would be expected to increase by 140 mule deer and 15 elk.

The mule deer and elk populations would increase from 6,620 to about 9,200 deer (prior stable) and from 600 to 750 elk. This is an increase of about 2,580 mule deer and 150 elk by the year 2000 compared to alternative A.

Riparian and Aquatic Habitat

The area of riparian and aquatic habitat would increase from 14,780 acres to 15,030 acres, 250 acres more than under alternative A. There would be an undetermined amount of improvement in the vigor and density of riparian vegetation.

The net increase of about 250 acres of riparian and aquatic habitat would result primarily from the following factors:

- Elimination of losses now occurring on riparian and aquatic habitat by exclusion of ORVs and development activities would allow a 100-acre increase in riparian habitat.

- Livestock exclusions from riparian areas and reduced stocking rates for livestock would allow for complete rest through the growing season and allow riparian and aquatic habitat to increase by 150 acres.

Threatened or Endangered Animals

The bald eagle and peregrine falcon would benefit from the improved condition of riparian habitat and from its 250-acre increase to a total of 15,030 acres.

The known peregrine falcon nest would be protected from development activities, recreation use, and mining claim work under this alternative.

The prairie dog towns, which are potential black-footed ferret habitat, would be protected from potential disturbance from ORV use in this alternative.

Conclusion

Crucial habitat for desert bighorn sheep would increase to 175,000 acres, allowing populations to 750 animals.

Habitat for antelope would be 507,000 acres, but improved management would allow antelope populations to grow to 1,000 animals.

Crucial habitat for mule deer and elk would increase to 75,500 acres for mule deer and 28,400 acres for elk, allowing populations to increase to 9,200 mule deer and 750 elk.

Riparian and aquatic habitat would increase 250 acres to 15,030 acres. There would be no adverse impacts to T/E species.

HUMAN USES

Grazing

Grazing would be allowed on 18,490 fewer acres in this alternative than in alternative A, on 91 allotments. The decrease in acres of livestock forage would result from exclusion of livestock grazing in the Bowknot Bend ACEC (1,830 acres), the North Big Flat Top ACEC (190 acres), and the Hebes Mountain ACEC (960 acres). However, these areas are mostly inaccessible to livestock. Eight isolated allotments would be lost through land disposal, and two allotments would be combined for improved management. Additional areas excluded from livestock grazing would include Dry Lake Archaeological District ACEC (16,990 acres), Temple Mountain Historic District ACEC (2,660 acres), Tomsich Butte Historic District ACEC (2,040 acres), and Swasey Cabin ACEC (220 acres).

Currently, livestock grazing occurs at approximately the 5-year average licensed use level of 56,871 AUMs; operator demand is not equal to the allowable active preference of 88,252 AUMs. It is assumed that operator demand for livestock forage will remain at the 5-year average use level, but may increase to allowable active preference. Therefore, a range is used for analysis purposes.

In this alternative, livestock AUMs could decrease 27,479 (49 percent less than alternative A) for 5-year average licensed use. Active preference could decrease by 43,284 AUMs (52 percent less). The licensed use would be within the range of 28,682 to 44,258 AUMs, depending upon operator demand.

This decrease would result primarily from licensing AUMs at 50 percent of active preference and 50 percent of 5 years average licensed use in critical watershed areas (appendixes I and T). It is assumed that this reduced licensing in conjunction with elimination of spring grazing (85 allotments) would aid in protection of critical watershed areas. The only increase in AUMs would result from less ORV disturbance (1,993 fewer AUMs).

Nineteen new AMPs would be implemented, 4 existing AMPs modified and implemented, and 6 existing AMPs continued. These AMPs would be managed to protect critical watershed areas and sensitive soils.

Spring use would be eliminated on 85 allotments to protect critical watershed areas from March 1 through May 31. This would decrease surface disturbance during high runoff periods. Cool season grasses would increase in density and vigor. An increase in vegetation cover would decrease erosion as well. Spring grazing without periodic rest would continue on four allotments.

Conclusion

The area avalable for livestock grazing would decrease 18,490 acres to 1,592,630 acres.

Livestock forage use may decrease from 56,161 to 28,682 5-year average licensed use AUMs and from 87,542 to 44,258 active preference AUMs. The licensed use would be within the range of 28,682 to 44,258 AUMs, depending upon operator demand.

Forest Product Use

Under alternative D, of the 451,270 forested acres, 6,800 would be excluded from campfire wood collection; use would decrease by 6,800 acres from alternative A to 444,470 acres because of cultural ACECs and developed recreation site restrictions. Acres available for designation for private and commercial forest product harvest would decrease by 133,840 acres to 301,820 acres because of relict vegetation, cultural and scenic ACECs, developed recreation sites, ROS class areas, critical watershed, and riparian and aquatic habitat restrictions. While this change in acreage would affect the available supply, adequate area would remain available to meet the demand for dead wood and forest product harvest.

Conclusion

As in alternative A, based on past use and present harvest, an adequate supply of dead wood and live forest products would be available in 301,820 acres through the year 2000.

Cultural Resources

Under alternative D, 1,507 of the planning area's 70,000 cultural resources would be damaged or destroyed (a decrease of 5,228 from alternative A). This reduction in the number of sites damaged or destroyed would result from fewer areas being open to ORV use and less project development, fewer grazing animals, and land disposal.

Cultural resources inventoried and available for use would decrease to 2,385, a decrease of 104. Because of reduced development activities, fewer required inventories would be conducted; consequently, fewer sites would be identified.

Conclusion

Under alternative D, about 1,507 cultural resources would be damaged or destroyed (a decrease of 5,228 from alternative A). About 2,385 cultural resources would be available for use (104 fewer than under alternative A.

Recreation

Alternative D would increase primitive and semiprimitive recreation opportunities while decreasing ORV user access and opportunities for cross-country travel. The P-class area would increase 44,560 acres from alternative A to a total of 114,240 acres; the SPNM-class area would increase 49,540 acres to a total of 232,950 acres; the SPM-class area would increase 53,380 acres to a total of 716,250 acres; the RN-class area would decrease 135,280 acres to a total of 471,440 acres; and the R-class area would decrease 5,410 acres to a total of 5,260 acres. The U-class area would increase by 10 acres to a total of 30 acres.

The increased demand for nonmotorized activities would probably be accommodated in existing settings; however, management actions to encourage dispersed use could be required in a few areas. Commercial visitation would increase under alternative D because natural and scenic values associated with commercial recreation ventures would be preserved.

A large increase in wildlife numbers under alternative D would result in a beneficial secondary impact to recreation by increasing wildlife viewing and hunting opportunities.

Cross-country recreational ORV use would be constrained under alternative D; however, scenic values important to ORV recreationists would be protected. Only 172,360 acres (1,366,830 less than alternative A) would be open to ORV use, decreasing access and opportunities for cross-country travel. ORV use would be limited by seasonal restrictions on 84,770 acres to protect mule deer, elk, desert bighorn sheep, and antelope. ORV use would be limited to designated roads and trails on 840 acres (all increase from alternative A); the remaining 1,281,220 acres (all increase from alternative A) of the planning area would be closed to ORV use to protect SPNM-class areas, ACECs, critical watershed areas, and riparian and aquatic habitat. Closure of these areas would help to retain the nonmotorized settings and focus management attention on recreation, and maintaining natural, scenic, and cultural values.

Adjustments in the season of use for livestock (eliminating spring use) and overall reduction of livestock numbers would increase the quality of the recreation experience.

Management objectives would help to retain unusual recreation opportunities and scenic values identified in the wild and scenic rivers eligibility and potential classification study (appendix J) for the majority of the San Rafael River, the lower portion of Labyrinth Canyon (Green River), and Muddy Creek.

Conclusion

In relation to alternative A, the ROS class acreages would shift toward the resource-dependent (primitive) end of the spectrum, increasing the acreage available for activities in undeveloped settings and decreasing ORV access and opportunities for cross-country exploration. The P-class area would increase to 114,240 acres; the SPNM-class area would increase to 232,950 acres; the SPM-class area would increase to 716,250 acres; the RN-class area would decrease to 471,440 acres; and the R-class area would decrease to 5,260 acres. The U-class area would increase to 30 acres.

Areas open to ORV use would decrease to 172,360 acres, reducing access and opportunities for cross-country travel. Areas limited by seasonal restrictions would increase to 84,770 acres; areas limited to designated roads and trails would increase to 840 acres; and closed areas would increase to 1,281,220 acres.

Visual Resources

Alternative D would place 430,450 acres in VRM class I (all increase from alternative A). The class I area would include ROS SPNM-class area (232,950 acres); I-70 Scenic Corridor, Gilson Buttes, Muddy Creek, San Rafael Canyon, San Rafael Reef, Segers Hole, and Sids Mountain ACECs. Class I objectives would be required to be met within the scenic ACECs; this could cause some projects to be denied.

Other VRM class areas would decrease as acreage shifts into class I. Class II would decrease 325,150 acres to 168,220 acres; class III would decrease 37,730 acres to 345,540 acres; and class IV would decrease 64,570 acres to 594,980 acres.

It is projected that by the year 2000, in 67 cases, visual contrast rating scores would exceed the VRM class objectives for that area (a decrease of 53 for alternative A projections).

Conclusion

The area in VRM class I would increase to 430,450 acres. The area in other VRM classes would decrease a corresponding amount: to 168,220 acres in class II; to 345,540 acres in class III; and to 594,980 acres in class IV. In 67 cases, visual contrast rating scores would exceed the VRM class objectives.

Lands

Under alternative D, no right-of-way corridors would be designated (no change). Lands available (standard conditions) for rights-of-way would decrease by 1,313,270 acres to a total of 172,330 acres (168,510 acres in SRRA (a decrease of 1,244,440 acres) and 3,820 acres in FPU (a decrease of 68,830 acres)). Avoided areas would increase by 32,000 acres to a total of 85,590 acres (77,990 acres in SRRA (an increase of 27,100 acres) and 7,600 acres in FPU (an increase of 4,900 acres)). Excluded areas would increase to a total of 1,281,270 (1,217,340 in SRRA and 63,930 in FPU (all increase)).

Lands available for disposal under alternative D would decrease by 5,400 acres to total 1,420 acres (710 acres in SRRA (a decrease of 5,070 acres) and 710 acres in FPU (a decrease of 330 acres), a result of eliminating parcels considered to have riparian and watershed values.

The amount of land withdrawn from entry would increase by 1,280,290 acres to total 1,282,070 acres (1,218,140 acres in SRRA (an increase of 1,216,360 acres) and 63,930 acres in FPU (all increase)). Lands would be withdrawn from entry within the Swasey Cabin, Pictographs, Dry Lake, Temple Mountain, Tomsich Butte, Gilson Butte, I-70 Scenic Corridor, Muddy Creek, San Rafael Canyon, San Rafael Reef, Segers Hole, and Sids Mountain ACECs, as well as critical watersheds, riparian and aquatic habitat areas, developed recreation sites, and ROS SPNM-class areas.

Lands identified for possible acquisition under alternative D total 2,400 acres of state lands (all increase and all in SRRA) within Dry Lake (1,320 acres), Little Black Mountain (560 acres), and Tomsich Butte (520 acres) ACECs. Actual acreages may be adjusted for ease of management.

Conclusion

No right-of-way corridors would be designated (no change). Lands available (standard conditions) for rights-of-way would decrease to 172,330 acres. Avoided areas would increase to 85,590 acres. Excluded areas would increase to 1,281,270 acres.

Lands available for disposal under alternative D would decrease to 1,420 acres. Lands withdrawn from entry would increase to 1,282,070 acres. Lands identified for possible acquisition under alternative D total 2,400 acres of state lands (all increase and all in SRRA).

ECONOMIC CONSIDERATIONS

Minerals

The area covered by special conditions would increase 24,190 acres (39 percent) relative to alternative A, which would increase the cost and lower the output value of mineral exploration and development in these areas.

With effective coordination of manpower and equipment, the proposed seasonal special conditions would not add to activity cost. However, the seasonal conditions could be costly (more than a 1 percent cost increase) if they idle equipment and labor. Seasonal conditions could also force demobilizing and remobilizing equipment when an exploratory well is followed up with development wells, adding more than 5 percent to development cost. This has rarely been a problem with existing seasonal stipulations.

Under this alternative there would be a large increase in acreage where mineral exploration and development would be excluded in areas closed to resource use or production and essentially be excluded beyond a 1-mile buffer around no-surface occupancy zones.

Mineral materials hauling distances would exceed 20 miles, doubling the cost of getting these materials to the point of use. Major roads would still be maintained with the greater expense; maintenance of lesser roads may not continue.

The large decrease in area available for new mineral activity would be far more significant than any increased local expenditures due to the special conditions. Based on the assumed decrease in oil and gas activity, mineral material and locatable mineral exploration and development, mineral-related employment, earnings, and taxing district revenues should decrease as shown here.

		Total	Change from Alternative A
Emery County	Employment (jobs)	2,999	-277
	Earnings ($)	78,080,800	-7,778,600
	Revenue ($)	16,320,000	-110,200
Carbon-Emery County	Employment (jobs)	4,748	-449
	Earnings ($)	102,239,800	-9,855,252
	Revenue ($)	21,265,600	-294,700

Soil and Water

Sediment yield resulting from the surface disturbance projected under this alternative would decrease annual damage to downstream capital investments by $47,800 to $390,100 over alternative A. Salt loading resulting from the surface disturbance projected under this alternative would decrease annual damage to water users in the lower Colorado River basin by $435,000 to $5,281,400 over alternative A.

Livestock Grazing

All 139 operators would have less available forage. Changes in available forage would change rancher income by affecting herd size,

weight gains, calf survival rates, or operating costs. Of the 139 livestock operators, 129 would be excluded from using public rangeland forage at some point in the spring. The spring livestock exclusions would be of particular concern as most operators have few options with which to respond to these exclusions. Replacing forage lost through spring exclusions with hay would represent a worst-case analysis.

The number of operators affected, the degree of impact, and the related effects on local employment and earnings are presented in tables 65 and 66. The combined effect of spring exclusions and changes in available forage would reduce operator returns above variable cost by $798,400, an 88 percent decrease.

Based on the direct effects from the budget analysis and on the indirect and induced effects derived from a county economic model, it is estimated that local employment, earnings, and taxing district revenues would decrease as shown here.

		Total	Change from Alternative A
Emery County	Employment (jobs)	57	-99
	Earnings ($)	166,700	-292,700
	Revenue ($)	115,900	-203,500
Carbon-Emery County	Employment (jobs)	88	-265
	Earnings ($)	400,600	-1,212,900
	Revenue ($)	263,600	-798,200

Any grazing permit change could affect ranch value and therefore operator wealth, particularly if the changes affect the ranch's total carrying capacity. The decrease in available forage would decrease aggregate operator wealth by $1,374,000, a 5.2 percent decrease.

Base properties are used as collateral for some types of loans. Since aggregate base property values are projected to decrease under this alternative, the level of total indebtedness allowed should also decrease. The operators' abilities to obtain and repay loans would change in proportion to their projected incomes.

The limitations on range improvements may increase the cost of maintaining and replacing range improvements. These limitations cannot render existing improvements uneconomic to maintain or replace; however these limitations may prevent new improvements from being installed by either outright exclusions or by rendering the projects uneconomic through special conditions.

Recreation

Recreation use of the planning area and its related local importance is projected to increase as described in alternative A. The relative mix of uses may change because of changes in recreational opportunities from alternative A (see impacts to recreation). The large area closed to recreational cross-country ORV travel could reduce total ORV use of the area. The local economic effect of this decrease in ORV use and changing mix of opportunity settings is unknown. However, judging from the existing economic importance of recreation in the planning area (less than 0.1 percent of local employment and earnings), these changes would have little effect on the local economic conditions.

Existing commercial outfitters rely heavily on the P, SPNM, and SPM opportunity settings available in the planning area. The 37 percent gain of P and SPNM, and 8 percent gain in SPM opportunity settings from alternative A could increase the demand for outfitter services. Because projected demand for commercial services is small and would comprise a small portion of any outfitter's business, these changes in opportunity settings would have little economic effect.

There is no known relationship between special management designations and recreation use. Publicity following designation could increase public awareness of these lesser known areas, and therefore

TABLE 65

Number and Degree of Livestock Operator Impacts, Alternative D

	Operators with an Increase from Existing Use and Net Revenues			Operators Not Affected	Operators with a Decrease from Existing Use and Net Revenues		
	Over 51%	11 to 50%	1 to 10%		1 to 10%	11 to 50%	Over 51%
Public rangeland forage	0	0	0	0	0	19	120
Total feed requirements	0	0	0	0	36	101	2
Operator returns above variable costs	0	0	0	0	6	46	87

TABLE 66

Aggregate Economic Impacts to Livestock Operators, Alternative D

Livestock Operators	Baseline Situation	Alternative D
Gross Revenue	$2,920,700	$1,177,500
Total Variable Cost	2,008,400	1,063,600
Returns Above Variable Cost	912,200	113,900
Returns to Labor and Investment[a]	158,000	-732,600
Livestock Numbers (cattle)	9,206	3,422
(sheep)	3,761	1,185
Total Earnings, Emery County	$459,500	$166,700
Total Employment, Emery County (jobs)	156	57
Total Earnings, Carbon-Emery County	1,103,900	400,600
Total Employment, Carbon-Emery County	242	88

NOTE: These budgets assume that ranchers have no long-term outstanding debt, that all operating capital is borrowed, and that existing ranchers would not go out of business.

[a]Returns net of variable and fixed costs to management, non-hired labor, machinery, equipment, and land.

increase visitation and related local expenditures. Even if visitation to these special designation areas were doubled, the local economic effect would be insignificant. This effect, however, could be significant to outfitters who might use these areas.

Desert bighorn sheep, antelope, deer, and elk populations are projected to increase from alternative A. Assuming that population/harvest, harvest/hunter, and population/primary nonconsumptive use ratios remain constant, projected wildlife use and related expenditures would increase employment, earnings, and taxing district revenues as shown here.

		Total	Change from Alternative A
Emery County	Employment (jobs)	30	+10
	Earnings ($)	261,300	+87,000
	Revenue ($)	40,100	+13,400
Carbon-Emery County	Employment (jobs)	38	+20
	Earnings ($)	381,600	+200,100
	Revenue ($)	63,500	+33,300

Other Land Uses

Special conditions, the no-surface-occupancy stipulation, and closures to resource use and production would affect other land uses in much the same way as they affect mineral activities. Some activities within areas of restricted ORV use would require additional coordination with BLM through a lands action which would not otherwise be required. Much of the increased costs associated with activities in special-condition and no-surface-occupancy zones would be spent in the local economy, thereby increasing local employment and earnings. However, the large decrease in area effectively open to other land uses would be far more significant than any increase in local expenditures due to the added stipulations. The resulting local employment, earnings, and taxing revenue loss cannot be projected.

Based on the assumed decrease, lands actions and other land-use-related employment, earnings, and taxing district revenues should decrease as follows.

		Total	Change from Alternative A
Emery County	Employment (jobs)	9	-27
	Earnings ($)	118,700	-376,000
	Revenue ($)	10,800	-34,300
Carbon-Emery County	Employment (jobs)	12	-36
	Earnings ($)	154,700	-490,000
	Revenue ($)	18,300	-57,900

The proposed land disposals would be widely scattered through Castle Valley and would represent a 2.7 percent decrease from the private land base relative to alternative A. This decrease in private land base would not affect nearby land values, but would decrease local taxing revenues by at least $5,400 from alternative A.

The large area avoided and excluded from major utility lines could force the relocation of new facilities, thereby increasing their cost.

Plan Budget

The 14 percent increased budget over alternative A needed to implement this alternative would bring the following economic changes.

		Total	Change from Alternative A
Emery County	Employment (jobs)	10	+1
	Earnings ($)	120,300	+14,600
	Revenue ($)	2,700	+300
Carbon-Emery County	Employment (jobs)	41	+5
	Earnings ($)	774,600	+93,800
	Revenue ($)	21,600	+2,600

Conclusion

Mineral-related local employment, earnings, and taxing district revenues are projected to decrease. Sediment- and salinity-related costs would decrease. Livestock operator returns above variable costs, ranch value, and associated local employment, earnings, and taxing district revenues would decrease. The aggregate increase of P, SPNM, and SPM acreage could increase the demand for commercial outfitter services in the area, although this effect would be insignificant. Wildlife-related local employment, earnings, and taxing district revenues would increase. Increased management restrictions would decrease other land use activity and local related employment, earnings, and taxing district revenues. The fewer land disposals would decrease taxing district revenues in Emery County. The large area avoided and excluded from major utility lines could increase their construction cost. The increased budget needed to implement this alternative would increase local employment, earnings, and taxing district revenues.

SOCIAL CONDITIONS

Activity exclusions and restrictions could affect existing social conditions. The mineral and livestock industries would be most affected; however, the economic impacts would be spread over most industries except manufacturing and industries related to recreation. The loss of employment opportunity would cause both a reduction of living standards and possibly some outmigration from the area. Livestock operators would be most affected. Some operators would be forced to seek a second job, and operators who are forced to sell their operations would have to change their way of life entirely. Some ranchers do not have the training and skills to enter new job markets.

Conclusion

Social conditions of some nearby communities could be affected and the lifestyles of many ranchers would change.

ALTERNATIVE E

MINERAL COMPONENTS

Oil and Gas

Under alternative E, the area open to lease would increase by 119,200 acres from alternative A. However, this increase would not affect production, since most of the opened areas have low and moderate potential for oil and gas (appendix Q).

Leasing category acreages under alternative E compare as follows to those under alternative A.

Category	Unit	Acres	Change from Alternative A
1	SRRA	442,730	-687,550
	FPU	29,080	-22,690
	Subtotal	471,810	-710,240
2	SRRA	864,990	+821,860
	FPU	43,570	+25,300
	Subtotal	908,560	+847,160
3	SRRA	154,210	-15,110
	FPU	2,700	-2,610
	Subtotal	156,910	-17,720

4	SRRA	1,910	-119,200
	FPU	0	0
	Subtotal	1,910	-119,200

The category 1 and category 2 acreage changes would result from the addition of seasonal restrictions to protect habitat for wildlife such as antelope and bighorn sheep and restrictions to protect R&PP leases and ROS SPM-class areas. These restrictions would increase operating and production expenses, but are not expected to affect production. The area in category 2 includes high, moderate, and low potential for oil and gas.

Areas with no-surface-occupancy restrictions (category 3) include ACECs.

The closures to leasing (category 4) would be attributable primarily to developed recreation sites and motorcycle trails. The closed areas are in areas of low potential for oil and gas, while the category 3 areas have mostly low to moderate potential for oil and gas.

Protective conditions would be imposed on geophysical operations in the ACECs, but these conditions would not affect the 100 miles of seismic line completed, which would be the same as for alternative A.

Production of oil and gas would be the same as in alternative A, with production reaching 13,200 barrels of petroleum and 754,000 MCF of natural gas per year at year 2000.

Conclusion

The area open to oil and gas leasing would increase by 119,200 acres to 471,810 acres in category 1, increase to 908,560 acres in category 2, decrease to 156,910 acres in category 3, and decrease to 1,910 acres in category 4. The number of miles of seismic line run per year would be the same as in alternative A (100 miles). The annual production rates for oil and gas would be the same as in alternative A, with production reaching 13,200 barrels of petroleum and 754,000 MCF of natural gas per year at year 2000.

Coal

Under alternative E, the area available for coal exploration would be 62,290 acres, the same as in alternative A. The 13,680 acres of KRCRAs (5,360 in SRRA and 8,320 in FPU) would have special conditions to protect recreation values which are the same as existing regulations governing coal exploration, leasing, and production. Therefore, the impacts to coal resources would not change from those described under alternative A. Coal production would remain at 150,000 tons per year.

Conclusion

Under alternative E, impacts to coal resources would not change from alternative A: 62,290 acres would be available for exploration; 58,190 acres would be available for lease; and production would remain at 150,000 tons per year.

Mineral Materials

Under alternative E, areas open to disposal of mineral materials would decrease by 158,820 acres to a total of 1,380,370 acres (1,307,720 acres in SRRA (a decrease of 156,120 acres) and 72,650 acres FPU (a decrease of 2,700 acres)). The reduction in area open to disposal of mineral materials can be attributed to ACECs. This decrease would not affect production, because the closed areas have little demand for mineral materials, and the small demand can be supplied from adjacent open areas. Production of mineral materials would be the same as alternative A at 320,000 cubic yards per year at year 2000.

Conclusion

Under alternative E, the area open to material disposal would decrease by 158,820 acres to 1,380,370 acres. The annual mineral material production rate would be 320,000 cubic yards at year 2000 (no change from alternative A).

Locatable Minerals

Under alternative E, the area open to mineral entry would decrease by 1,910 acres to total 1,535,500 acres (1,460,150 in SRRA (a decrease of 1,910 acres) and 75,350 acres in FPU (no change)). In areas with high potential for uranium, 30 acres (all in SRRA) would be withdrawn from entry. The remainder of the withdrawn area falls into areas of moderate, low, and no potential. In areas with high and moderate potential for gypsum, 720 acres (all in SRRA) would be withdrawn from entry. The remainder of the area withdrawn would be in areas of low to no potential for gypsum (appendix Q). Areas withdrawn from entry include motorcycle trails and developed recreation sites.

In alternative E, standard conditions would be applied to 1,305,940 acres in SRRA and 72,650 acres in FPU, for a total of 1,378,590 acres in the planning area. Special conditions would be applied to scenic, vegetation, and cultural ACECs covering 154,210 acres in SRRA and 2,700 acres in FPU, for a total of 156,910 acres in the planning area. Compliance with the special conditions would be required to the extent possible without curtailing operators' rights. Filing plans of operation and complying with special conditions would increase operators' costs, which could result in an unquantified decrease in exploration and development work. If 7,810 acres identified for land disposal are sold, the area open to mineral entry would be reduced.

Conclusion

Under alternative E, the area open to mineral entry would decrease to 1,535,500 acres.

BIOTIC COMPONENTS

Soils

Under alternative E, there should be a decrease in soil loss over Alternative A. This is because of decreases in soil loss from ORV use designations, changes in livestock management, minerals activities and land disposal.

ORV use designations as discussed under alternatives A and C may cause an estimated decrease in soil loss of between 68,550 and 518,750 tons per year. The motorcycle trail would be closed to grazing under this alternative. However, this ORV use may show a greater increase in the soil loss than grazing would cause, but the potential change cannot be quantified.

A decrease in soil loss under this alternative may be due to changes in livestock grazing management. These changes are either closing areas to livestock grazing or changing the season of use. Soil loss due to livestock changes could decrease by between 1,133,750 and 9,435,000 tons per year.

A decrease in soil loss of between 190 and 1,400 tons per year is expected due to the decrease in mining claims and assessment work.

Estimates of soil loss are based on the amount of public land in the planning area. Disposal of public lands results in less BLM acreage available to contribute to total soil loss. Land disposal could account for a decrease in soil loss of between 11,800 and 34,780 tons per year over alternative A.

A 2,000-acre vegetation manipulation would be done in FPU under this alternative. The value of such land treatments in reducing erosion and sediment yield is not clear. Long-term effects appear to be beneficial, not only for increasing ground cover (which stabilizes soils), but also for improving rilling and gullying on the soil types that would be treated in the resource area. Short-term losses occur from nearly any treatment technique but this would be balanced out by the improvement in cover over the long term [Hansen, 1986].

The soil losses contributed by other factors would continue to be as described under alternative A. Therefore, total soil loss could be between 6,053,250 and 51,394,370 tons per year (averaging 28,723,810 tons per year) by the year 2000, a decrease of between 1,210,490 and 9,989,930 tons per year (average decrease of 5,600,210 tons per year).

Conclusion

Total soil loss could be between 6,053,250 and 51,394,370 tons per year (averaging 28,723,810 tons per year).

Water

Surface water quality should improve under alternative E compared to alternative A. The improvement would correspond to the lower rate of soil loss that should occur under alternative E (see Soils). This is because of decreases in sediment and salt yield from ORV use designations, changes in livestock management, minerals activities and land disposal.

ORV use designation may cause an estimated decrease of between 27,420 and 207,500 tons per year of sediment and a decrease of between 452 and 3,488 tons per year of salt (see alternatives A and C). The motorcycle trail would be closed to grazing under this alternative. The surface-disturbing activities associated with this activity may add more salt and sediment to the system than grazing would, but the potential change cannot be quantified.

A decrease in sediment and salt yield under this alternative could be due to changes in livestock grazing management. These changes are either closing some areas to livestock grazing or changing the season of use. Sediment yield due to changes in livestock grazing may decrease by between 453,500 and 3,774,000 tons per year. Salt yield may decrease by between 4,600 and 66,400 tons per year.

Less activity would take place on mining claims and assessments which could result in a decrease in sediment yield of between 70 and 560 tons per year and a decrease in salt yield of between 1 and 5 tons per year.

Estimates of sediment and salt yield are based on the amount of public land in the planning area. When land is disposed of, less BLM acreage is available to contribute to sediment and salt yield. Land disposal could account for a decrease in sediment of between 3,200 and 13,910 tons per year over alternative A. Salt yield could decrease by 65 and 239 tons per year.

A 2,000-acre vegetation manipulation would be done in FPU (see Soils) but this would have a negligible effect on the water resources.

Other impacts to surface and ground waters would be as described under alternative A. Total sediment yield to the Colorado River could be between 2,421,310 and 20,557,740 tons per year (averaging 11,489,525 tons per year) by the year 2000, a decrease of between 484,190 and 3,995,970 tons per year (average decrease of 2,240,080 tons per year).

Total salt yield could be between 24,352 and 360,785 tons per year (averaging 192,569 tons per year) by the year 2000, a decrease of between 5,118 and 70,132 tons per year (average decrease of 37,625 tons per year).

Conclusion

Surface water quality should improve under alternative E over alternative A. Total sediment yield could be between 2,421,310 and 20,557,740 tons per year (averaging 11,489,525 tons per year), a decrease of between 484,190 and 3,995,970 tons per year (average decrease of 2,240,080 tons per year) from alternative A. Total salt yield could be between 24,352 and 360,785 tons per year (averaging 192,569 tons per year), a decrease of between 5,118 and 70,132 tons per year (average decrease of 37,625 tons per year) from alternative A. Ground water quality would probably stay the same. The level of TDS in milligrams per liter cannot be quantified.

Vegetation

Under this alternative, approximately 48,164 acres of vegetation could be disturbed by the year 2000 (short-term disturbance on 40,104 acres and long-term disturbance on 8,060 acres). This would be 6,380 fewer acres than in alternative A. The short-term decrease would primarily be due to less disturbance from ORVs (6,380 fewer acres). Vegetation should be recovered through natural succession or reclamation (with a site-specific seed mix) within 5 years. Long-term vegetation loss would be 990 acres more than under alternative A because of land disposals. Vegetation impact analysis

assumptions are presented in appendix S. Acres of anticipated surface disturbance were listed by activity in table 54. Anticipated changes in ecological condition under alternative E are shown in table 67.

Changes to higher seral stages would result from implementation of existing AMPs and elimination of continual spring grazing. These actions would allow vegetation to recover from grazing through periodic rest, producing a higher density of livestock forage and changes in plant composition. Thus, more acres would change to a higher seral stage.

TABLE 67

Anticipated Changes in Ecological Condition, Alternative E

Ecological Condition Class	Ecological Condition by Percent of Resource Area	
	Present (1985)	Future (2000)
Potential Natural Community	9	10
Late Seral	22	22
Mid Seral	47	46
Early Seral	9	9
Rock Outcrop/Badlands	13	13

The Bowknot Bend (1,830 acres), North Big Flat Top (190 acres), and San Rafael Reef (43,870 acres) relict vegetation areas would be designated as ACECs under this alternative, whereas no such designations were made under alternative A. The Hebes Mountain relict vegetation area would not receive special protection under alternative E.

Threatened or Endangered Plants

There would be no impact to T/E species from controlled activities. The uncontrolled activities that have the potential to damage habitat for T/E plants are ORV use and mining activities that disturb fewer than 5 acres. However, BLM would monitor the habitat and apply mitigating measures to prevent impacts to T/E plant species. There would be no impacts to T/E plant species habitat under alternative E.

Conclusion

Short-term vegetation loss would decrease 7,370 acres to 40,104 acres. Long-term vegetation loss would increase 990 acres to 8,060 acres. Changes to higher seral stages would result. Three relict vegetation areas would receive special protection. There would be no adverse impact to T/E species.

Wild Horses and Burros

Under alternative E, the area available for wild horses and burros would be 475,680 acres, the same as alternative A. It is expected that enough AUMs would be available within the total wild horse and burro area to accommodate from 250 to 325 head of wild horses and from 110 to 140 head of wild burros. These animals would add to the recreational experience of ORV users.

Forage requirements would be 3,935 AUMs.

Conflicts in use between wild equids and livestock would be resolved and adjustments in specific forage use would be made at the activity plan level in conjunction with grazing decisions or at any time deemed necessary as a result of rangeland monitoring.

Conclusion

The wild horse and burro range would be 475,680 acres. Wild horse numbers would range betgween 250 and 325 head. Wild burro numbers would range between 110 and 140 head. The forage requirement for these animals at the highest number would be 3,935 AUMs. Wild equids would be removed when they reached the higher numbers to approximately the lower numbers. Forage use levels may be adjusted for equids and livestock based on monitoring data.

Wildlife

Desert Bighorn Sheep

Crucial habitat would decrease from 150,000 to 140,000 acres for desert bighorn sheep. This is about 10,000 fewer acres than alternative A. Desert bighorn sheep habitat changes would result primarily from the following factors:

- Livestock use would not be changed more than 2 percent; competition with desert bighorn sheep would continue, as would the potential for disease transmission;

- ORVs would be restricted to existing roads and trails over the entire desert bighorn sheep habitat during the critical periods. However, ORV use would not be limited during the rest of the year and would cause some loss of forage and stress, especially if the use occurs in crucial habitat at the level possible under this alternative. The desert bighorn sheep would not increase to their full potential, but would increase by about 50 sheep.

The population of desert bighorn sheep would increase from 500 to about 550 animals, about 50 more than alternative A by the year 2000.

Antelope

Antelope habitat would decrease to 506,680 acres, 320 acres less than under alternative A. Changes to the antelope numbers would result primarily from the following factors:

- ORV use would be limited to designated roads and trails and development activities in crucial habitat areas would be restricted during the critical period; however, ORV use during other times would reduce the forage available to antelope on appproximately 360,000 acres and reduce their potential increase to 50 animals. Development activities would remove 360 habitat acres.

- Elimination of spring and fall livestock grazing in crucial antelope habitat areas would reduce competition between antelope and livestock for spring grasses and forbs, allowing antelope population to increase by about 200 animals.

The population of antelope would increase from 700 to about 950 animals, a net increase of 250 animals over alternative A.

Mule Deer and Elk

Crucial habitat would decrease to 35,000 acres for mule deer and decrease to 17,700 acres for elk (510 fewer acres for deer and 500 fewer for elk than under alternative A), a net loss of about 170 mule deer and 10 elk from alternative A. The following factors explain the changes to animal populations:

- Lack of seasonal restrictions on mule deer and elk winter habitat would allow as much as 500 acres of disturbance during a critical period. Assuming that each deer needs 10 acres of crucial winter range and that each elk needs 40 acres, the surface disturbance allowed under this alternative would result in a loss of 50 mule deer and 12 elk.

- The change in season of livestock use from spring and fall to winter would increase livestock competition with mule deer and elk for the limited winter forage, causing mule deer and elk populations to decrease by 80 and 7, respectively.

- Unrestricted ORV use over the entire mule deer and elk winter habitat would stress the animals and cause a direct loss of forage. Mule deer could decrease by 40, and elk could decrease by 3.

The population of mule deer and elk would decrease to about 6,450 mule deer (170 fewer than under alternative A) and 590 elk (10 fewer than under alternative A).

Riparian and Aquatic Habitat

The area of riparian and aquatic habitat would remain the same as in alternative A, at 14,780 acres. Condition would not change, because

improved conditions from restricted livestock grazing would be offset by the lack of restrictions on ORV use.

Threatened or Endangered Animals

Riparian management would be required to ensure sufficient reproduction of cottonwood trees for bald eagle roosts. Any loss in the riparian habitat would affect potential habitat for T/E animals. The restriction on development activities in riparian and aquatic habitat areas would limit potential impacts, and BLM would monitor the habitat and apply mitigation measures to prevent other potential impacts from mining claim work (on fewer than 5 acres) and from ORV use. Monitoring and mitigation would also protect the prairie dog towns, which are potential black-footed ferret habitat. There would be no impact to T/E animals under this alternative.

Conclusion

Crucial habitat for desert bighorn sheep would decrease to 140,000 acres; however, populations are expected to increase to 550 by the year 2000.

Antelope habitat would decrease to 506,680 acres; however, antelope population is expected to increase to 950 by the year 2000.

Crucial habitat for mule deer would decrease to 35,000 acres, and crucial habitat for elk would decrease to 17,700 acres. The deer population would increase to 6,450 animals, and the elk population would increase to 590.

Riparian and aquatic habitat would remain at 14,780 acres (no change from alternative A). There would be no adverse impact to T/E animal species under alternative E.

HUMAN USES

Grazing

Grazing would be allowed on 3,070 fewer acres than in alternative A, on 91 allotments. Eight isolated allotments have been identified for disposal, and two allotments would be combined for improved management. Under this alternative the Bowknot Bend ACEC (1,830 acres) and the North Big Flat Top ACEC (190 acres) would be excluded to livestock grazing. However, these areas are inaccessible to livestock and exclusion from grazing in these areas would not reduce grazing areas. Additional areas excluded from grazing would include developed recreation sites (60 acres) and the Temple Mountain Motorcycle Trail (1,900 acres).

Currently, livestock grazing occurs at approximately the 5-year average licensed use level of 56,871 AUMs; operator demand is not equal to the allowable active preference of 88,252 AUMs. It is assumed that operator demand for livestock forage will remain at the 5-year average use level, but may increase to allowable active use. Therefore, a range is used for analysis purposes.

In this alternative, 5-year average licensed use could decrease 1,059 AUMs (2 percent) and active preference could decrease 1,014 AUMs (1 percent). The licensed use would be within the range of 55,102 to 86,528 AUMs, depending upon operator demand. This decrease would be primarily due to an increase in land disposals (176 AUMs more). An additional 79 AUMs would be lost due to cattle being excluded from the Temple Mountain motorcycle trail. The only increase in AUMs would be due to less ORV disturbance (370 AUMs less).

Spring grazing would be eliminated on 78 allotments (with ROS SPM-class areas) from March 15 to June 15 to provide maximum recreational opportunities for ORV users in the spring. On these allotments, the grazing season would be changed to winter (after November 1). A few additional allotments (with ROS SPM-class areas) had grazing seasons changed from September 1 to November 1 to allow for fall recreation opportunities for ORV users. Only 8 allotments would continue to be grazed during the spring season without periodic rest.

An additional 33 new AMPs would be implemented, with 11 existing AMPs modified and implemented, and 6 existing AMPs would continue. These AMPs would include periodic winter and spring rest to favor improved vigor and density of key livestock forage species. Range

improvements would be constructed to aid in livestock distribution. The elimination of spring use on 78 allotments would allow for increased vigor and density of forage.

Conclusion

The area available for grazing would decrease 3,070 acres to 1,609,050 acres.

Livestock forage use may decrease to 55,102 5-year average licensed use AUMs and to 86,528 active preference AUMs.

Forest Product Use

Under alternative E, all of the 451,270 forested acres except 510 acres would be available for collection of wood for campfire use because of restrictions on relict vegetation and cultural ACECs, developed recreation sites, and ROS class areas. About 417,870 acres would be available for designation for private and commercial forest product harvest, 17,790 fewer than under alternative A.

A 2,000-acre vegetation manipulation, which would remove pinyon and juniper trees and replace them with grasses, forbs, and shrubs, would allow these areas to be better utilized for woodland harvest but would not increase the available acreage because the areas were already open for harvest. The area used for harvest would still be less than 1 percent of the forested area.

While the decrease in acreage would affect the available supply, adequate area would remain available to meet the demand for dead wood and forest product harvest.

Conclusion

Based on past use and present harvest, an adequate supply of dead wood and live forest products would be available on 417,870 acres, a decrease of 17,790 acres from alternative A through the year 2000.

Cultural Resources

About 6,738 of the 70,000 cultural resources would be damaged or destroyed under alternative E (3 more than under alternative A). This increase in the number of sites damaged or destroyed would result from the unmitigated impact of additional land disposals. A total of 2,489 (including 1,500 sites currently inventoried) cultural resources would remain available for use (no change from alternative A).

Conclusion

The number of cultural resources damaged or destroyed would increase to 6,738. The number of cultural resources available for use would remain at 2,489.

Recreation

Motorized recreation would benefit under alternative E. Opportunities for activities in undeveloped settings would decrease, while opportunities for activities in facility-dependent settings would increase. The P-class area would total 31,380 acres, a decrease of 38,300 acres from alternative A; the SPNM-class area would total 186,910 acres, a slight gain of 3,500 acres from alternative A; the SPM-class area would total 675,550 acres, an increase of 12,680 acres from alternative A; the RN-class area would total 626,110 acres, an increase of 19,390 acres from alternative A; the R-class area would total 11,410 acres, 740 acres more than alternative A; and the U-class area would remain at 20 acres.

The reduction of 119,200 acres in leasing category 4 would allow a shift of seismic and oil and gas activity into previously unavailable P- and SPNM-class areas, accounting for most of the change from alternative A.

The increased demand for nonmotorized activities would probably be accommodated in existing settings; however, management actions could be required in a few areas to disperse visitors. Some visitors would be displaced to other locations outside SRRA because of use restrictions and the loss of primitive recreation opportunities.

Commercial visitation would decrease under alternative E due to the loss of P-class areas and the reduction of scenic values associated with additional seismic and oil and gas activities.

A slight decrease in wildlife numbers under this alternative would result in a negative secondary impact to recreation by decreasing wildlife viewing and hunting opportunities.

Approximately 1,380,870 acres would be open to ORV use (158,320 fewer acres than under alternative A). ORV access and opportunities for cross-country travel would be slightly constrained; however, sufficient area would remain open to meet the demand for ORV use, and scenic values important to ORV recreationists would be protected. ORV use would be limited to existing roads and trails on 156,910 acres (all increase from alternative A) to protect cultural and scenic ACECs; however, much of that acreage is inaccessible because of its terrain. ORV use would be limited to designated roads and trails on 1,410 acres (all increase from alternative A) to protect relict vegetation ACECs, land leases, and developed recreation sites. Designation of scenic ACECs and management of SRMAs would focus management attention on recreation, and maintaining natural, cultural, and scenic values.

The development and expansion of recreation facilities at the San Rafael Campground, Justensen Flats, Tomsich Butte, The Wedge, and Swasey Cabin would help to meet the increased demand for motorized recreation while reducing user conflicts, human waste, and trash. Elimination of spring and fall livestock use and the overall reduction of livestock numbers would increase the quality of the recreation experience.

Unusual recreation opportunities and scenic values identified in the wild and scenic rivers eligibility and potential classification study for the San Rafael River, Labyrinth Canyon (Green River), and Muddy Creek (appendix J) could be reduced with resource development in or adjacent to the canyons.

Conclusion

Opportunities for activities in undeveloped settings would decrease, and opportunities for activities in facility-dependent settings would increase. The P-class area would total 31,380 acres; the SPNM-class area would total 186,910 acres; the SPM-class area would total 675,550 acres; the RN-class area would total 626,110 acres; the R-class area would total 11,410 acres; and the U-class area would total 20 acres.

Approximately 1,380,870 acres would be open to ORV use (158,320 fewer acres than under alternative A). ORV use would be limited to existing roads and trails on 156,910 acres and limited to designated roads and trails on 1,410 acres.

Visual Resources

Alternative E would place 135,730 acres in VRM class I (all increase from alternative A). Class I areas would include the I-70 Scenic Corridor, Muddy Creek, San Rafael Canyon, and Tomsich Butte ACECs.

VRM class II acreage would increase to 959,610 acres (463,240 acres more than under alternative A). The increase includes SPM ROS class areas.

The shift of acreage into classes I and II would cause class III to decrease by 183,680 acres to 199,590 acres and class IV to decrease by 415,290 acres to 244,260 acres.

It is projected that by the year 2000, in 136 cases, visual contrast rating scores would exceed the VRM class objectives for that area (an increase of 16 from alternative A projections).

Conclusion

The area in VRM class I would increase to 135,730 acres. The area in VRM class II would increase to 959,610 acres. The area in class III would decrease to 199,590 acres, and the area in class IV would decrease to 244,260 acres. In 136 cases visual contrast rating scores would exceed the VRM class objectives.

Lands

Under alternative E, 17,060 acres would be designated as right-of-way corridors (12,890 in SRRA and 4,170 in FPU)all increase over

alternative A)). Lands available (standard conditions) for rights-of-way outside corridors would total 454,750 acres (429,840 in SRRA (a decrease of 983,110 acres) and 24,910 acres in FPU (a decrease of 47,740 from alternative A)). A total of 1,065,470 acres would be avoided (1,019,200 in SRRA and 46,270 in FPU) (an increase from alternative A of 1,011,880 acres, 968,310 in SRRA and 43,570 in FPU). An area of 1,910 acres (all in SRRA and all increase from alternative A) would be excluded from right-of-way grants.

Lands available for disposal under alternative E would increase by 990 acres to total 7,810 acres (6,770 in SRRA (an increase of 990 acres), and 1,040 in FPU (no change from alternative A)). The addition would result from adding parcels for community expansion and isolated parcels not previously included that are not needed for other surface-resource uses.

Lands withdrawn from entry would increase to 3,690 acres (a 1,910 acre increase over alternative A, all in SRRA). Developed recreation sites would be withdrawn.

No lands were identified for possible acquisition under alternative E (no change from alternative A).

Conclusion

Corridors for right-of-way systems would be designated on 17,060 acres (all increase); lands available (standard conditions) for rights-of-way outside corridors would decrease to 454,750 acres; avoided areas would increase to 1,065,470 acres; and excluded areas would increase to 1,910 acres (all increase). Lands available for disposal would increase to 7,810 acres. Lands withdrawn from entry would increase to 3,690 acres. No lands would be acquired (no change).

ECONOMIC CONSIDERATIONS

Minerals

The area covered by special conditions would increase 847,160 acres (1,280 percent) compared to alternative A, which would increase the cost and lower the output value of mineral exploration and development in these ares.

The special condition in SPM areas requiring revegetation of surface disturbance to blend with surrounding conditions within 2 years would essentially eliminate mineral activity in some vegetation communities and would increase reclamation cost by 20 percent in other areas.

With effective coordination of manpower and equipment, the seasonal special conditions would not add to activity cost. However, the seasonal conditions could be costly (more than a 1 percent cost increase) if they idle equipment and labor. Seasonal conditions could also force demobilizing and remobilizing equipment when an exploratory well is followed up with development wells, adding more than 5 percent to development cost. This has rarely been a problem with existing seasonal stipulations.

Areas where mineral exploration and development would essentially be excluded (areas of no surface occupancy and areas closed to resource use or production) would be less than under alternative A.

Under this alternative there would be a much larger area where because of special conditions, mineral exploration and/or development would be more costly, some of which would be spent in the local economy. The reduced acreage where mineral activities would be excluded should increase mineral activity. The net effect on the local economy cannot be quantified.

The I-70 Scenic Corridor exclusion would have the greatest effect on developing and stockpiling of mineral materials. Increased two way hauling distances would average 5 miles, adding an average $2.50 per cubic yard, or approximately 25 percent, to the cost of getting mineral materials to the point of use.

Based on the assumed decrease in oil and gas activity, and locatable mineral exploration and development, mineral-related employment, earnings, and taxing district revenues should decrease as shown here.

		Total	Change from Alternative A
Emery County	Employment (jobs)	3,275	-1
	Earnings ($)	85,840,600	-18,800
	Revenue ($)	16,428,400	-1,800
Carbon-Emery County	Employment (jobs)	5,183	-2
	Earnings ($)	111,823,500	-24,400
	Revenue ($)	21,545,400	-3,100

Soil and Water

Sediment yield resulting from the surface disturbance projected under this alternative would decrease annual damage to downstream capital investments by $36,400 to $299,700 over alternative A. Salt loading resulting from the surface disturbance projected under this alternative would decrease annual damage to water users in the lower Colorado river basin by $299,400 to $4,102,700 over alternative A.

Livestock

Four operators would have more available forage, 35 would have less, and available forage would remain the same for 104 operators. Losses and gains of livestock forage are discussed in the Grazing sections of this chapter. Changes in available forage would change rancher income by affecting herd size, weight gain, calf survival rates, or operating costs.

Of the 139 livestock operators, 117 would be excluded from using public rangeland forage at some point in the spring. The spring livestock exclusions would be of particular concern, as most operators have few options with which to respond to these exclusions. Replacing forage lost through spring exclusions with hay would represent a worst-case analysis.

The number of operators affected, the degree of impact, and the related effects on local employment and earnings are presented in tables 68 and 69.

The combined effect of spring exclusions and changes in available forage would reduce operator returns above variable cost by $274,700, a 30 percent decrease.

Based on the direct effects from the budget analysis and on the indirect and induced effects derived from a county economic model, it is estimated that local employment, earnings, and taxing district revenues would decrease as follows.

		Total	Change from Alternative A
Emery County	Employment (jobs)	154	-2
	Earnings ($)	453,900	-5,600
	Revenue ($)	315,600	-3,900
Carbon-Emery County	Employment (jobs)	239	-3
	Earnings ($)	1,090,500	-13,400
	Revenue ($)	717,600	-8,800

Any grazing permit change could affect ranch value and therefore operator wealth, particularly if the changes affect the ranch's total carrying capacity. The decrease in available forage would decrease aggregate operator wealth by $53,000, a 0.2 percent decrease.

Base properties are used as collateral for some types of loans. Since aggregate base property values are projected to decrease under this alternative, the level of total indebtedness allowed should also decrease. The operators' abilities to obtain and repay loans would change in proportion to their projected incomes.

The limitations on range improvements may increase the cost of maintaining and replacing range improvements. These limitations cannot render existing improvements uneconomic to maintain or replace; however these limitations may prevent new improvements from being installed by either outright exclusions or by rendering the projects uneconomic through special conditions.

TABLE 68

Number and Degree of Livestock Operator Impacts, Alternative E

	Operators with an Increase from Existing Use and Net Revenues			Operators Not Affected	Operators with a Decrease from Existing Use and Net Revenues		
	Over 51%	11 to 50%	1 to 10%		1 to 10%	11 to 50%	Over 51%
Public rangeland forage	0	4	0	104	22	8	1
Total feed requirements	0	3	0	105	20	8	3
Operator returns above variable costs	0	1	0	23	17	78	20

TABLE 69

Aggregate Economic Impacts to Livestock Operators, Alternative E

Livestock Operators	Baseline Situation	Alternative E
Gross Revenue	$2,920,700	$2,875,000
Total Variable Cost	2,008,400	2,237,400
Returns Above Variable Cost	912,200	637,500
Returns to Labor and Investment[a]	158,000	-106,000
Livestock Numbers (cattle)	9,206	9,070
(sheep)	3,761	3,646
Total Earnings, Emery County	$459,500	$453,900
Total Employment, Emery County (jobs)	156	154
Total Earnings, Carbon-Emery County	1,103,900	1,090,500
Total Employment, Carbon-Emery County	242	239

NOTE: These budgets assume that ranchers have no long-term outstanding debt, that all operating capital is borrowed, and that existing ranchers would not go out of business.

[a]Returns net of variable and fixed costs to management, non-hired labor, machinery, equipment, and land.

Recreation

Recreation use of the planning area and its related local importance is projected to increase as described in alternative A. The relative mix of uses may change because of changes in recreational opportunities from alternative A (see impacts to recreation). The local economic effect of this changing mix of opportunity settings is unknown. However, judging from the existing economic importance of recreation in the planning area (less than 0.1 percent of local employment and earnings), these changes would have little effect on the local economic conditions.

Existing commercial outfitters rely heavily on the P, SPNM, and SPM opportunity settings available in the planning area. The 14 percent loss of P and SPNM, opportunity settings from alternative A could decrease the demand for outfitter services in these areas. The 2 percent gain of SPM opportunity settings could increase the demand for outfitter services in these areas. Because projected demand for commercial services is small and would comprise a small portion of any outfitter's business, these changes in opportunity settings would have little economic effect.

The additional developed recreation sites should have little to no effect on use and related local expenditures. The services offered should not compete with, and therefore not affect, privately-owned recreation developments or commercial outfitters.

There is no known relationship between special management designations and recreation use. Publicity following designation could increase public awareness of these lesser known areas, and therefore increase visitation and related local expenditures. Even if visitation to these special designation areas were doubled, the local economic effect would be insignificant. This effect, however, could be significant to outfitters who might use these areas.

Desert bighorn sheep, antelope, deer, and elk populations are projected to decrease from alternative A. Assuming that population/harvest, harvest/hunter, and population/primary nonconsumptive use ratios remain constant, projected wildlife use and related expenditures would decrease employment, earnings, and taxing district revenues as follows.

		Total	Change from Alternative A
Emery County	Employment (jobs)	19	0
	Earnings ($)	170,500	-3,800
	Revenue ($)	26,200	-600
Carbon-Emery County	Employment (jobs)	25	-1
	Earnings ($)	249,000	-5,600
	Revenue ($)	41,400	-900

Other Land Uses

Special conditions, the no-surface-occupancy stipulation, and closure of some areas to resource use and production zones would affect other land uses in much the same way as they affect mineral activities. Some activities within areas of restricted ORV use would require additional coordination with the BLM through a lands action which would not otherwise be required. Much of the increased cost associated with activities in special-condition and no-surface-occupancy zones would be spent in the local economy, thereby increasing local employment and earnings. However, the increased costs would also decrease the amount of other land use activity, thereby decreasing local employment and earnings. The net effect on the local economy cannot be quantified, although it is expected to be small.

Land disposals would be widely scattered and would increase the private land base by 0.5 percent compared to alternative A. This increase would not affect nearby land values, but would increase local taxing district revenues by at least $1,000 from alternative A.

The cost of environmental review for major utility lines is typically $8,000 to $15,000 per mile. This review would cost only an estimated $1,500 to $2,000 per mile in the 17,060 acres of utility corridors proposed for designation under this alternative [Pacific Gas, 1981]. The right-of-way avoidance and exclusion areas should have little or no effect on utility line location.

Plan Budget

The 17 percent increased budget over alternative A needed to implement this alternative would bring the increases shown here.

		Total	Change from Alternative A
Emery County	Employment (jobs)	10	+2
	Earnings ($)	124,000	+18,300
	Revenue ($)	2,800	+400
Carbon-Emery County	Employment (jobs)	43	+6
	Earnings ($)	798,900	+118,200
	Revenue ($)	22,300	+3,300

Conclusion

Mineral-related local employment, earnings, and taxing district revenues are projected to decrease. Sediment- and salinity-related costs would decrease. Livestock operator returns above variable costs, ranch value and associated local employment, earnings, and taxing district revenues would decrease. Wildlife-related local employment, earnings, and taxing district revenues would decrease. Increased management restrictions would increase the cost of land-disturbing activities in some areas, but the net effect on the economy is unknown. The land disposals would increase taxing district revenues in Emery County by $1,000. The environmental review cost of major utility lines would decrease by $6,500 to $13,000 per mile within the utility corridors. The increased budget needed to implement this alternative would increase local employment, earnings, and taxing district revenues.

SOCIAL CONDITIONS

None of the management actions would impact local communities so far as to noticeably affect existing social conditions.

Conclusion

Social conditions of nearby communities would not be affected. The lifestyles of some ranchers would change.

ALTERNATIVE F

MINERAL COMPONENTS

Oil and Gas

Under alternative F, the area open to lease would increase by 116,140 acres compared to alternative A, but this increase would not affect production because most of the areas opened have low and moderate potential for oil and gas (appendix Q).

Leasing category acreages under alternative F compare as follows to those under alternative A.

Category	Unit	Acres	Change from Alternative A
1	SRRA	710,920	-419,360
	FPU	50,850	-920
	Subtotal	761,770	-420,280
2	SRRA	505,430	+462,300
	FPU	21,210	+2,940
	Subtotal	526,640	+465,240
3	SRRA	242,520	+73,200
	FPU	3,290	-2,020
	Subtotal	245,810	+71,180
4	SRRA	4,970	-116,140
	FPU	0	0
	Subtotal	4,970	-116,140

The category 1 and category 2 changes under alternative F would result from inclusion of seasonal restrictions to protect habitat for wildlife such as desert bighorn sheep, mule deer, and elk, and restrictions for aquatic and riparian habitat, critical soils, R&PP leases, and cultural ACECs. These restrictions would increase operating and production expenses, but are not expected to affect production. The area in category 2 includes areas of high, moderate, and low potential for oil and gas.

No surface occupancy (category 3) includes vegetation and scenic ACECs.

The closures to leasing (category 4) would cover the Swasey Cabin ACEC, Pictographs, and developed recreation sites. The areas that would be in categories 3 and 4 have mostly low and moderate potential for oil and gas.

Project conditions would be imposed on geophysical operations in the ACECs and the special conditions area. These conditions would not affect the miles of seismic line completed, which would be the same as for alternative A.

The production of oil and gas would be the same as in alternative A.

Conclusion

The area open to oil and gas leasing would decrease to 761,770 acres in category 1; increase to 526,640 acres in category 2; increase to 245,810 acres in category 3; and decrease to 4,970 acres in category 4. The number of miles of seismic line run per year would be 100, the same as projected under alternative A. The annual production rates would be 13,200 barrels of petroleum and 754,000 MCF of natural gas at year 2000.

Coal

Under alternative F, areas open to coal exploration (62,280 acres) would be 10 fewer acres than in alternative A, because the Rochester pictographs, which lie in the northeast portion of Emery KRCRA, would be included in the Pictographs ACEC. The I-70 Scenic Corridor ACEC (3,980 acres) would exclude exploration as in alternative A, because of the no-surface-occupancy restriction. Under current technologies, coal exploration can be effective only with some sort of drilling. This action could reduce the number of drill holes in the KRCRAs by one per year. Coal production would remain constant at 150,000 tons per year, the same as under alternative A.

The area available for coal leasing under alternative F would be 58,180 acres, 10 fewer than in alternative A because the Rochester pictograph site would be included in the Pictographs. No new surface facilities are planned for coal operations on public lands, and no new leasing is projected in the Emery Coal Field by the year 2000.

A total of 22,120 acres would be available for exploration and lease with special conditions. Because coal exploration regulations require protection of resources and full reclamation, and because leasing stipulations can be attached to limit mining to underground methods and the installation of surface facilities to minimize impacts to surface resources, these special conditions are not expected to affect coal production.

Conclusion

Under alternative F, the 62,280 acres would be available for exploration, 58,180 for lease. This reduction would not affect current coal exploration or production (150,000 tons per year).

Mineral Materials

Under alternative F, 1,216,350 acres would be open to mineral material disposal in SRRA (a decrease of 247,490 acres); 72,060 acres would be open in FPU (a decrease of 3,290 acres); for a total of 1,288,410 acres open in the planning area (a decrease of 250,780 acres) (appendix Q). Reduction of area open to disposal is due to ACECs. This decrease would not affect production, which would be the same as alternative A (320,000 cubic yards per year at year 2000), because the demand in the closed areas is low and can be supplied from adjacent open areas.

Conclusion

The area open to mineral material disposal would decrease to 1,288,410 acres.

The annual production rate would be 320,000 cubic yards at year 2000, the same as under alternative A.

Locatable Minerals

Under alternative F, 1,457,090 acres would be open to mineral entry in SRRA (a decrease of 4,970 acres) and 75,350 acres would be in open in FPU (no change), for a total of 1,532,440 acres open in the planning area (a decrease of 4,970 acres). A total of 2,150 acres with high potential for uranium (all in SRRA) would be withdrawn from mineral entry. The remainder of the withdrawn area falls into moderate, low, and no potential areas. For areas with high and moderate potential for gypsum, 760 acres (all in SRRA) would be withdrawn from entry. The remainder of the area withdrawn would be in areas of low to no potential for gypsum (appendix Q).

Under alternative F, standard conditions would be applied to 1,190,590 acres in SRRA and 72,650 acres in FPU, for a total of 1,263,240 acres in the planning area. Special conditions would be applied to 266,500 acres in SRRA and 2,700 acres in FPU, for a total of 269,200 acres in the planning area. These special conditons would apply to scenic, cultural, and vegetation ACECs and certain special recreation values. Compliance with the special conditions would be required to the extent possible without curtailing operators' rights. Filing plans of operation and complying with special conditions would increase the operators' costs, which could result in an unquantified decrease in exploration and development work. If 7,730 acres identified for land disposal were sold, the area open to mineral entry would be reduced.

Conclusion

Under alternative F, the area open to mining claim location or entry would decrease to 1,532,440 acres.

BIOTIC COMPONENTS

Soils

Under alternative F, there could be a decrease in soil loss over alternative A. This is because decreases in soil loss resulting from ORV use designations and changes in livestock management would be greater than increases resulting from lands actions.

ORV use designations as discussed under alternatives A and C may cause an estimated decrease in soil loss of between 145,130 and 1,098,250 tons per year.

A decrease in soil loss under this alternative may be due to changes in livestock grazing management. These changes are either closing areas to livestock grazing or changing the season of use. Soil loss due to livestock changes could decrease by between 647,250 and 5,157,500 tons per year. Soil loss due to the surface-disturbing activities associated with livestock related range improvements could decrease by between 550 and 4,200 tons per year.

Although there is a net decrease in soil loss under this alternative, there could be increases in soil loss associated with some activities. Estimates of soil loss are based on the amount of public land in the planning area. Disposal of public lands results in less BLM acreage available to contribute to total soil loss. Soil loss may increase due to retention of public lands disposed of under alternative A or land acquisition. Land disposal could account for a decrease in soil loss of between 6,950 and 45,780 tons per year. Land acquisition could account for an increase in soil loss of between 19,650 and 120,000 tons per year.

The soil losses contributed by other factors would continue to be as described under alternative A. Therefore, total soil loss would be between 6,483,510 and 55,198,570 tons per year (averaging 30,841,040 tons per year) by the year 2000, a decrease of between 780,230 and 6,185,730 tons per year (average decrease of 3,482,980 tons per year).

Conclusion

Total soil loss would be between 6,483,510 and 55,198,570 tons per year (averaging 30,841,040 tons per year).

Water

Surface water quality should improve under alternative F compared to alternative A. The improvement would correspond to the lower rate of soil loss that should occur under alternative F (see Soils). This is because decreases in sediment and salt yield resulting from ORV use designations and changes in livestock grazing management would be greater than increases resulting from lands actions.

ORV use designations as described under alternatives A and C may cause an estimated decrease of between 58,050 and 439,300 tons per year of sediment and between 957 and 7,375 tons per year of salt.

A decrease in sediment and salt yield under this alternative may be due to changes in livestock grazing management. These changes are either closing some areas completely to livestock grazing or changing the season of use. Sediment yield due to changes in livestock grazing may decrease by between 258,900 and 2,063,000 tons per year. Salt yield may decrease by between 2,860 and 36,300 tons per year. Sediment and salt yield due to the surface-disturbing activities associated with livestock related range improvements could decrease by between 220 and 1,680 tons per year and by between 4 and 29 tons per year, respectively.

Although there is a net decrease in sediment and salt yield under this alternative, there could be increases in sediment and salt yield associated with some activities. Estimates of sediment and salt yield are based on the amount of public land in the planning area. Disposal of public lands results in less BLM acreage available to contribute to sediment and salt yields. Sediment and salt yield may increase due to the retention of public lands disposed of under alternative A or land acquisition. Land disposal could account for a decrease in sediment of between 2,780 and 18,310 tons per year. Salt yield could decrease by between 41 and 275 tons per year. Land acquisition could account for an increase of between 7,860 and 48,000 tons per year of sediment. Salt yield could also increase by between 123 and 838 tons per year.

Other impacts to surface and ground waters would be as described under alternative A. Total sediment yield to the Colorado River could be between 2,593,410 and 22,079,420 tons per year (averaging 12,336,415 tons per year) by the year 2000, a decrease of between 312,090 and 2,474,290 tons per year (average decrease of 1,393,190 tons per year).

Total salt yield could be between 25,731 and 387,776 tons per year (averaging 206,254 tons per year) by the year 2000, a decrease of between 3,739 and 43,141 tons per year (average decrease of 23,440 tons per year).

Conclusion

Surface water quality should improve under alternative F over alternative A. Total sediment yield to the Colorado River could be between 2,593,410 and 22,079,420 tons per year (averaging 12,336,415 tons per year) by the year 2000. Total salt yield could be between 25,731 and 387,776 tons per year (averaging 206,254 tons per year).

Ground water quality would remain as under alternative A. The level of TDS in milligrams per liter cannot be quantified.

Vegetation

Under this alternative, approximately 39,824 acres of vegetation could be disturbed by the year 2000 (short-term disturbance on 31,844 acres and long-term disturbance on 7,980 acres), a net decrease of 14,720 acres from alternative A. Less disturbance from ORV use (15,690 fewer acres) would be the primary reason. Additional short-term disturbance would be from developed recreation sites (60 acres more). Most short-term vegetation loss would be regained within a 5-year period due to natural succession or reclamation (with a site-specific seed mix). Appendix S presents forage impact analysis assumptions, and acres of anticipated surface disturbance were listed by activity in table 54.

Long-term loss would occur from additional land disposals (910 acres more than alternative A). An additional 3,200 acres would be gained through acquisition of state lands within ACEC boundaries. Anticipated changes in ecological condition under alternative F are shown in table 70.

Changes to higher seral stages would result from implementation of existing AMPs and elimination of continual spring grazing. AMPs and elimination of continual spring grazing would allow periodic rest of vegetation to recover from grazing producing a higher density of livestock forage, and changes in plant composition, thus resulting in more acres moving to a higher seral stage.

TABLE 70

Anticipated Changes in Ecological Condition, Alternative F

Ecological Condition Class	Ecological Condition by Percent of Resource Area	
	Present (1985)	Future (2000)
Potential Natural Community	9	12
Late Seral	22	22
Mid Seral	47	46
Early Seral	9	7
Rock Outcrop/Badlands	13	13

The Bowknot Bend (1,830 acres), North Big Flat Top (190 acres), and San Rafael Reef (43,870 acres) relict vegetation areas would be designated as ACECs under this alternative, whereas no such designations were identified under alternative A. The Hebes Mountain relict vegetation area would not receive special protection under alternative F.

Threatened or Endangered Plants

There would be no impact to T/E species from controlled activities. T/E plants would be protected from ORV impacts on 12,890 acres of the 18,500 acres of T/E plant habitat in the planning area. The plants would also be protected from mining disturbance by the requirement of plans of operations on 7,070 acres of T/E plant habitat. While this would not result in an increase in plants, it would provide protection for these plants.

Conclusion

Short-term vegetation loss would decrease 15,630 acres to 31,844 acres. Long-term vegetation loss would increase 910 acres to 7,980 acres. An additional 3,200 acres would be gained through acquisition of state lands. Changes to higher seral stages would result. Three relict vegetation areas would receive special protection. There would be no adverse impacts to T/E species.

Wild Horses and Burros

The wild equid range would amount to 475,680 acres of public land. Domestic livestock use would be reduced in the spring. Use during other seasons would also be limited in other areas to protect critical soils. It is expected that with the changes in livestock use, as well as forage improvements due to the removal of spring grazing, there would be forage available for wild equids, after the requirements for watershed protection and big game have been made.

Wild horses would be managed to maintain a number beween 75 and 125 head. Wild burros would range between 30 and 70 head. At the upper limits, 2,135 AUMs would be required. When the upper numbers are reached, the herds would be reduced to the lower numbers.

Conflicts in use between wild equids, livestock and big game would be resolved and adjustments in specific forage use would be made at the activity plan level, in conjunction with grazing decisions or at any time deemed necessary as a result of rangeland monitoring.

Conclusion

The wild equid range would cover 475,680 acres. Wild horses would be managed at a range between 75 and 125 head. Wild burros would be managed at a range between 30 and 70 head. When equid numbers reach

the upper limits, animals would be removed to the lower limits. Forage requirements at the higher limits would be 2,135 AUMs.

Forage use levels may be adjusted for equids and livestock based on monitoring data.

Wildlife

Desert Bighorn Sheep

The crucial habitat for desert bighorn sheep would increase from 150,000 acres to 174,590 acres. This is 24,590 acres more than under alternative A. Because of habitat restrictions limiting impacts from other resource uses and activities, the sheep would be expected to expand into protected areas. The following are specific changes to their habitat:

- Development activities would be restricted, and ORV use would be limited to designated roads and trails on 245,980 acres of yearlong habitat (83,850 acres of crucial habitat). Seasonal use restrictions would be applied to the remaining 90,740 acres of crucial habitat. With reduced stress and improved habitat conditions (assuming a 36 percent per acre population increase), these actions would result in a gain of about 110 desert bighorn sheep.

- Developments on 27,020 acres of critical soil areas within the habitat area would be restricted to those needed to better distribute the desert bighorn sheep. These would reduce the rate of increase for these animals by less than 1 percent.

- Spring and fall livestock grazing may be eliminated on seven allotments containing desert bighorn sheep habitat, and livestock AUMs may be reduced. With the additional 217 AUMs, and the reduced potential for disease transmission, desert bighorn sheep could increase by about 100 animals.

- The conflict between desert bighorn sheep and wild burros would continue to exist. The development of an HMAP for the burros would serve to reduce this conflict as much as possible on the 58,410 acres of habitat overlap.

- Offsite mitigation, which could be required on 500 acres within the crucial habitat by the year 2000, would prevent the loss of 10 desert bighorn sheep and could ultimately result in an increase of 50 animals.

Under alternative F, desert bighorn sheep would increase from 500 to about 800 animals, an increase of 300 animals over alternative A by the year 2000.

Antelope

Under alternative F, 506,660 acres of habitat would be managed for antelope use. This is 340 fewer acres than under alternative A.

The following factors would allow the antelope populations to increase despite the habitat acreage reduction:

- Spring and fall livestock grazing would be eliminated on 113,830 acres. Changing the season of livestock use would allow the antelope to increase about 150 animals.

- Seasonal restrictions would be applied to development activities, and ORV use would be limited to designated roads and trails on 136,190 acres of antelope habitat. These actions would allow the antelope to increase by about 50 animals.

- Wildlife developments on 113,830 acres of antelope habitat in critical watershed areas would be limited to those needed to better distribute the antelope. This would reduce the rate of increase for the antelope by about 10 animals by the year 2000.

Under alternative F, the antelope would increase from 700 to about 900 animals, about 200 animals more than under alternative A.

Mule Deer and Elk

Crucial habitat would increase to 36,760 acres for mule deer and 18,960 acres for elk (1,260 more acres for deer and 760 more acres for elk than under alternative A), primarily because of the following factors:

- Applying protective seasonal conditions to all development activities and to ORV use would reduce stress and improve habitat conditions on about 98,450 acres of mule deer habitat and 34,890 acres of elk habitat, resulting in a 2 percent per acre population increase, or a gain of about 128 mule deer and 11 elk by the year 2000.

- Assuming an increase of one deer for every 10 acres and one elk for every 40 acres treated under the offsite mitigation requirement, offsite mitigation of 460 acres of crucial habitat would result in a gain of about 46 mule deer and 10 elk.

- Wildlife developments on 31,220 acres of mule deer habitat and 4,230 acres of elk habitat in critical watershed areas would be restricted to those needed to better distribute the mule deer and elk. These would reduce the rate of increase for these animals by about 1 percent.

- Spring and fall livestock grazing would be eliminated on 16 allotments containing mule deer and elk winter habitat; 25 percent of the AUMs would be allocated to mule deer and elk. This could allow mule deer and elk to utilize an additional 1,173 AUMs. This action would increase crucial habitat for mule deer by 800 acres and for elk by 300 acres, allowing the populations to increase by 1,560 mule deer and 115 elk.

Under alternative F, mule deer would increase from 6,620 to about 8,320 animals. This is an increase of 1,700 deer above alternative A by the year 2000. Elk would increase from 600 to about 730 animals. This is an increase of about 130 elk over alternative A.

Riparian and Aquatic Habitat

The area of riparian and aquatic habitat would increase from 14,780 acres to 14,930 acres, an increase of 150 acres from alternative A. The increase in riparian and aquatic habitat would result primarly from the following factors:

- Losses now occurring would be eliminated through protective conditions applied to all development activities, and ORV use within riparian and aquatic zones would be limited to existing roads and trails. These actions would allow for a 50-acre increase.

- Development of AMPs for livestock using riparian and aquatic habitat would allow better control and provide periodic rest to improve condition and expand riparian and aquatic habitat by 100 acres.

Threatened or Endangered Animals

The bald eagle and the peregrine falcon would benefit from improved condition of riparian habitat and its 150-acre increase to a total of 14,930 acres. The known peregrine falcon nest would be protected from development activities, recreation use, and mining claim work under this alternative. Ferruginous hawk habitat would not have special protection, but the habitat would be monitored and potential impacts mitigated. The prairie dog towns, potential black-footed ferret habitat, would be protected from potential disturbance. There would be no impact to T/E animals under this alternative.

Conclusion

Crucial habitat for desert bighorn sheep would increase to 174,590 acres, allowing a population increase to 800.

Habitat for antelope would decrease to 506,660 acres. The population would increase to 900 animals.

Crucial habitat for mule deer and elk would increase to 36,760 acres for mule deer and 18,960 acres for elk. Populations would increase to 8,320 mule deer and 730 elk.

Riparian and aquatic habitat would increase by 150 acres to 14,930 acres. There would be no adverse impacts to T/E animals.

HUMAN USES

Grazing

Grazing would be allowed on 5,800 fewer acres than in alternative A, on 91 allotments. Eight isolated allotments are identified for disposal, and two allotments would be combined with others for improved management. Under this alternative, Bowknot Bend ACEC (1,830 acres) and the Big Flat Tops ACEC (2,640 acres) would be exluded from livestock grazing. These areas are inaccessible to livestock; therefore, exclusion from grazing would not reduce livestock forage. Additional areas excluded from grazing would be developed recreation sites (60 acres) and Swasey Cabin ACEC (which cattle currently use only for trailing).

Currently, livestock grazing occurs at approximately the 5-year average licensed use level of 55,751 AUMs; operator demand is not equal to the allowable active preference of 88,252 AUMs. It is assumed that operator demand for livestock forage will remain at the 5-year average licensed use level, but may increase to allowable active preference. Therefore, a range is used for analysis purposes.

Compared to alternative A, livestock AUMs may decrease by 410 for 5-year average licensed use and by 1,344 AUMs for active preference. The licensed use would be within the range of 55,751 to 86,198 AUMs, depending upon operator demand. This decrease can be attributed largely to the increase in land disposals (195 AUMS). Other losses would be attributed to decreasing AUMs by 25 percent on 3 allotments (1,202 AUMs) to protect critical soils and decreasing AUMs by 25 percent on 16 allotments to protect wildlife habitat (2,359 5-year average licensed use AUMs and 3,538 active preference AUMs). The only increase in AUMs would be due to decreased disturbance from ORVs (784 AUMs).

For analysis purposes, in allotments with 50 percent or more acres exceeding the SCS critical soil loss threshold (43 allotments), a change from spring grazing (March 15 to June 15) to winter use would be analyzed. In allotments with 25 to 49 percent of the acres exceeding this threshold (3 allotments), a 25 percent reduction of 5-year 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 allotments where conflicts exist with wildlife (16 allotments). 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.

Additional monitoring data would be necessary before any reductions or changes of season would be made. Therefore, any changes based on exceeding 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 (appendixes N and T).

New AMPs would be implemented on 31 allotments, 11 existing AMPs would be modified and implemented, and 6 existing AMPs would continue. AMPs would be written and implemented as current budget, manpower, and operator cooperation allow. These AMPs would provide periodic rest during the grazing season to allow an increase in vigor and density of livestock forage species. Range improvements would aid in more even livestock distribution over allotments. AMPs would be managed to protect areas with critical soils, crucial wildlife ranges, and riparian areas.

Season of use would be changed from spring to winter (for analysis purposes only) use on 43 allotments. Removing cattle from these areas in the spring when the soil is loose and friable would prevent destruction of the porosity obtained by winter freeze and thaw [Lusby, et al., 1971].

Conclusion

The area available for grazing would decrease by 5,800 acres to 1,606,320 acres.

Livestock forage may decrease to 55,751 5-year average licensed use AUMs and to 86,198 active preference AUMs.

Forest Product Use

Under alternative F, all of the 451,200 forested acres except 570 acres would be available for collection of wood for campfire use because of restrictions in relict vegetation, cultural, and scenic ACECs (80 acres less than alternative A). Acres available for private and commercial forest product harvest would decrease to 375,300 because of relict vegetation, cultural, and scenic ACECs, and developed recreation site use restrictions. While this change in acreage would affect the available supply, adequate area remains available to meet the demand for dead wood and forest product harvest. This would exclude 75,960 acres from harvest of forest products, 60,360 more than alternative A.

Conclusion

As in alternative A, based on past use and present harvest, an adequate supply of dead wood and live forest products should be available on 375,300 acres through the year 2000.

Cultural Resources

Under alternative F, 6,163 of the estimated 70,000 cultural resources would be damaged or destroyed (572 fewer than in alternative A). Land disposals would impact 10 additional sites, while areas closed to ORV use would result in impacts to 532 fewer sites.

About 2,489 cultural resources, including 1,500 presently inventoried, would be available for use (no change from alternative A).

Conclusion

The number of cultural resources damaged or destroyed would decrease to 6,707. The number of cultural resources available for use would remain at 2,489.

Recreation

Primitive and semiprimitive recreation opportunities would increase under alternative F, while ORV access and opportunities for cross-country travel would decrease. Compared to alternative A, P-class areas would increase 11,820 acres to a total of 81,500 acres; SPNM-class area would increase 28,290 acres to 211,700 acres; SPM-class area would decrease 31,950 acres to 630,920 acres; RN-class area would decrease 6,910 acres to 599,810 acres; and R-class area would decrease 40 acres to 10,630 acres. The U-class area would not change.

The increased demand for nonmotorized activities would probably be accommodated in existing settings; however, management actions to encourage dispersed use could be required in a few areas, possibly displacing some of the visitors to other locations outside SRRA because of the use restrictions. Commercial visitation would increase under alternative F because more of the natural and scenic values associated with commercial recreation ventures would be preserved.

A slight increase in wildlife numbers under alternative F would result in a beneficial secondary impact to recreation by increasing wildlife viewing and hunting opportunities.

Approximately 761,820 acres would be open to ORV use (a decrease of 777,370 acres from alternative A). ORV access and opportunities for cross-country travel would be slightly constrained; however, sufficient area would remain open to meet the demand for ORV use, and scenic values important to ORV recreationists would be protected. ORVs would be limited to designated roads and trails in most of the ACECs, critical soils areas, riparian and aquatic habitat, and developed recreation sites, covering 711,840 acres. ORV use would be limited by seasonal restrictions on 61,060 acres; all increase

from alternative A) to protect critical habitat for desert bighorn sheep, mule deer, and elk. Approximately 4,470 acres would be closed to ORV use in the relict vegetation ACECs. Designation of scenic ACECs and management of SRMAs would focus management attention on recreation use, maintaining natural, scenic, and cultural values.

The development and expansion of recreation facilities at the San Rafael Campground, Justensen Flats, Tomsich Butte, the Wedge, and Swasey Cabin would help to meet the increased demand for motorized and nonmotorized recreation while reducing user conflicts, human waste, and trash.

Adjustments in the season of use for livestock (eliminating spring and fall use) and overall reduction of livestock numbers would increase the quality of the recreation experience.

Unusual recreation opportunities and scenic values identified in the wild and scenic rivers eligibility and potential classification study for the San Rafael River, Labyrinth Canyon (Green River), and Muddy Creek (appendix J) could be reduced with resource development in or adjacent to the canyons.

Conclusion

Under alternative F, the ROS class acreages would shift toward the resource-dependent (primitive) end of the spectrum. The P-class area would increase to 81,500 acres; the SPNM-class area would increase to 211,700 acres; the SPM-class area would decrease to 630,920 acres; and the RN-class area would decrease to 599,810 acres. The R-class area would decrease to 10,630 acres. The U-class area would remain at 20 acres.

Areas open to ORV use would decrease to 761,820 acres, reducing access and opportunities for cross-country travel. Areas where ORV use is limited by seasonal restrictions would increase to 61,060 acres; areas limited to designated roads and trails would increase to 711,840 acres; and areas closed to ORV use would increase to 4,470 acres.

Visual Resources

Alternative F would place 231,750 acres in VRM class I (all increase from alternative A). The increase includes I-70 Scenic Corridor, Muddy Creek, San Rafael Canyon, San Rafael Reef, Segers Hole, Sids Mountain, Bowknot Bend, and Big Flat Tops ACECs. No-surface-occupancy stipulations may be waived in areas managed for scenic values if an environmental assessment concludes that the proposed action would not adversely impact scenic values.

Other VRM class areas would decrease where acreage was shifted into class I. Class II would decrease 208,130 acres to 288,240 acres; class III 19,230 acres to 364,040 acres; and class IV 4,390 acres to 655,160 acres.

It is projected that in 118 cases, by the year 2000, visual contrast rating scores would exceed the VRM class objectives for that area (a decrease of 2 from alternative A projections).

Conclusion

The area in VRM class I would increase to 231,750 acres. The area in other VRM classes would decrease a corresponding amount: 208,130 acres in class II to 288,240 acres; 19,230 acres in class III to 364,040 acres; and 4,390 acres in class IV to 655,160 acres. In 118 cases (2 fewer than in alternative A), visual contrast rating scores would exceed the VRM class objectives. Through the year 2000, it is anticipated that few, if any, proposals would be received for projects in scenic areas.

Lands

Under alternative F, 24,440 acres would be designated as right-of-way corridors (21,540 acres in SRRA and 2,900 in FPU, all increase over alternative A). Lands available (standard conditions) for rights-of-way outside corridors would total 752,760 acres (704,510 in SRRA (a decrease of 708,440) and 48,250 in FPU (a decrease of 24,400 acres)). A total of 757,020 acres would be avoided (732,820 acres in SRRA (an increase of 681,930 acres) and 24,200 acres in FPU (an increase of 21,500 acres). An area of 4,970 acres (all in SRRA and all increase) would be excluded from right-of-way grants.

Lands available for disposal under alternative F would increase 910 acres over alternative A, to a total of 7,730 acres (6,730 acres in SRRA (an increase of 950 acres) and 1,000 acres in FPU (a decrease of 40 acres)). This addition would result from adding parcels for community expansion and isolated parcels not previously included that would not be needed for other surface-resource uses under this alternative.

Lands withdrawn from entry would be increased by 4,970 acres to total 6,750 acres (all SRRA). Lands would be withdrawn for developed recreation sites and the Swasey Cabin, Pictographs, Copper Globe, Bowknot Bend, and Big Flat Tops ACECs.

Lands identified for possible acquisition under alternative F total 3,200 acres of state lands (all increase and all in SRRA), within the I-70 Scenic Corridor (640 acres), The Wedge (1,280 acres), Muddy Creek (640 acres) and Big Flat Tops (640 acres) ACECs. Actual acreage could be adjusted for ease of management.

Conclusion

Corridors for right-of-way systems would be designated on 24,440 acres; lands available (standard conditions) for rights-of-way would decrease to 752,760 acres; avoided areas would increase to 757,020 acres; and excluded areas would increase to 4,970 acres. Lands available for disposal would increase to 7,730 acres. Lands withdrawn from entry would increase to 6,750 acres. Lands identified for possible acquisition would total 3,200 acres.

ECONOMIC CONSIDERATIONS

Minerals

The area covered by special conditions would increase 465,240 acres (658 percent) relative to alternative A, which would increase the cost and lower the output value of mineral exploration and development in these areas.

The Dry Lake Archaeological District ACEC special conditions are similar to standard operating procedures and should have little or no effect on mineral activities. The VRM class II special conditions in the central portion of San Rafael Canyon ACEC would preclude major mineral developments and may force relocation or special reclamation standards, thereby increasing the cost of smaller developments.

With effective coordination of manpower and equipment, the seasonal special conditions would not add to activity cost. However, the seasonal conditions could be costly (more than a 1 percent cost increase) if they idle equipment and labor. Seasonal conditions could also force demobilizing and remobilizing equipment when an exploratory well is followed up with development wells, adding more than 5 percent to development cost. This has rarely been a problem with existing seasonal stipulations.

Mineral activity costs would increase an average of 1 percent where big game offsite mitigation would be required.

Under this alternative the acreage where mineral exploration and development would essentially be excluded in the no-surface-occupancy and closed-to-resource-use-or-production areas would be less than under alternative A.

The I-70 Scenic Corridor exclusion would have the greatest effect on developing and stockpiling of mineral materials. Increased two way hauling distances would average 5 miles, adding an average $2.50 per cubic yard, or approximately 25 percent, to the cost of getting mineral materials to the point of use.

Under this alternative there would be a much larger area where because of special conditions, mineral exploration and/or development would be more costly, some of which would be spent in the local economy. The reduced acreage where mineral activities would be excluded should increase mineral activity. The net effect on the local economy cannot be quantified; however, based on the assumed mineral activity projections under this alternative, the overall effect would be small.

Soil and Water

Sediment yield resulting from the surface disturbance projected under this alternative would decrease annual damage to downstream capital investments by $23,500 to $185,600 over alternative A. Salt loading resulting from the surface disturbance projected under this alternative would decrease annual damage to water users in the lower Colorado River basin by $218,700 to $2,523,700 over alternative A.

Livestock Grazing

Altogether one operator would have more available forage, 61 would have less, and available forage would remain the same for 77 operators. Forage losses and gains under the alternatives are discussed in the Grazing sections of this chapter. Changes in available forage would change rancher income by affecting herd size, weight gain, calf survival rates, or operating costs.

Of the 139 livestock operators, 89 could be excluded from using public rangeland forage at some point in the spring. The spring livestock exclusions would be of particular concern as most operators have few options with which to respond to these exclusions. Replacing forage loss through spring exclusions with hay would represent a worst-case analysis.

The number of operators affected, the degree of impact, and the related effects on local employment and earnings are presented in tables 71 and 72.

The combined effect of spring exclusions and changes in available forage would reduce operator returns above variable cost by $221,900, a 24 percent decrease.

Based on the direct effects from the budget analysis and on the indirect and induced effects derived from a county economic model, it is estimated that local employment, earnings, and taxing district revenues would decrease as shown here.

		Total	Change from Alternative A
Emery County	Employment (jobs)	148	-8
	Earnings ($)	435,400	-24,100
	Revenue ($)	302,700	-16,700
Carbon-Emery County	Employment (jobs)	229	-13
	Earnings ($)	1,046,000	-57,900
	Revenue ($)	688,400	-38,100

Any grazing permit change could affect ranch value and therefore operator wealth, particularly if the changes affect the ranch's total carrying capacity. The decrease in available forage would decrease aggregate operator wealth by $20,500, a 0.1 percent decrease.

Base properties are used as collateral for some types of loans. Since aggregate base property values are projected to decrease under this alternative, the level of total indebtedness allowed should also decrease. The operators' abilities to obtain and repay loans would change in proportion to their projected incomes.

The limitations on range improvements may increase the cost of maintaining and replacing range improvements. These limitations cannot render existing improvements uneconomic to maintain or replace; however these limitations may prevent new improvements from being installed by either outright exclusions or by rendering the projects uneconomic through special conditions.

Recreation

Recreation use of the planning area and its related local importance is projected to increase as described in alternative A. The relative mix of uses may change because of changes in recreational opportunities from alternative A (see impacts to recreation). The local economic effect of this changing mix of opportunity settings

TABLE 71

Number and Degree of Livestock Operator Impacts, Alternative F

	Operators with an Increase from Existing Use and Net Revenues			Operators Not Affected	Operators with a Decrease from Existing Use and Net Revenues		
	Over 51%	11 to 50%	1 to 10%		1 to 10%	11 to 50%	Over 51%
Public rangeland forage	0	0	1	77	11	44	6
Total feed requirements	0	0	1	77	55	6	0
Operator returns above variable costs	0	1	0	41	15	69	13

TABLE 72

Aggregate Economic Impacts to Livestock Operators, Alternative F

Livestock Operators	Baseline Situation	Alternative F
Gross Revenue	$2,920,700	$2,789,800
Total Variable Cost	2,008,400	2,099,500
Returns Above Variable Cost	912,200	690,300
Returns to Labor and Investment[a]	158,000	-32,400
Livestock Numbers (cattle)	9,206	8,686
(sheep)	3,761	3,776
Total Earnings, Emery County	$459,500	$435,400
Total Employment, Emery County (jobs)	156	148
Total Earnings, Carbon-Emery County	1,103,900	1,046,000
Total Employment, Carbon-Emery County	242	229

NOTE: These budgets assume that ranchers have no long-term outstanding debt, that all operating capital is borrowed, and that existing ranchers would not go out of business.

[a]Returns net of variable and fixed costs to management, non-hired labor, machinery, equipment, and land.

is unknown. However, judging from the existing economic importance of recreation in the planning area (less than 0.1 percent of local employment and earnings), these changes would have little effect on the local economic conditions.

Existing commercial outfitters rely heavily on the P, SPNM, and SPM opportunity settings available in the planning area. The 16 percent gain of P and SPNM opportunity settings from alternative A could increase the demand for outfitter services in these areas. The 5 percent loss of SPM opportunity settings could decrease the demand for outfitter services in SPM areas. Because projected demand for commercial services is small and would comprise a small portion of any outfitter's business, these changes in opportunity settings would have little economic effect.

The additional developed recreation sites should have little or no effect on use and related local expenditures. The services offered should not compete with, and therefore not affect, privately-owned recreation developments or commercial outfitters.

There is no known relationship between special management designations and recreation use. Publicity following designation could increase public awareness of these lesser known areas, and therefore increase visitation and related local expenditures. Even if visitation to these special designation areas were doubled, the local economic effect would be insignificant. This effect, however, could be significant to outfitters who might use these areas.

Desert bighorn sheep, antelope, deer, and elk populations are projected to increase from alternative A. Assuming that population/harvest, harvest/hunter, and population/primary nonconsumptive use ratios remain constant, projected wildlife use and related expenditures would increase employment, earnings, and taxing district revenues as shown here.

		Total	Change from Alternative A
Emery County	Employment (jobs)	24	+4
	Earnings ($)	213,500	+39,200
	Revenue ($)	32,800	+6,000
Carbon-Emery County	Employment (jobs)	31	+6
	Earnings ($)	311,800	+57,200
	Revenue ($)	51,800	+9,500

Other Land Uses

Special conditions, the no-surface-occupancy stipulation, and closures to resource use and production would affect other land uses in much the same way as they affect mineral activities. Some activities within areas of restricted ORV use would require additional coordination with the BLM through a lands action which would not otherwise be required. Much of the increased costs associated with activities in special-condition and no-surface-occupancy zones would be spent in the local economy, thereby increasing local employment and earnings. However, the increased costs would also decrease the amount of other land use activity, thereby decreasing local employment and earnings. The net effect on the local economy cannot be quantified, although it is expected to be small.

The proposed land disposals would be widely scattered and would represent a 0.5 percent increase from the private land base relative to alternative A. This increase in private land base would not affect nearby land values, but would increase local taxing revenues by at least $1,000 from alternative A.

The cost of environmental review for major utility lines is typically $8,000 to $15,000 per mile. This review would cost only an estimated $1,500 to $2,000 per mile in the 26,000 acres of utility corridors proposed for designation under this alternative [Pacific Gas, 1981]. The right-of-way avoidance and exclusion areas should have little or no effect on locating major utility lines.

Plan Budget

The 36 percent increased budget over alternative A needed to implement this alternative would increase employment, earnings, and taxing district revenues as shown here.

		Total	Change from Alternative A
Emery County	Employment (jobs)	12	+3
	Earnings ($)	143,500	+37,800
	Revenue ($)	3,200	+800
Carbon-Emery County	Employment (jobs)	49	+13
	Earnings ($)	924,400	+243,600
	Revenue ($)	25,800	+6,800

Conclusion

Mineral-related employment, earnings, and taxing district revenues would not significantly change. Sediment- and salinity-related costs would decrease. Livestock operator returns above variable costs, ranch value, and associated local employment, earnings, and taxing district revenues would decrease. Wildlife-related local employment, earnings, and taxing district revenues would increase. Increased management restrictions would increase the cost of land disturbing activities in some areas, but the net effect on the local economy is unknown. The land disposals would increase taxing district revenues in Emery County by $970. The environmental review cost of major utility lines would decrease by $6,500 to $13,000 per mile within the utility corridors. The increased budget needed to implement this alternative would increase local employment, earnings, and taxing district revenues.

SOCIAL CONDITIONS

None of the management actions would impact local communities so far as to noticeably affect existing social conditions.

Conclusion

Social conditions of nearby communities would not be affected. The lifestyles of some ranchers would change.

PROPOSED RESOURCE MANAGEMENT PLAN

MINERAL COMPONENTS

Oil and Gas

Under the proposed RMP, the area open to lease would increase by 116,140 acres compared to alternative A, but this increase would not affect production because most of the areas opened have low and moderate potential for oil and gas (appendix Q).

Leasing category acreages under the proposed RMP compare as follows to those under alternative A.

Category	Unit	Acres	Change from Alternative A
1	SRRA	702,390	-427,890
	FPU	45,270	-6,500
	Subtotal	747,660	-434,390
2	SRRA	468,670	+425,540
	FPU	27,930	+9,660
	Subtotal	496,600	+435,200

3	SRRA	225,900	+56,580
	FPU	2,150	-3,160
	Subtotal	228,050	+53,420
4	SRRA	66,880	-54,230
	FPU	0	0
	Subtotal	66,880	-54,230

The category 1 and category 2 changes under the proposed RMP would result from seasonal restrictions to protect habitat for wildlife such as desert bighorn sheep, mule deer, and elk, and restrictions for critical soils, land leases, and cultural ACECs. These restrictions would increase operating and production expenses, but are not expected to affect production. The area in category 2 includes areas of high, moderate, and low potential for oil and gas.

No surface occupancy (category 3) includes certain scenic ACECs, aquatic and riparian habitat, and ROS P-class areas.

The closures to leasing (category 4) would cover the Swasey Cabin and Copper Globe ACECs, Pictographs ACEC, vegetation ACECs, certain scenic ACECs, and developed recreation sites. The areas that would be in categories 3 and 4 have mostly low and moderate potential for oil and gas.

Project conditions would be imposed on geophysical operations on 761,450 acres in SRRA (an increase of 427,890 acres), 30,080 acres in FPU (an increase of 6,500 acres), or 791,530 acres in both (an increase of 434,390 acres) in the ROS P-class areas within the ACECs, aquatic and riparian habitat, developed recreation sites, and the special conditions area. These conditions would not affect the miles of seismic line completed, which would be the same as for alternative A. Standard operating procedures would apply to 702,390 acres in SRRA, 45,270 acres in FPU, and 747,660 acres in both.

The production of oil and gas would be the same as in alternative A.

Conclusion

The area open to oil and gas leasing would decrease to 747,660 acres in category 1; increase to 496,600 acres in category 2; increase to 228,050 acres in category 3; and decrease to 66,880 acres in category 4. The number of miles of seismic line run per year would be 100, the same as projected under alternative A. Project conditions would be applied to 791,530 acres for geophysical operations. The annual production rates would be 13,200 barrels of petroleum and 754,000 MCF of natural gas at year 2000.

Coal

Under the proposed RMP, 62,280 acres would be available for coal exploration. This is 10 acres less than alternative A because of the withdrawal of the Rochester Pictographs from leasing, mining and exploration. However, some of the available acres would be open to exploration in concept only due to restrictions. Twelve hundred eighty acres of coal land in SRRA have been proposed no-surface-occupancy to protect scenic value of the I-70 Scenic Corridor. In other alternatives, 2,700 acres of coal land would underlie the I-70 Scenic Corridor in FPU, but this area would not be part of the ACEC under the proposed RMP, because its scenic quality does not equal that of the remainder of the I-70 Scenic Corridor. Also 850 acres in SRRA and 730 acres in FPU proposed as riparian zones would have a no-surface-occupancy stipulation. Under current technologies, coal exploration can be effective only with some sort of drilling. The no-surface-occupancy requirement would preclude coal exploration.

Thus, 10 acres in SRRA would be withdrawn, and drilling would be prevented by the no-surface-occupancy stipulation on 2,130 acres in SRRA (1,280 for the I-70 Scenic Corridor and 850 for riparian zones) and 730 acres of riparian zones in FPU. A total of 2,870 acres would be removed from coal exploration, leaving 59,420 acres of public land inside the Wasatch and Emery KRCRAs open to coal exploration. Compared to alternative A, the number of drilling holes in the KRCRAs could be reduced by one per year, an insignificant reduction, as coal quantity and quality information for the I-70 Scenic Corridor could be inferred across the narrow corridor. Also, current exploration regulations prohibit the disturbance of

riparian zones, and drilling in river or stream bottoms is nearly impossible because of the difficulty of sustaining an open drill hole through unconsolidated material. Coal production from the only mine on the Emery Coal Field would remain as in alternative A (150,000 tons per year).

The area available for coal leasing under the proposed RMP would be 58,180 acres, 10 fewer that alternative A, because of the Rochester Pictogrpah site withdrawal. No new surface facilities are planned for coal operations on public land,, and no new leasing is projected in the Emery Coal Field by the year 2000.

A total of 28,320 acres would be available for leasing and exploration with special conditions. Since the regulations require protection of resources and full reclamation, the special conditions would have no further effect on production. Leasing and mine plan stipulations would limit mining to underground methods and surface facilities would be located so as to minimize impacts to surface resources.

Conclusion

Under the proposed RMP, 62,280 acres would be available for exploration, but drilling could occur on only 59,420 acres; 58,180 acres would be available for lease. This reduction would not affect current coal exploration or production (150,000 tons per year).

Mineral Materials

Under the proposed RMP, 1,171,060 acres would be open to mineral material disposal in SRRA (a decrease of 292,780 acres); 73,200 acres would be open in FPU (a decrease of 2,150 acres); for a total of 1,244,260 acres open in the planning area (a decrease of 294,230 acres) (appendix Q). The area open to disposal would be smaller than under alternative A because of vegetation, scenic, and cultural ACECs; developed recreation sites; and aquatic and riparian habitat. The decrease would not affect production, which would be the same as alternative A at year 2000 (320,000 cubic yards per year), because the demand in the closed areas is low and could be supplied from adjacent open areas.

Conclusion

The area open to mineral material disposal would decrease to 1,244,260 acres.

The annual production rate would be 320,000 cubic yards at year 2000, the same as under alternative A.

Locatable Minerals

Under the proposed RMP, 1,395,180 acres would be open to mineral entry in SRRA (a decrease of 66,880 acres) and 75,350 acres would be in open in FPU (no change), for a total of 1,470,530 acres open in the planning area (a decrease of 66,880 acres). A total of 23,810 acres with high potential for uranium (all in SRRA) would be withdrawn from mineral entry. The remainder of the withdrawn area would fall into moderate- , low-, and no-potential areas. Of the areas with high and moderate potential for gypsum, 6,690 acres (all in SRRA) would be withdrawn from entry. The remainder of the area withdrawn would be in areas of low to no potential for gypsum (appendix Q).

Under the proposed RMP, standard conditions would be applied to 1,135,350 acres in SRRA and 73,200 acres in FPU, for a total of 1,208,550 acres in the planning area. Special conditions would be applied to 259,830 acres in SRRA and 2,150 acres in FPU, for a total of 261,980 acres in the planning area. These special conditons would apply to scenic, cultural, and vegetation ACECs, aquatic and riparian habitat, and certain areas with special recreation values. Compliance with the special conditions would be required to the extent possible without curtailing valid rights. Filing plans of operation and complying with special conditions would increase operator costs, which could result in an unquantified decrease in exploration and development work. If 7,730 acres identified for land disposal are sold, the area open to mineral entry would be reduced.

Conclusion

Under the proposed RMP, the area open to mining claim location or entry would decrease to 1,470,530 acres.

BIOTIC COMPONENTS

Soils

Under the proposed RMP, there could be a decrease in soil loss over alternative A. This is because decreases in soil loss resulting from ORV use designations and changes in livestock management would be greater than increases resulting from lands actions.

ORV use designations as discussed under alternatives A and C may cause an estimated decrease in soil loss of between 188,790 and 1,428,700 tons per year.

A decrease in soil loss under the proposed plan may be caused by changes in season of livestock use or by closing areas to livestock grazing. Soil loss due to livestock changes could decrease by between 647,250 and 5,157,500 tons per year. Soil loss due to the surface-disturbing activities associated with livestock-related range improvements could decrease by between 550 and 4,200 tons per year.

Although there would be a net decrease in soil loss under the proposed RMP, increases in soil loss could be associated with some activities. Estimates of soil loss are based on the amount of public land in the planning area. Disposal of public lands would leave less BLM acreage available to contribute to total soil loss. Soil loss may increase due to retention of public lands that would have been disposed of under alternative A, or due to land acquisition. Land disposal could account for a decrease in soil loss of between 6,950 and 45,780 tons per year. Land acquisition could account for an increase in soil loss of between 39,300 and 240,000 tons per year.

The soil losses contributed by other factors would continue to be as described under alternative A. Therefore, total soil loss would be between 6,459,510 and 54,988,100 tons per year (averaging 30,723,810 tons per year) by the year 2000, a decrease of between 804,230 and 6,396,200 tons per year (average decrease of 3,600,215 tons per year).

Conclusion

Total soil loss would be between 6,459,510 and 54,988,100 tons per year (averaging 30,723,810 tons per year).

Water

With the lower rate of soil loss under the proposed RMP, surface water quality should also improve, as decreases in sediment and salt yield resulting from ORV use designations and changes in livestock grazing management would be greater than increases resulting from lands actions.

ORV use designations as described under alternatives A and C may cause an estimated decrease of between 75,520 and 571,480 tons per year of sediment and between 1,245 and 9,593 tons per year of salt.

A decrease in sediment and salt yield under the proposed RMP may be due in part to changes in livestock season of use or closing some areas completely to livestock grazing. Sediment yield due to changes in livestock grazing may decrease by between 258,900 and 2,063,000 tons per year. Salt yield may decrease by between 2,860 and 36,300 tons per year. Sediment and salt yield due to the surface-disturbing activities associated with livestock-related range improvements could decrease by between 220 and 1,680 tons per year and by between 4 and 29 tons per year, respectively.

Although there would be a net decrease in sediment and salt yield under the proposed RMP, there could be increases in sediment and salt yield associated with some activities. Estimates of sediment and salt yield are based on the amount of public land in the planning area. Disposal of public lands would leave less BLM acreage available to contribute to sediment and salt yields. Sediment and salt yield from public lands may increase because of the retention of public lands that would have been disposed of under alternative A, or because of land acquisition. Land disposal could account for a decrease in sediment of between 2,780 and 18,310 tons per year. Salt yield could decrease by between 41 and 275 tons per year. Land acquisition could account for an increase of between 15,720 and 96,000 tons per year of sediment. Salt yield could also increase by between 246 and 1,676 tons per year.

Other impacts to surface and ground waters would be as described under alternative A. Total sediment yield to the Colorado River could be between 2,583,800 and 21,995,240 tons per year (averaging 12,289,520 tons per year) by the year 2000, a decrease of between 321,700 and 2,558,470 tons per year (average decrease of 1,440,090 tons per year).

Total salt yield could be between 25,689 and 387,234 tons per year (averaging 206,462 tons per year) by the year 2000, a decrease of between 3,781 and 43,683 tons per year (average decrease of 23,732 tons per year).

Conclusion

Surface water quality should improve under the proposed RMP over alternative A. Total sediment yield to the Colorado River could be between 2,583,800 and 21,995,240 tons per year (averaging 12,289,520 tons per year) by the year 2000. Total salt yield could be between 25,689 and 387,234 tons per year (averaging 206,462 tons per year).

Ground water quality would remain as under alternative A. The level of TDS in milligrams per liter cannot be quantified.

Vegetation

Under the proposed RMP, approximately 29,744 acres of vegetation could be disturbed by the year 2000 (short-term disturbance on 21,764 acres and long-term disturbance on 7,980 acres), a net decrease of 14,720 acres from alternative A. Less disturbance from ORV use (24,800 fewer acres) would be the primary reason. Additional short-term disturbance would be from developed recreation sites (60 acres more). Most short-term vegetation loss would be regained within 5 years through natural succession or reclamation (with a site-specific seed mix). Appendix S presents forage impact analysis assumptions, and acres of anticipated surface disturbance were listed by activity in table 54.

Long-term loss would occur from additional land disposals (910 acres more than alternative A). An additional 6,070 acres would be gained through acquisition of state lands within ACEC boundaries. Anticipated changes in ecological condition under the proposed RMP are shown in table 70-A.

TABLE 70-A

Anticipated Changes in Ecological Condition Under the Proposed Plan

Ecological Condition Class	Ecological Condition by Percent of Resource Area	
	Present (1985)	Future (2000)
Potential Natural Community	9	12
Late Seral	22	22
Mid Seral	47	46
Early Seral	9	7
Rock Outcrop/Badlands	13	13

Changes to higher seral stages would result from implementation of existing AMPs and elimination of continual spring grazing. AMPs and elimination of continual spring grazing would allow vegetation to rest periodically and recover from grazing, producing changes in plant composition and a higher density of livestock forage, thus resulting in more acres moving to a higher seral stage.

The Bowknot Bend (1,830 acres), North Big Flat Top (190 acres), and San Rafael Reef (43,870 acres) relict vegetation areas would be designated as ACECs under the proposed RMP, whereas no such designations were identified under alternative A. The Hebes Mountain relict vegetation area would not receive special protection under the proposed RMP.

Threatened or Endangered Plants

There would be no impact to T/E species from controlled activities. T/E plants would be protected from ORV impacts on 16,760 acres of the 18,500 acres of T/E plant habitat in the planning area. The

plants would also be protected from mining disturbance by the requirement of plans of operations on 7,070 acres of T/E plant habitat. While this would not result in an increase in plants, it would provide protection for these plants.

Conclusion

Short-term vegetation loss would decrease 24,800 acres to 29,744 acres. Long-term vegetation loss would increase 910 acres to 7,980 acres. An additional 6,070 acres would be gained through acquisition of state lands. Changes to higher seral stages would result. Three relict vegetation areas would receive special protection. There would be no adverse impacts to T/E species.

Wild Horses and Burros

The wild equid range would amount to 475,680 acres of public land under the proposed RMP. Domestic livestock use would be reduced in the spring, and use during other seasons would be limited in other areas to protect critical soils. It is expected that with the changes in livestock use, as well as forage improvements due to the removal of spring grazing, there would be forage available for wild equids, after the requirements for watershed protection and big game have been met.

Wild horses would be managed to maintain a number beween 75 and 125 head. Wild burros would range between 30 and 70 head. At the upper limits, 2,135 AUMs would be required. When the upper numbers are reached, the herds would be reduced to the lower numbers.

Conflicts in use between wild equids, livestock, and big game would be resolved and adjustments in specific forage use would be made at the activity-plan level, in conjunction with grazing decisions or at any time deemed necessary as a result of rangeland monitoring.

Conclusion

The wild equid range would cover 475,680 acres. Wild horses would be managed at a range between 75 and 125 head. Wild burros would be managed at a range between 30 and 70 head. When equid numbers reach the upper limits, animals would be removed to the lower limits. Forage requirements at the higher limits would be 2,135 AUMs.

Forage use levels may be adjusted for equids and livestock based on monitoring data.

Wildlife

Desert Bighorn Sheep

Under the proposed RMP, crucial habitat for desert bighorn sheep would increase from 150,000 acres to 180,000 acres, 30,000 acres more than under alternative A. Because of habitat restrictions limiting impacts from other resource uses and activities, the sheep would be expected to expand into protected areas. The following are specific anticipated changes to their habitat:

- Development activities would be restricted, and ORV use would be closed on 70,950 acres of yearlong habitat (56,210 acres of crucial habitat) and limited to designated roads and trails on 307,310 acres of yearlong habitat (83,850 acres of crucial habitat). Seasonal use restrictions would be applied to the remaining 12,450 acres of crucial habitat. With reduced stress and improved habitat conditions (assuming a 36 percent per acre population increase), these actions would result in a gain of about 150 desert bighorn sheep.

- Developments on 27,020 acres of critical soil areas within the habitat area would be restricted to those needed to better distribute the desert bighorn sheep, reducing the rate of increase for these animals by less than 1 percent.

- Spring and fall livestock grazing may be eliminated on seven allotments containing desert bighorn sheep habitat, and livestock AUMs may be reduced. With the additional 217 AUMs, and the reduced potential for disease transmission, desert bighorn sheep could increase by about 100 animals.

- Allotments containing crucial and bighorn sheep habitat would not be allowed to change from cattle to domestic sheep. This

would reduce the potential for disease transmission from domestic sheep to bighorn sheep on 29 allotments (945,740 acres). Allotments currently being grazed by domestic sheep would not be required to change to cattle.

- The conflict between desert bighorn sheep and wild burros would continue to exist. The development of an HMAP for the burros would serve to reduce this conflict as much as possible on the 58,410 acres of habitat overlap.

- Offsite mitigation, which could be required on 500 acres within the crucial habitat by the year 2000, would prevent the loss of 10 desert bighorn sheep and could ultimately result in an increase of 50 animals.

Under the proposed RMP, desert bighorn sheep would increase from 500 to about 840 animals, an increase of 400 animals over alternative A by the year 2000.

Antelope

Under the proposed RMP, 506,660 acres of habitat would be managed for antelope use. This is 340 fewer acres than under alternative A.

The following factors would allow the antelope populations to increase despite the habitat acreage reduction:

- Spring and fall livestock grazing would be eliminated on 113,830 acres. Changing the season of livestock use would allow the antelope to increase about 150 animals.

- Seasonal restrictions would be applied to development activities, and ORV use would be limited to designated roads and trails on 136,190 acres of antelope habitat. These actions would allow the antelope to increase by about 50 animals.

- Wildlife developments on 113,830 acres of antelope habitat in critical watershed areas would be limited to those needed to better distribute the antelope. This would reduce the rate of increase for the antelope by about 10 animals by the year 2000.

Under the proposed RMP, the antelope would increase from 700 to about 900 animals, about 200 animals more than under alternative A.

Mule Deer and Elk

Crucial habitat would increase to 36,760 acres for mule deer and 18,960 acres for elk (1,260 more acres for deer and 760 more acres for elk than under alternative A), primarily because of the following factors:

- Applying protective seasonal conditions to all development activities and to ORV use would reduce stress and improve habitat conditions on about 98,450 acres of mule deer habitat and 34,890 acres of elk habitat, resulting in a 2 percent per acre population increase, or a gain of about 128 mule deer and 11 elk by the year 2000.

- Assuming an increase of one deer for every 10 acres and one elk for every 40 acres treated under the offsite mitigation requirement, offsite mitigation on 460 acres of crucial habitat would result in a gain of about 46 mule deer and 10 elk.

- Wildlife developments on 31,220 acres of mule deer habitat and 4,230 acres of elk habitat in critical watershed areas would be restricted to those needed to better distribute the mule deer and elk. These would reduce the rate of increase for these animals by about 1 percent.

- Spring and fall livestock grazing would be eliminated on 16 allotments containing mule deer and elk winter habitat; 25 percent of the AUMs would be allocated to mule deer and elk. This could allow mule deer and elk to utilize an additional 1,173 AUMs. This action would increase crucial habitat for mule deer by 800 acres and for elk by 300 acres, allowing the populations to increase by 1,560 mule deer and 115 elk.

Under the proposed RMP, mule deer would increase from 6,620 to about 8,320 animals. This is an increase of 1,700 deer above alternative A by the year 2000. Elk would increase from 600 to about 730 animals, an increase of about 130 elk over alternative A.

Riparian and Aquatic Habitat

The area of riparian and aquatic habitat would increase from 14,780 acres to 14,940 acres, an increase of 160 acres from alternative A. The increase in riparian and aquatic habitat would result primarly from the following factors:

- Losses now occurring would be eliminated through protective conditions applied to all development activities; ORV use within riparian and aquatic zones would be limited to designated roads and trails; and 6,000 acres would be closed. These actions would allow for a 60-acre increase.

- Development of AMPs for livestock using riparian and aquatic habitat would allow better control and provide periodic rest to improve condition and expand riparian and aquatic habitat by 100 acres.

Threatened or Endangered Animals

The bald eagle and the peregrine falcon would benefit from improved condition of riparian habitat and its 150-acre increase to a total of 14,940 acres. The known peregrine falcon nest would be protected from development activities, recreation use, and mining claim work under the proposed RMP. Ferruginous hawk habitat would not have special protection, but the habitat would be monitored and potential impacts mitigated. The prairie dog towns, potential black-footed ferret habitat, would be protected from potential disturbance. There would be no impact to T/E animals under the proposed RMP.

Conclusion

Crucial habitat for desert bighorn sheep would increase to 174,590 acres, allowing a population increase to 840.

Habitat for antelope would decrease to 506,660 acres. The population would increase to 900 animals.

Crucial habitat for mule deer and elk would increase to 36,760 acres for mule deer and 18,960 acres for elk. Populations would increase to 8,320 mule deer and 730 elk.

Riparian and aquatic habitat would increase by 160 acres to 14,940 acres. There would be no adverse impacts to T/E animals.

HUMAN USES

Grazing

Grazing would be allowed on 5,800 fewer acres than in alternative A, on 91 allotments. Eight isolated allotments have been identified for disposal, and two allotments would be combined with others for improved management. Under the proposed RMP, Bowknot Bend ACEC (1,830 acres) and the Big Flat Top ACEC (2,640 acres) would be exluded from livestock grazing. These areas are inaccessible to livestock; therefore, exclusion from grazing would not reduce areas of livestock forage. Additional areas excluded from grazing would be developed recreation sites (60 acres) and Swasey Cabin ACEC (which cattle currently use only for trailing).

Currently, livestock grazing occurs at approximately the 5-year average licensed use level of 55,751 AUMs; operator demand is not equal to the allowable active preference of 88,252 AUMs. It is assumed that operator demand for livestock forage would remain at the 5-year average licensed use level, but may increase to allowable active preference. Therefore, a range is used for analysis purposes.

Compared to alternative A, livestock AUMs may increase by 46 for 5-year average licensed use and decrease by 888 AUMs for active preference. The licensed use would be within the range of 56,207 to 86,654 AUMs, depending upon operator demand. The decrease in active preference can be attributed largely to the increase in land disposals (195 AUMs). Other losses would be attributed to decreasing AUMs by 25 percent on 3 allotments (1,202 AUMs) to protect critical soils and decreasing AUMs by 25 percent on 16 allotments to protect wildlife habitat (2,359 5-year average licensed use AUMs and 3,538 active preference AUMs). The increase in 5-year average lecensed use AUMs would be due to decreased disturbance from ORVs (1,240 AUMs).

For analysis purposes, in allotments with 50 percent or more acres exceeding the SCS critical soil loss threshold (43 allotments), a change from spring grazing (March 15 to June 15) to winter use would

be analyzed. In allotments with 25 to 49 percent of the acres exceeding this threshold (3 allotments), a 25 percent reduction of 5-year 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 allotments where conflicts exist with wildlife (16 allotments). 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 would be 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 moving toward the individual site goals.

Additional monitoring data would be necessary before any reductions or changes of season would be made. Therefore, any changes based on exceeding 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 (appendixes N and T).

In allotments containing crucial and yearlong bighorn habitat, a change in kind from cattle to domestic sheep would be prohibited. An exception may be made if an AMP or agreement would provide for adequate separation of bighorn and domestic sheep. Allotments currently being grazed by domestic sheep would not be required to change to cattle.

New AMPs would be implemented on 31 allotments, 11 existing AMPs would be modified and implemented, and 6 existing AMPs would continue. AMPs would be written and implemented as current budget, manpower, and operator cooperation allow. These AMPs would provide periodic rest during the grazing season to allow an increase in vigor and density of livestock forage species. Range improvements would aid in more even livestock distribution over allotments. AMPs would be managed to protect areas with critical soils, crucial wildlife ranges, and riparian areas.

Season of use would be changed from spring to winter (for analysis purposes only) use on 43 allotments. Removing cattle from these areas in the spring when the soil is loose and friable would prevent destruction of the porosity obtained by winter freeze and thaw [Lusby, et al., 1971].

Conclusion

The area available for grazing would decrease by 5,800 acres to 1,606,320 acres.

Livestock forage may increase to 56,207 5-year average licensed use AUMs and decrease to 86,654 active preference AUMs.

Forest Product Use

Under the proposed RMP, all but 590 of the 451,270 forested acres acres would be available for collection of wood for campfire use (100 acres less than under alternative A, because of restrictions in relict vegetation, cultural, and scenic ACECs). Acres available for private and commercial forest product harvest would decrease to 370,180 because of restrictions to protect relict vegetation, cultural, and scenic ACECs and developed recreation sites. While this change in acreage would affect the available supply, adequate area remains available to meet the demand for dead wood and forest product harvest. This would exclude 81,090 acres from harvest of forest products, 65,480 more acres than alternative A.

Conclusion

As in alternative A, based on past use and present harvest, an adequate supply of dead wood and live forest products should be available on 370,180 acres through the year 2000.

Cultural Resources

Under the proposed RMP, 6,183 of the estimated 70,000 cultural resources would be damaged or destroyed (552 fewer than in alternative A). Areas closed to ORV use would result in impacts to 512 fewer sites.

About 2,489 cultural resources, including 1,500 presently inventoried, would be available for use (no change from alternative A).

Conclusion

The number of cultural resources damaged or destroyed would decrease to 6,183. The number of cultural resources available for use would remain at 2,489.

Recreation

Primitive and semiprimitive recreation opportunities would increase under the proposed RMP, while ORV access and opportunities for cross-country travel would decrease. Compared to alternative A, P-class areas would increase 31,170 acres to a total of 100,850 acres; SPNM-class area would increase 53,350 acres to 236,760 acres; SPM-class area would decrease 68,660 acres to 594,210 acres; RN-class area would decrease 8,160 acres to 598,560 acres; and R-class area would decrease 40 acres to 10,630 acres. The U-class area would not change.

The increased demand for nonmotorized activities would probably be accommodated in existing settings; however, management actions to encourage dispersed use could be required in a few areas, possibly displacing some of the visitors to other locations outside SRRA because of the use restrictions. Commercial visitation would increase under the proposed RMP because more of the natural and scenic values associated with commercial recreation ventures would be preserved.

The possibility of impacts to P-class areas could occur due to existing rights for mineral activity.

A slight increase in wildlife numbers under the proposed RMP would result in a beneficial secondary impact to recreation by increasing wildlife viewing and hunting opportunities.

Approximately 326,780 acres would be open to ORV use (a decrease of 1,212,410 acres from alternative A). ORV access and opportunities for cross-country travel would be slightly constrained; however, sufficient area would remain open to meet the demand for ORV use, and scenic values important to ORV recreationists would be protected. ORVs would be limited to designated roads and trails in most of the ACECs, critical soils areas, riparian and aquatic habitat, and developed recreation sites and within the San Rafael Swell SRMA, covering 1,027,360 acres. ORV use would be limited by seasonal restrictions on 33,310 acres (all increase from alternative A) to protect crucial habitat for desert bighorn sheep, mule deer, and elk. Approximately 151,770 acres would be closed to ORV use in the P-class areas and relict vegetation ACECs. Designation of scenic ACECs and management of SRMAs would focus management attention on recreation use, maintaining natural, scenic, and cultural values.

The development and expansion of recreation facilities at the San Rafael Campground, Justensen Flats, Tomsich Butte, The Wedge, and Swasey Cabin would help to meet the increased demand for motorized and nonmotorized recreation while reducing user conflicts, human waste, and trash.

Adjustments in the season of use for livestock (eliminating spring and fall use) and overall reduction of livestock numbers would increase the quality of the recreation experience.

Unusual recreation opportunities and scenic values identified in the wild and scenic rivers eligibility and potential classification study for the San Rafael River, Labyrinth Canyon (Green River), and Muddy Creek (appendix J) could be reduced with resource development in or adjacent to the canyons.

Conclusion

Under the proposed RMP, the ROS class acreages would shift toward the resource-dependent (primitive) end of the spectrum. The P-class

area would increase to 100,850 acres; the SPNM-class area would increase to 236,760 acres; the SPM-class area would decrease to 594,210 acres; and the RN-class area would decrease to 598,560 acres. The R-class area would decrease to 10,630 acres. The U-class area would remain at 20 acres.

Areas open to ORV use would decrease to 326,780 acres, reducing access and opportunities for cross-country travel. Areas where ORV use is limited by seasonal restrictions would increase to 33,310 acres; areas limited to designated roads and trails would increase to 1,027,360 acres; and areas closed to ORV use would increase to 151,770 acres.

Visual Resources

The proposed RMP would place 278,340 acres in VRM class I (all increase from alternative A). The increase includes I-70 Scenic Corridor, Muddy Creek, upper and lower portions of San Rafael Canyon, San Rafael Reef, Segers Hole, Sids Mountain, Bowknot Bend, and Big Flat Tops ACECs and ROS P-class areas.. No-surface-occupancy stipulations may be waived in the I-70 Scenic Corridor if an environmental assessment concludes that the proposed action would not adversely impact scenic values.

Other VRM class areas would decrease where acreage was shifted into class I. Class II would decrease 240,170 acres to 256,200 acres; class III 26,060 acres to 357,210 acres; and class IV 12,080 acres to 647,470 acres.

It is projected that in 118 cases, by the year 2000, visual contrast rating scores would exceed the VRM class objectives for that area (a decrease of 2 from alternative A projections).

Conclusion

The area in VRM class I would increase to 278,340 acres. The area in other VRM classes would decrease a corresponding amount: 240,170 acres in class II to 256,200 acres; 26,060 acres in class III to 357,210 acres; and 12,080 acres in class IV to 647,470 acres. In 118 cases (2 fewer than in alternative A), visual contrast rating scores would exceed the VRM class objectives. Through the year 2000, it is anticipated that few, if any, proposals would be received for projects in scenic areas.

Lands

Under the proposed RMP, 24,440 acres would be designated as right-of-way corridors (all increase over alternative A). Lands available (standard conditions) for rights-of-way outside corridors would total 738,740 acres (a decrease of 746,860 acres) and 709,160 acres would be avoided (an increase of 655,570 acres). An area of 66,880 acres would be excluded from right-of-way grants (all increase).

Lands available for disposal under the proposed action would increase by 910 acres over alternative A to 7,730 acres. This addition would result from adding parcels for community expansion and isolated parcels not previously included that would not be needed for other surface-resource uses.

Lands proposed for withdrawal from entry (locatables) would be increased by 66,880 acres to total 68,660 acres. Lands would be withdrawn for developed recreation sites and the Swasey Cabin, Pictographs, Copper Globe, Bowknot Bend, Big Flat Tops, upper and lower portions of the San Rafael Canyon, and the north portion of the San Rafael Reef ACECs.

Lands identified for possible acquisitions under the proposed action total 6,070 acres of state lands (all increase) within the upper portion of the San Rafael Canyon ACEC (640 acres), lower portion of the San Rafael Canyon ACEC (640 acres), north portion of the San Rafael Reef ACEC (4,480 acres), and Big Flat Top ACEC (640 acres). Actual acreage could be adjusted for ease of management.

Conclusion

Corridors for right-of-way systems would be designated on 24,440 acres; lands available (standard conditions) for rights-of-way would decrease to 738,740 acres; avoided areas would increase to 709,160 acres; and excluded areas would increase to 66,880 acres. Lands available for disposal would increase to 7,730 acres. Lands

proposed for withdrawal from entry (locatables) would increase to 68,660 acres. Lands identified for possible acquisition would total 6,070 acres.

ECONOMIC CONSIDERATIONS

Minerals

The area covered by special conditions would increase 434,200 acres (925 percent) relative to alternative A, which would increase the cost and lower the output value of mineral exploration and development in these areas.

The Dry Lake Archaeological District ACEC special conditions are similar to standard operating procedures and should have little or no effect on mineral activities. The VRM class II special conditions in the central portion of San Rafael Canyon ACEC would preclude major mineral developments and may force relocation or special reclamation standards, thereby increasing the cost of smaller developments.

With effective coordination of manpower and equipment, the seasonal special conditions would not add to activity cost. However, the seasonal conditions could be costly (more than a 1 percent cost increase) if they idle equipment and labor. Seasonal conditions could also force demobilizing and remobilizing equipment when an exploratory well is followed up with development wells, adding more than 5 percent to development cost. This has rarely been a problem with existing seasonal stipulations.

Mineral activity costs would increase an average of 1 percent where big game offsite mitigation would be required.

Under the proposed RMP the acreage where mineral exploration and development would essentially be excluded in the no-surface-occupancy and closed areas would nearly be the same as alternative A (less than .3 percent difference).

The I-70 Scenic Corridor exclusion would have the greatest effect on developing and stockpiling of mineral materials. Increased two way hauling distances would average 5 miles, adding an average $2.50 per cubic yard, or approximately 25 percent, to the cost of getting mineral materials to the point of use. However, topographic screening adjacent to the interstate would often permit exceptions to be granted.

Under the proposed RMP there would be a much larger area where because of special conditions, mineral exploration and/or development would be more costly, some of which would be spent in the local economy. These additional costs may also discourage some activity from taking place. The net effect on the local economy cannot be quantified; however, based on the assumed mineral activity projections under the proposed RMP, the overall effect would be small.

Soil and Water

Sediment yield resulting from the surface disturbance projected under the proposed RMP would decrease annual damage to downstream capital investments by $24,200 to $191,925 over alternative A. Salt loading resulting from the surface disturbance projected under the proposed RMP would decrease annual damage to water users in the lower Colorado River basin by $221,200 to $2,555,400 over alternative A.

Livestock Grazing

Altogether one operator would have more available forage, 61 would have less, and available forage would remain the same for 77 operators. Forage losses and gains under the alternatives are discussed in the Grazing sections of this chapter. Changes in available forage would change rancher income by affecting herd size, weight gain, calf survival rates, or operating costs.

Of the 139 livestock operators, 89 could be excluded from using public rangeland forage at some point in the spring. The spring livestock exclusions would be of particular concern as most operators have few options with which to respond to these exclusions. Replacing forage loss through spring exclusions with hay would represent a worst-case analysis.

The number of operators affected, the degree of impact, and the related effects on local employment and earnings are presented in tables 71-A and 72-A.

The combined effect of spring exclusions and changes in available forage would reduce operator returns above variable cost by $221,900, a 24 percent decrease.

The change of livestock class restrictions would affect 69 permittees. Although this would not affect their existing operations, it could affect their ability to take advantage of changing economic conditions. These restrictions could also affect permit values. However, the two decades decline of the western sheep industry and the corresponding decrease in sheep use of public rangeland forage indicates that this restriction would have a diminishing economic affect.

Based on the direct effects from the budget analysis and on the indirect and induced effects derived from a county economic model, it is estimated that local employment, earnings, and taxing district revenues would decrease as shown here.

		Total	Change from Alternative A
Emery County	Employment (jobs)	149	-7
	Earnings ($)	438,900	-20,510
	Revenue ($)	305,200	-14,300
Carbon-Emery County	Employment (jobs)	231	-11
	Earnings ($)	1,054,600	-49,300
	Revenue ($)	694,000	-33,400

Any grazing permit change could affect ranch value and therefore operator wealth, particularly if the changes affect the ranch's total carrying capacity. The decrease in available forage would decrease aggregate operator wealth by $2,300, a 0.01 percent decrease.

Base properties are used as collateral for some types of loans. Since aggregate base property values are projected to decrease under the proposed RMP, the level of total indebtedness allowed should also decrease. The operators' abilities to obtain and repay loans would change in proportion to their projected incomes.

The limitations on range improvements may increase the cost of maintaining and replacing range improvements. These limitations cannot render existing improvements uneconomic to maintain or replace; however these limitations may prevent new improvements from being installed by either outright exclusions or by rendering the projects uneconomic through special conditions.

Recreation

Recreation use of the planning area and its related local importance is projected to increase as described in alternative A. The relative mix of uses may change because of changes in recreational opportunities from alternative A (see impacts to recreation). The local economic effect of this changing mix of opportunity settings is unknown. However, judging from the existing economic importance of recreation in the planning area (less than 0.1 percent of local employment and earnings), these changes would have little effect on the local economic conditions.

Existing commercial outfitters rely heavily on the P, SPNM, and SPM opportunity settings available in the planning area. The 33 percent gain of P and SPNM opportunity settings from alternative A could increase the demand for primitive backcountry outfitter services in these areas. The 10 percent loss of SPM opportunity settings could decrease the demand for primitive backcountry outfitter services in SPM areas. Because projected demand for commercial services is small and would comprise a small portion of any outfitter's business, these changes in opportunity settings would have little economic effect.

The additional developed recreation sites should have little or no effect on use and related local expenditures. The services offered should not compete with, and therefore not affect, privately-owned recreation developments or commercial outfitters.

TABLE 71-A

Number and Degree of Livestock Operator Impacts Under the Proposed Plan

	Operators with an Increase from Existing Use and Net Revenues			Operators Not Affected	Operators with a Decrease from Existing Use and Net Revenues		
	Over 51%	11 to 50%	1 to 10%		1 to 10%	11 to 50%	Over 51%
Public rangeland forage	0	0	1	77	11	44	6
Total feed requirements	0	0	1	77	55	6	0
Operator returns above variable costs	0	1	0	41	15	69	13

TABLE 72-A

Aggregate Economic Impacts to Livestock Operators Under the Proposed Plan

Livestock Operators	Baseline Situation	Proposed RMP
Gross Revenue	$2,920,700	$2,812,100
Total Variable Cost	2,008,400	2,112,300
Returns Above Variable Cost	912,200	699,800
Returns to Labor and Investment[a]	158,000	-22,900
Livestock Numbers (cattle)	9,206	8,755
(sheep)	3,761	3,806
Total Earnings, Emery County	$459,500	$438,900
Total Employment, Emery County (jobs)	156	149
Total Earnings, Carbon-Emery County	1,103,900	1,054,600
Total Employment, Carbon-Emery County	242	231

NOTE: These budgets assume that ranchers have no long-term outstanding debt, that all operating capital is borrowed, and that existing ranchers would not go out of business.

[a]Returns net of variable and fixed costs to management, non-hired labor, machinery, equipment, and land.

There is no known relationship between special management designations and recreation use. Publicity following designation could increase public awareness of these lesser known areas, and therefore increase visitation and related local expenditures. Even if visitation to these special designation areas were doubled, the local economic effect would be insignificant. This effect, however, could be significant to outfitters who might use these areas.

Desert bighorn sheep, antelope, deer, and elk populations are projected to increase from alternative A. Assuming that population/harvest, harvest/hunter, and population/primary nonconsumptive use ratios remain constant, projected wildlife use and related expenditures would increase employment, earnings, and taxing district revenues as shown here.

		Total	Change from Alternative A
Emery County	Employment (jobs)	24	+4
	Earnings ($)	215,100	+40,800
	Revenue ($)	33,000	+6,200
Carbon-Emery County	Employment (jobs)	31	+6
	Earnings ($)	314,100	+59,570
	Revenue ($)	52,200	+9,900

Other Land Uses

Special conditions, the no-surface-occupancy stipulation, and closures to resource use and production would affect other land uses in much the same way as they affect mineral activities. Some activities within areas of restricted ORV use would require additional coordination with the BLM through a lands action which would not otherwise be required. Much of the increased costs associated with activities in special-condition and no-surface-occupancy zones would be spent in the local economy, thereby increasing local employment and earnings. However, the increased costs would also decrease the amount of other land use activity, thereby decreasing local employment and earnings. The net effect on the local economy cannot be quantified, although it is expected to be small.

The proposed land disposals would be widely scattered and would represent a 0.5 percent increase from the private land base relative to alternative A. This increase in private land base would not affect nearby land values, but would increase local taxing revenues by at least $1,000 from alternative A.

The cost of environmental review for major utility lines is typically $8,000 to $15,000 per mile. This review would cost only an estimated $1,500 to $2,000 per mile in the 24,440 acres of utility corridors proposed for designation under the proposed RMP [Pacific Gas, 1981]. The right-of-way avoidance and exclusion areas should have little or no effect on locating major utility lines.

Plan Budget

The 36 percent increased budget over alternative A needed to implement the proposed RMP would increase employment, earnings, and taxing district revenues as shown here.

		Total	Change from Alternative A
Emery County	Employment (jobs)	12	+3
	Earnings ($)	143,500	+37,800
	Revenue ($)	3,200	+800
Carbon-Emery County	Employment (jobs)	49	+13
	Earnings ($)	924,400	+243,600
	Revenue ($)	25,800	+6,800

Conclusion

Mineral-related employment, earnings, and taxing district revenues would not significantly change. Sediment- and salinity-related costs would decrease. Livestock operator returns above variable costs, ranch value, and associated local employment, earnings, and taxing district revenues would decrease. Wildlife-related local employment, earnings, and taxing district revenues would increase. Increased management restrictions would increase the cost of land disturbing activities in some areas, but the net effect on the local economy is unknown. The land disposals would increase taxing district revenues in Emery County by $970. The environmental review cost of major utility lines would decrease by $6,500 to $13,000 per mile within the utility corridors. The increased budget needed to implement the proposed RMP would increase local employment, earnings, and taxing district revenues.

SOCIAL CONDITIONS

None of the management actions would impact local communities so far as to noticeably affect existing social conditions.

Conclusion

Social conditions of nearby communities would not be affected. The lifestyles of some ranchers would change.

RELATIONSHIP BETWEEN SHORT-TERM USE OF THE HUMAN ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

MINERAL COMPONENTS

Oil and Gas, Coal, Mineral Materials, and Locatable Minerals

Under alternative D, closure of some areas and application of the no-surface-occupancy stipulation in other areas would reduce the short-term production of all mineral resources; however, the long-term productivity of these resources would not be affected, since the area could be made available for development at a later date. The same would be true for locatable minerals under alternative C. Should the plan restrictions remain in place, long-term production would be lost in areas closed to mineral development activities.

BIOTIC COMPONENTS

Soils

Reductions in soil loss caused by restricting surface-disturbing activities would increase short-term soil productivity potential and vegetation conditions and productivity, as well as reduce long-term sediment and salt yield under all alternatives.

Water

Reductions in water yield (or water flow) caused by restricting surface-disturbing activities would increase short-term vegetation productivity and reduce long-term sediment and salt yield under all alternatives.

Vegetation and Riparian and Aquatic Habitat

Reductions in vegetation-disturbing activites under alternatives B, C, and D could improve vegetation conditions in the short term and vegetation productivity over the long term. Activities that cause short-term disturbances to vegetation could decrease vegetation condition and productivity in the long term. The level of potential adverse impact for vegetation would be significantly higher under alternative A than under alternative F and proposed RMP.

Wildlife

Desert Bighorn Sheep

Short-term reductions in activities that disturb desert bighorn sheep could improve vegetation productivity and increase habitat acreage and condition, and desert bighorn sheep health and population numbers over the long term under all alternatives. Potential of disease transmission from livestock to desert bighorn sheep would be reduced in all alternatives except B.

Antelope

Short-term reductions in surface-disturbing activities could lead to long-term improvement in vegetation productivity, habitat condition, and the health and population numbers of antelope under alternatives C, D, E, F and proposed RMP.

Surface-disturbing activities could lead to a long-term decreased vegetation productivity, habitat acreage, habitat condition, and the health and population numbers of antelope under alternatives B and E.

Mule Deer and Elk

Short-term reductions in surface-disturbing activities could lead to long-term improvement in vegetation productivity and long-term increases in habitat acreage, habitat condition, and the health and population numbers of mule deer and elk under alternatives C, D, F and proposed RMP.

Surface-disturbing activities could lead to a long-term decrease in vegetation productivity, habitat acreage, habitat condition, and the health and population numbers of mule deer and elk under alternatives B and E.

Wild Horses and Burros

Short-term reductions in surface-disturbing activities could lead to a long-term increase in vegetation productivity, habitat condition, and habitat acreage, as well as a long-term increase in the health and population numbers of wild horses and burros under all alternatives.

HUMAN USES

Livestock Grazing

Short-term reductions in surface-disturbing activities could reduce the acreage available for grazing and the vegetation condition and productivity in the long term under alternatives A, C, D, E, F and proposed RMP. The level of reduction for these alternatives does not produce a wide change from the current conditions. Reduction of level of surface-disturbing activity in the short term for alternative B has the potential to increase the available acreage for grazing and the vegetation condition and productivity in the long term under alternative B.

Reduction in surface-disturbing activities in the short term has the potential to reduce acreage available for grazing and the vegetation condition and productivity in the long term under alternatives A, C, D, E, F and proposed RMP. The level of reduction for these alternatives does not produce a wide change from the current conditions. Reduction of level of surface-disturbing activity in the short term for alternative B has the potential to increase the available acreage for grazing and the vegetation condition and productivity in the long term under alternative B.

Cultural Resources

Increased surface-disturbing activities in the short term has the potential of damaging cultural resources in the long term.

Recreation

Reduction in surface-disturbing activities in the short term has the potential to increase the value of primitive recreation in the long term in all alternatives. Closure of areas to ORV use in the short term would cause ORV use opportunities to be lost in the long term for alternatives C and D.

Visual Resources

Reduction in surface-disturbing activities in the short term has the potential to increase the visual quality in the long term under alternatives C, D, E, F and proposed RMP, with no change under alternative A. An increase in surface-disturbing activities in the short term would cause a loss of visual quality in the long term under alternative B.

Lands

Addition of exclusion areas in the short term would reduce the opportunity for rights-of-way and surface facilities and structures construction in the long term for alternatives B, C, D, E, F and proposed RMP. No loss would occur under alternative A.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

Table 73 summarizes irreversible or irretrievable commitments of resources that would occur with implementation of the various alternatives.

TABLE 73

Summary of Major Environmental Consequences and Irreversible or Irretrievable Commitments of Resources

Environmental Component	Current Base Rate	Unit	Increase from Base Rate at Year 2000, by Alternative							Resource Commitment	
			A	B	C	D	E	F	Proposed Plan	Irre-versible	Irre-trievable
Petroleum production	0	barrels	13,200	13,200	13,200	3,000	13,200	13,200	13,200	No	Yes
Natural gas production	424,000	MCF	330,000	330,000	330,000	0	330,000	330,000	330,000	No	Yes
Coal production	150,000	tons	0	0	0	0	0	0	0	No	Yes
Mineral material production	210,000	cu yds per year	110,000	110,000	110,000	0	110,000	110,000	110,000	No	Yes
Soil loss	34,324,020	avg tons per year	0	0	0	0	0	0	0	No	Yes
Sediment yield	13,729,605	avg tons per year	0	0	0	0	0	0	0	No	Yes
Salt yield	230,194	avg tons per year	0	0	0	0	0	0	0	No	Yes
Vegetation disturbance	38,400	acres per year	0	0	0	0	0	0	0	No	No
Desert bighorn sheep crucial habitat	[a]109,600	acres lost	0	0	0	0	0	0	0	No	Yes

Antelope habitat	[a]507,340	acres lost	0	1,020	340	340	760	780	780	No	Yes
Mule deer crucial habitat	[a]35,510	acres lost	0	1,800	34,490	75,500	510	0	0	No	Yes
Elk crucial habitat	[a]18,200	acres lost	0	500	0	0	500	0	0	No	Yes
Riparian and aquatic habitat	[a]14,770	acres lost	0	0	0	0	0	0	0	No	No
Wild horse and burro habitat	[a]475,680	acres lost	0	0	0	0	0	0	0	No	No
Livestock grazing area	[a]1,618,940	acres lost	6,820	0	81,440	28,440	7,870	7,790	7,790	No	Yes
Cultural resources	[c]70,000	sites damaged	6,735	6,712	6,060	1,707	6,738	6,707	6,183	Yes	Yes
Primitive recreation opportunities	[b]117,720	acres of lost opportunities	48,040	99,070	3,500	3,480	86,340	36,220	36,220	Yes	Yes
Motorized recreation opportunities	[b]1,539,190	acres of lost opportunities	0	1,539,190	1,097,850	1,282,060	158,320	716,310	1,179,130	No	Yes
Right-of-way corridors	0	acres	27,340	0	0	0	17,060	24,440	24,440	Yes	No
Exclusion areas	0	acres	0	2,030	472,820	1,281,270	1,910	4,970	66,880	Yes	No

TABLE 73 (Concluded)

Environmental Component	Current Base Rate	Unit	Increase from Base Rate at Year 2000, by Alternative							Resource Commitment	
			A	B	C	D	E	F	Proposed Plan	Irreversible	Irretrievable
Land disposals	8,600	acres	0	0	150	0	990	910	910	Yes	Yes
Lands withdrawn from entry	1,780	acres	0	2,060	472,820	1,280,290	1,910	4,970	4,970	Yes	No

NOTE: If the value under an alternative is zero, no unavoidable adverse impact is expected to occur under that alternative in comparison to the current level of management. A value greater than zero measures the level of unavoidable adverse impact occurring for that alternative.

[a]The current base rate equals acres currently available, not acres currently lost.

[b]The current base rate equals acres where opportunities are currently available.

[c]The current base rate equals the number of sites estimated to be present, not sites damaged.

CHAPTER 5, CONSULTATION AND COORDINATION

OVERVIEW

This chapter presents information on consultation and coordination with other federal, state, and local agencies including other Bureau of Land Management (BLM) offices, as required by 40 CFR 1502.25 and 43 CFR 1610.3.

Formal plans and policies of other agencies that may have a bearing on the San Rafael Resource Management Plan (RMP) are summarized here. The proposed RMP and final environmental impact statement (EIS) will discuss whether the proposed RMP is or is not consistent with these plans.

This chapter also discusses public participation in this planning effort.

CONSULTATION

AGENCIES AFFECTED

The area covered by this RMP/EIS includes lands administered by various federal, state, and local governments. The agencies listed below were presumed to be directly affected by this plan. Agencies administering lands adjacent to the San Rafael Resource Area (SRRA) are not listed, although they may be indirectly affected by the RMP.

Department of Agriculture

Forest Service (USFS)
- Manti-LaSal National Forest (NF)
- Fishlake NF

Department of the Interior

Bureau of Land Management
- Price River Resource Area, Moab District, Utah
- Sevier River Resource Area, Richfield District, Utah
- Henry Mountain Resource Area, Richfield District, Utah
- Grand Resource Area, Moab District, Utah

National Park Service (NPS)
- Canyonlands National Park (NP)
- Capitol Reef NP
- Glen Canyon National Recreation Area (NRA)

State of Utah

Division of Lands and Forestry
- State lands

Division of Oil, Gas and Mining
- State minerals

Division of Parks and Recreation
- Goblin Valley State Park
- Green River State Park
- Huntington State Park

Division of Wildlife Resources (UDWR)

Local Governments

Emery County
- County facilities
- Law enforcement
- Land administration

City Governments
- Castle Dale
- Clawson
- Emery
- Ferron
- Green River
- Huntington
- Orangeville

Federal, state, or local agencies having management, advisory, or consultant responsibility for resources within SRRA not directly tied to specific tracts of land are discussed under Agencies Consulted or listed under Distribution, below.

AGENCIES CONSULTED

Various agencies have been consulted throughout the planning process. Information, ideas, and interpretations were exchanged through formal and informal meetings, telephone calls, and correspondence. The results of these consultations are summarized in table 74. Complete records of these contacts may be reviewed in the SRRA office.

A public workshop was held in Huntington in November 18, 1987 for the purpose of explaining the planning process and receiving public input for alternative development.

The U.S. Fish and Wildlife Service (USFWS) provided an informal consultation for the San Rafael RMP/EIS under Section 7 of the Endangered Species Act in December 1987 and April 1988. The requirement for formal consultation with the Advisory Council on Historic Preservation and the USFWS was met by providing copies of the draft RMP/EIS to these agencies for review.

The area manager explained the planning process and the upcoming RMP to the Emery County Commission and the Green River City Council in February and April 1988.

The area manager explained the upcoming RMP to U.S. Congressman Howard Nielson in February 1988.

Informal meetings were held in February and March 1988 to brief representatives of BLM's Henry Mountain and Sevier River Resource Areas on proposed alternatives, off-road vehicle (ORV) designations, and range management practices within the upcoming RMP/EIS.

CONSISTENCY WITH OTHER PLANS

The BLM planning regulations (43 CFR 1610.3-2) require that RMPs be consistent with the plans of other federal agencies and state and local governments, so long as the RMP is also consistent with federal law and regulations governing management of the public lands. Where no formal land use plans have been developed, the RMP must be consistent with officially approved policy and programs of the other agencies.

Formal land use plans already developed or under preparation for several areas covered by the San Rafael RMP are summarized below.

TABLE 74

Agencies Consulted

Federal Agencies	Topics Discussed
U.S. Forest Service	Visual Resource Management classes/Visual Quality objectives along BLM/Manti-LaSal National Forest boundaries.
U.S. Geological Survey	Water quality and quantity data.
Bureau of Reclamation	Current status of studies within planning area, status of salinity control projects; water quality data Price/San Rafael project.
Soil Conservation Service	Salinity control work status and data, soils data, irrigation data.
Bureau of Land Management	
Sevier River Resource Area Richfield District, Utah	Livestock, big game, and critical soils management on Sevier River allotments administered by SRRA. ORV designations on FPU.
Henry Mountain Resource Area Richfield District, Utah	Livestock, and critical soils management on Henry Mountain allotments administered by SRRA.
U.S. Fish and Wildlife Service	Threatened and endangered species.
State Agencies	**Topics Discussed**
Utah Department of Transportation	Mineral materials needs for State and federal highways.
Utah Division of Water Rights	Water rights information; Utah water rights allocations.
Utah Division of Wildlife Resources	Woodlands inventory information. Big game management plan status.
Utah Division of Water Resources	Watershed acreage.

(Continued)

TABLE 74 (Concluded)

County and Local Agencies	Topics Discussed
Emery County Road Department	Mineral materials needs for county road maintenance.
Emery County Water Conservancy District	Municipal water information and demand, irrigation and industrial water demand and statistics, current water use and municipal watershed concerns.
Castle Valley Special Services District	Municipal, irrigation, and industrial information and demand statistics and municipal watershed concerns and current water use.
Southeastern Utah Association of Governments	Water quality management plans under Section 208; water quality and climatic data, special recommendations and concerns for municipal watersheds.
Emery Irrigation Company	Irrigation water demand and statistics; special recommendations for municipal watersheds and concerns.
Huntington Cleveland Irrigation Company	Reservoir status; irrigation water demand and statistics, special management concerns, recommendations for municipal watersheds.
Other Organizations	**Topics Discussed**
Utah Power and Light Corporation	Current water use, industrial water use statistics, municipal watershed concerns.
Jensen Law Office	Muddy Creek Irrigation Project.
Utah State University	Woodland inventory information.
Johansen & Tuttle Engineering	Special management concerns and recommendations for municipal watersheds.
Mountain Fuel	Status of proposed reservoir project in Emery County.
North Emery Water Users Association	Culinary water use information.

DEPARTMENT OF AGRICULTURE

The USFS released management plans and EISs for all units of the Manti-LaSal and Fishlake NFs in 1986.

The USFS plans show zones for general big game winter range, grazing use by domestic livestock, and wood-fiber production and harvest. The zones are consistent with the base data used in the RMP/EIS, although treatment of public lands adjacent to the proposed USFS zones would vary by alternative in the RMP/EIS.

The USFS administers the surface over federal minerals in the planning area, while BLM manages the minerals. Both USFS plans address areas of potential coal mining operations. All coal mining on the Wasatch Plateau and addressed in USFS land use plans will be by underground methods.

For coal land on Manti-LaSal NF, USFS applied the unsuitability criteria [USFS, 1986a] and then conducted a capability assessment and a multiple use management evaluation. A map prepared from all three assessments shows eight geographic areas on the Wasatch Plateau. The document [USFS, 1986b] presents issues and concerns for each of the eight areas and a narrative of conclusions as to each area's suitability for coal leasing.

Under USFS management, all other mineral activities are treated in the same manner as on public lands.

Since potential utility corridors identified in the USFS plan which adjoin planning area lands are not open to new rights-of-way, the Huntington Canyon potential utility corridor ends at the Huntington powerplant and does not extend to the forest boundary. No other potential right-of-way corridor adjoins the Manti-LaSal NF. Rights-of-way extending from the planning area into the forest are coordinated with USFS. Management is consistent with the Manti-LaSal plan. The Fishlake Land and Resource Management Plan identified the Trough Hollow planning window for potential window designation. This planning window abuts the potential corridor/window identified in the forest planning unit (FPU) and continuing into SRRA in this RMP/EIS. Management is consistent with regard to the Trough Hollow window. No transportation corridors were identified in the RMP/EIS, and management may or may not be consistent with regard to the USFS Salina Canyon window.

Since none of the lands identified for potential disposal have been identified as needed in any other agency's plans, management for disposal would be consistent.

Current USFS plans do not directly affect lands actions in the SRRA and FPU, but may do so indirectly. For example, oil and gas leases on the NFs could require access across public lands, which would require BLM action.

The USFS plans also establish recreation management areas within the NFs, according to a system very similar to, but not exactly the same as, BLM's recreation opportunity spectrum (ROS). Existing ROS classes identified by BLM are generally consistent with ROS classes identified by both Manti-LaSal and Fishlake NFs.

ORV designations identified in the USFS plan are generally consistent with the RMP/EIS alternatives. Minor variations occur along the USFS-BLM boundary; however, extreme changes in topography and elevation make these areas largely inaccessible to motorized vehicles.

The USFS plans establishes visual resource management (VRM) areas within the NFs, based on a system very similar to, but not exactly the same as, BLM's VRM system.

ENVIRONMENTAL PROTECTION AGENCY

BLM has reviewed the Environmental Protection Agency's (EPA's) concerns regarding management of air, watershed, and soil resources on public lands and incorporated them into the RMP analysis wherever

possible [EPA, 1985 and 1987]. Some watershed concerns would be handled at the activity planning stage, instead of within this RMP/EIS. Site-specific concerns, such as the use of pesticides or herbicides, would be included in the National Environmental Policy Act (NEPA) documentation prepared for a specific project.

DEPARTMENT OF THE INTERIOR

National Park Service

NPS has prepared general management plans for Canyonlands NP, Capitol Reef NP, and Glen Canyon NRA, as well as activity plans covering specific resource uses in these areas.

Canyonlands National Park

Public Law 88-590, September 12, 1964, established Canyonlands NP, and Public Law 92-154, November 12, 1971, revised the park's boundaries. Although all grazing was terminated as of June 30, 1975 on lands within the original park boundaries, the Secretary issued a policy directive on February 11, 1975 allowing grazing on the lands included in the boundary until May 31, 1983 (revision in Public Law 92-154). During this time, a cooperative management agreement between NPS and BLM outlined BLM's management of grazing within the park until the phase-out was complete.

The management plan for Canyonlands NP [NPS, 1978] divides the park into different management zones. The isolated section of Canyonlands NP, entirely within the Horseshoe South Allotment, is in the park's historic zone. The affected acreage of the NP in this allotment totals approximately 6,870 acres [BLM records].

NPS has prepared activity plans to cover specific land uses within Canyonlands NP. The Natural Resource Management Plan (September 1985) and the Back Country Management Plan (December 1985) do not address uses of the adjacent public lands.

Capitol Reef National Park

The general management plan (October 1982) for Capitol Reef NP established four management zones: natural, recreation and resource utilization, development, and cultural. Lands along the NPS-BLM boundary fall into the natural zone.

Federal lands managed by NPS within the planning area are closed to mineral leasing. Capitol Reef General Management Plan does not address mineral material disposal, but indicates that an approved plan of operation would be required prior to any exploration or mining activities.

Under the Capitol Reef National Park Act, BLM is responsible for management of grazing in Capitol Reef NP. The Act contains a plan to phase out grazing in the NP by allowing the original permit holder or his heirs only one renewal of a 10-year permit. Public Law 97-341 (October 15, 1982) amended this act to allow the current permit holder or his/her heir to maintain the permit until December 31, 1994. After this date, the permit ceases to exist. The permit cannot be transferred to another party.

A portion of the Rock Springs Allotment overlaps Capitol Reef NP. The original permit holder was Carlyle Baker, who transferred grazing privileges to the Taylor-Johnson Land Company on September 26, 1972. The grazing privileges on the Rock Springs Allotment, including the portion in Capitol Reef NP, were transferred to Jeffery Ranches, Inc. on March 17, 1978. BLM issued a decision suspending grazing in the Capitol Reef NP portion of that allotment to comply with the Capitol Reef National Park Act. Jeffery Ranches, Inc. filed an appeal on March 31, 1986 (case UT-050-85-4), and an Interior Board of Land Appeals (IBLA) decision on that appeal is now pending (May, 1988). The affected acreage of the NP in this allotment totals approximately 3,310 acres [BLM records].

The Capitol Reef plan allows for maintenance of the natural setting with no development other than routine road maintenance. ORV use in these areas is limited to designated roads. The adjacent public lands in Emery County fall into the semiprimitive motorized (SPM) and roaded natural (RN) ROS classes. No conflicts have been identified with existing BLM management and designated ROS classes of adjacent areas in Emery County. Management of public lands would vary among the RMP/EIS alternatives and may or may not be consistent with NPS management.

Glen Canyon National Recreation Area

The Act of October 27, 1972, which established Glen Canyon NRA, gives BLM the responsibility to manage grazing in Glen Canyon NRA and requires consultation with NPS prior to any range improvements or proposed changes in grazing use. A portion of Glen Canyon NRA is in the Horseshoe South Allotment. The affected acreage of the NRA in this allotment totals approximately 12,810 acres [BLM records]. The mesa tops are in the recreation and resource utilization management zone, and lands below the rims are in the natural zone [NPS, 1982a].

The general management plan for Glen Canyon NRA (November 1979) established four management zones: natural, recreation and resource utilization, development, and cultural. Lands along the NRA-BLM boundary fall into the recreation and resource utilization zone. ORV use in these areas is limited to designated roads. The adjacent public lands in Emery County fall into semiprimitive nonmotorized (SPNM) and SPM ROS classes. Management of public lands would vary among the RMP/EIS alternatives and may or may not be consistent with NPS management.

The recreation and resource utilization zone permits development of mineral resources and is thus consistent with both existing BLM management and all other alternatives.

U.S. Fish and Wildlife Service

USFWS has approved recovery plans for the peregrine falcon (Rocky Mountain southwest population, 1984), the bald eagle (1983), the black-footed ferret (1978), endangered fish species in the upper Colorado River Basin (1987), and Wright Fishook Cactus (1985). These recovery plans are consistent with BLM policy and provide guidance and information for threatened or endangered (T/E) species management.

Bureau of Land Management

RMPs have been completed for two adjacent resource areas: Grand Resource Area, Moab District, to the east, and Henry Mountain Resource Area, Richfield District, to the south. A management framework plan (MFP) was prepared for the Price River Resource Area, Moab District, to the north.

Grand Resource Area Resource Management Plan

The Grand RMP, adopted in June 1985, included management decisions for several programs. Those affecting lands along the SRRA boundary concerned utility corridors and recreation.

The potential utility corridor follows an existing 345-kilovolt power transmission line corridor. The adjacent corridor considered in this RMP/EIS aligns with that in the Grand RMP; thus management would be consistent.

Under a 1978 verbal agreement with Grand Resource Area, SRRA manages recreation use on both sides of the Green River in the Labyrinth Canyon river corridor.

Henry Mountain Resource Area Management Framework Plan

An "Interdistrict Agreement for Vegetation Allocation to Livestock, Wild Horses, Burros, and Wildlife Habitat Management between the District Manager, Richfield and the District Manager, Moab" (May 4, 1980) defines the administrative responsibility for livestock, wildlife, and wild horse and burro management; planning and EIS development; and range improvement programs on allotments overlapping district boundaries. SRRA is responsible for managing grazing on the Sweetwater (69,780 acres), Pasture Canyon (30,390 acres), and Jeffery Well (74,560 acres) allotments [acres obtained from BLM records]. Collection of ecological site inventory data for these areas is the responsibility of SRRA (completed 1985).

Price River Resource Area Management Framework Plan

The potential utility corridor follows an existing 345-kilovolt power transmission line corridor. The adjacent corridor considered in this RMP/EIS aligns with the potential corridor identified in the Price River MFP; thus management would be consistent.

Ecological site inventory was completed in 1985 on two parcels of Price River Resource Area land that were not previously inventoried (the Buckmaster Allotment (1,160 acres) and the Cleveland Summer Allotment (1,280 acres)). The grazing portion of the Price River Resource Area MFP is consistent with all alternatives in the San Rafael RMP/EIS.

The Price River Resource Area MFP prohibits major construction activities during critical time periods on occupied desert bighorn sheep range (lambing area) that adjoins the planning area. The RMP/EIS considers a similar restriction for the desert bighorn sheep habitat. Management would be consistent.

Management under the San Rafael Proposed RMP would be inconsistent with the Price River Resource Area MFP on management of the Icelander antelope herd. The Price River Resource Area has completed the Grassy Trail Habitat Management Plan (HMP) on the major antelope habitat area in the Icelander herd. This inconsistency will be corrected by completion of an HMP.

STATE OF UTAH

The Utah Division of Oil, Gas, and Mining (DOGM) manages oil and gas resources on state lands. The BLM and DOGM work closely together under similar management plans.

The state does not have a comprehensive land use plan, but it did propose in Project BOLD [UDNR, 1982] to block up the pattern of state and federal land ownership. If Project BOLD is implemented, the San Rafael RMP would probably have to be amended or revised to bring it into conformance with the new ownership pattern.

In 1980 the state completed the Utah Outdoor Recreation Plan, which shows outdoor recreation use and projected increases. Recreation management on public lands within SRRA would vary by RMP/EIS alternative and may or may not allow for increased recreation use levels consistent with the state recreation plan.

Green River, Huntington, and Goblin Valley State Parks do not have current management plans. The plans are scheduled for completion in 1988.

Public Law 566 prompted watershed plans to be written for the Muddy Creek Watershed, Cottonwood Watershed, and Ferron Creek Watershed. Management of these watersheds would be consistent with these plans under all alternatives analyzed in the proposed RMP/EIS.

No bighorn sheep or antelope herd managment plans have been initiated. UDWR has stated its intention to prepare elk herd management plans for the Manti and Fishlake herds. These plans will be completed by 1988.

UDWR has prepared deer herd management plans for units 29, 33, 34, 35, 36, 45, and 46. These are interagency plans, with UDWR being the lead agency and BLM contributing to the draft. These plans have been completed and await signing. The plans do not conflict with wildlife habitat management in the planning area.

LOCAL GOVERNMENTS

Emery County is in the process of producing a land use plan, scheduled for completion in December 1988. However, there are indications that the planning effort has been put on hold due to budget priorities.

The January 1984 Emery County Zoning Resolution established zones for residential, agricultural, and mining and grazing uses as well as for the county's unincorporated areas. The 1979 Revised Ordinances of Sevier County include a zoning plan for that county's unincorporated areas. The plans include zone locations and identify conforming or nonconforming uses. Most of the public land in SRRA is in the mining and grazing zone (M&G-1) and is open to oil and gas development, but companies may apply for variances in other zones. Lands actions have fallen into one of two categories: permitted nonconditional uses or permitted conditional uses. Public lands within the town of Emery fall within the residential zone (R-1) as established in the town's zoning ordinance. Small segments of public land bordering private land fall in the agricultural zone (A-1). Lands actions in these areas have been consistent with A-1 zoning. All of the public land in FPU is in the grazing, recreation, and forestry zone (GRF-1). Lands actions in this area have been consistent with GRF-1 zoning. Management of public land addressed in this RMP/EIS would vary by alternative and may or may not be consistent with the county plans.

Under current BLM policy, both the Emery and Sevier County Commissions and the Governor are asked to provide consistency review of each major lands action contemplated. The commissioners are invited to comment on each individual action as it relates to county development. The Governor reviews plans and planning amendments for consistency with state and local plans, policies, or programs (43 CFR 1610.3-2(e)).

Local agencies involved with use and management of the waters in municipal watershed areas were asked about watershed management concerns. They expressed some concerns about water quality, including industrial contamination, i.e., chemical spills, recreational pollution, and micro-contamination. However, they did not provide specific recommendations [Darrel Leamaster, District Manager, Castle Valley Special Services; Carly Burton, UP&L; and Howard Tuttle, Engineer, Johansen and Tuttle Engineering, personal communications, February 1988].

COORDINATION

The SRRA has coordinated with other federal, state and local governments for management of certain aspects of federal lands and resources. These are summarized here and explained more completely in the management situation analysis (MSA).

DEPARTMENT OF AGRICULTURE

BLM is responsible for issuing mineral leases and recording and adjudicating mining claims on USFS lands. USFS sets the reclamation requirements and participates in BLM's approval of applications for permit to drill (APDs) on USFS lands.

DEPARTMENT OF THE INTERIOR

National Park Service

The Act of October 27, 1972, which established Glen Canyon NRA, provided that lands within the NRA would be managed under the NPS Organic Act. The law further provided that BLM would administer the minerals and grazing leases, following the same policies used on public lands. The law withdrew lands within the NRA from mineral

entry, but provided that nonleasable minerals could be leased upon preparation of suitable regulations. However, no regulatory provision has yet been made to lease locatable or salable minerals. Under current regulations and agency policy, minerals can be developed in the NRA only under an oil and gas lease. An APD for a lease on the NRA would be handled the same as APDs on USFS lands. All other federal lands managed by NPS within the planning area are closed to mineral leasing.

BLM administers livestock grazing within Capitol Reef NP on one grazing allotment (Rock Springs) consisting of 3,310 acres and within Glen Canyon NRA on one allotment (Horseshoe South) consisting of 12,810 acres. BLM consults NPS prior to approval of any range improvement.

BLM is presently (May 1988) working with NPS to develop an agreement for a joint study for potential wild and scenic river designations. This study will include all nominated areas within BLM's Moab District. The study will be completed within 5 years after completion of this RMP/EIS.

Bureau of Reclamation

Bureau of Reclamation (BOR) and Soil Conservation Service (SCS) are working on a plan to control deep water seepage and reduce irrigation return flows on the Ferron, Cottonwood, and Huntington drainages. BLM will continue working with these agencies and assist them with their plans.

BOR has a major proposal to inject saline spring and ground water from the Dirty Devil drainage system into the Coconino Formation. The drainage systems involved are Hanksville Salt Wash and Emery Salt Wash. BLM will continue to work with BOR on this proposal.

Bureau of Land Management

Interdistrict agreements between the Richfield and Moab district managers define the administrative responsibilities for management of livestock, wildlife, and wild horses and burros and development of planning documents, EISs, and range improvement programs on allotments overlapping district boundaries.

Under a 1978 verbal agreement with Grand Resource Area, SRRA manages recreation use on both sides of the Green River in the Labyrinth Canyon river corridor.

STATE AND LOCAL GOVERNMENTS

BLM cooperates with the Utah Division of Parks and Recreation to maintain interpretive facilities at Green River State Park and to manage the annual Goblin Valley trail ride and Green River canoe trip.

Management of wildlife in SRRA is covered by several agreements among BLM, USFWS, and UDWR. UDWR administers the wildlife resource and hunting; BLM manages the wildlife habitat.

The Watershed Protection and Flood Prevention Act, as amended, prompted watershed plans to be written for the Muddy Creek Watershed, Cottonwood Watershed, and Ferron Creek Watershed. Management of the watersheds would be consistent with those plans under all alternatives analyzed in the RMP/EIS.

Management of local roads within SRRA, excluding state and city roads, is coordinated under a 1980 memorandum of understanding between Emery County and BLM's Moab District. This agreement recognizes the county's claim to its class B roads under Revised Statute 2477 and state laws.

Management of roads in FPU is coordinated under a 1970 memorandum of understanding among Sevier County and BLM's Richfield and Fillmore Districts, and the former Price District (which is now the Moab District).

The Southeastern Utah Association of Governments has been preparing water quality management plans under Section 208 of the Water Pollution Control Act. The greatest potential for improvement in the planning area is identified as salinity control. Watershed

management under all alternatives analyzed in this RMP/EIS would be consistent with these plans.

PUBLIC PARTICIPATION

The Federal Land Policy and Management Act of 1976 (FLPMA), the Council on Environmental Quality (CEQ) regulations, and BLM guidelines require that the planning process include public involvement. A formal call for public review and comment is required for the identification of issues (planning step 1); development of planning criteria (step 2); and the RMP/EIS, which documents the formulation of alternatives (step 5), estimation of effects (step 6), and selection of the preferred alternative (step 7). Provisions are made for formal public protest after selection of the final RMP (step 8). Public participation may also be made a part of the implementation of the plan (step 9) through project-specific NEPA documentation (table 2, in the Introduction to this RMP/EIS). The BLM will review comments and additional information supplied by the public at any stage of the planning process, and incorporate them where appropriate.

The San Rafael RMP/EIS process began with publication of a notice of intent to plan in the Federal Register on June 3, 1985. The notice listed proposed planning issues and called for public comment on those or additional issues. This met the scoping requirement found at 40 CFR 1501.7.

A preplanning analysis, which included a public participation plan, was prepared in September 1985, with a Supplement A added in June 1986 and distributed to the public to provide information about the San Rafael RMP effort.

A 30-day public comment period on the draft planning criteria ended February 22, 1986. The draft criteria were revised in response to the comments received.

Publication of the draft RMP/EIS marked the beginning of a formal public review and comment period. The public was invited to comment on any aspect of the planning process, but especially the alternatives analyzed, data considered in the description of the affected environment, the projection of estimation of effects, and selection of the preferred alternative.

The proposed RMP and final EIS were prepared after the comments received from the public and other agencies were reviewed. The data and conclusions originally presented in the draft RMP/EIS were revised to accommodate additional information or public concerns. The proposed RMP differs from the preferred alternative presented in the draft RMP/EIS as a result of public comments, comments of other agencies, and agency (BLM) review.

The proposed RMP as presented with the final EIS is subject to public protest through a formal procedure explained at 43 CFR 1610.5-2. The final RMP may incorporate changes resulting from either a successful protest or the Governor's consistency review.

A rangeland program summary (RPS) is required by BLM policy to brief the public on range management decisions and monitoring. The RPS will present information organized by grazing allotment and will be published along with the final RMP.

Public participation has also been used to compile information used in the MSA, the affected environment portion of the EIS, formulation of alternatives, and their analyses. Public nominations were considered in formulating a list of potential ACECs. Ranchers were interviewed to provide information used in grazing analysis. Other individuals and groups have also added to the data base for this RMP/EIS.

Monitoring and evaluation of the final RMP may result in changes to the RMP. These will be documented through plan supplements, amendments, or revisions (appendix A). Amendments and revisions will be subject to the same public participation opportunities as this RMP/EIS. Formulation of activity plans or implementation of specific projects will be open to public involvement through NEPA documentation requirements, usually through an environmental assessment (EA).

DISTRIBUTION

Copies of the draft RMP/EIS were sent to the following individuals, organizations, industries, educational institutions, and government agencies. Following the publication of the draft, approximately 200 additional copies were mailed as requested by individuals and groups.

INDIVIDUALS

Richard Allison	Helper UT
Julie L. Andersen	Denver, CO
Russ Anderson	Long Beach CA
Sb Anpu	Kearns UT
T. Merlin Ashman	Redmond UT
Verl Bagley	Greenwich UT
Joseph Bauman	Salt Lake City UT
Elliott Bernshaw	Salt Lake City UT
Jean Binyon	Salt Lake City UT
Charles Bongo	Grand Canyon AZ
Jim Bonine	Eagle ID
John Bonine	Eugene OR
Joseph Boyle	Elverson PA
Lance Bradbury	Orangeville UT
Richard A. Brass	Helper UT
Phil Briggs	Beckville TX
John Brinkerhoff	Bicknell UT
Duane Buchanan	Freemont UT
Max Call	Manti UT
Chas Cartwright	Moab UT
Lee Cassin	Aspen CO
Kim Christy	Salt Lake City UT
J. Elmer Collings	Monroe UT
Elliot A. Crane	Salina UT
James A. Crane	Salina UT
William and/or Marlene E. Crane	Salina UT
Wayne Cunningham	Richardson TX
Cathy Dahms	Albuquerque NM
Dennis Divoky	West Glacier MT
J. Elden Dorman, M.D.	Price UT

INDIVIDUALS (Continued)

Jim Dryer	Moab UT
Don P. Edwards	Boulder CO
Woody Farnsworth	Richfield UT
Harlan Feder	Glenwood Springs CO
Bert Fingerhut	New York NY
Art Foran	Clancy MT
Jim Frankenfield	Logan, UT
Sandra Freethey	Salt Lake City UT
Kay L. Frischknecht	Manti UT
Vaughn Furness	Logan UT
Steven B. Giddings	Lincoln MA
Audrey Graham	Moab UT
Rodney Greeno	Salt Lake City UT
Scott Groene	Mexican Hat UT
Gary Hallows	Loa UT
George Hanawalt	Tularosa NM
Evan Hansen	Monroe UT
Kevin Holladay	Grand Canyon AZ
Keith R. Hooper	Richfield UT
Pete Hovingh, Utah Nature Study Society	Salt Lake City UT
Jay Humphrey	Orangeville UT
Roger Hunt	Price UT
Bill Ingalls	Vernal UT
Thomas Jeffery	Freemont UT
Bruce Jensen	San Leandro CA
Dr. Stephen C. Jett	Davis CA
Abner Johnson	Fillmore UT
Andrew Jones	Los Angeles CA
Bonnie Kale	Ferron UT
Bob and Barbara Kerr	Fruita CO
Clive Kincaid	Boulder UT
Wayne King	Churdan IA
William C. Kirkwood	Casper WY
William Lockhart	Salt Lake City UT
Ken Lucas	Grand Junction CO
Andrew McConkey	Boulder CO
Brian McDonald	Albuquerque NM

INDIVIDUALS (Continued)

Patrick McGann	Moab UT
Daniel T. McGill	Grand Junction CO
Joyce Marsing	Price UT
Thomas J. Messenger	Arlington VA
Ron Messick	Riverside CA
Chris Montgomery	Denver CO
Meeks Morrell	Bicknell UT
Federick E. Mueller	Blanding UT
Robert L. Naillon	West Valley City UT
George Nickas	Salt Lake City UT
David S. Oakley	Boulder CO
Randall Payne	Renton WA
Mark Pearson	Grand Junction CO
Henry Peck	New Carlisle OH
William Peterson	Litchfield MN
Owen Price	Orangeville UT
Mr. and Mrs. Bruce Puckett	Los Altos CA
Clay Puckett	Orem UT
Tom Rike	Eugene OR
John Remakel	Chicago IL
Mark Richards	Fresno CA
Mike Riley	Lander WY
Mark Ristow	Indianapolis IN
Klar Robinson	Richfield UT
Jake Rothney	Boulder CO
Kevin Royle	Mar Vista CA
Michael Salamacha	Moab UT
David Schein	Mount Propsect IL
Terry L. Sell	Rock Springs WY
Owen Severance	Monticello UT
Bob Steele	Denver CO
Tom Swell	Florence MT
Catherine Sharpsteen	Logan UT
Earl Slack	Glenwood UT
Ken Sleight	Moab UT
Howard Smallowitz	Austin TX
John Spezia	Steamboat Springs CO

INDIVIDUALS (Concluded)

Richard Spotts	Sacramento CA
Sid L. Swasey	Ferron UT
Karl Taft	Bicknell UT
Virginia Talbot	Ferron UT
Peggy Taylor	Flagstaff AZ
Tim Toburen	Durango CO
Scott Truman	Castle Dale UT
Robert Tubbs, Jr.	Arvada CO
Wayne Urie	Springville UT
Richard J. Valentine	Hingham MS
Beth Wedge	Grand Canyon AZ
Leon Werdinger	Terlingua TX
Glen Willardson	Richfield UT
Dwight Williams	Teasdale UT
Brian Wood	Sante Fe NM
Dennis Worwood	Castle Dale UT

ORGANIZATIONS

American Rivers	Washington, D.C.
American Mustang and Burro Assoc., Inc.	Liberty Hill TX
Blue Ribbon Coalition	Pocatello ID
Center for Environmental Health	Atlanta GA
Concerned Citizens Public Land Committee	Escalante UT
Deseret News	Salt Lake City UT
Director of River Protection	Washington D.C.
Hondoo Rivers and Trails	Torrey UT
Minerals Exploration Coalition	Denver CO
Moab District Grazing Advisory Board	Moab UT
Moab District Multiple Use Advisory Council	Moab UT
Moki Mac River Expeditions	Green River UT
Mountain Men of the Wasatch	Salt Lake City UT
National Mustang Association, Inc.	New Castle UT
National Parks and Conservation Association	Salt Lake City UT
Natural Resources Defense Council	Washington D.C.
Pathfinders Motorcycle Club	Price UT
Piute Tribe of Utah	Cedar City UT

ORGANIZATIONS (Concluded)

Poisonous Plant Research Lab	Logan UT
Pruitt, Gushee and Fletcher	Salt Lake City UT
Red Rock 4-Wheelers	Moab UT
Red Rock River Company	Salt Lake City UT
Rocky Mountain Oil and Gas Association	Denver CO
Salt Lake Tribune	Salt Lake City UT
Sierra Club	Phoenix AZ
Sierra Club, Cache Valley Chapter	Logan UT
Sierra Club, Utah Chapter	Salt Lake City UT
Sierra Club Legal Defense Fund, Inc.	Denver CO
Slickrock Country Council	Moab UT
Southern Utah Wilderness Alliance	Springville UT
The Nature Conservancy	Wellsville UT
Utah Professional Archaeological Council	Salt Lake City UT
Utah Trail Machine Association	Salt Lake City UT
Utah Wilderness Association	Salt Lake City UT
Ute Tribal Museum	Fort Duchesne UT
Wilderness Society	Denver CO
Wilderness Society	Salt Lake City UT
Woodward-Clyde Consultants	Denver CO

INDUSTRIES

ARCO Exploration Company	Denver CO
AFRCE-CR/ROV	Dallas TX
AMOCO Production Company	Denver CO
ASARCO Incorporated	Tucson AZ
BWAB, Inc.	Denver CO
Colorado River Basin Salinity	Bountiful UT
Consolidated Coal	Emery UT
Coors Energy Company	Golden CO
Energy Fuels Nuclear, Inc.	Kanab UT
Exxon Company, USA	Midland TX
Grand River Consultants, Inc.	Grand Junction CO
Jacobs Engineering Group, Inc.	Houston TX
Jeffery Ranches, Inc.	Fremont UT
Johansen and Tuttle Engineering	Castle Dale UT

INDUSTRIES (Concluded)

Johnson Cattle Company	Aurora UT
Marathon Oil Company	Casper WY
Meridan Oil, Inc.	Englewood CO
Mobile Oil Company	Denver CO
Mountain States Resources Corporation	Salt Lake City UT
Placer U.S., Inc.	San Francisco CA
Seeley Oil Company	Salt Lake City UT
Southern Utah Fuel Company	Salina UT
The Pace Company	Houston TX
Union Energy Mining Division	Los Angeles CA
Uranerz, USA, Inc.	Denver CO
Utah Power and Light Company	Richfield UT
Utah Power and Light Company	Salt Lake City UT
Wild Horse Strategic Minerals	Lexington KY
Yates Petroleum Company	Artesia NM

EDUCATIONAL INSTITUTIONS

College of Eastern Utah	Price UT
Colorado University	Boulder CO
Northwestern University	Evanston IL
Price City Library	Price UT
University of Utah	Salt Lake City UT
Utah State University	Logan UT
Washington State University, Dept. of Anthropology	Pullman WA
Washington State University, Environmental Science and Regulation Planning	Pullman WA

GOVERNMENT AGENCIES

Advisory Council Historic Preservation	Denver CO
Canyonlands National Park	Moab UT
Capitol Reef National Park	Torrey UT
City of Clawson	Clawson UT
City of Green River	Green River UT
City of Orangeville	Orangeville UT
Environmental Protection Agency	Denver CO

GOVERNMENT AGENCIES (Concluded)

Environmental Protection Agency	Washington D.C.
Emery County Commission	Castle Dale UT
Federal Highway Administration	Salt Lake City UT
Fishlake National Forest	Richfield UT
Glen Canyon National Recreation Area	Page AZ
National Park Service, Rocky Mountain Regional Office	Denver CO
Office of Planning and Budget, State of Utah	Salt Lake City UT
Southeastern Utah Association of Local Governments	Price UT
State Historic Preservation Officer	Salt Lake City UT
U.S. Bureau of Land Management	Richfield UT
U.S. Forest Service, Manti-LaSal Supervisors Office	Price UT
U.S. Bureau of Reclamation	Provo UT
U.S. Bureau of Reclamation	Durango CO
U.S. Bureau of Reclamation	Grand Junction CO
U.S. Fish and Wildlife Service	Salt Lake City UT
U.S. Geological Survey	Salt Lake City UT
U.S. Geological Survey	Portland OR
U.S. Office of Surface Mining	Denver CO
U.S. Soil Conservation Service	Price UT
Utah Department of Transporation	Price UT
Utah Division of Oil, Gas and Mining	Salt Lake City UT
Utah Division of Parks and Recreation	Salt Lake City UT
Utah Division of Water Rights	Price UT
Utah Division of Water Rights	Salt Lake City UT
Utah Division of Wildlife Resources	Price UT
Utah Farm Bureau	Springville UT
Utah Resource Coordination Committee	Salt Lake City UT
Utah State Lands and Forestry	Moab UT

ELECTED OFFICIALS

Honorable Norman Bangerter, Governor	Salt Lake City UT
Honorable Omar Bunnell	Price UT
Honorable Tom Christensen	Venice UT
Honorable Duane Collard, Emery County Commission	Castle Dale UT
Honorable Michael Dmitrich	Price UT
Honorable Rey Lloyd Hatt, Mayor	Green River UT

ELECTED OFFICIALS (Concluded)

Honorable Tom Humphrey, Mayor	Orangeville UT
Honorable Jake Garn	Salt Lake City UT
Honorable Orin Hatch	Salt Lake City UT
Honorable Donald Jorgensen, Mayor	Castle Dale UT
Honorable Sheril McCarthur, Mayor	Huntington UT
Honorable Jerry Mangum, Emery County Commission	Castle Dale UT
Honorable Howard Nielson	Provo UT
Honorable Cary Peterson	Nephi UT
Honorable Gary L. Petty, Mayor	Emery UT
Honorable Max Ralphs, Mayor	Ferron UT
Honorable Wade Reilly, Mayor	Clawson UT
Honorable Clyde Thompson, Emery County Commission	Castle Dale UT

EIS AVAILABILITY

Copies of this draft RMP/EIS will be available for public inspection at the BLM offices listed below:

Washington Office of Public Affairs
18th and C Streets, NW
Washington DC 20240

Utah State Office
324 South State Street
Salt Lake City, UT 84111-2303
Phone (801) 524-4227

Moab District Office
82 East Dogwood Street
Moab UT 84532-0970
Phone (801) 259-6111

Richfield District Office
150 East 900 North
Richfield UT 84701
Phone (801) 896-8221

San Rafael Resource Area
900 North 700 East
Price UT 84501
Phone (801) 637-4584

Copies may be obtained by contacting the San Rafael Resource Area office.

LIST OF PREPARERS

INTERDISCIPLINARY PLANNING TEAM

J. Michael Berch, Supervisory Realty Specialist, served as the technical coordinator for the proposed RMP and final EIS. Mike has worked in SRRA since 1988 and has 13 years experience in this and related jobs.

Les E. Dobson, Staff Hydrologist, prepared the alternative management actions for and analysis of impacts to air quality. Les has worked in the Moab District since 1983 and has 6 years experience in this and related jobs.

James W. Dryden, San Rafael Resource Area Manager, assumed responsibility as Team Leader following completion of the draft. Jim has worked for BLM for 10 years, the last 2 in SRRA.

Stephen W. Falk, Mining Engineer, analyzed the impacts to the coal resource and its use and helped prepare the proposed RMP and final EIS. Steve has worked in SRRA since 1983 and has 10 years experience in this and related jobs.

Rebecca A. Gravenmier, Range Conservationist, prepared the alternative management actions for and analysis of impacts to vegetation and livestock grazing. She helped prepare the proposed RMP and final EIS and the geographic information system (GIS) maps. Becky has worked in SRRA since 1986 and has 4 years experience in this and related jobs.

A. Laurelle Hughes, Realty Specialist, prepared the alternative management actions for and analysis of impacts to rights-of-way, lands, and withdrawls. She was a member of the core team responsible for formulating alternative and analysis parameters and helped prepare the proposed RMP and final EIS. Laurelle has worked in SRRA since 1963 and has 9 years experience in this and related jobs.

Terry A. Humphrey, Outdoor Recreation Planner, prepared the alternative management actions for and analysis of impacts to recreation. Terry has worked in the Moab District since 1980 and has 11 years experience in this and related jobs.

Patricia Lindaman, Outdoor Recreation Planner, helped prepare the proposed RMP and final EIS.

H. Wayne Ludington, Wildlife Biologist, prepared the alternative management actions for and analysis of impacts to wildlife and helped prepare the proposed RMP and final EIS. Wayne has worked in SRRA since 1987 and has 13 years experience in this and related jobs.

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Robert T. Milton, Regional Economist, analyzed the impacts to economic and social conditions. He helped prepare the GIS maps and the proposed RMP and final EIS. Bob has worked in the Moab District office since 1980 and has 8 years experience in this and related jobs.

Brent B. Northrup, Chief of Solid Minerals, helped prepare the coal resource description and coal unsuitability review. Brent has worked in the Moab District since 1984 and has 10 years experience in this and related jobs.

David S. Orr, Range Conservationist, prepared the secton on wild horses and burros and helped prepare the proposed RMP and final EIS. Dave has worked in SRRA since 1975 and has 26 years experience in this and related fields.

Tricia M. Powell, Geologist, prepared the alternative management actions for oil and gas leasing, minerals materials, and mining law administration. She was also a member of the core team responsible for formulating alternative and analysis parameters. Tricia worked in the Moab District from 1982 to 1988 and has 10 years experience in this and related jobs. She presently works at the BLM Phoenix Training Center.

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Jack Sheffey, GIS/Remote Sensing Specialist, prepared camera-ready GIS maps for the draft and for the proposed RMP and final EIS. Jack has worked in the Utah State Office since 1986 and has 4 years experience in this and related jobs.

Neil A. Simmons, Geologist, prepared the analysis of impacts to oil and gas leasing, mineral materials, and mining law administration. He was a member of the core team responsible for formulating alternative and analysis parameters and helped prepare the proposed RMP and final EIS. Neil has worked in SRRA since 1978 and has 15 years experience in this and related jobs.

Bernice G. (Bunny) Sterin, Hydrologist, prepared the alternative management actions for and analysis of impacts to soils, water, and forestry. She was a member of the core team responsible for formulating alternative and analysis parameters and helped prepare the proposed RMP and final EIS. Bunny has worked in SRRA since 1985 and has 6 years experience in this and related jobs.

Mary E. Stulz, Range Conservationist and SRRA GIS Coordinator, prepared the vegetation and grazing management sections and helped prepare GIS maps. Mary Beth worked in SRRA from 1983 to 1988 and has 11 years experience in this and related jobs. She presently works for BLM in Colorado.

Robert C. Talley, Landscape Architect, prepared the alternative management actions for and analysis of impacts to visual resources. Bob worked in the Moab District from 1980 to 1988 and has 9 years experience in this and related jobs. He presently works for USFS.

Ruth A. Thurston, Writer/Editor, was responsible for format, tracking, and editing. She also compiled front and back matter for this publication. Ruth has worked in the Moab District since 1978 and has 24 years experience in this and related jobs.

Sherilyn Van Otten, Range Clerk, provided major clerical support for this planning effort. Sheri has worked in SRRA since 1983 and has 6 years experience in this and related jobs.

Susan Wilstead. Clerk-Typist, provided word processing and editorial assistance for proposed RMP and final EIS. Susan has worked in SRRA since 1988 and has 10 years experience in related clerical positions.

BLM gratefully acknowledges the assistance of Brent Arnold, Utah Power and Light Company, in preparing and reviewing this document.

ACRONYMS AND ABBREVIATIONS

ACRONYMS

ACEC	area of critical environmental concern
AMP	allotment management plan
AMR	abandoned mine reclamation
APD	application for permit to drill
ARD	automated resource data
ARPA	Archaeological Resources Protection Act of 1979
AQRV	air quality related value
ATV	all-terrain vehicle
AUM	animal unit month
BEA	U.S. Department of Commerce, Bureau of Economic Analysis
BIA	U.S. Department of the Interior, Bureau of Indian Affairs
BLM	U.S. Department of the Interior, Bureau of Land Management
BOR	U.S. Department of the Interior, Bureau of Reclamation
C	custodial allotment management category
C&MU	Classification and Multiple Use (as in Act)
CCC	Civilian Conservation Corps
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CHL	combined hydrocarbon lease
CMA	cooperative management agreement
CO	carbon monoxide
CRMP	cultural resource management plan
CX	categorical exclusion
DOE	U.S. Department of Energy
DOGM	Division of Oil, Gas, and Mining (Utah)
DSC	Denver Service Center
E.	east
EA	environmental assessment
EIS	environmental impact statement
EPA	Environmental Protection Agency
ESIM	ecological site inventory method
F	Fahrenheit
FAA	Federal Aviation Administration
FCLAA	Federal Coal Leasing Amendment Act
FERC	Federal Energy Regulatory Commission
FLPMA	Federal Land Policy and Management Act of 1976
FPU	Forest Planning Unit, Sevier River Resource Area, Richfield District, BLM
FY	fiscal year
GIS	geographic information system
GNP	gross national product
HCRS	Heritage Conservation and Recreation Service
HMAP	herd management area plan (wild horses and burros)
HMP	habitat management plan (wildlife)
HUD	Housing and Urban Development
I	improve allotment management category
IBLA	Interior Board of Land Appeals
IMP	Interim Management Policy for Areas under Wilderness Review
IORT	Institute of Outdoor Recreation and Tourism
IP	inhalable particulate
IPP	Intermountain Power Project
ISA	wilderness instant study area
KGS	known geologic structure
KPLA	known potash lease area
KRCRA	known recoverable coal resource area

M	maintain allotment management category
MAPS	map analysis and processing system
MFP	management framework plan
MLRA	major land resource area
MOSS	MAPS overlay statistical system
MSA	management situation analysis
MSHA	Mine Safety and Health Administration
NAAQS	national ambient air quality standards
NEPA	National Environmental Policy Act
NF	national forest
NHL	national historic landmark
NM	national monument
NOAA	National Oceanic and Atmospheric Administration
NP	national park
NPS	National Park Service
NRA	national recreation area
NRDC	Natural Resources Defense Council
NRI	Nationwide Rivers Inventory
OEPR	Office of Environmental Project Review
OMB	Office of Management and Budget
ORV	off-road vehicle
OSM	Office of Surface Mining
P	primitive ROS class
PCBs	polychlorinated biphenyls
PILT	payment in lieu of taxes
P.L.	Public Law
PNC	potential natural community
PRIA	Public Rangelands Improvement Act
PRRA	Price River Resource Area
PSD	prevention of significant deterioration
PWR	public water reserve
R	rural ROS class
R.	range
R&PP	recreation and public purpose
RCRA	Resource Conservation and Recovery Act
RMA	recreation management area
RMP	resource management plan
RN	roaded natural ROS class
RO/BD	rock outcrop/badlands
ROD	record of decision
ROS	recreation opportunity spectrum
RPS	rangeland program summary
R.S.	Revised Statute
S.	south
SCS	U.S. Department of Agriculture, Soil Conservation Service
Sec.	Section
SHPO	State Historic Preservation Officer
SIC	standard industrial code
SMCRA	Surface Mining Control and Reclamation Act
SP	state park
SPM	semiprimitive motorized ROS class
SPNM	semiprimitive nonmotorized ROS class
SRRA	San Rafael Resource Area, Moab District, BLM
SRMA	special recreation management area
SSA	site-specific analysis
STSA	special tar sand area
T.	township
TDS	total dissolved solids
T/E	threatened or endangered
TSP	total suspended particulates
TSS	total suspended solids
U	urban ROS class
U.C.A.	Utah Code Annotated
UDES	Utah Department of Employment Security
UDNR	Utah Department of Natural Resources
UDOT	Utah Department of Transportation
UDWR	Utah Division of Wildlife Resources
UP&L	Utah Power and Light Company
URA	unit resource analysis
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USDC	U.S. Department of Commerce
USDI	U.S. Department of the Interior
USFS	U.S. Department of Agriculture, Forest Service
USFWS	U.S. Department of the Interior, Fish and Wildlife Service
USGS	U.S. Department of the Interior, Geological Survey
USLE	universal soil loss equation
USO	Utah State Office, BLM
VRM	visual resource management
WSA	wilderness study area

ABBREVIATIONS

ac.	acre
avg	average
Bbls	barrels
Btu	British thermal units
cfs	cubic feet per second
cu yd	cubic yards
H_2S	hydrogen sulfide
mb	millibar
MCF	thousand cubic feet
mg/l	milligrams per litre
mi	mile
mi^2	square mile
MMCF	million cubic feet
mmhos/cm	millimhos per centimeter
m/sec	meters per second
NO_2	nitrogen dioxide
NO_x	nitrous oxide
O_3	ozone
p/m	parts per million
SO_2	sulfur dioxide
T	ton
yr	year

GLOSSARY

Acre-foot. The volume of material or water that will cover an area of 1 acre to a depth of 1 foot (43,560 cubic feet or 325,851 gallons).

Active preference. That portion of the total grazing preference for which grazing may be authorized (licensed).

Activity plan. A detailed, specific plan for management of a single resource program or plan element undertaken as necessary to implement the more general resource management plan (RMP) decisions.

Actual use. A report of the actual livestock grazing use certified accurate by the permittee or lessee. Actual use may be expressed in terms of animal unit months (AUMs) or animal months.

Affected interest. Any person, group, or organization potentially affected by a proposed action or an alternative.

Air pollution. Accumulation of aerial wastes beyond the concentrations that the atmosphere can absorb and which may, in turn, damage the environment.

Air quality classes. Classes established by the Environmental Protection Agency (EPA) that define the amount of air pollution considered significant within an area:

I almost any change in air quality would be considered significant;

II deterioration normally accompanying moderate, well-controlled growth would be considered insignificant;

III deterioration up to the national standards would be considered insignificant.

Airshed. A region within which air movement tends to be confined by topographic barriers, meteorology, and local circulations.

Alkali soil. Soil having so high a degree of alkalinity (pH 8.5 or higher), or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Allotment. See Grazing allotment.

Allotment management plan (AMP). A concisely written program of livestock grazing management, including supportive measures, if required, designed to attain specific management goals in a grazing allotment.

Alternatives. Different ways of addressing the planning issues and management activities considered in the planning process. These serve to provide the decision maker and the public a clear basis for choices among options.

Alluvial. Relating to or formed by water carrying and depositing rocks, soil, and other materials.

Ambient air quality. Prevailing condition of the atmosphere at a given time; the outside air. Concentration levels in the outside air for a specified pollutant and a specified averaging time period within a given area.

Animal unit month (AUM). The amount of forage necessary for the sustenance of one cow or five sheep for 1 month.

Anomaly (geologic). A geologic feature, especially in the subsurface, that is different from its general surroundings and is often of potential economic value.

Aquatic habitat. Habitat that is inundated by water with a frequency sufficient to support a prevalent form of aquatic life.

Aquifer. An underground body of rock or similar material capable of storing water and transmitting it to wells or springs (including both the saturated and unsaturated parts of the permeable unit).

Archaeological district. An area that provides a concentration of cultural properties in a discrete, definable location.

Area of Critical Environmental Concern (ACEC). An area within the public lands where special management attention is required to protect important historic, cultural, or scenic values, fish and wildlife or natural systems or processes, or to protect life and safety from natural hazards.

Average licensed use. The average number of AUMs authorized during the past 5 years. This figure depends on forage production and economics in any one year.

Avoidance area. An environmentally sensitive area where rights-of-way will be granted only in cases where there is a prevailing need and no practical alternative location exists, and then only with appropriate provisions to protect the sensitive component(s). (See Exclusion area.)

Badland. Steep to very steep barren land dissected by many intermittent drainage channels; potential runoff is very high, and erosion is active; a miscellaneous land type.

Base property. Those lands in a ranching enterprise that are owned or under long-term control of the operator and have the capability to sustain the number of livestock for a specified time period for which a grazing privilege is sought (base property requirement).

Base resource. In general terms, is all public land values, renewable and nonrenewable.

Baseline. Conditions, including trends, existing in the human environment before a proposed action is begun; a benchmark state from which all environmental consequences are forecast and all changes expected to occur under existing management are projected. (For National Environmental Policy Act (NEPA) purposes, existing management is the no-action alternative.)

Browse. As a verb, to consume or feed on (a plant); as a noun, the tender shoots, twigs, and leaves of trees and shrubs often used as food by cattle, deer, elk, and other animals.

Brush. Vegetation consisting primarily of bushes and shrubs, usually undesirable for livestock or timber management. It may sometimes be of value for browse or for watershed protection.

Bureau of Land Management (BLM) system road. A road which is on the BLM transportation system and is periodically maintained by the BLM.

Butte. An isolated hill with steep sides and a top that is flat.

Candidate species (plants and animals). Species for which listing as threatened or endangered is supported by information currently on file with the U.S. Fish and Wildlife Service (USFWS) regarding

biological vulnerability and threats. The candidate list is made up of species listed in categories 1 and 2 in the Federal Register, Vol. 50 No. 188, September 27, 1985, page 39526.

Carrying capacity (grazing). The maximum stocking rate possible without inducing damage to vegetation or related resources such as watershed. Normally expressed in terms of acres per AUM, or sometimes referred to as the total AUMs that are available in any given area, such as a grazing allotment.

Carrying capacity (recreation). The maximum number of people at one time that an area or facility can accommodate without impairing the natural, cultural, or developed resource.

C&MU Classification. Lands classified under the Classification and Multiple Use Act.

Chaining. A method of vegetation treatment in which large, woody species such as pinyon and juniper are removed with a heavy chain dragged between two bulldozers.

Change agent. The apparent cause of an environmental consequence, an antecedent related empirically to an environmental consequence.

Climate. The average weather conditions of a place over a period of years.

Classification. Designation of public lands as being valuable or suitable for specific purposes, uses, or resources.

Climax vegetation. The final vegetation community that emerges after a series of successive vegetational stages. The climax community perpetuates itself indefinitely unless disturbed by outside forces. This differs from the potential natural community (PNC) in that it does not include naturalized non-native species.

Combined hydrocarbon lease (CHL). A lease issued in a special tar sand area (STSA) which entitles the lessee to remove any gas and nongaseous hydrocarbon substance other than coal, oil shale, or gilsonite.

Component. One of the structural elements of an ecosystem.

Conditional fire suppression. Current (1988) Bureau of Land Management (BLM) policy of planning fire suppression actions to minimize costs based on acceptable resource loss in certain areas.

Context. The context of an impact is explained in the Council on Environmental Quality (CEQ) regulations at 40 CFR 1508.27. It includes considerations of spatial, temporal, social, and economic factors that constitute a framework, setting, or "context" for an impact. Context defines the relative importance of an environmental consequence.

Contrast (visual). The effect of a striking difference in the form, line, color, or texture of an area being viewed.

Contrast rating. A method of determining the extent of visual impact of an existing or proposed activity that will modify any landscape feature.

Critical soils. Soils that (1) contain very highly saline soils and/or (2) are very highly susceptible to water erosion.

Critical watershed. An area of soils that (1) have a high potential for salt yield; (2) are subject to severe water and wind erosion when disturbed; (3) have high runoff potential during storm events; (4) are subject to frequent flooding; or (5) have a potential for loss of vegetation productivity under high rates of wind or water erosion.

Cropland. Land used primarily for the production of crops.

Crucial wildlife habitat. Sensitive use areas that are necessary to the existence, perpetuation, or introduction of one or more species during critical periods of their life cycles.

Cryptogamic soil. A plant that reproduces by spores instead of by seeds (e.g., mosses, algae, and fungi), which occurs on the soil surface and generally produces an irregular crust.

Cuesta. A hill or ridge with a steep face on one side and a gentle slope on the other.

Cultural clearance. A statement, based upon an inventory, that a given tract of land contains no cultural resource values or that, if cultural resources are present, compliance actions will be undertaken and other adverse impacts on them sufficiently mitigated.

Cultural property. A specific site where cultural resources are located.

Cultural resource inventory. A descriptive listing and documentation of cultural resources, including photographs and maps; included are the processes of locating, identifying, and recording sites, structures, buildings, objects, and districts through library and archival research, information from persons knowledgeable about cultural resources, and varying levels of intensity of on-the-ground field surveys. There are three classes of cultural resource inventories:

I (Existing data inventory): an inventory study of a defined area designed to provide (1) a narrative overview derived from existing cultural resource information, and (2) a compilation of existing cultural resource site record data on which to base the development of BLM's site record system.

II (Sampling field inventory): a sample-oriented field inventory designed to locate and record, from surface and exposed profile indications, all cultural resource sites within a portion of a defined area in a manner that will allow an objective estimate of the nature and distribution of cultural resources in the entire defined area.

III (Intensive field inventory): an intensive field inventory designed to locate and record, from surface and exposed profile indications, all cultural resource sites within a specified area.

Cultural resources. Those fragile and nonrenewable remains of human activities, occupations, and endeavors as reflected in sites, buildings, structures, or objects, including works of art, architecture, and engineering. Cultural resources are commonly discussed as prehistoric and historic values, but each period represents a part of the full continuum of cultural values from the earliest to the most recent.

Custodial management. A limited form of resource management employed on lands with low resource production potential that are producing near potential and where opportunities for positive economic return on public investment do not exist.

Demand. The amount of goods or services that users are willing to take at a specified price, time period, and condition of sale.

De minimis. Prevention of significant deterioration (PSD) standards for pollutants besides total suspended particulate matter (TSP) and sulfur dioxide.

Designated right-of-way corridor. A parcel of land, either linear or areal, that has been identified by law, by Secretarial Order, through the land use planning process, or by other management decision, as a preferred location for existing and future right-of-way grants and suitable to accommodate more than one type of right-of-way or one or more rights-of-way which are similar, identical, or compatible.

Direct effect. Changes in sales, employment, or income of a firm that result directly from a firm's change in output.

Directional drilling. Slant drilling or drilling at an angle. Directional drilling is sometimes utilized when the operator is not allowed to occupy the surface of a given tract of land, but still wishes to drill a structure or target beneath that tract.

Distance zone. The area that can be seen from a travel route as foreground-middleground (up to 3 to 5 miles), background (from foreground-middleground up to 15 miles), and areas which are seldom seen (or beyond 15 miles).

Drainage basin. An area bounded by a water parting and drained by a particular river and its tributaries (watershed).

Early seral. The seral stage in which a biotic community is at 0 to 25 percent of PNC; formerly known as poor condition.

Earnings. The aggregate of wage and salary disbursements, other labor income, and proprietor income.

Ecological status. The present state of vegetation of an ecological site in relation to the natural potential plant community for that site. It is an expression of the relative degree to which the kinds, proportions, and amounts of plants in a plant community resemble that of the PNC plant community. Ecological status was formerly known as range condition.

Ecologically unique rangeland values. Plant communities that are composed of ecological sites that are relicts of a former period when these sites were more widely distributed. These plant communities usually are naturally protected and therefore have developed without the influence of grazing or human activities. These areas are scientifically valuable because there are very few relict plant communities remaining, and these relict sites can be used as comparison areas where the influence of human activities and grazing on this plant community could be evaluated.

Ecological site. A distinctive kind of rangeland that differs from other kinds of rangeland in its ability to produce a characteristic natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is capable of supporting a native plant community typified by an association of species that differs from that of other ecological sites in the kind or proportion of species or in total production. Ecological site is synonymous with range site.

Economic impact. The change, positive or negative, in economic conditions (including distribution and stability of employment and income in affected local and regional economies) that directly or indirectly result from an activity, project, or program.

Effect. Same as environmental consequence.

Employment. Labor input into a production process, measured in the number of person-years or jobs. A person-year is 2,000 working hours by one person working yearlong or by several persons working seasonally.

Endangered species (plants and animals). Species in danger of extinction throughout all or a significant portion of their ranges. See Threatened, Candidate, and Sensitive species.

Environmental consequence. A temporal or spatial change in the human environment caused by an act of man. The change should be (1) perceptible, (2) measurable, and (3) relatable through a change agent to a proposed action or alternative. A consequence is something that follows an antecedent (as a cause or agent). Consequences are synonymous with impacts and effects. In the CEQ regulations, consequences are caused by a proposed action (40 CFR 1508.7; 1508.8; 1508.14).

Ephemeral stream. A stream that flows only briefly after a storm or during snowmelt.

Equids. Members of the equidae family. In this document, wild horses and wild burros.

Erosion. The group of natural processes including weathering, dissolution, abrasion, corrosion, and transportation, by which earthy or rocky material is removed from any part of the earth's surface.

Excavation (archaeological). The scientifically controlled recovery of subsurface materials and information from a cultural site. Recovery techniques are relevant to research problems and are designed to produce maximum knowledge about the site's use, its relation to other sites and the natural environment, and its significance in the maintenance of the cultural system.

Exclusion area. An environmentally sensitive area where rights-of-way will be granted only in cases where there is a legal requirement to provide access. (See Avoidance area.)

Existing land leases. As used in this document, leases granted under the provisions of Section 302(b) of the Federal Land Policy and Management Act (FLPMA), the Recreation and Public Purpose (R&PP) Act, or the Airport Leasing Act.

Existing right-of-way corridor. A parcel of land, without fixed limits or boundaries, that is being used as the location for one or more rights-of-way.

Exotic plants. Those plant species that are not native to an area.

Fire management. The integration of fire protection, prescribed burning, and fire ecology knowledge into multiple use planning, decision making, and land management activities. Fire management is a program, not of letting fires burn, but rather of placing fire in perspective with overall land management objectives to fulfill the needs of society.

Fiscal year. The BLM planning and budgeting year, October 1 through September 30.

Five-year average licensed use. The average number of AUMs authorized during the past 5 years. In any one year, this figure depends on forage production and economics.

Flood peak. The highest value of the stage or discharge attained by a flood; thus, peak stage or peak discharge.

Floodplain. The flat ground along a stream covered by water at the flood stage for a given interval (i.e., a 500-year floodplain will be larger than a 100-year floodplain).

Forage. Vegetation of all forms available for animal consumption.

Forb. A broadleaved herb other than grass.

Formation. A distinctive layer or group of layers in a stratigraphic sequence that are most frequently tabular in shape and are mappable at the earth's surface or traceable in the subsurface.

Frequency. A quantitative expression of the presence or absence of individuals of a species in a population. It is defined as the percentage of occurrence of a species in a series of samples of uniform size.

Full fire suppression. An all-out effort to extinguish wildfires to prevent unacceptable resource damage or loss of life and property.

Geophysics. The measurement and interpretation of characteristics such as specific gravity, electrical conductivity, and magnetic susceptibility to determine the geologic properties of the earth's subsurface.

Goal. The desired state or condition that a resource management policy or program is designed to achieve. A goal is usually not quantifiable and may not have a specific date by which it is to be completed. Goals are the bases from which objectives are developed.

Grazing allotment. An area of land designated and managed for grazing livestock; such an area may include intermingled private, state, or federal lands used in conjunction with public lands.

Grazing area. As used in this document, the grazing area includes all of San Rafael Resource Area, Forest Planning Unit, and the Richfield District grazing allotments for which Moab District is responsible under a May 1980 interdistrict agreement.

Grazing preference. The total number of AUMs of livestock grazing on public lands apportioned and attached to base property owned or controlled by a permittee or lessee. Active preference and suspended preference combined make up total grazing preference.

Ground water. Water filling the unblocked pores of underlying material below the water table.

Gypsumland. Exposures of nearly pure soft gypsum, which has an unstable surface with poor trafficability and is highly erodible.

Habitat. A specific set of physical conditions that surround the single species, a group of species, or a large community. In wildlife managment, the major components of habitat are considered to be food, water, cover, and living space.

Human environment. The natural and physical environment and the relationship of people with that environment. (See complete definition in the CEQ regulations, 40 CFR 1508.14.)

Hydrocarbons. Organic chemical compounds of hydrogen and carbon atoms which form the basis of all petroleum products.

Hydrologic group D. Soils with similar runoff potentials under similar storm and surface cover conditions are grouped into four major classes (A, B, C, and D). Soils in group D have the highest runoff potentials and very slow infiltration rates when thoroughly wetted. They consist chiefly of clays and shallow soils to bedrock or hardpan.

Impact. Same as environmental consequence.

Income. Employee compensation, profits, rents, and other payments to households.

Index. A number, usually dimensionless (such as a ratio), that compares the condition of an ecosystem component or process against a standard value or against another component or process; also used in relation to thresholds, such as air or water quality standards that indicate environmental quality.

Indicator. An element of the human environment affected, or potentially affected, by a change agent. An indicator can be a structural component, a functional process, or an index. A key indicator integrates several system elements in such a way as to indicate the general health of that system.

Indirect effect. Economic impacts that result when supporting industries sell goods or services to directly affected industries or businesses.

Indirect or induced employment. Employment in all sectors of a regional economy resulting from an increase or decrease in direct employment.

Induced effect. Economic impacts that result when employees or owners of directly or indirectly affected industries spend their income within the economy.

Infrastructure. The basic transportation systems, utilities, services, enterprises, and other investments necessary for the operation and growth of a community.

Inholding. A tract of land, located within a large block of public land, that is owned by a private individual or by the State of Utah.

Input-output model. An economic model of the interdependence of the producing and consuming sectors in a given area.

Instant study area (ISA). All public lands that were formally designated as natural or primitive areas before November 1, 1975. These areas are being considered for designation as wilderness areas and, if designated, would be included in the national wilderness preservation system.

Integral vista. A viewshed, or area of view, from a pristine location, such as from a class I air quality area, that has been identified as being an important attribute to the area from which it is being viewed.

Interdisciplinary approach. Cooperative, interactive consultation and analysis among individuals representing two or more disciplines. Such an approach should "insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making, which may have an impact on man's environment" [NEPA 102(2)(A)].

Interim management policy (IMP). An interim measure governing uses on lands under wilderness review. This policy protects wilderness study areas (WSAs) from impairment of their suitability for designation as wilderness.

Intrusion (visual). A land, vegetation, or structural feature that is generally considered out of context with the characteristic landscape.

Isolated tract. A parcel of public lands surrounded by nonfederal lands.

Issue. See planning issue.

Key area. A relatively small portion of a rangeland selected because of its location, use, or grazing value as an area on which to monitor the effects of grazing use. It is assumed that key areas, if properly selected, will reflect the effects of current grazing management over all or part of a pasture, allotment, or other grazing unit.

Key management area. An area that influences or limits the management opportunities on the land surrounding it. Key management area may be synonymous with key area.

Known geologic structure (KGS). An area where an accumulation of oil or gas has been discovered by drilling and determined to be productive; the limits of the KGS include all acreage that is presumptively productive.

Known recoverable coal resource area (KRCRA). An area with coal resources that have been measured using certain data requirements and are capable of being recovered by current mining methods.

Labor force. Persons 16 years of age and older (excluding those institutionalized) who are currently employed or seeking employment.

Land disposal. A transaction that leads to the transfer of title of public lands from the Federal Government.

Land treatment. Alteration of the soil and/or vegetation of an area by mechanical, biological, or chemical means, or by burning. Land treatments are implemented to reduce erosion or improve vegetation for livestock or wildlife.

Late seral. The seral stage in which a biotic community is at 51 to 75 percent of PNC (formerly known as good condition).

Lifestyle. The characteristic way people live, indicated by consumption patterns, work, leisure, and other activities.

Limited suppression. A policy of limiting fire suppression activity in areas where the expense associated with usual suppression procedures is not warranted (usually because of extreme suppression difficulty or because the values threatened are low).

Livestock distribution. The uniformity of livestock grazing use over a range area. It is affected by topography, availability of water, and type and palatability of vegetation.

Management facilities. Structures and other capital improvements that have been constructed to aid the administration of a resource program.

Management framework plan (MFP). A planning decision document prepared before the effective date of the regulations implementing the land use planning provisions of FLPMA.

M, I, and C categorization. The grouping of allotments into three different categories (M=maintain, I=improve, and C=custorial) for management purposes.

Midden. An accumulation of refuse about a cultural site.

Mid-seral. The seral stage in which a biotic community is at 26 to 50 percent of PNC (formerly known as fair condition).

Mineral favorability. The probability that a mineral resource actually occurs in a given area, based on the geologic environment.

Mitigating measures. Methods used (often included as stipulations or special conditions attached to a lease) to reduce the significance of or eliminate an anticipated environmental impact.

Modeling. A simulation technique for artificially imposing physical characteristics of an area onto some parameter to determine what the interaction between the parameter and the environment will be without actually observing and measuring the interaction. Air quality modeling typically takes expected pollutant emissions from a proposed source and predicts concentrations of the pollutant in the air at various distances.

Monitoring. The orderly collection and analysis of data to evaluate progress in meeting resource management objectives. Monitoring may also include: (1) the collection of data to evaluate progress in complying with laws, regulations, policies, executive orders, and management decisions, and (2) the collection of data to assist in resource protection. Sampling of data and observation of progress toward plan objectives, the accuracy of impact analysis, and the effectiveness of mitigation measures are also of particular interest in terms of RMP monitoring activities.

Multiple use. Management of public lands and their various resource values so that they are used in the combination best meeting the present and future needs of the American people. Relative resource values are considered, not necessarily the combination of uses that will give the greatest potential economic return or the greatest unit output

Multiplier effects. The indirect and induced effects resulting from a direct effect.

National ambient air quality standards (NAAQS). National standards, established under the Clean Air Act by the Environmental Protection Agency (EPA), prescribing levels of pollution in the outdoor air which may not be exceeded. There are two levels of NAAQS: primary (set at a level to protect the public health from air pollution damage), and secondary (set at a level to protect public welfare from air pollution damage.

National Register of Historic Places. A list of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, and culture, maintained by the Secretary of the Interior.

National Register property. A site, district, building, structure, or object deemed significant in American history, architecture, archaeology, or culture which is listed in the National Register of Historic Places.

National Wilderness Preservation System. A system composed of federally owned areas designated by Congress as wilderness areas. These areas shall be administered for the use and enjoyment of the American people; managment actions will preserve wilderness values for future use and enjoyment.

Natural hazard. A natural characteristic of land or water resources or areas that: (1) constitutes conditions significantly dangerous, or potentially significantly dangerous, to human life, or property, or that (2) would be significantly dangerous to life or the safety of property if development or other activity were permitted. Such a hazard may be either existing or considered likely to occur in the future.

NEPA documentation. A document prepared to assess environmental impacts of a proposed action, as required by NEPA and the CEQ regulations at 40 CFR 1500. Four types of documents could be prepared, depending on the scope of the proposal: an environmental impact statement, for major actions; an environmental assessment, for actions with no significant impacts; a categorical exclusion, for certain actions predetermined to have no significant impacts; or a preemptory rejection, for projects that are not feasible from a legal or technical standpoint.

No-action alternative. The alternative under which the current management direction or level of management intensity would be continued.

Notice of intent. A notice submitted to BLM by a geophysical exploration company outlining a proposed oil and gas exploration program.

Objectives. Planned results to be achieved within a stated time period. Objectives are subordinate to goals, narrower in scope and shorter in range, and more likely to be attained. Time periods for completion are specified, as are measurable and quantifiable outputs or achievements.

Obligations. Total resource management program expenditures, including costs of the operation plan, equipment, and work months.

Off-road vehicle (ORV). Any motorized vehicle capable of or designed for travel on or immediately over land, water, or other natural terrain, excluding (1) any nonamphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the authorizing officer, or otherwise officially approved; (4) vehicles in official use; and (5) any combat or combat support vehicle when used in times of National defense emergencies. (Quoted from Executive Order 11989.)

Palatability. The relish with which a particular species or plant part is consumed by an animal.

Paleontology. The study of fossils.

Particulate matter. Any material, except water, in a chemically uncombined form that is or has been airborne and exists as a liquid or solid at standard temperature and pressure. Minute particles of coal dust, fly ash, and oxides temporarily suspended in the atmosphere.

Pasture. As used in this document, a subdivision of a grazing allotment.

Payment in lieu of taxes (PILT). Payments to local or state governments based on ownership of federal land and not directly dependent on production of outputs or receipt sharing.

Pediment. A broad, flat or gently sloping, rock-floored erosion surface or plain of low relief.

Perennial stream. A stream that flows throughout the year.

Permeability (soil). The ease with which gases or liquids penetrate or pass through soil.

Permit area (coal). The area of land and water within the boundaries of a mine permit and designated on the permit application maps.

Phenology. The science concerned with periodic biological events in their relation to seasonal climatic changes. Plant phenology refers to dates of sprouting, flowering, seed production, and regrowth, as well as other observable occurrences in plant development.

Photo trend. A method of rangeland monitoring that includes taking a close-up photograph of a 3- x 3-foot plot and a general view photograph of the study site. In addition, measurements and/or estimates are made to provide quantitative data concerning vegetation characteristics that may or may not be seen in the protographs.

Pictograph. Prehistoric rock art, either drawn or painted onto a stone surface or pecked into such a surface.

Pitting. A watershed treatment in which shallow pits 5 to 20 feet wide are dug with a backhoe or bulldozer for the purpose of retaining runoff.

Placer claim. A mining claim on a surface mineral deposit formed by the mechanical concentration of mineral particles from weathered debris.

Planning area. In this document, the planning area includes both San Rafael Resource Area and the Forest Planning Unit of the Sevier River Resource Area.

Planning criteria. The standards or rules and other factors developed by the manager and interdisciplinary team for their use in forming judgments about decision making, analysis, and data collection during planning.

Planning horizon. The period of time, expressed in years, that serves as a common base for considering future conditions and effects in the planning process.

Planning issue. A matter of controversy or dispute over resource management activities or land use that is well defined and/or topically discrete and entails alternatives among which to choose or decide.

Plan of operations. As used in this document, a plan submitted by an operator (lessee or mining claimant) which outlines in detail proposed exploration and mining activities that would disturb more than 5 acres.

Plant vigor. The relative well-being and health of a plant as reflected by its ability to manufacture sufficient food for growth and maintenance.

Potential evaporation. A measure of the degree to which the weather or climate of a region is favorable to the process of evaporation.

Potential natural community (PNC). The seral stage in which a biotic community is at 76 to 100 percent of potential.

Potential natural community vegetation. The final vegetation community that emerges after a series of successive vegetational stages. The climax community perpetuates itself indefinitely unless disturbed by outside forces.

Pot hunting. Illegal collection of artifacts, either from the land surface or by digging into an archaeological site.

Powersite. Public lands that have a potential value for water power development.

Preferred alternative. That plan alternative, in the draft environmental analysis or impact statement, which management has initially selected as offering the most acceptable resolution of the planning issues and management concerns.

Prescribed fire. The skillful application of fire to natural fuels under conditions of weather, fuel moisture, soil moisture, etc., that will allow confinement of the fire to a predetermined area and at the same time produce the intensity of heat and rate of spread required to accomplish certain planned benefits to one or more objectives of wildlife management, grazing, hazard reduction, etc. Its objective is to employ fire scientifically to realize maximum benefits at minimum damage and acceptable cost.

Primitive recreation. Nonmotorized and undeveloped types of outdoor recreation activities.

Prior stable population (wildlife). The long-term yearly average population of a herd, generated from 10-year averages of harvest data. For herds that have not stabilized, the figure represents the recommended attainable numbers that a given area can support.

Process. A mechanism whereby an ecosystem component undergoes metabolism, transformation, or any other kind of change. Any process implies an energy flow. Processes are responsible for ecosystem dynamics. They control the way components function and interact.

Propensity to consume. The proportion of a consumer's personal income that is spent on goods and services.

Proper use. (1) A degree of utilization of current year's growth which, if continued, would achieve the management objectives and maintain or improve the long-term productivity of the site; or (2) the percentage a plant is utilized when the rangeland as a whole is properly utilized. Proper use varies with time and systems of grazing. Proper use is synonymous with proper utilization.

Proprietor. Owner of an enterprise.

Public lands. Any lands or interest in lands outside Alaska owned by the United States and administered by the Secretary of the Interior through BLM, except lands located on the Outer Continental Shelf or lands held for the benefit of Indians.

Public Water Reserve (PWR). A reservation under various executive orders for public land containing a spring or waterhole, reserving water to the public for the purpose of human and aminal consumption.

Range improvement. An authorized activity or program on or relating to rangelands which is designed to improve production of forage; change vegetation composition; control patterns of use; provide water; stabilize soil and water conditions; and provide habitat for livestock, wild horses and burros, and wildlife. The term includes, but is not limited to, structures, treatment projects, and use of mechanical means to accomplish the desired results.

Rangeland. A kind of land that supports vegetation useful for grazing or browsing, on which routine management of that vegetation is through manipulation of grazing rather than cultural practices. (Rangelands include natural grasslands, marshes, riparian zones, and wet meadows. Rangeland includes lands revegetated naturally or artificially to provide a plant cover which is managed like native vegetation.)

Range site. See ecological site.

Recreation opportunity spectrum (ROS). A conceptual framework for inventory, planning, and management of recreation resources.

Rehabilitation. Restoration of damaged or lost environment as nearly as possible to its origial state.

Resource area. One of the BLM administrative areas contained in a BLM district. The two resource areas included in this document are the San Rafael Resource Area and the Sevier River Resource Area.

Resource managment plan (RMP). A written lands use plan that outlines BLM's decisions and strategies for managment of the resources in a particular area. The RMP replaces the MFP in BLM's planning system.

Rest-rotation grazing system. A grazing plan providing for systematic and sequential grazing by livestock and resting from livestock use on a range area to provide for production of livestock while maintaining or improving the vegetation and soil fertility.

Returns above cash cost. Annual sales minus those costs that must be paid that same year.

Returns to labor and investment. Annual sales minus the cost that must be paid that same year and the depreciation incurred on capital equipment.

Right-of-way. The legal right for use, occupancy, or access across land or water areas for a specified purpose or purposes. Also, the lands covered by such a right.

Right-of-way corridor. The designation of an existing group of rights-of-way capable of accommodating one or more compatible rights-of-way of like kind. Such a corridor contains only public land.

Riparian habitat. A unique, specialized form of wetland restricted to areas along, adjacent to, or contiguous with, perennially and intermittently flowing rivers, streams, and other bodies of water.

Rock outcrop. Bare, exposed bedrock consisting chiefly of sandstone, siltstone, limestone, and conglomerate.

Saline soil. Soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Salinity. A measure of total dissolved solids (TDS) including all inorganic material in solution, whether ionized or not.

Scenic corridor. In this document, the area encompassing the foreground-middleground zone along Highway I-70.

Scenic quality. The visual aesthetics of an area, based on the key factors: landforms, vegetation, color, water, influence of adjacent scenery, scarcity, and amount of cultural modification. It indicates the visual quality of an area relative to other scenery in the region. BLM ratings are A = exceptional/ extraordinary; B = moderate; and C = low/common.

Season of use. The time of livestock grazing on a range area.

Sediment. Soil or mineral material transported by water and deposited in streams or other bodies of water.

Sediment yield. The total amount of eroded material that completes the journey from its source to a downstream control point, such as a reservoir.

Segregation. Generally speaking, any action (such as withdrawal) that suspends the operation of the general public land or mineral laws on particular public lands.

Sensitive soils. Soils that are erodible, have a relatively high content of clay and silt, and are slightly to moderately saline.

Sensitive species (plants and animals). Species occurring on public lands and requiring special management attention to protect it and to prevent irreparable damage to the important resources or other natural systems or processes on which it depends. The sensitive list is made up of species listed in category 3C in the Federal Register, Vol. 50 No. 188, September 27, 1985, page 39526.

Sensitivity level (visual). An index of the response to visual change in an area based on such weighted criteria as social attitudes, amount of use, types of resource uses, management attitudes, etc. Levels are classified as high, medium, or low.

Seral community. One of a series of biotic communities that follow one another in time on any given area. Seral community is synonymous with successional community and may be synonymous with seral stage and successional stage.

Seral stage. See seral community.

Shrub. A plant that has a persistent woody stem, a relatively low growth habit, and generally produces several basal shoots instead of a single trunk.

Significance. The degree of importance as indicated by either quantitative measurements or qualitative judgments. Significant issues and impacts require explicit consideration in preparing a plan.

Sinkhole. A hole worn by water in limestone along a joint or fracture, usually connected with an underground channel.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Special condition. A requirement attached to approval of a specific project, often dealing with protection of the environment. Compare to Stipulation.

Special tar sand area (STSA). An area designated by order of the Secretary of the Interior on November 20, 1980 (45 Federal Register 76800) and January 21, 1981 (46 Federal Register 6077), and referred to in those orders as designated tar sand areas, as containing substantial deposits for tar and sand. Eleven STSAs are recognized in Utah by the Combined Hydrocarbon Leasing Act of 1981. The Act provided for the conversion of existing oil and gas leases in STSAs to CHLs. This Act also requires competitive leasing for currently unleased lands within STSAs.

Special Recreation Management Area An area where significant public recreation issues or management concerns occur. Special or more intensive types of management are typically needed.

Stabilization (cultural). Protective techniques usually applied to structures and ruins to keep them in their existing condition, prevent further deterioration, and provide structural safety without significant rebuilding.

Stipulation. A requirement, usually dealing with protection of the environment, that is made a part of a lease, grant, or other authorizing document.

Sublimation. The change of ice to water vapor.

Surface water. All forms of water on the surface of the earth.

Suspended preference. That portion of the grazing preference that exceeds the present available livestock grazing capacity.

Threatened species (plants and animals). Any plant or animal species likely to become endangered within the foreseeable future throughout all or a significant part of its range. See Endangered and Candidate species.

Threshold. A maximum or minimum number, or other value, for an environmental impact or resource use which, if exceeded, causes that impact or use to take on new importance. The relative importance of a threshold depends upon its context.

Topography. The relief and contour of the land, especially when taken collectively, as over a region or large area.

Total dissolved solids (TDS). All inorganic material in solution, whether ionized or not.

Total suspended particulates (TSP). All solid or semisolid material found in the atmosphere.

Trend. The direction of change in range condition (ecological status or resource value ratings) observed over time.

Unemployment. The sum of persons in the labor force who are currently unemployed but who are looking for work, and those who are on layoff or waiting to start new jobs within 30 days.

Unsuitability criteria. Criteria, specified in coal management regulations at 43 CFR 3461, that identify those lands that shall be considered unsuitable for certain stipulated methods of coal mining.

Utilization. The proportion or degree of current year's forage production that is consumed or destroyed by animals (including insects). May refer to either a single plant species, a group of species, or the vegetation as a whole. Utilization is synonymous with use.

Variable cost. A cost that varies with the level of controlled outputs in the time horizon covered by the planning period or the decisions being considered (for example, investment, operational, and variable general administration costs).

Vegetation type. A kind of existing plant community with distinguishable characteristics described in terms of the present vegetation that dominates the aspect or physiognomy of the area.

Visit (recreation). The entry of any person into a site or area of land or water generally recognized as providing outdoor recreation.

Visitor day. Twelve visitor hours which may be aggregated continuously, intermittently, or simultantously by one or more persons.

Visual distance zone. The normal distance of viewers from an area being viewed: foreground/ middleground (up to 5 miles); background (up to 15 miles); and seldom seen (more than 15 miles or areas screened from normal viewpoints).

Visual elements. The elements that determine how the character of a landscape is perceived. Form: the shapes of objects such as landforms or patterns in the landscape. Line: perceivable linear changes in contrast resulting from abrupt differences in form, color, and texture. Color: the reflected light of differnt wave lengths that enables the eye to differentiate otherwise identical objects. Texture: the visual result of variation in the surface of an object.

Visual resources. The land, water, vegetation, animals, structures, and other features that are visible on all public lands.

Visual resource management (VRM) classes. Classification containing specific objectives for maintaining or enhancing visual resources, including the amount of acceptable change to the existing landscape to meet established visual goals.

Watershed. The total area above a given point on a stream that contributes water to the flow at that point.

Water table. The upper level of an unconfined underground water body.

Wealth. The aggregate market value of an owner's assets.

Wetlands. Lands including swamps, marshes, bogs, and similar areas such as wet meadows, river overiflows, mud flats, and natural ponds.

Wilderness area. An area officially designated as wilderness by Congress. Wilderness areas will be managed to preserve wilderness characteristics and shall be devoted to the public purposes of conservation and recreational, scenic, scientific, educational, and historical uses.

Wilderness management policy. The BLM policy that governs administration of public lands designated as wilderness areas by Congress. It is based on the Wilderness Act of 1964 and FLPMA of 1976. FLPMA requires a wilderness area to be a roadless area or island that has been inventoried and found to have wilderness characteristics as described in Section 603 of FLPMA and in Section 1(c) of the Wilderness Act.

Wilderness review. The inventory, study, and reporting phases of BLM's wilderness program.

Wilderness study area (WSA). An area under study for possible inclusion as a wilderness area.

Wildlife. All species of mammals, birds, fish, amphibians, and reptiles found in a wild state.

Wildlife habitat. All elements of a wild animal's environment necessary for completion of its life cycle, including food, cover, water, and living space.

Withdrawal. An action that restricts the use of public lands and removes the land from operation of some or all of the public land or mineral laws.

Work month. A unit containing 173.3 hours of government labor.

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PUBLIC COMMENTS AND AGENCY RESPONSES

OVERVIEW

This section of the San Rafael Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS) contains copies of the public and agency comments received on the draft and the Bureau of Land Management's (BLM's) responses to those comments. For ease of reference, the commentors are listed here.

PUBLIC COMMENT PERIOD

The San Rafael draft RMP/EIS was printed in August 1988 and distributed to the public for a 90-day review and comment period; BLM's notice of availability appeared in the Federal Register on August 17, 1988. The Environmental Protection Agency's (EPA's) notice of availability, which marked the official beginning of the 90-day comment period, appeared in the Federal Register on September 9, 1988 and called for comments to be received by December 7.

Four open-house meetings were held to discuss the draft RMP/EIS: September 20 at the courthouse in Castle Dale, UT; September 22 at the Tamarisk Restaurant in Green River, UT; September 27 at the city hall in Huntington, UT; and September 29 at the Salt Palace in Salt Lake City.

PUBLIC AND AGENCY COMMENTS RECEIVED

The comments have been grouped into five categories: those submitted by special interest groups, industry, federal agencies, state and local government agencies, academic institutions, and individuals. The comments are presented in the order listed.

COMMENTS RECEIVED AFTER CLOSE OF COMMENT PERIOD

Several comment letters were received after the close of the 90-day public comment period. Although BLM is not required to consider late comments, the interdisciplinary team analyzed and responded to all comments received.

LIST OF COMMENTORS

ORGANIZATIONS

1 American Rivers
2 American Wilderness Alliance
3 National Parks and Conservation Association
4 The Nature Conservancy
5 Red Rock 4-Wheelers
6 Rocky Mountain Oil and Gas Association
7 Utah Chapter Sierra Club
8 Slickrock Outdoor Society
9 Uintah Mountain Club
10 Utah Farm Bureau Foundation
11 Utah Nature Study Society
12 Utah Petroleum Association

ORGANIZATIONS (Concluded)

13 Utah Professional Archaeological Council
14 Utah Trail Machine Association
15 Utah Wilderness Association
16 Wasatch Mountain Club
17 The Wilderness Society

INDUSTRY

18 Celsius Energy Company
19 Chevron U.S.A., Inc.
20 Marathon Oil Company
21 Permits West, Inc.
22 Texaco U.S.A., Inc.
23 Trans-Atlantic Pacific, Inc.
24 Utah Power and Light Company Research Farm
25 Utah Power and Light Company Lease Supervisor
26 Wild Horse Strategic Minerals

FEDERAL GOVERNMENT AGENCIES

27 U.S. Department of the Interior, Bureau of Mines
28 U.S. Deoartment of Health and Human Services, Center for Disease Control
29 Congress of the United States, Howard C. Nielson
30 U.S. Environmental Protection Agency

31 U.S. Department of Agriculture, Forest Service, Fish Lake National Forest
32 U.S. Department of the Interior, National Park Service, Rocky Mountain Region
33 U.S. Department of the Air Force, Central Region

STATE AND LOCAL GOVERNMENTS

34 Castle Dale City
35 Emery County Board of Commissioners

STATE AND LOCAL GOVERNMENTS (Concluded)

36 Emery County Economic Development Council
37 Enery County Road Department
38 Ferron City
39 Huntington City
40 Orangeville City
41 Southeastern Utah Association of Local Governments
42 State of Utah, Office of the Governor

ACADEMIC INSTITUTIONS

43 Utah State University, College of Natural Resources

INDIVIDUALS

44 Jack Spence
45 Lon Leonard
46 Dan M. Wells
47 Jay Mark Humphrey
48 Max Ralphs
49 Oral E. Johansen
50 Johannah Jensen
51 El Ray Baird
52 Derk Beckstrand
53 Bruce Berger
54 Val J. Bielecki
55 Greg Bloomer
56 Charles Bongo
57 Lee Bunderson
58 Bruce Chesler
59 Gale Cox
60 M. Crookston
61 Karen Egan
62 Stan Elmer
63 Art Foran
64 Dale Grange
65 Chris S. Guymon

INDIVIDUALS (Continued)

66 Vee Guymon
67 James V. Hansen
68 A. Lee Jeffs
69 Clay Johnson
70 Dale Johnson
71 Gale Jorgensen
72 John L. Jorgensen
73 Justus Ray Jorgensen
74 Don and Bonnie Keele
75 Dean and Hilda King
76 Randy Long
77 Jim Majors
78 Lee McElprang
79 Lorie McElprang
80 Don A. Nichols
81 Milton A. Oman
82 P-III Associates, Inc.
83 Alan J. Peterson
84 Mackae Potter, Great Outdoor Stores
85 Mike Ralphs
86 Vernell Rowley
87 Kenneth Sassen
88 Carma M. Sherman
89 Betty Smith
90 Dudley Swasey
91 Richard Tatton
92 Kim Tennyson and Damian Fagan
93 Clyde Thompson
94 Debora Threedy
95 Betsy L. Tipps
96 Joseph Treadwell

INDIVIDUALS (Concluded)

97 Gary Vesperman
98 Ray Wareham
99 Leon Werdinger
100 D.A. Wilcox
101 Gary and Janet Wooler
102 Dennis Worwood

ANALYSIS OF COMMENTS RECEIVED

A total of 532 parties submitted comments.

Of the total comments submitted, 426 were original letters, while the remaining 106 were form letters.

Of those sending original letters, 17 (4 percent) were special interest groups; 9 (2 percent) were industries; 7 (2 percent) were federal agencies; 9 (2 percent) were agencies of state and local government; 1 was an academic institution; and 383 (90 percent) were individuals.

PRINTED COMMENTS AND RESPONSES

BLM's response is printed beside each comment page for ease of reference.

Individual commentors submitted a large number of form letters and many other letters with slightly different wording but the same substance. To reduce printing costs and make this volume easier to read, in cases of duplication, BLM has printed only one representative comment letter and followed its response with a list of the commentors whose submissions were the same or similar.

COMMENT 1

American Rivers

December 7, 1988

Jim Dryden,
San Rafael Resource Area Manager
Bureau of Land Management
900 North, 700 East
Price, UT 84501

Dear Mr. Dryden,

American Rivers has the following comments regarding treatment of potential Wild and Scenic Rivers in the San Rafael RMP. As I indicated in our telephone conservation of several weeks ago, we wish to commend you for your decision to study three rivers, including two Nationwide Rivers Inventory listed rivers, on the San Rafael RMA for potential inclusion if the national rivers system; however, we feel that the "promise" expressed in the RMP to protect federal lands along these rivers during the five years contemplated for the completion of these studies is inadequate.

As required by the USDA/USDI Revised Guidelines for the consideration and protection of wild and scenic river candidates (September, 1982) and the Bureau of Land Management's own internal guidelines (as finalized September 8, 1988), the Bureau must provide detailed management prescriptions for the protection of potentially eligible rivers. Enclosed please find a copy of the management standards employed by the Green Mountain National Forest for the protection of their candidate rivers. It is important that a separate management prescription employing such specific standards as are consistent with the above cited guidelines, and with the various classifications, be created for candidate rivers.

Thank you for this opportunity to comment. Please feel free to contact me or Kevin Coyle of this office for information or assistance.

Sincerely,

James Fosburgh

James Fosburgh,
Public Lands Specialist

801 PENNSYLVANIA AVE., S.E.
SUITE 303
WASHINGTON, D.C. 20003
202-547-6900

RESPONSE TO COMMENT 1 — AMERICAN RIVERS

[Comment page 1]

1 According to Instruction Memorandum 88-670, Wild and Scenic River Guidelines, and appendix J, Wild and Scenic River Study Segments and Potential Classifications, river segments classified as potentially wild, scenic, or recreational will be protected for those values so that their eligibility for designation is not damaged. There is no requirement that prescriptions be developed and applied to the various river segments, but management prescriptions can be developed and utilized if deemed necessary.

NOTE: Comment letter 1 from American Rivers contained a 10-page enclosure detailing Green Mountain National Forest management prescriptions for candidate rivers. The enclosure is not printed here.

COMMENT 2

American Wilderness Alliance
7600 East Arapahoe Road/Suite 114/Englewood, Colorado 80112/(303) 771-0380
746 Sawyer Lane, Hamilton, MT 59840 (406)363-1788

December 6, 1988

Mr. James Dryden, Manager
San Rafael Resource Area Manager
Bureau of Land Management
900 N. 700 E.
Price, UT 84501

re: Resource Management Plan

Dear Mr. Dryden:

We have reviewed the San Rafael Resource Management Plan. The time and work that you and your staff have spent on this Plan are appreciated. However, we are writing to ask that you make a number of improvements in the Plan.

The American Wilderness Alliance is a national non-profit organization whose members and staff are working to conserve the nation's publicly owned wildlands, wildlife habitat and free-flowing rivers. We have members throughout the United State, including in Utah, and many of them and I are familiar with the remarkable San Rafael country. The San Rafael Swell, in particular, is of outstanding national park stature, and the BLM should be proud to give it no less than the greatest possible protection. To do less is to invite a national movement for national park status.

According, we respectfully urge that you make the following changes in the Plan:

1. Designate the 600,000 acre San Rafael Swell as an ACEC.

2. Include within the ACEC the following: Mexican Mtn. WSA, San Rafael Reef WSA, Sids Mtn. WSA, Crack Canyon WSA, Devils Canyon WSA and Muddy Creek WSA, as well as the San Rafael River and Muddy Creek corridors. Close these areas to off-road vehicle use, mining entry and mineral leasing.

1 3. Designate Horseshoe Canyon WSA as an ACEC, and close the unit to off-road vehicles, mineral entry and mineral leasing.

4. Designate the Green River Corridor as an ACEC. Confine vehicle use to designated roads, and close the corridor to mineral entry and leasing.

5. Keep the Flat Tops and Bowknot Bend ACECs to safeguard relict plant species.

Working Together To
Conserve Wild America

RESPONSE TO COMMENT 2

AMERICAN WILDERNESS ALLIANCE

[Comment page 1]

1 See the response to comment 44.

2 6. Protect threatened and endangered species throughout the San Rafael area with ACEC designations.

3 7. Eliminate domestic livestock from all important desert bighorn sheep range. Bighorns cannot co-exist with domestic sheep, and cattle provide excessive competition for forage.

4 8. Eliminate livestock from riparian areas, which are vital to wildlife.

5 9. Reduce livestock and adopt improved grazing programs on allotments in poor or fair condition.

6 10. Extend the eligible wild river designation on the San Rafael River upstream to Red Canyon.

11. Extend the eligible wild river designation on Muddy Creek downstream to where it leaves the San Rafael Reef.

7 12. Conduct a program to sample cultural resources on the San Rafael Resource Area.

8 13. Identify and protect cultural sites through closures to off-road vehicles, mineral entry and mineral leasing. The Resource Management Plan admits that the planning area is the center of the Fremont Indian culture, and that information to be obtained from cultural resources in the area is unique--not elsewhere available. It follows, then, that the BLM must protect these irreplaceable cultural resources by closing them to the aforementioned conflicting uses.

9 14. Last but not least, establish the San Rafael Swell as a National Conservation Area and give it the national recognition and protection that it deserves.

Please include these comments in the official record of the San Rafael Resource Management Plan, and make sure that my name and address are on the mailing list to receive word of your final decision on this Plan.

Sincerely,

Clifton R. Merritt
Executive Director

RESPONSE TO COMMENT 2 AMERICAN WILDERNESS ALLIANCE

[Comment page 2]

2 See the response to comment 44.

3 See the response to comment 44.

4 See the response to comment 44.

5 See the response to comment 44.

6 See the response to comment 44.

7 See the response to comment 44.

8 See the response to comment 44.

9 See the response to comment 44.

NOTE: Maps accompanying this comment are not reproduced here.

COMMENT 3

December 6, 1988

Jim Dryden
San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Mr. Dryden,

The National Parks and Conservation Association appreciates the opportunity to submit the following comments on the San Rafael Resource Management Plan (RMP) and EIS. NPCA also endorses and adopts by reference comments submitted by the Wilderness Society, Southern Utah Wilderness Alliance and Utah Chapter of the Sierra Club.

GENERAL

Readable maps are a critical part of allowing the public to understand and comment on any BLM resource management plan. We understand that the BLM is experimenting with new computer generated mapping systems, and realize that they offer versatility and convenience. It is also important, however, that they be readable and understandable to the public.

1 While there were a lot of maps in the San Rafael RMP, it was very difficult to read them. The primary problem was the lack of a base map with basic topographic, geographic and cultural features. It was difficult, if not impossible, to determine proposed management prescriptions for specific areas because without topographic or geographic features it was impossible to locate one's area of concern on the maps. If possible, we would recommend provision of a base map with topographic, geographic or cultural features and a series of transparent overlays. Alternately, the BLM could supply topographic, geographic and cultural features on each map.

National Parks and Conservation Association
1015 Thirty-First Street, N.W., Washington, D.C. 20007
Telephone (202) 944-8530

RESPONSE TO COMMENT 3 NATIONAL PARKS AND CONSERVATION ASSOCIATION

[Comment page 1]

1 Additional features, points of reference, and township and range markers have been added to the large proposed alternative maps. A plastic overlay with additional features has also been included for use with the page-size maps. Using the 1:250,000 ownership maps as a base would have displayed so much information that the reader could not discern the proposed actions.

FAILURE TO CONSIDER CONSISTENCY WITH PROTECTION OF NATIONAL PARK VALUES ON ADJACENT LANDS, OR CULTURAL RESOURCE PROTECTION, AS PLANNING ISSUES OR PROBLEMS TO BE ADDRESSED

NPCA objects to BLM's failure to include cultural resource management and consistency with protection of National Park Service units as planning issues, or otherwise to provide adequate consideration and planning to address the problems these issues present. It is requested that BLM issue a revised draft which adequately addresses these issues.

The cultural resources and national park resources located within the San Rafael Resource Area are of national significance and the effect of BLM management actions on these resources is of national concern.

Both cultural resource management and consistency with national park plans meet the criteria outlined in the San Rafael RMP for identification of planning "problem areas." The serious threats to cultural resources clearly involve circumstances, acknowledged in the SRRMP in which "existing land use allocations conflict with current agency resource management policies or guidance." SRRMP p. 1-6 And adoption of the proposed oil and gas
2 leasing categories, VRM classifications and permitted vehicle use adjacent to NPS units, which can result in potential damage to the scenic, recreational and aesthetic values of those units, involves "existing resource management practices [which] conflict with management plans, policies and guidance of another federal surface management agency." SRRMP p.1-6.

Furthermore, the SRRMP explicitly demonstrates that alternative plans will have widely varying impacts on both of these important protected values. Thus, the plan indicates that damage to cultural resources from the different proposaed plans can range from a "low" of 1507 sites damaged to a "high" of 6738 sites damaged, depending upon the alternative chosen. SRRMP p. 5-6 (Table 1.) Similarly, for both Capitol Reef National Park and Glen Canyon National Recreation Area, the plan acknowledges that

> management of public lands would vary among the RMP/EIS alternatives and may oir may not be consistent with NPS management.

SRRMP p. 5-6.

In light of the admittedly substantial effect that variations among the alternative plans would have on the impacts to park and cultural values, BLM offers no lawful or reasoned justification for its disregard of those issues in the planning process.

2

RESPONSE TO COMMENT 3 NATIONAL PARKS AND CONSERVATION ASSOCIATION

[Comment page 2]

2 The National Park Service (NPS) organic act, as amended, states that NPS is to "promote and regulate the use of the federal areas known as national parks, monuments, and reservations hereinafter specified...[so as to] leave them unimpaired for the enjoyment of future generations" [16 USC 1]. This law does not address the administration of public lands, whether in proximity to an NPS unit or not; it does not require the Secretary to leave public lands unimpaired to preserve park values. To the contrary, Congress provided that public lands are to be managed for multiple use and sustained yield, whether in proximity to an NPS unit or not.

The explanation in the draft resource management plan and environmental impact statement (RMP/EIS) (page 1-4) of why cultural resources is not a planning issue may have been oversimplified; review of the public comments indicates a certain amount of confusion. Protection of cultural resources was identified as a significant concern for this area in the management situation analysis (MSA). In the MSA, management opportunities were developed to reduce this concern. Those opportunities that can be achieved through the planning process were included in the draft RMP/EIS (page 2-44).

According to the BLM planning process (manual 1600), a planning issue involves the interrelationships of various resource management programs. Since cultural resource management is one of those programs, it cannot appropriately be labeled as an issue. However, the management of cultural and historic resources not only was listed as a management concern, but also plays a substantial part in the resolution of various planning issues.

Management under the proposed RMP (chapter 2, Standard Operating Procedures and Cultural Resource Management) is considered the optimal choice for cultural resource protection. The interdisciplinary team found no conflicts between other resources and the management described. Since no conflicts were identified, the team decided to use this optimal alternative as management common to all alternatives rather than develop lesser alternatives that would not meet the resource needs. Impact differences between alternatives are due to diffenences in the management of other activities, such as off-road vehicle (ORV) use. The proposed objective, with the management directions presented in the proposed RMP (chapter 2, Cultural Resource Management), would offer a framework for protection of all cultural resources, both those that are now known and those that would be identified in the future. After the RMP is complete, its objectives and direction will be used to develop activity plans that can provide the on-the-ground protection needed to meet these objectives.

CONSISTENCY WITH VALUES AND RESOURCES OF ADJACENT NATIONAL PARK UNITS

A. Failure To Address Consistency With Values and Resources of Adjacent National Park Units

The SRRMP discusses only generally, at pp. 5-5, 5-6 and 5-9, the significant problems involved in providing for consistency with the resource values and uses of National Park Service lands adjacent to the San Rafael BLM lands. That problem of assuring consistency with the established policies for protecting scenic and other values of National Park lands, and avoiding or minimizing conflicting proposed uses on adjacent BLM lands, presents a fundamental planning problem.

In light of the specific requirements for consistency with planning for adjacent lands and the required sensitivity for "areas of critical environmental concern," it is simply not sufficient for BLM to dismiss the problem of consistency with values protected on adjacent park lands by noting, as it does with respect to Canyonlands National Park, that the Park's Natural Resource Management Plan and Back Country Management Plan "do not address uses of the adjacent public lands." SRRMP p. 5-6. Nor is it sufficient for BLM merely to note, with respect to management of lands adjacent to Capitol Reef National Park and Glen Canyon National Recreation Area, that management of the public lands under its plan "may or may not be consistent with
3 NPS management." SRRMP p. 5-6.

As with BLM's protection and management obligations for cultural resources, SRRMP p. 1-4, "under law" the national parks are to be managed by the Secretary of the Interior to avoid any impairment. 16 U.S.C. § 1 and 1a-1. At a minimum, BLM's consistency obligations under its own planning regulations, as well as its duty under NEPA to assess any reasonably predictable impacts, impose a duty to assess and avoid any impairing impacts on park values.

The draft SRRMP, however, does not analyze the impact of its plans and management prescriptions upon the Park resources and values. Chapter 5 offers nothing more than bare conclusions, without identifying the Park values and resources likely to be affected or the potential impact of the kinds of developments and activities that would be permitted on adjacent BLM lands.

Planning for consistency should obviously be a major concern where BLM lands play a significant part in the Park's scenic, natural or wildlife resources, or where conflicting uses on adjacent BLM lands would significantly "impair" or "derogate" the Park's values or resources, contrary to the requirements of 16 U.S.C. §§ 1 and 1a-1. And where those values are present on Park lands adjacent to BLM lands, their protection through identification and designation of ACECs or other adequately-protective management designations is required. Yet it is clear that BLM

3

RESPONSE TO COMMENT 3 NATIONAL PARKS AND CONSERVATION ASSOCIATION

[Comment page 3]

3 BLM believes that the proposed RMP would be consistent with park planning; however, it is not necessary for public lands to be managed the same as NPS lands. Under 43 CFR 1610.3, BLM is required to document whether the proposed RMP and final EIS would be consistent with the plans of other agencies; this was done in chapter 5.

chose, without valid explanation and despite specific requests, to disregard consistency with and protection of those Park values and resources, either through consideration as a planning issue or by considering and applying management designations adequate to assure consistency.

B. BLM has failed to provide for, or offer specific valid grounds for disregarding, consistency between the SRRMP and the park values protected from impairment on adjacent NPS units

The San Rafael Resource Area abuts or surrounds three NPS units--Canyonlands National Park, Glen Canyon National Recreation Area, and Capitol Reef National Monument. These areas are managed pursuant to the 1916 Organic Act which requires that NPS units be managed so as to "conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

In 1978, Congress amended the Organic Act to reaffirm the high standards of the Act and to clarify that the nonimpairment standard applies to all units of the National Park System.

> Congress declares that the national park system, which began with (the) establishment of Yellowstone National Park in 1872, has since grown to include superlative natural, historic and recreation areas in every major region of the United States . . . that it is in the purpose of this Act to include all such areas in the System and to clarify the authorities applicable to the System . . .

The 1978 amendments also reemphasize the Secretary's responsibility to assure than management decisions and actions do not impair park values. The amended Organic Act states:

> The authorization of activities shall be construed and the protection, management and administration of these areas shall be conducted in light of the high public values and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established.

16 U.S.C.A. §1a-1.

The Organic Act and its amendments, as well as the specific enabling acts of each park unit, establish the standards under which potential inconsistencies between national park plans and policies and the SRRMP can and should be evaluated and resolved.

4 Management actions that would be provided for or permitted under the SRRMP clearly have the potential to significantly

RESPONSE TO COMMENT 3 NATIONAL PARKS AND CONSERVATION ASSOCIATION

[Comment page 4]

4 The RHP team identified elements of the human environment that would be affected by the alternatives assessed. No impacts were identified as affecting NPS land. BLM planners are under no obligation to meet the requirements of the NPS Organic Act, just as NPS planners need not meet the requirements of the Federal Land Policy and Management Act (FLPMA) of 1976. The factors mentioned in this comment are considered at the time of authorization. See also the response to comment 3-3.

affect -- and possibly impair -- national park resources and values. The BLM has failed in the draft SRRMP however to:

> adequately acknowledge the interrelationship between national park service resources and SRRA resources;

> to assess individually or cumulatively potential impacts to national park resources and values from alternative BLM management practices considered by the SRRMP;

> to identify areas of potential conflict between NPS plans and policies and alternative and proposed BLM management practices;

> to identify actions to resolve these potential conflicts.

These types of analyses and planning actions are clearly essential to meet the protections required by 16 U.S.C.A. §§ 1 and 1a-1, as well as the consistency requirements of FLPMA and BLM planning regulations, and adequate analysis of alternatives and impacts under NEPA.

FLPMA and BLM planning regulations are explicit in requiring the BLM to strive for consistency between BLM resource management plans and other approved resource related plans or programs of other federal agencies, and, where inconsistencies are identified, to identify and adopt actions to resolve inconsistencies if at all possible.

FLPMA requires that the Secretary "coordinate the land use inventory, planning and management activities of or for such lands with the land use planning and management programs of other Federal departments and agencies . . . " FLPMA Sec. 202(c)(a), 43 USC Sec. 1712(c)(9)

5 BLM planning regulations elaborate on this requirement, at 43 CFR Sec.1610.3-2(a):

> Guidance and resource management plans and amendments to the MFP shall be consistent with officially approved or adopted resource related plans and the policies and programs contained therein, of other Federal agencies . . .

Similarly, BLM planning regulations require that guidance provided by the Director and State Director for the preparation of a RMP shall:

> (1) Ensure that it is as consistent as possible with existing officially adopted and approved resource related plans, policies or programs of other federal agencies . . . ;
>
> (2) Identify areas where the proposed guidance is

5

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[Comment page 5]

5 See the response to comment 3-3.

inconsistent with such policies, plan or programs and provide reasons why the inconsistencies exist and cannot be remedied; and

(3) Notify the other federal agencies . . . with whom consistency is not achieved and indicate any appropriate methods, procedures, actions and/or programs which the State Director believes may lead to resolution of such inconsistencies.

43 CFR § 1610.3-1 (c)(2).

C. Request for adequate consistency planning.

NPCA requests that the final SRRMP/EIS fully comply with the provisions for consistency in FLPMA and applicable planning regulations.

NPCA also specifically requests that the State Director issue guidance as authorized under CFR 1610.1 to the District and Area Managers on how to adequately fulfill consistency requirements in BLM planning, including specific guidance on the need to address the inadequacies discussed above. These inadequacies strongly suggest the need to invoke the specific provision of 43 CFR Sec. 1610.1(a)(3) which requires that:

6 such guidance shall be reconsidered by the State Director at any time during the planning process that the State Director level guidance is found, through public involvement or other means, to be inappropriate when applied to a specific area being planned.

We recommend that this guidance require the RMP:

> identify any interrelationship between NPS and SRRA resources, including but not limited to scenic, scientific, cultural, natural and historic resources;

> identify consistency with national park plans and policies as a planning issue;

> provide a summary description of NPS plans and policies which provide management direction for the pertinent NPS units. Identify the NPS Organic Act nonimpairment and nonderogation standards, 16 USC Sec. 1 and 1a-1, as the standards applicable to assessing and resolving potential impacts and inconsistencies.

> assess individually and cumulatively the potential impacts to national park resources from BLM proposed alternatives;

> specifically identify or require specific identification of potential conflicts;

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[Comment pages 6 and 7]

6 The interdisciplinary team has evaluated the proposed RMP and final EIS against the Utah State Director's planning guidance and is confident that the document complies with that guidance.

> identify alternative actions or measures the BLM will take to resolve inconsistencies;

> provide reasons why inconsistencies are not resolved in the instances where they are not.

FAILURE TO PLAN FOR CULTURAL RESOURCE PROTECTION

A. Failured to address management for cultural resource protection in the draft SRRMP

The draft SRRMP acknowledges that "a wide range of cultural resources are contained in the planning area." SRRMP p. 3-42. Recognizing that "the location and extent of most of the resources are unknown," the SRRMP estimates that although "about 70,000 archeological sites exist in the planning area," only "about 1500 (2 percent) are recorded." Id.

7 Despite that profusion of cultural values and lack of information about them, the SRRMP proposes to adopt a preferred alternative, and considers primarily plan alternatives, that will result in damage of in excess of 6000 sites -- or about 300% more than all sites now recorded! Despite its recognition that "cultural resource values are being lost in those parts of the planning area where energy exploration and development, recreation use, and pot hunting take place," id., the SRRMP fails even to address planning strategies to address and avoid that damage.

The SRRMP further recognizes that "management of the archeological resource within the planning area has been identified as a concern by both BLM and the public," SRRMP p. 1-5. Yet it declines to address these serious problems as a
8 planning issue or otherwise provide any planning response to these predicted losses of cultural values under its plan alternatives for the incomprehensible reason that "under the law, BLM must manage use of other resources to protect antiquities." SRRMP p. 1-4.

BLM cites no legal basis for the position it asserts. Nor can it establish that management practices or plans are irrelevant to practical protection of these cultural resources. BLM simply makes no effort to address the possibility of management alternatives designed for cultural resource
9 protection. Yet both the appropriateness and feasibility of management designed to protect culturally-rich areas has been demonstrated by the adoption of the plans for an "Anasazi Culture Multiple Use ACEC," as proposed by the San Juan/San Miguel RMP (December 1984). That RMP for the San Juan/San Miguel Planning Area -- an area in close geographic proximity and with similar cultural resource management issues -- includes cultural resources as a planning issue. The management objective under this issue was defined as the need to "determine management direction for important cultural sites and areas," Under "Needed Decisions," the Colorado RMP directs:

> identify cultural sites that will be developed, protected or stabilized and interpreted for public use and research;

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[Comment page 8]

7 The phrasing of the comment implies that only cultural decisions would affect cultural resources, which is not the case. Management differences between alternatives for other resource activities would have widely differing effects on cultural resources. An estimated 64,000 sites, whether documented or not, would be protected under proposed management. The line in table 1 of the draft RMP/EIS (page S-6) showing "sites protected" has been dropped to avoid confusion between known sites (which is what the draft really meant) and those protected, known or not.

Management under the proposed RMP would reduce the number of cultural sites damaged or destroyed below the number previously given by about 10 percent, primarily through increased ORV restrictions and closures (table 1, alternative F).

As stated in a new footnote to table 1, site damage includes a whole range of impacts, from surface collection or displacement to complete destruction. Some sites may have been previously disturbed when so damaged. Moreover, this number includes non-significant sites judged not worthy to expend funds on to avoid or mitigate under 106 preservation procedures. Also certain sites are included where adverse impacts are accepted (again under 106 procedures) as a balance against the whole mitigation effort for a particular undertaking.

BLM could not hope to eliminate all impacts or damage to cultural sites without barring other uses, such as grazing or nonmotorized recreation, in areas where sites are known or suspected to occur. This is no more practical than fencing all sites. Within the mandate and framework of multiple use, mitigation measures for cultural resources cannot completely preclude all other uses. So, even though site damage is not desirable, it is considered unavoidable where realistic and balanced use of all resources is provided for. This is true everywhere on BLM-managed lands, whether stated explicitly or not, and is a national issue that cannot be resolved through the planning process.

As noted in the response to comment 3-2, the management strategy proposed for cultural resources is optimal and thus does not change among alternatives, although strategies for other activities do vary. However, more detailed site-specific activity plans will follow the RMP to carry out the strategies stated herein.

8 See the responses to comments 3-2 and 3-7.

9 If different areas did not have different resources and management needs, there would be no need for developing management plans, since one set of strategies would fit all. The cultural section of this document provides for uses, guidelines, and special designations (including cultural ACECs) appropriate for the planning area. The difference in management strategies is appropriate for the inherent differences in the resources and overall environment of the areas planned for.

> determine special designation or management guidelines for cultural sites.

The planning criteria also recognized the need to consider "the need for protection not afforded under existing laws."

In view of BLM's repeated acknowledgements of the serious and continuing damage to cultural resources, the profusion of sites throughout the area, and the lack of adequate information about them, careful planning and execution of planning strategies for protection of those resources would seem mandatory. There does not appear to be any point in the SRRMP where BLM considers the need for or feasibility of a major planning strategy or alternative designed to provide more effective protection for cultural resources throughout the planning area.

10

There is simply no legal basis for the peculiar explanation given for the plan's failure to address cultural resource protection as a basic planning issue. Far from exempting the matter as a planning issue, the clear legal obligation of protection and the serious continuing threat to a major resource should intensify the obligation to focus planning efforts on strategies for protection.

The failure to treat planning for the protection of these fundamental resource values within the San Rafael Resource Area as a central planning issue requires reconsideration and basic revision of the approach taken in the SRRMP, with development and submission for public comment of a revised draft plan and EIS.

9

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[Comment pages 8 and 9]

BLM is confident that both the draft RMP/EIS and this proposed RMP and final EIS provide quality management guidance for all resource activities which will positively affect cultural resources in the planning area.

10 See the response to comment 3-2, paragraphs 2 and 3.

OFF ROAD VEHICLE MANAGEMENT

11 Perhaps the most disturbing aspect of the draft San Rafael RMP is its failure to recognize or address existing and potential major conflicts between off-road vehicles and the protection of public resources. The RMP only closes 4,470 acres to off-road vehicle use, less than one percent of the San Rafael Resource Area. The RMP fails to even designate Wilderness Study Areas as closed to ORVs.

12 The RMP fails to recognize the extent of existing and potential conflict between ORV activity and the protection of public resources. While the RMP acknowledges that ORV use may displace non-ORV users and damage soil and vegetation, it fails to mention, analyze, or address, the potential for ORV activity to harass livestock and other wildlife, stress bighorn sheep, trample T&E species (identified in the BLM Wilderness EIS, Volume VI, pp.39-40 as a serious concern in the Mexican Mountain area, but not mentioned in the RMP), damage or contribute to increased vandalism of cultural sites.

The code of federal regulations (43 CFR 8431.2 - 8432.1) requires stringent ORV restrictions where the need arises. The regulations require that

> . . . where the authorized officer determines that off-road vehicles are causing or will cause considerable adverse effects upon soil, vegetation, wildlife, wildlife habitat, cultural resources, historical resources, threatened or endangered species, wilderness suitability, other authorized uses, or other resources, the authorized officer shall immediately close the areas or trails affected to the type(s) of vehicle causing the adverse effect until the adverse effects are eliminated and measures implemented to prevent recurrence.
>
> . . . All designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands . . .

Similarly, the Interim Management Policy for WSAs (11/10/87) requires:

> If impacts of ORVs threaten to impair the area's suitability, the BLM may limit or close the affected lands to the types of ORVs causing the problems.

13 BLM has failed to adequately identify potential conflicts between protection of public resources and ORV activity. And BLM has failed to provide management prescriptions to prevent undue and unnecessary degradation of public lands and resources from existing and potential ORV activity.

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[Comment page 10]

11 See the responses to comments 44-3, 44-4, and 44-6.

12 Monitoring programs will be established for threatened or endangered (T/E) plant species; if the habitat is being adversely impacted by ORV use, the area will be closed. Impact analysis in the draft RMP/EIS, chapter 4 included impacts to cultural resources due to ORV use (appendix U). As a result of impact analysis, seasonal restrictions for ORV use were developed to protect crucial habitat for bighorn sheep, elk and deer; ORV use would be restricted to designated roads and trails in much of the big game habitat (draft RMP/EIS, pages 4-86 to 4-88). BLM believes that impacts from ORV use are adequately addressed in the final EIS.

Also see the response to comment 44, introduction.

13 See the responses to comment 44-3, 44-4 and 44-6.

14 NPCA recommends that BLM close to ORV use:

› riparian areas;
› WSAs and areas recommended for wilderness designation by the Utah Wilderness Coalition (see Exhibit 1);
› cultural sites;
› existing ROS Primitive and Semi-primitive non-motorized classes;
› candidate wild and scenic river corridors;
› endangered, threatened and sensitive species habitat;
› crucial habitat for bighorn sheep, antelope, elk, and deer.

These closures are needed to assure that ORV activity will not adversely affect these resources.

15 NPCA also recommends that BLM limit vehicle use to designated roads in the remainder of the resource area. Furthermore, the BLM should notify the public that any road not specifically posted as open can be assumed to be closed.

16 NPCA is also disturbed by BLM's failure to identify which "designated roads" will be open to vehicle use in the areas proposed for the "vehicles limited to designated roads" category. It is impossible for the public to provide meaningful review of this recommendation because there is no way of knowing which roads, or trails, will be designated. We recommend that BLM reissue a supplement to the draft RMP for public comment showing which roads are proposed to be open to vehicle use. The public should be provided full opportunity to review and comment on proposed road designations.

17 NPCA objects to treatment of the existing motorcycle trail system in the resource area as a foregone conclusion under all alternatives. The BLM has never completed a full analysis of how this trail system affects public resources within the resource area. BLM can not meet its obligation to prevent undue and unnecessary degradation of public lands and resources without such an analysis. For example, a substantial part of the trail system is located in crucial bighorn sheep habitat, and adversely affects bighorn use of the area. Furthermore, we believe the trail system creates serious safety risks for less-than-expert riders.

18 NPCA requests that the purpose and need of a trail system, and alternatives to the current trail system, including no trail system, be fully analyzed in the RMP.

19 The RMP also needs to discuss how ORV designations will be effectively implemented and enforced.

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[Comment page 11]

14 All P class areas would be closed to ORV use under the proposed RMP. See the responses to comments 3-12, 44-3, 44-4 and 44-6.

15 See the response to comment 44-6.

16 See the response to comment 15-20.

17 See the responses to comments 15-23, 15-24, and 15-25.

18 See the response to comment 15-23.

19 Implementation and enforcement of ORV designation will be addressed in an implementation plan to be developed after the RMP is final (draft RMP/EIS, pages 2-8 and 2-57 and appendix L). Extensive signing and increased on-the-ground presence would be required to properly implement the ORV plan.

WILD AND SCENIC RIVERS

The BLM has done a good job in determining "wild and scenic" eligibility and potential classification of segments of the Green River, San Rafael River and Muddy Creek. We concur with the Agency's assessment of all three sections of the Green River.

20 On the San Rafael River, however, we recommend that the BLM classify the river segment from the Mexican Mountain WSA boundary to Lockart Wash as "wild." If substantially noticeable impacts are occurring in the WSA section of the river, then BLM must improve its interim management of the area and rehabilitate impacted areas.

On Muddy Creek, we recommend that the 4 mile long stretch of river from Hidden Splendor to where the river exits the Reef should be classified as "wild." The human impacts in this area are not substantial.

RECREATION OPPORTUNITY SPECTRUM CLASSES

21 The draft RMP/EIS is unclear regarding the application and management of ROS classes. The RMP claims that under alternative F, the ROS class acreages would shift toward the primitive end of the spectrum, and Primitive and SPNM recreation opportunities would increase. The Plan purportedly "demonstrates" this increase by comparing alternative F to alternative A. However, the existing situation described at P.S-6 shows that 366,910 acres meet P and SPNM classes. Alternative F would actually reduce this acreage by 21 percent.

22 NPCA requests that the following areas be managed to retain their Primitive or SPNM classifications:

- WSAs;
- Areas proposed for wilderness designation by the Utah Wilderness Coalition;
- all ACECs recommended by NPCA;
- crucial bighorn sheep, antelope, elk and deer habitat;
- riparian areas.

23 NPCA strongly recommends that BLM adopt the management prescriptions identified for alternative C (PP 2-55,56) for ROS classes P and SPNM.

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[Comment page 12]

20 BLM appreciates this statement of support for wild and scenic river designation. The suitability study on each of the river segments will include preparation of an EIS (appendix J).

21 By the year 2000, based on management prescriptions for alternatives A and F, more acres would be in the primitive (P) and semiprimitive non-motorized (SPNM) recreation opportunity spectrum (ROS) classes under alternative F than under alternative A.

22 As a multiple use agency, BLM is required to manage for diverse uses and resources. P and SPNM class areas are only two of the many values considered. Many of the areas mentioned are covered by some level of restriction.

23 Based on public comment, the proposed RMP includes additional management prescriptions for ROS P- and SPNM-class areas (proposed RMP, chapter 2, Recreation and Wildlife).

WILDERNESS

A. Need for revised wilderness inventory and redesignation of WSAs

FLPMA expressly directs BLM to base its planning process on the inventory of public land values which it requires the Secretary to "prepare and maintain on a continuing basis . . . ." FLPMA § 201(a), 43 U.S.C.A. § 1711(a). (Emphasis added.)

It is clear that the wilderness inventory which adopted the present WSA designations within the San Rafael Resource Area was accomplished long before completion of the statewide wilderness inventory, without compliance with the FLPMA planning process, and on an accelerated basis in order to facilitate planning for the Intermountain Power project. Because that project, at the time of the accelerated inventory, was expected to be located in an area that would result in many severe impacts that inconsistent with wilderness designation, large and important blocks of roadless areas were improperly excluded from the wilderness inventory in anticipation of the IPP development.

24 In addition, because of the accelerated schedule of the wilderness inventory in the area, critically important standards for the conduct of the wilderness inventory, later developed by BLM, were not available and were not applied. The inventory was conducted without the guidance later developed on standards for inventory consideration of solitude, relevant human impacts, mapping and explanation of exclusions, and similar standards from the later Organic Act directive and specific BLM policy statements on wilderness inventory.

Substantial explanation of these inventory deficiencies in the San Rafael Resource Area are included in the 1986 comments on the statewide wilderness EIS submitted by the Utah Wilderness Coalition, previously supplied to BLM, and incorporated herein by reference.

NPCA contends that, because of serious defects in the original, accelerated wilderness inventory in many inventory units affected by the abandoned plans for the Intermountain Power Project, the obligation of inventory "on a continuing basis" requires new consideration and expansion of the affected WSAs. BLM should conduct a detailed review of the original wilderness inventory to identify all inventory units that may have been affected by the accelerated inventory prompted by the IPP project. BLM should then designate enlarged or additional units embracing areas that were improperly excluded.

Affected inventory units would include at least the Muddy Creek, Cedar Mountain, Little Wild Horse, Mussentuchit Badlands, Limestone Cliffs, Upper Muddy Creek, Jones Bench, and Red Desert units.

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[Comment page 13]

24 Wilderness designation recommendations are being made through the statewide wilderness EIS and are not addressed by this RMP (draft RMP/EIS, page 1-3).

B: Wilderness Study Area Management

25 There is an inappropriate and unlawful consistency between the draft RMP and the draft Utah BLM Statewide Wilderness EIS. BLM has identified seven WSAs and one ISA in the San Rafael Resource Area. In the Statewide draft Wilderness EIS, BLM recommends six of the WSAs as "suitable" for wilderness designation. In the San Rafael RMP, however, BLM proposes to allow mineral leasing, mining and vehicle use in substantial parts of these "suitable" areas. At a minimum, to be consistent with its own wilderness planning and recommendation, BLM must recommend management prescriptions that are consistent with its "suitability" recommendation.

WILDLIFE

26 BLM has recently issued statements and directives for managing wildlife on an equal basis with other resources. (See for example, BLM's publication, "Fish and Wildlife 2000, A Plan for the Future.") BLM's San Rafael RMP fails, however, to recognize wildlife as a critical resource and provide it adequate protection. Wildlife concerns appear to remain subordinate to other interests, including livestock, ORVs and mining.

To remedy this problem we suggest the following.

Bighorn Sheep:

27 › Close crucial bighorn sheep habitat to ORVs, mineral leasing and mineral entry.

› Eliminate domestic sheep from crucial bighorn sheep range. Studies indicate that co-use of ranges by bighorn sheep and domestic sheep result in declines, dieoffs, and extinctions of bighorn populations. (See "Effects of Domestic Sheep Grazing on Bighorn Sheep Populations," In Biannual Symposium and Goat Council, 3:287-313.)

› Prevent co-use of critical water areas, possibly by preventing livestock from entering the canyons that cut through the Reef.

› Protect yearlong habitat by limiting vehicles to designated roads, and subordinating domestic livestock grazing concerns to bighorn sheep needs when conflicts occur.

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[Comment page 14]

25 When an area is designated wilderness, the designation will automatically amend the plan. Wilderness study areas (WSAs) will be managed under the interim management policy (IMP) until Congress either designates them as wilderness or releases them from wilderness review. Upon release, these areas would be managed under the prescriptions contained in the proposed RMP (draft RMP/EIS, page 2-52).

BLM is required to apply the lowest levels of restriction that would protect resources values. The impact analysis in chapter 4 of the draft RMP/EIS does not justify higher levels of restriction.

26 The draft RMP/EIS does consider wildlife on an equal basis with other resources. The management prescriptions presented in the proposed RMP would mitigate impacts to crucial habitat for each species affected by ORV use, mineral leasing, and mineral development.

27 The crucial bighorn sheep habitat would be protected by seasonal stipulations on ORV use and mineral leasing (draft RMP/EIS, pages 1-69, 2-70, and 2-72).

Under the proposed RMP, 49 percent of the crucial habitat and 16 percent of the yearlong habitat would be closed to ORV use. ORV use would be limited to designated roads and trails on 41 percent of the crucial habitat and 71 percent of the yearlong. Seventy-eight percent of the crucial bighorn sheep habitat would either be closed to oil and gas leasing or have a no-surface-occupancy stipulation. Plans of operations for mineral entry would be required on about 76 percent of the crucial bighorn sheep habitat, while 13 percent of the crucial habitat would be closed to leasing.

The development of waters and prevention of co-use of waters by livestock and bighorn sheep will be addressed at the activity-plan level. If domestic livestock grazing is found to be conflicting with bighorn sheep on yearlong habitat, the conflict would be addressed in an activity plan.

See also the response to comment 15-63.

Antelope:

28 › Complete a thorough inventory of fawning and rutting areas. Protect the entire range until the inventory is completed.

› Protect critical fawning areas by closing these areas to ORVs, mineral leasing and mineral entry.

Elk and Deer:

29 › Protect crucial winter range by closing these areas to ORVs and snowmobiles, and designating them No Surface Occupancy.

GRAZING

30 The San Rafael RMP fails to adequately balance grazing interests with the protection of other resources -- soils, water, vegetation, wildlife.

31 First, the Plan fails to consider a meaningful array of alternatives. Under the alternative permitting the least acreage grazed, 1,523,630 acres are grazed. Under the alternative permitting the most acreage grazed, 1,620,820 acres are grazed. This is only a difference of less than 100,000 acres, or 6 percent in the amount of acreage grazed. This does not represent the "array of alternatives" required by NEPA.

32 Second, in its preferred alternative, BLM only excludes grazing on 5,800 acres, and 4,500 acres of this area is apparently inaccessible to cattle. This means that essentially all accessible lands in the RMP are open to cattle grazing.

NPCA requests the BLM to revise its grazing section of the RMP and consider the following measures to better assure that grazing does not harm other public resources and values:

33 › eliminate grazing on crucial bighorn sheep and antelope habitat;

› eliminate grazing on critical watershed areas;

› eliminate grazing on T&E species habitat;

› eliminate grazing in riparian areas;

› protect important cultural sites through fencing or the elimination of grazing from certain areas;

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[Comment page 15]

28 See the response to comment 15-67.

29 See the response to comment 15-68.

30 BLM does not agree that the draft RMP/EIS fails to balance grazing interests with the protection of other resources. See the response to comment 42-1.

31 The grazing proposals in each alternative are based on how grazing would be affected by the goal of each alternative. The changes described are in animal unit months (AUMs), not in acres. Change between the highest and lowest average licensed use is 58 percent (draft RMP/EIS, table 1, page 5-5). Changes in AUMs are based on such things as ACECs, land disposals, and the effect alternative goals may have on grazing. When changes in season of use or a range improvement would mitigate the effect on current grazing practices under an alternative, the mitigating practice was considered rather than removal or reduction of livestock.

32 See the response to comment 3-31.

33 One of the goals of the preferred alternative is to protect crucial wildlife habitat. This can be accomplished through offsite mitigation in big game habitat (draft RMP/EIS, page 2-74) and reductions in livestock, wild horses and burros, or wildlife numbers where crucial habitat is deteriorating. Monitoring studies are being established in crucial habitat areas to determine if resource damage is occurring. Another goal of the preferred alternative is to protect critical soils. In areas exceeding the Soil Conservation Service (SCS) critical soil loss threshold and in a downward trend, it may be necessary to change livestock management (appendix N). Riparian areas would be managed to maintain, restore, or improve riparian values to achieve a healthy and productive ecological condition for maximum long-term benefits. Specific actions to protect riparian habitat would be determined on an allotment-by-allotment basis through activity planning following adoption of the RMP (proposed RMP, chapter 2, Habitat Management). In areas where conflicts may exist between livestock and recreational opportunities, restrictions may be placed on livestock through activity-level planning. Certain cultural sites, such as the I-70 Pictographs and Swasey's Cabin (draft RMP/EIS, page 2-49), would be protected from disturbance.

› remove unused areas from forage allocation programs;

› reduce AUMs to what is utilized;

RIPARIAN

Riparian areas in the San Rafael Resource Area are particularly important because they are very limited. The RMP notes that of 1,500,000 acres in the resource area, there are only about 14,770 acres of riparian areas. Riparian areas are especially important for wildlife and recreation.

To prevent the unnecessary and undue degradation of riparian areas, NPCA recommends the following:

34 › close riparian areas to ORVs;

› establish separate utilization studies and standards for riparian areas. Install fences or grazing systems to prevent damage, or close them to cattle grazing.

16

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[Comment page 16]

34 ORV use in riparian areas would be limited to designated roads and trails. An ORV implementation plan written following adoption of the RMP would determine which roads and trails are designated. These prescriptions would adequately protect reparian areas.

See also the response to comment 3-33.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

A. Introduction

NPCA's comments on the treatment of ACECs in the SRRMP are divided into three parts: required standards for ACECs; our specific nominations for designation of ACECs; and specific comments on BLM's ACEC recommendations.

35 We offer specific comments on BLM's recommendations in the event our nominations are not fully adopted. Should BLM not adopt our ACEC nominations, we request a written explanation detailing BLM's reasons for rejecting any nominations not accepted.

B. Failure to give required priority to the designation and protection of ACECs

FLPMA requires that BLM:

give priority to the designation and protection of areas of critical environmental concern (ACECs).

FLPMA § 202 (c)(3).

ACECs are defined as:

areas within the public lands, where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards."

FLPMA § 103(a).

These provisions--as well as BLM planning regulations, 1611.7-2 and the BLM Manual--obligate BLM to thoroughly inventory its resources to determine if there are areas which meet the ACEC criteria (relevance and importance). Furthermore, once that determination is affirmatively made for an area, BLM is obligated to consider it as a potential ACEC throughout the planning process.

36 NPCA understands these provisions to require BLM to consider all potential ACECs (that is, all areas meeting the relevance and importance criteria) in all alternatives, including the preferred alternative. The determination that an area has "relevance and importance" and hence meets the criteria for a potential ACEC is made in the inventory stage and should be not affected by the development of alternatives. (The only possible exception might arise where no special management attention is required because an alternative contemplates that the area will not be "developed

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[Comment pages 17, 18, and 19]

35 BLM has considered all areas listed in the comment as ACEC nominations and analyzed them against manual requirements to see if they qualify for further consideration. The final EIS documents the disposition of each nomination (appendix B). See also the response to comment 15-9, paragraph 2.

36 BLM is aware of the FLPMA requirement to give priority to the designation and protection of ACECs. Guidance for idenfifying and designating ACECs is given in BLM manual section 1613 (dated 9/29/88). BLM considered the potential for designation of ACECs under every management program analyzed in part II of the MSA.

BLM does not agree that every area considered as a preliminary potential ACEC must be carried through the entire planning process. The MSA documents the interdisciplinary team's findings. The BLM manual provides that the Area Manager, with the concurrence of the District Manager, determines which of the areas discussed in the MSA should be classified as a potential ACEC in the draft RMP/EIS. The manual requires potential ACECs to be considered in at least one EIS alternative, not all alternatives (including the preferred alternative) as suggested in this comment.. The manual does not require that all potential areas be designated as ACECs.

or used" at all; or where BLM affirmatively demonstrates that none of the contemplated uses will result in the prohibited "irreparable damage" to any of the protected values and resources.)

As the BLM Manual notes, the purpose of the formulation of alternatives is to portray a mix of multiple uses and management actions which could resolve the planning issues and address management concerns. It is not to reassess resource and value determinations made in the inventory process. Hence, while it is appropriate for different management prescriptions to be considered for each potential ACEC under the plan alternatives, each potential ACEC identified during the inventory process should be considered in all plan alternatives, including the preferred alternative, because it has been determined that the area meets the criteria of an ACEC under FLPMA.

Furthermore, once an area is recognized as meeting the ACEC criteria and is identified as a potential ACEC, it must be
36 designated. Again, the basic identification of an area's relevance and importance in the inventory stage is not affected by the alternative formulation and the selection of a preferred alternative. Rather, the planning process should properly determine the management prescriptions appropriate to accomplish the protection of the ACEC special resources from "irreparable harm."

NPCA believes that BLM has improperly implemented the ACEC requirements of FLPMA and its implementing regulations by failing to consider areas determined to have relevant and important values as potential ACECs throughout all the draft SRRMP alternatives, including the preferred alternative. NPCA further believes that the BLM has violated the ACEC provisions of FLPMA and CFR by failing to designate and provide protection for areas identified as having important resources. In addition, NPCA believes BLM has failed to identify all important resources for potential ACEC designation.

NPCA requests that BLM issue a revised draft plan which properly considers all potential ACECs throughout the planning process, or, alternatively, affirmatively demonstrates that planned activities will not irreparably damage the values and resources identified by FLPMA § 103(a) for protection. This would require identification of potential ACECs under all alternatives, with management prescriptions adequately "protect and prevent irreparable damage" to the important resources identified in the ACEC inventory. While management prescriptions may differ from one alternative to the next to reflect the threats arising from different management emphasis, all management prescriptions must meet the FLPMA requirement of protecting important ACEC resources and preventing irreparable harm to those resources.

NPCA further requests that the State Director issue guidance

that BLM's determination of importance and relevance give proper weight to adjacent federal land designations, especially national parks and wilderness. NPCA recommends that the resources of an area be considered relevant and important if they are integral to the protection or enjoyment of the resources and values of a national park or monument, or a wilderness area.

C: ACEC Nominations:

1. San Rafael Swell/Reef Region

NPCA nominates the area identified on the enclosed mylar overlay (exhibit 2) as an ACEC to protect important natural, scenic, recreational and cultural values. (See Area No. 1, San Rafael Swell/Reef)

The importance of the San Rafael Swell/Reef region is clearly established by a long history of public recognition of its outstanding natural, scenic, recreational and cultural values. Recommendations for the protection of all or parts of the San Rafael Swell/Reef have repeatedly been made over the past fifty years. Recommendations include designation of the area as a National Park, as a BLM Wilderness Area, and as a National Conservation Area. These recommendations have been made by the state of Utah, Emery County, national and state conservation organizations, the BLM and professional planners. Some examples include:

37 › In 1935, the Utah State Planning Board proposed a 360,000 acre "Wayne Wonderland" national park.

› In 1936, Wilderness Society founder Bob Marshall identified a wilderness area of nearly 2 million acres in the San Rafael as deserving protection.

› In 1972, a report by the Institute of Outdoor Recreation and Tourism and the College of Natural Resources, Utah State University, recommended primitive area designation for 307,000 acres of the San Rafael Swell/Reef and recommended approximately 572,000 acres for congressional designation as a National Conservation Area. The study was titled "Land Use in the Utah Canyon Country: Tourism, Interstate 70 and the San Rafael Swell."

The report also recognized the national park quality of the area. The report said,

> During the course of this investigation, it has been suggested that the San Rafael Swell is of national park system caliber. Examination of the San Rafael Swell and comparison with the Utah units of the national park system indicates that this is indeed the case. . . In the event however, that a National Conservation Area is not created and the Bureau does not receive an organic act, the creation of a San Rafael Swell National Park or Monument should be seriously considered.

The report described the scenic qualities of the San Rafael region as:

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[Comment page 20]

37 See the responses to comments 15-9 and 15-10; also see appendix B.

In response to public comment, the proposed RMP (chapter 2, Oil and Gas Management) would increase to 66,880 the acres in category 4 for oil and gas and tar sand; increase to 68,660 the acres proposed for withdrawal from mineral entry; increase to 68,660 the acres excluded from rights-of-way; increase to 1,027,380 the acres where ORV use would be limited to designated roads and trails; and increase to 151,660 the acres closed to ORV use.

superior to many of the better recognized canyon country areas to the south. It is comparable to the scenic quality of Canyonlands and Capitol Reef National Parks and is perhaps superior to that of Arches National Park.

› In 1973, BLM, in its "Multiple Use Management Plan for National Resource Lands, San Rafael Swell," proposed to nominate the San Rafael Swell area for designation as a National Conservation Area. The BLM explicitly recognized the area's outstanding scenic values, and the fact that these values were spread out over a broad area and not limited to specific scenic features. The BLM said:

> The San Rafael's exceptional variety of colorful canyons, spectacular monoliths (massive stone blocks), arches, cliffs, buttes and mesas intermingled with placid grassy parks and woodlands created scenery of equal or superior quality to national parks lying to the south. Its value lies in its variety -- not in single unique features. The views range from pastoral, to interesting, to breathtaking.

37

In describing the aesthetics of the area, BLM waxes poetic on the area's special and important value to visitors:

> The San Rafael Swell's greatest natural resource is its aesthetic quality. Nature has applied space, color, texture, and symmetry with unparalleled variety in this unique bulge in the earth. To this is added cool, clean air scented by pine and juniper, unpolluted soils and streets, solitude, peace, surprise, exultation and well-being.
>
> Travel through the Swell to many persons is an emotional experience. Follow a tourist along I-70. Watch him slow perceptibly as he enters the Swell. Watch fingers point. Watch him suddenly stop along the road, and see necks crane. Ask the traveler what he thinks of the area and invariably he will answer "beautiful" or "spectacular" or "very nice." But look into his eyes -- the eyes of the young, the old, the vacationer, the travel weary. The eyes all radiate a gleam, a look of wonder, a glow of life, and you know his surroundings have touched his inner self.

› In 1984, the Emery County Development Council proposed national park designation for 210,000 acres in the northern San Rafael Swell.

› In 1986, the BLM identified five Wilderness Study Areas, totalling approximately 265,445 acres, in the San Rafael area.

› Also in 1986, the Utah Wilderness Coalition (UWC), a coalition of more than 20 national, regional, and state

conservation organizations, proposed approximately 649,590 acres for wilderness designation in the San Rafael Swell/Reef area. Specific details describing the natural, scenic, recreational and cultural values of these lands are provided in the UWC's comments on BLM's draft Wilderness EIS.

› In 1987, the National Parks and Conservation Association (NPCA), in a national survey of areas deserving of national park designation, identified the San Rafael Swell/Reef area as one of 20 top natural areas in the nation deserving of national park protection. NPCA's proposal is described in Volume Eight of NPCA's National Park System Plan, "Investing in Park Futures: A Blueprint for Tomorrow."

Other sources of public recognition of the important natural, scenic, cultural and recreational values of the San Rafael Swell/Reef area include:

› The area is featured in at least six different guidebooks, included three published since 1986. One of these identifies more than 300 miles of hiking routes inside the area
37 we are nominating for ACEC designation.

› Utah writer, Joe Bauman, features the San Rafael area in his recently published and very popular book, "Stone House Lands." He observes, "The San Rafael country may be the best remaining unprotected desert land," and argue eloquently for national park designation.

› The San Rafael region is an increasingly popular area for hikers, campers, climbers, boaters, photographers, amateur archeologists and sight seers. Only a three hour drive from Salt Lake City, the area is the nearest and most accessible part of Southern Utah canyon country for residents of the Wasatch Front. BLM has estimated that the area's growing popularity may cause non-motorized recreation to increase more than ten times its current level by the turn of the century.

Relevance exists because special management is needed to protect the area's important scenic, natural, recreation and cultural values.

The long history of recommendations to protect the area arose in response not only to the area's outstanding values, but also to existing or potential threats to the those values. The most serious and immediate threat facing the area as a whole is increasing off-road vehicle use. ORV use threats to damage soils and vegetation, stress wildlife, including bighorn sheep, muddy water sources, trample T&E species, harass livestock and other wildlife species, increase damage and vandalism to cultural sites, and create scars on the land.

In addition, oil and gas development, which under BLM's draft plan would be allowed on all but 5,000 acres (less than 1 percent) of the resource area, could damage scenic, recreational, natural and cultural values by disturbing the surface, requiring new road construction, creating noise and odors, scarring the land, and generally introducing industrial development in otherwise pristine areas.

Similarly, almost the entire resource area is left open to mineral entry under the proposed plan. Uranium development in the past has degraded the area's natural and scenic values, and increased vandalism to cultural sites, and it could do so again in the future without provisions for special management.

Tar sand development has also been proposed in the area, which would also mean significant impacts to the area's natural, scenic, recreational and cultural values without special management provisions.

37 Proposed Management Prescriptions for San Rafael Swell/Reef ACEC:

In order to assure adequate protection from irreparable harm of the important scenic, cultural, natural, and recreational values identified in this ACEC nomination, we recommend the following management prescriptions:

› Close the areas within the proposed ACEC that are recommended for wilderness designation by the Utah Wilderness Coalition's to off-road vehicle use. (These areas are identified on Exhibit 1.) Limit vehicles to designated roads in the remainder of the ACEC.

› Close the area to oil and gas leasing.

› Withdraw the area from mineral entry.

› Prohibit the development of tar sands. Deny the conversion of existing oil and gas leases to combined hydrocarbon leases and prohibit any future hydrocarbon leasing in the area.

› Exclude the areas proposed by the Utah Wilderness Coalition for wilderness designation from all land disturbing activities. (These areas are identified on exhibit 1.) Exclude the remainder of the area from land disturbing activities unless it is demonstrated that an activity will not harm the area's important natural, scenic, recreation and cultural values.

2. Horseshoe Canyon ACEC

NPCA nominates the Horseshoe Canyon area as an ACEC to protect important natural, scenic, recreational and cultural values. See the mylar overlay map (Exhibit 2) for proposed boundary lines.

The natural, scenic, recreational values of this area are important because of their outstanding character and their relationship to the detached Horseshoe Canyon Unit of Canyonlands National Park. BLM recognizes the outstanding character of this area in its Wilderness draft EIS. BLM classifies the area as having Class A scenery, and describes backpacking, camping and archeological sightseeing opportunities as "excellent." BLM also notes that while no cultural inventory has been made of the area, the potential for finding significant sites in the WSA is considered high because the area is located down canyon and adjacnet to the well known Barrier Canyon pictographs in the Horseshoe Canyon unit of Canyonlands National Park.

38

The area's importance is further established by its integral relationship to Canyonlands National Park's Horseshoe Canyon unit. As the BLM notes in the draft Wilderness EIS, 40 percent of the visitors to Horseshoe Canyon hiked or horsebacked into the northeastern section of Canyonlands and possibly into this area.

Furthermore, the area contains three endangered fish and habitat for bighorn sheep.

The Labyrinth Canyon portion of this area is heavily used by river runners and proposed by BLM for "scenic" river designation.

Relevance exists because special management is needed to protect special values. The area faces threats to its scenic, natural, recreational and cultural values from off-road vehicle use and oil and gas development. Furthermore, uncontrolled recreational use could result in increased vandalism to important cultural sites.

Proposed management prescriptions for Horseshoe Canyon ACEC:

In order to assure adequate protection from irreparable harm of the important scenic, cultural, natural, and recreational values identified in this ACEC nomination, we recommend the following management prescriptions:

› Close the area to vehicle use.

› Prohibit mineral leasing.

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[Comment page 24]

38 As a result of public comment, the Horseshoe Canyon and Green River Corridor will be evaluated for ACEC status. This will be done following approval of the RMP because it would involve a joint study with the Grand Resource Area that would require a plan amendment for both resource areas. Also see appendix B.

› Withdraw the area from mineral entry.

› Prohibit land-disturbing activities.

3. Jones Bench ACEC

NPCA nominates the Jones Bench area as an ACEC to protect important scenic values. See the mylar overlay map (exhibit 2) for proposed boundary lines.

The 3,200 acre area includes the northern extension of geologic features protected in Capitol Reef National park. These prominent topographic features are important because they are a natural extension of the features protected within the Park. In its recently released National Park System Plan, "Investing in Park Futures: A Blueprint for Tomorrow," NPCA proposed the expansion of Capitol Reef National Park to include
39 this area.

Relevance exists because special management is needed to protect special values. BLM proposes to leave the area open to oil and gas leasing, mineral entry and off-road vehicle use. Any of these activities could scar the scenic topographic features that make this area important to Capitol Reef National Park.

Proposed management prescriptions for Jones Bench ACEC:

In order to assure adequate protection from irreparable harm of the important scenic values identified in this ACEC nomination, we recommend the following management prescriptions:

› Close the area to vehicle use.

› Prohibit mineral leasing.

› Withdraw the area from mineral entry.

› Prohibit land-disturbing activities.

25

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[Comment page 25]

39 Under guidance in BLM manual 8410, Visual Resource Inventory, an area must be scenic quality A and unique or very rare within its physiographic province in order to be identified as a candidate potential ACEC for scenic values. As Jones Bench is presently rated scenic quality B, it does not meet the first criterion.

Also see appendix B.

D: General Comments on ACEC nominations identified in RMP

NPCA supports the 13 ACECs proposed in alternative F of the RMP. We recommend the following changes, however, in boundary lines or management prescriptions in order to more adequately protect important resources.

40 1. Bowknot Bend: NPCA supports BLM's recommendation for designating and managing the 1,830 acre Bowknot Bend ACEC.

41 2. Hebes Mountain: NPCA questions BLM's decision not to designate this area as an ACEC. If there is some controversy over the presence of relic vegetation on Hebes Mountain, BLM should complete further field work to determine whether or not relic vegetation exists. If the existence of relic vegetation is confirmed, then the area should be designated as an ACEC.

42 3. Big Flat Tops: NPCA supports BLM's recommendation for designating and managing a 2,640 Big Flat Tops ACEC.

43 4. San Rafael Reef: We urge BLM to expanded the San Rafael ACEC recommended under alternative F to include the area show on the "exhibit 1" map as the Utah Wilderness Coalition "San Rafael Reef" unit. Expanding the area would include crucial year long bighorn sheep habitat and known bighorn sheep use areas, riparian habitat, and possibly some habitat for all or some of the eight candidate, proposed endangered, or endangered plant species that have been identified in or near the San Rafael Reef. (See BLM draft Wilderness EIS, Volume VI, p. 10)

Expanding the area to includes these lands would also include additional lands of high scenic and recreational value.

The ACEC designation should be established to protect wildlife and recreational values as well as scenic and vegetation.

We encourage BLM to strengthen its proposed management prescriptions of this area by closing it to vehicle use, mineral leasing and mineral entry. These activities conflict with the protection of the area's important scenic, wildlife, recreation and vegetation values.

44 5. Dry Lake Archeological District: NPCA supports BLM's recommendation for a 16,990 acre ACEC. To adequately protect the area's archeological values, however, we recommend that the ACEC be placed in Category 3 (No Surface Occupancy) for oil and gas leasing and withdrawn from mineral entry. Furthermore, ORVs should be restricted to designated roads.

26

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[Comment page 26]

40 BLM appreciates this statement of support for designating Bowknot Bend and the Big Flat Top as ACECs. Also see appendix B.

41 See appendix B.

42 See the response to comment 3-40.

43 The management prescriptions proposed for the San Rafael Reef ACEC northern portion in the proposed RMP included closure to oil and gas leasing, proposed withdrawal from mineral entry, and closure to ORV use. Also see appendix B.

44 Elimination of other uses is not necessary to protect the values in the Dry Lake ACEC. The ACEC is proposed to protect the cultural resource information within its boundaries. The study proposed in the draft RMP/EIS (page 2-44) would collect that information, so that other uses would not be in conflict in the ACEC. The proposed RMP would limit ORV use in the ACEC to designated roads and trails. Also see appendix B.

45 6. Little Black Mountain: NPCA disagrees with BLM's decision not to designate Little Black Mountain as an ACEC. We disagree that Little Black Mountain does not require special management to prevent irreparable damage to the area. Without special management provisions, the area will be left open to vehicles, oil and gas development and mineral entry, all of which could harm the area's scenic and natural values.

We support the management prescriptions proposed under alternative D.

46 7. Gilson Buttes: NPCA also disagrees with BLM's decision not to designate the Gilson Buttes areas as an ACEC. The MSA indicates that several endemic plants exist in the area and that the area contains unique and fragile soil properties. It is our understanding that these plants are not protected in any other proposed ACEC.

47 8. Highway I-70 Scenic Corridor: NPCA strongly supports BLM's recommendation to designate this ACEC. We support the inclusion of a 30 acre I-7- Pictographs ACEC as a special emphasis area.

To protect the area's scenic values, the ACEC should be closed to mineral leasing and the disposal of mineral materials, withdrawn from mineral entry, excluded from right-of-way permits, excluded from use of woodland products and land treatments, closed to ORV use, and managed as VRM Class I.

These prescriptions include closing the area to mineral leasing and the disposal of mineral materials, withdrawing the area from mineral entry, excluding the area from land treatments, right-of=-way grants and use of woodland products, closing the area to off road vehicle use. Any these activities could destroy the scenic qualities the ACEC is designated to protect.

48 9. Muddy Creek: This area should be expanded to include the area identified as the Utah Wilderness Coalition Muddy Creek unit on the enclosed Exhibit 1 map. This expansion would include all of the Muddy Creek Wilderness Study Area, which contains spectacular (and obviously important) scenic and recreational values. In addition, it would include habitat for five candidate, one proposed, and two listed endangered plant species found in the Muddy Creek WSA and surrounding lands. (See BLM draft Wilderness EIS, Volume VI, P.8) This expanded boundary would also include crucial year long bighorn sheep habitat and a population of bighorn sheep.

This ACEC should be established to protect natural, wildlife and recreational values as well as scenic values.

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[Comment page 27]

45 Little Black Mountain was nominated as an ACEC, not for scenic values, but because of its natural values consisting of a series of exposed dikes and sills of dark basalt (appendix B). BLM does not believe that the activities identified in this comment would threaten the dikes and sills. Also see appendix B.

46 Based on public comment, Gilson Buttes will be reconsidered for ACEC designation following further evaluation. Also see appendix B.

47 BLM appreciates this statement of support for the I-70 Scenic Corricor ACEC, but does not agree that additional restrictions are necessary to protect the resource values. Also see appendix B.

48 The proposed RMP contains additional management prescriptions for the ROS P-class area, which includes much of the area mentioned in this comment. Expansion of the ACEC is not deemed necessary. Also see appendix B.

To protect these values, the ACEC should be closed to mineral leasing and the disposal of mineral materials, withdrawn from mineral entry, excluded from right-of-way permits, excluded from use of woodland products and land treatments, closed to ORV use, and managed as VRM Class I.

10. San Rafael Canyon: The 58,510 acre ACEC proposed in alternative C should be adopted in the final RMP. The San Rafael River Canyon is increasing used for hiking, backpacking, rafting, tubing, canoeing and kayaking. The increasing numbers of people utilizing the area, as well as the relative uniqueness of river resources in the southern Utah desert environment, establishes it as an important natural, scenic and recreational resource.

49 The BLM offers no substantive reason for proposed a 35,240 acre ACEC rather than the 58,510 ACEC proposed in alternatives C,D and E. The BLM says that the smaller area will "provide a more manageable area while protecting the pertinent resource." Why isn't the entire 58,510 acre area pertinent? Why is a smaller area more manageable?

The ACEC should be established to protect its important natural and recreation values as well as its scenic values. To protect these values, the ACEC should be closed to mineral leasing and the disposal of mineral materials, withdrawn from mineral entry, excluded from right-of-way permits, excluded from use of woodland products and land treatments, closed to ORV use, and managed as VRM Class I.

11. Segers Hole: NPCA supports the 7,120 acre Segers Hole ACEC recommended by the BLM but recommends that BLM adopt the
50 management prescriptions proposed under alternative D. These management prescriptions are necessary to protect the area's scenic values.

12. Sids Mountain: The 89,060 acre ACEC proposed in alternatives C and D should be adopted in the final RMP. It includes the Devils Canyon area, an exceptionally scenic canyon readily accessed by I-70 and increasingly popular with hikers. ORVs threaten to increase damage to this area.

Sids Mountain includes Utah's second largest desert bighorn
51 sheep population (the area has become a source of bighorn for sheep reintroductions elsewhere), two listed endangered plant species, possibly six candidate endangered plants (BLM draft Wilderness EIS, Volume VI, p.14), an 18 mile stretch of the San Rafael River and numerous other perennial water sources. In addition, the area contains one of the most extensive canyon systems in the San Rafael area.

28

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[Comment page 28]

49 Based on public comment, the proposed RMP contains additional management prescriptions for the Upper and Lower San Rafael Canyon area ACECs (proposed RMP, chapter 2, Recreation). Also see appendix B.

The San Rafael Canyon ACEC was proposed for its scenic qualities, with emphasis on the San Rafael River Canyon and the corridor along the Buckhorn Road. BLM's management concern was limiting the size of the ACEC to the minimum acreage necessary to protect the relevant scenic values.

50 BLM appreciates this statement of support for the Segers Hole ACEC. See the response to comment 3-47; also see appendix B.

51 See the response to comment 15-94. Also see appendix B.

NOTE: The maps that accompanied this comment are not reproduced here.

51 Because of these values, the ACEC should be established to protect the area's important wildlife, natural and recreational values as well as its scenic values. To protect these values, the ACEC should be closed to mineral leasing and the disposal of mineral materials, withdrawn from mineral entry, excluded from right-of-way permits, excluded from use of woodland products and land treatments, closed to ORV use, and managed as VRM Class I.

We appreciate your consideration of these comments.

Sincerely,

Terri Martin

Terri Martin
Rocky Mountain Regional Representative
National Parks and Conservation Association
PO Box 1563, Salt Lake City, Utah 84110
801-532-4796

The Nature Conservancy
Great Basin Field Office
P.O. Box 11486, Pioneer Station • Salt Lake City, Utah 84147-0486
(801) 521-1034

COMMENT 4

Mr. James W. Dryden
Area Manager
San Rafael Resource Area
Moab District
USDI Bureau of Land Management
Price, Utah 84501

December 5, 1988

Dear Mr. Dryden:

The Nature Conservancy (TNC) has been interested in the Resource Area and the San Rafael RMP since mid-1985, when we sponsored the fieldwork of a highly qualified botanist/ecologist, Joel Tuhy. He inspected five potential relict areas, conferred with Resource Area and planning team staff members, and visited one or two sites with your predecessor. He also sought other sources of information, such as BLM's ownership plats, on features and uses of the areas and their surroundings. We are pleased to see several of Mr. Tuhy's Research Natural Area (RNA; now RNA/ACEC) nominations mentioned in the draft Plan. We would like to make additional comments in support of his nominations, partly based on the typewritten, illustrated reports he supplied to your staff in 1986 and 1987.

We are indebted to the Resource Area and District staff members who helped Mr. Tuhy, and who themselves visited these and other areas to gather information and make evaluations for the draft.

Before proceeding, we would like to clarify several points concerning special management designations on this and other BLM planning areas in Utah: (1) TNC is not a member of any coalition of groups advocating a particular alternative plan for the SRRA; (2) this letter does not indicate a preference for any alternative; and (3) we take no position on ACECs whose impetus is primarily historical, cultural, scenic, or geological. Our work with the Bureau, be it the State Office or field units, is entirely cooperative--and solely restricted to furthering the recognition and preservation of biological diversity on BLM-administered and other public lands.

1 In particular, TNC supports your intention to "identify, evaluate, and designate areas for special management attention as ACECs...to protect relict plant communities [and to] protect important areas with natural history...values" (volume I, page 1-7). We also support administering relict-vegetation ACECs "under the grazing program...for (1) research and experiments to provide a baseline for rangeland studies and (2) similar comparative ecological studies of relict plant communities" (volume I, page 2-37). Notably, designation of all relict vegetation ACEC's mentioned in all alternatives would involve 7,430 acres, or about one-half of 1% of the San Rafael Resource Area and the Forest Planning Unit. As discussed below, we think that even less should be designated.

Western Regional Office, 785 Market Street, San Francisco, CA 94103
National Office, 1800 North Kent Street, Arlington, Virginia 22209

RESPONSE TO COMMENT 4

THE NATURE CONSERVANCY

[Comment pages 1, 2, and 3]

1 See appendix B.

From a broader perspective, another reason for designating RNA/ACECs is to fill documented needs for new natural areas as a component of an evolving statewide system or "network". The Utah State Office subscribes to this, as shown by informal cooperation with TNC since 1982 and a joint Memorandum of Understanding still in effect. In his reports, Mr. Tuhy addressed the contributions the areas could make to the system.

The Nature Conservancy is also strongly interested in the welfare of threatened, endangered, and sensitive plants (Table 28, page 3-25). We therefore support RMP elements, and implementation measures, specifically aimed at documenting known populations and their critical habitats, demarcating new ones as discovered, and preventing declines in their size and vigor. It is difficult to specify how this should be done, and there is very minor overlap between the RNAs/ACECs mentioned and the habitats of these species. The new Utah Natural Heritage Program, with the Utah Division of State Lands and Forestry in Salt Lake, can help BLM determine the relationship of Plan actions and permitted uses to the species' habitats.

1 Here are our comments on specific relict ACECs mentioned in the alternatives. In a couple of cases, our suggestions modify recommendations made in the 1985 and 1986 reports.

1. We support disestablishment of the Link Flats Natural Area. It is clear that it is affected by livestock and feral ungulates, and that the stewardship commitment to keep it natural was never made and would be too late now.

2. A Bowknot Bend RNA/ACEC of 1,830 acres should be designated, whatever the plan alternative (or composite) you finally propose. The value, integrity and distinctiveness of the area is beyond question. Its identification and protection would, incidentally, complement inventories and designations in nearby Canyonlands National Park. We plan to visit Bowknot by helicopter in 1989, transmitting any new information to BLM.

3. We support a 190-acre North Big Flat Top RNA/ACEC, as described and proposed in the June 1986 report. Alternative F does propose a much larger ACEC taking in other mesas, but we did not evaluate a larger area and prefer to nominate areas with defendable, recognizable boundaries based on topographic features or breaks. If BLM does adopt a larger Big Flat Tops ACEC, we suggest that highly restrictive leasing and surface-occupancy stipulations apply to the mesa tops alone.

4. We do not endorse a Hebes Mountain RNA/ACEC, mentioned in one alternative but not in others. Whatever the area's merits, better examples of the same plant communities have recently been located within Glen Canyon
1 National Recreation Area.

5. We take no position on a "scenic" San Rafael Reef ACEC, inasmuch as the relict communities mentioned occur on a small fraction of the total acreage. We have also not inspected them, and no map of their extent is mentioned. It might be possible to delineate RNAs within this large unit, but not without further fieldwork. That would have to occur after issuance of the proposed RMP next spring.

Please contact us if your staff needs more information, or if we can assist in writing management plans for ACECs designated as Research Natural Areas. We would like to continue the good working relationships we have with the people in the Moab District and the Resource Area offices.

Please ensure that our comments are printed along with other responses from the public, and that we receive the Record of Decision if not the proposed or final RMP documents.

Thank you.

Sincerely yours,

Nicholas Van Pelt
Utah Public Lands Coordinator

COMMENT 5

RED ROCK 4 - WHEELERS
P.O. Box 1471
Moab, Utah 84532-1471
Phone (801) 259-7014 or 259-7011

December 5,1988

Jim Dryden
San Rafael Resource Area Manager
Bureau Of Land Management
900 North 700 East
Price Ut. 84501

Attention; RMP , San Rafael Resource Area

Dear Mr. Dryden

Please consider these comments on the Draft RMP/EIS for the San Rafael Resource Area. We would like to thank you for an opportunity to comment and your letter offering information. [Oct 5, 1988] We did not take advantage of this offer because of the shortness of time left in the comment period and we also have some experience with other Draft RMP's. We do appreciate your offer.

First we would like to make it clear that we are concerned with the preservation of our resources. Responsible use of the land without destruction is our goal. You may note that we were awarded in this years Take Pride In America program for our trail of the month project. We were nominated for this award by Russ Van Koch and associates in the BLM Grand Resource Area office. In this program we select one trail in the area each month and clean up the litter on it. We enjoy unspoiled scenery as much as anyone.

The division of the alternatives in this Draft RMP seems to be very liquid. You list alternative E as the most advantageous for ORV use but in this alternative you also propose limiting travel

Four-Wheeling Fun

on 158,320 more acres than in alternative A. We oppose any closure of roads. In spite of this we cannot whole heartedly back alternative A because the increases in all activities under this alternative will damage the scenic value of the area. All other alternatives are totally unreasonable.

Throughout this Draft RMP, ORV's are attacked as the group mostly-responsible for erosion in this area. Under alternative A page 4-10, ORV's are visciously attacked as the root of all
1 evil. You state that "The quality of water at an ORV site is reduced by the increased runoff that results from the removal of vegitation cover and soil compaction;"

1. We do not remove any vegitation to speak of because we utilize existing roads and trails.

2. The quality of water is not as affected by ORV's as it is by the trampling and droppings of livestock.

3. Soil compaction is benificial to road and trail surfaces and slows erosion in these areas.

In addition to other misconceptions, you also state that "ORV users can add biological and chemical contaminates to the soils....small quantities of gas and oil spilled or leaked from thier machines."

1. We have respect for the remoteness of this area and have never witnessed a 4 wheeler wasting valuable fluids. The average 4 wheeler is responsible and disposes of any used or excess oil correctly.

2. Due to the remoteness of the area , a leaking or otherwise malfunctioning vehicle is not the common mode of transportation.

3. Any drips from the vehicle will land on the trail, where there is no vegitation. Consider the contamination caused by the oil and gas industry. The contamination caused by the occasional ORV is non existant in comparison. We are aware that you get

Four-Wheeling Fun

RESPONSE TO COMMENT 5 — RED ROCK 4-WHEELERS

[Comment page 2]

1 BLM understands and appreciates the goal of the Red Rock 4-Wheelers group and has awarded the club's efforts. However, uncontrolled use of ORVs is damaging the resource values as discussed in the draft RMP/EIS (pages 4-8, 4-10, 4-12, 4-13, 4-15, and 4-17). BLM is confident that the literature cited in the draft RMP/EIS (page 4-3) and in the response to comment 43 is valid.

Page 3

this information from other sources but you should consider the validity of the information before publishing it.

2 Under alternative E, "Opportunities for activities in undeveloped settings would decrease, while opportunities for activities in facility dependant settings would increase." How can you percieve this as a benifit for ORV's? The dream of all 4 wheelers is to find a secluded, unspoiled area to camp. We are not in the habit of towing a camp trailer along, so our interest in graded camp sites etc. is minimal. We do not aggree with your oppinion that ORV use will reduce wildlife habitat any from the present. Since all of the area is now open, how will leaving it open reduce the wildlife habitat?

Motorized travel benifits, not hinders, non-motorized recreation. It provides trails and access to areas that would otherwise be inaccessable to bicyclist,hikers, and boaters. It is also unjust to limit visitors to those that are physically fit. Motorized travel is the only method of travel available to the handicaped, the elderly, and the very young. Doesnt this land belong to all of us , not just to those that are able to ride a bike or hike?

3 In summary, we object to the road closures and ORV closures and limitations proposed in your Draft RMP/EIS. We feel that leaving the area open is the only way to fully utilize the scenic and recreational opportunities in the San Rafael Swell area. We feel that the only way restrictions to existing roads or designated roads could be properly instituted is with consultations with the off road community to determine what is a road and is not a road. Your policy in the past has seemed to say 'if you can't make it in two wheel drive it is'nt a road.' We do not agree.

Four-Wheeling Fun

RESPONSE TO COMMENT 5 — RED ROCK 4-WHEELERS

[Comment page 3]

2 See the response to comment 5-1.

The goal of alternative E is to maximize access and opportunities for motorized recreation. Motorized recreation includes vehicles that are not four-wheel drive. People generally congregate in facility-dependent areas. BLM percieves this to be a benefit for all who enjoy motorized recreation, not just ORV users. It was assumed that 3 percent of the acres open to ORV use would actually be disturbed (appendix S). This would amount to a 3 percent loss in vegetation cover and hence wildlife habitat.

BLM believes that enough areas would be open to ORV use so that all visitors, including the handicapped, elderly, and the very young, could enjoy this activity.

3 See the responses to comments 15-19 and 15-20.

Page 4

4 We feel that the importance of ORV recreation to the local tourist-oriented economy has been overlooked. You were not willing to exclude livestock grazing from any of your alternatives because it's been around so long, but you were perfectly willing to exclude ORV's. Wheeled travel has been a part of this country for as long as the cattle ranchers have used chuck waggons and the sheep herders have used sheep herder wagons. We feel that ORV recreation benifits have been slighted. In all alternatives presented, the desirable attitudes towards ORV's are grouped with undesirable coarses of action so that we cannot fully back any alternative. We would like to see a new Draft RMP/EIS issued that includes an alternative we can unreservedly back, with another public comment period.

We thank you for the opportunity to comment.

Sincerely Yours,

Timothy L. Berry
Land Use Coordinator,
Red Rock 4-Wheelers

Four-Wheeling Fun

RESPONSE TO COMMENT 5 RED ROCK 4-WHEELERS

[Comment page 4]

4 BLM believes that recreational ORV use has been considered and adequately addressed in the proposed RMP.

COMMENT 6

1860 Lincoln Street, Suite 404 • Denver, Colorado 80295
303/860-0099

December 6, 1988

Mr. Jim Dryden
Area Manager
San Rafael Resource Area
Bureau of Land Management
900 North 700 East
Price, UT 84501

Dear Mr. Dryden:

On behalf of the Rocky Mountain Oil and Gas Association (RMOGA) I would like to take this opportunity to provide you with our comments on the draft Resource Management Plan (RMP) and Environmental Impact Statement (EIS) for the San Rafael Resource Area in southeast Utah. RMOGA is a trade association with hundreds of members who account for more than 90% of the oil and gas exploration, production and transportation activities in the Rocky Mountain West. Therefore, we are extremely interested in how the BLM plans to manage the public lands with regard to opportunities for exploration for and development of oil and gas resources.

1 We would like to begin our comments by stating that we are disturbed by the approach to planning that has been taken throughout the Moab District. It has become evident through the Draft San Juan RMP, and now the Draft San Rafael RMP, that the District has chosen to emphasize noncommodity land uses at the expense of commodity uses. The BLM has a Congressional mandate to manage its lands in accordance with the multiple-use philosophy. Yet it is readily apparent that the Moab District has opted to virtually ignore this charge by proposing management which would severely limit many commodity uses on the public lands in the area.

2 We would like to stress our opposition to the direction the BLM has taken in its Preferred Alternative for the San Rafael RMP with regard to multiple-use activities on public lands and, in particular, oil and gas exploration and development opportunities. The dramatic increase in the application of restrictive stipulations in the San Rafael Resource Area is alarming.

RESPONSE TO COMMENT 6 — ROCKY MOUNTAIN OIL AND GAS ASSOCIATION

[Comment page 1]

1 BLM is required to manage for multiple use. Oil and gas leasing is only one of many uses that occur on public lands. In the proposed RMP, only 1,040 acres with high potential for oil and gas would be in categories 3 (no surface occupancy) and 4 (no lease)--only a small portion of 106,310 acres in the planning area that have high potential for oil and gas.

2 The restrictions BLM applies to oil and gas leases must be the least restrictive necessary to resolve resource conflicts (76 IBLA 395 (1983)); chapter 4 of the final EIS did not justify a lower level of restriction.

December 6, 1988

Mr. Jim Dryden
Area Manager
San Rafael Resource Area
Bureau of Land Management

page two

Specifically, the use of standard stipulations in the area has been reduced by approximately 64% while the use of special stipulations has been increased by over 750%! The use of no surface occupancy stipulations has also been increased drastically by another 40%. While we acknowledge and support the fact that leasing has been increased by 95% on those lands previously unavailable for lease, most of these lands are still unavailable for surface occupancy. Therefore, there is no question that overall the new RMP will even more severely restrict access to public lands in the SRRA for oil and gas activities.

We also strongly question the BLM's decision to place its primary focus on wildlife, recreation and aesthetic values. Under current management, 23% of the SRRA is subject to restrictive lease stipulations for these values, including no lease areas. While in our view, existing management is also cause for concern, the proposed management changes are even more disturbing because over 50% of the SRRA will be subject to restrictive stipulations.. This proposed change in management clearly exhibits a lack of consideration for commodity values.

It is our belief that the BLM is using the restrictive NSO stipulation excessively and without proper justification. We would like to point out that in the Bill J. Maddox decision (83 IBLA 29), the Interior Board of Land Appeals provides that "a NSO stipulation should only be imposed where there is evidence that less stringent alternatives would not adequately accomplish the intended purpose by containing the adverse effects of oil and gas operations within acceptable limits". The decision further states, "The record must reflect that proper consideration was given to the alternatives in leasing the land in question and justification should be provided for the determinations made." While the various discussions may refer to the decisions being proposed under each alternative, they do not provide the necessary rationale for the decisions.

3 While a significant portion of the SRRA is believed to have moderate to low potential for oil and gas, it must be stressed that most of this area has not been adequately explored for energy resources. The result of the increased constraints on access required by the Preferred Alternative will be that many of these lands will never be explored. Therefore, it will never be known whether they contain critically needed domestic supplies of energy resources.

4 We are also concerned that the planning documents do not comply with the BLM's Supplemental Planning Guidance (SPG) for Fluid Mineral Leasing. Chiefly, the SRRA planning documents fail to display the actual standard and restrictive stipulations which will be applied throughout the planning area. Given the recent emphasis on preleasing analysis requirements, it is important that the plan contain not only a discussion as to where and why certain restrictions may be applied, but also exactly what the stipulations are.

RESPONSE TO COMMENT 6 ROCKY MOUNTAIN OIL AND GAS ASSOCIATION

[Comment page 2]

3 The proposed RMP would be reviewed at periodic intervals (appendix A). If the effect of limiting areas to no-lease or no-surface-occupancy proves to have a greater impact than now projected, the oil and gas categories could be adjusted in the future.

4 The standard stipulations can be found on any oil and gas lease form (3100-11). Reproducing the form was not deemed necessary. Standard operating procedures are enumerated in the final EIS, chapter 2. The special conditions for category 2 areas are listed in chapter 2 of the final EIS. BLM believes the category 2 restrictions are addressed in sufficient detail to meet supplementary program guidance requirements.

December 6, 1988

Mr. Jim Dryden
Area Manager
San Rafael Resource Area
Bureau of Land Management

page three

Additionally, the SPG requires land use plans to include discussions of each phase of oil and gas activities. These discussions should generically address what happens during the leasing phase, exploration phase, the production phase, as well as the abandonment and reclamation phase of operations. In accordance with the SPG and the National Environmental Policy Act (NEPA), the discussions must also describe the various mitigation measures available to reduce or avoid adverse impacts which would result from oil and gas activities. Such information is of paramount importance since the planning documents will also serve as the oil and gas leasing decision document. This information would be particularly useful in Chapter 4, Environmental Consequences, because it will be demonstrated that oil and gas activities are compatible with sensitive resource uses. We would like to recommend that the SRRA review the West HiLine RMP in Montana because it provides an excellent example of the types of information which should be incorporated into the final RMP/EIS for the SRRA.

We would also like to point out our perceptions with regard to the proposed designation of numerous ACECs in the SRRA. According to the BLM's ACEC Guidelines, the stated purpose of an ACEC designation is as follows: "The ACEC designation highlights areas where special management action or attention is needed to protect important historic, cultural, scenic or natural values or to protect human life and safety from natural hazards". The regulations further state, "...an ACEC should be held to the minimum area necessary to protect life and safety or the resources on which the designation is based. The ACEC designation, as a significant BLM land management tool, is not intended to blanket large areas with specific restrictive stipulations. The ACEC designation is also not to be used as a substitute for a suitability recommendation for a wilderness study area".

5

It is evident that the BLM did not comply with the above-referenced direction. Seven of the thirteen proposed ACECs do blanket large areas, 214,380 acres, with specific restrictive stipulations, five of which require no surface occupancy on 214,080 acres. In addition, Sids Mountain, San Rafael Canyon, San Rafael Reef, Muddy Creek and Segers Hole proposed ACECs comprise all or major portions of existing Wilderness Study Areas. Such designations are in direct conflict with the intent of the ACEC regulations that ACECs not be used merely because an area is not recommended for wilderness designation. Based upon the nature of the ACEC proposals, we firmly recommend they be reevaluated and modified to comply with the direction in the regulations.

6

While it is correctly stated in the planning documents that the BLM is required by law to use the least restrictive stipulations which will still accomplish the management objectives for an area, as we have pointed out earlier in our comments, there is no true justification for many of the restrictive

RESPONSE TO COMMENT 6 — ROCKY MOUNTAIN OIL AND GAS ASSOCIATION

[Comment page 3]

5 No management prescriptions were developed under any alternative in the draft for WSAs based merely on wilderness review status (draft RMP/EIS, page 2-52). The ACECs would be nominated for designation in order to protect relict vegetation, scenic values, and cultural/historical values. Descriptions of the ACECs and the rationale for including or excluding each of them can be found in appendix B. BLM is confident that guidance found in BLM Manual 1613 has been followed.

6 See the response to comment 35-2.

December 6, 1988

Mr. Jim Dryden
Area Manager
San Rafael Resource Area
Bureau of Land Management

page four

stipulations. We would also inquire why the BLM believes a no lease designation is required for five ACECs when an NSO stipulation would achieve maximum protection of the existing resource values. According to an Instruction Memorandum regarding direction contained in the Robert G. Lynn decision (76 IBLA 383), "The justification [not to lease] must be substantive and site specific... Ordinarily, adequate justification should not be possible since a NSO stipulation effectively prevents damage to any resources or land values. Therefore, in virtually all cases, unless lands are excluded from leasing by law, regulation, or are formally withdrawn, applicants should at least be offered a lease with a NSO stipulation...Obviously, a NSO stipulation should only be used as a last resort since BLM is compelled by numerous IBLA decisions to consider whether less restrictive stipulations would suffice to adequately protect the public interest." We have not found evidence in the planning documents that a no lease decision will be any more effective than an NSO stipulation and we strongly recommend the BLM modify its no lease decision in the final planning documents to conform with Bureau policy.

7 We are exceedingly disturbed by the statement on Page 2-74, Volume One, of the plan which indicates the BLM intends to **require offsite mitigation in addition to standard reclamation procedures in big game habitat when unreclaimed disturbance caused by a user exceeds 10 acres in 2 years.** Big game habitat in the San Rafael Resource Area covers millions of acres in total, and hundreds of thousands of acres within the actual planning area. The effects of a 10-acre disturbance would be extremely minimal to existing big game habitats, but would have deleterious effects on all types of commodity use. Further, it is not specified whether this restriction would be based upon cumulative activities, whether it would be applied throughout all of the big game habitat areas or only on the BLM portion. Regardless of how this restriction is applied, we are opposed to a management concept which is so restrictive and affords so little opportunity for development of resources without the added, potentially staggering expense of offsite mitigation.

8 We are also concerned with the excessive use of VRM Class I. It appears that the BLM is using all possible methods to prevent as much surface use as possible in the SRRA. Most of the 231,750 acres allocated to VRM Class I have also been stipulated with NSO stipulations or no leasing. The restrictions proposed in the Preferred Alternative will effectively preclude multiple-use management on the public lands within the Resource Area.

9 Finally, the State of Utah is currently economically depressed and in great need of new sources of revenue. However, it appears that the BLM has decided to ignore the needs of the State by proposing to implement a land use plan which will adversely affect opportunities which would provide needed economic growth.

RESPONSE TO COMMENT 6 ROCKY MOUNTAIN OIL AND GAS ASSOCIATION

[Comment page 4]

7 Offsite mitigation applies to crucial habitat only, not to all big game habitat. The importance of crucial habitat is described in the draft RMP/EIS (pages 3-32, 3-33, and 3-35). The loss of acreage in these crucial areas could result in a loss of animals. The use of offsite mitigation is an effort to reduce these impacts while allowing the development of other resources (draft RMP/EIS, page 2-74).

Offsite mitigation would be required for disturbance on public lands only. It would be cumulative in that any company that has more than ten acres of unreclaimed disturbance in 2 years would be required to provide offsite mitigation. The amount of offsite mitigation would be decided at the time of the permitting and would be negotiated between BLM and the applying company. All mitigation, both offsite and standard, would be coordinated with the Utah Division of Wildlife Resources (UDWR).

8 See the response to comment 35-15.

9 Under the preferred alternative, the restrictions on economic activities were believed to be the minimum necessary to protect other resource values. Although some opportunities for economic development may be foregone with these restrictions, BLM's analysis does not identify any significant impacts to local economic conditions from the plan (draft RMP/EIS, chapter 4).

December 6, 1988

Mr. Jim Dryden
Area Manager
San Rafael Resource Area
Bureau of Land Management

page five

We strongly urge the BLM to reconsider its management objectives for the Resource Area, and to reevaluate its justification for the Preferred Alternative in light of the foregoing concerns.

We appreciate this opportunity to provide you with our comments. Please call me if you would like to discuss our views in greater detail.

Sincerely,

Alice Frell Benitez
Public Lands Director

AFB:cw
c.c. James Parker, Utah State Director
Gene Nodine, Moab District Manager

COMMENT 7

Sierra Club
Utah Chapter Conservation Committee

CERTIFIED MAIL - RETURN RECEIPT REQUIRED

December 7, 1988

James Dryden
San Rafael Resource Area
U.S. Bureau of Land Management
900 North 700 East
Price, UT 84501

Dear Mr. Dryden,

The following comments from the Utah Chapter of the Sierra Club are with regard to the draft San Rafael Swell Management Plan. Please note that these comments were postmarked on the due date.

1 (1) Grazing allotments should be reduced within the Resource Area where the range is in either poor or fair condition. Grazing should also be reduced in areas where wetlands habitat is present and in critical spring run-off areas.

2 (2) We support Wild and Scenic River protection for the sections of the San Rafael River and Muddy Creek which are found within the Swell. We also support similar protection for the Green River which lies within the District.

3 (3) Wilderness study areas and units of the Utah Wilderness Coalition's proposed San Rafael Wilderness should be off-limits to ORV use. These areas should be designated as Areas of Critical Environmental Concern because of the unique naturalness and primitive recreation opportunities found here.

4 (4) All off-road vehicles should be restricted to designa ed routes outside the Utah Wilderness Coalition's proposed wilderness areas in the Swell.

Sincerely,

Rudy Lukez
Conservation Chair
Utah Chapter Sierra Club

Utah Chapter Sierra Club • State Office
177 East 900 South, Suite 102 • Salt Lake City, Utah 84111 • (801) 363-9621

RESPONSE TO COMMENT 7 — UTAH CHAPTER SIERRA CLUB

[Comment page 1]

1 Using rangeland monitoring as the basis for making grazing-use adjustments has been BLM policy since 1982 (Instruction Memorandum 83-394). At least 5 years of monitoring data are required before adjustments can be made. At this time (1989), several allotments have adequate monitoring data and will be analyzed to determine if changes are necessary. Areas in early and mid-seral state are not always undesirable. For example, an area in a lower seral state may provide better mule deer habitat. Some sites provide more desirable forage in a lower ecological condition (seral state). Management objectives for an allotment may vary from one ecological site to another.

Riparian areas would be managed to maintain, restore, or improve riparian values to achieve a healthy and productive ecological condition for maximum long-term benefits. An inventory of all riparian areas will be completed as soon as possible. Specific action to protect riparian and aquatic habitat would be determined on an allotment-by-allotment basis through activity-level planning, following adoption of the RMP.

Critical soil areas (highly erosive and highly saline soils) were addressed (draft RMP/EIS, page 2-66). The SCS critical soil loss threshold will be adopted (appendix N). At this time it not known whether any of the allotments are exceeding the SCS critical soil loss threshold. This determination will be made on an allotment-by-allotment basis through rangeland monitoring. If it is determined that the allotments are exceeding the SCS critical soil loss threshold, and the reangland trend is down, then a change is necessary. The change may be a reduction in numbers, change in grazing season, implementation of grazing systems, or other management change.

2 See the response to comment 3-20.

3 See the responses to comments 44-3 and 44-6.

4 See the response to comment 44-6.

COMMENT 8

SLICKROCK OUTDOOR SOCIETY
PRICE, UTAH

December 2 1988

James Dryden
San Rafael Resource Area Manager
Price, Utah

Dear Sir:

What follows, is the formal response from the Slickrock Outdoor Society to the draft San Rafael Resource Management Plan; we ask that it be included in the formal record of responses to the above BLM plan.

The thrust of our comment is directed to proposals as outlined and defined in alternative F, which is BLM's preferred management scenario. Some of the proposals put forth in this alternative, we strongly support; the designating of 13 ACEC's totaling 275,000 acres for instance. Our recommendation however, regarding ACEC designation, is to expand the ACEC acreage to approximately 600,000 to include all lands on the Swell currently
1 under wilderness study. Further, we recommend that the established WSA's be closed to ORV's, mineral leasing and mining entry. In the remainer of the ACEC acreage, we recommend ORV's be limited to travel on designated roads and that mining be held at current levels with no new leasing. Within this large ACEC, and indeed the entire resource area, stronge measures must be adopted to improve range conditions. It is a sad documentary, that the managing agency must honestly admit that only 8%of this resource area is in excellent condition, while 56% of the range is poor to fair. Particularly

RESPONSE TO COMMENT 8 SLICKROCK OUTDOOR SOCIETY

[Comment pages 1 and 2]

1 See the response to comment 44.

(2)

within our recommended 600,000 acre ACEC (basically the entire Swell) we urge that grazing in reparian areas be curtailed to allow recovery and that BLM work towards removing livestock from critical bighorn sheep ranges.

In commenting on the RMP in general, we were pleased that 191.5 miles of waterways are indentified as eligible for Wild
1 and Scenic designation. We believe BLM should extend the more restrictive "Wild" classification to portions of Muddy Creek downstream to where it exits the Reef, and on the San Rafael river upstream to Red Canyon. Outside the immediate swell area, we urge BLM to establish the Horseshoe Canyon WSA and the Green River corridor as ACEC's with the same protective stipulations as we detailed for our recommended San Rafael Swell ACEC.

We believe the rocommendations we have detailed in this comment, if implimented, would allow for better multiple use of the many resources availble in this resource area, while providing improved protection for the most wild and scenic areas. We believe this management direction best serves the long term interests of those of us residing here in eastern Utah, as well as the rest of the country.

Sincerely

R. Brent Griggs

R. Brent Griggs
President, SOS

COMMENT 9

Land is an organism. When we see land as a community to which we belong, we may begin to use it with love and respect.

There is no other way for land to survive the impact of mechanized man.

Aldo Leopold

UINTAH MOUNTAIN CLUB • P.O. Box 782 • Vernal, Utah 84078

2 December 1988

Mr. Jim Dryden, Area Manager
San Rafael Resource Area
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Sir,

The Natural Resources Committee of the 170-member Uintah Mountain Club of northeast Utah has reviewed the draft Resource Management Plan for the San Rafael Resource Area and we are submitting the following comments for your consideration. We find that the analysis and direction in the document are deficient, and it is our strong feeling that Alternative F does not do justice to one of the most extraordinary landscapes of the modern American West. The San Rafael is an area of exceptional beauty, and, until now, has retained the natural integrity and solitude of the finest unroaded areas in our state. Many consider it unrivaled in the variety and grandeur of its sculpted canyons, stark badlands, and dramatic mesas, buttes, and pinnacles. It is clear that the San Rafael deserves National Park status, but it is also clear that this marvelous area has been held hostage by those whose sentiments are the antithesis of wise and enduring resource management and stewardship. Exploitation and extraction of non-renewable resources have appeared to carry the day, and it appears that the San Rafael may be significantly degraded before National Park or meaningful Wilderness designation can be accomplished. That this could be allowed to happen when so many are pleading for the protection and preservation of the Swell is incomprehensible. Here are our comments and recommendations for an improved Resource Management Plan:

On initial inspection of the draft RMP, it became obvious to us that the alternatives considered by BLM did not represent a full spectrum of management direction. For instance, Alternatives C and D purport to "increase opportunities for non-motorized recreation and protectional of wildlife habitat" and to "minimize surface disturbance", yet page S-6, Table 1 shows a decrease of primitive and semi-primitive non-motorized recreational acreage and an increase of roaded natural and roaded recreational areas! 1 This seems to be a glaring inconsistency. In point of fact, all the alternatives increase roaded access to the San Rafael wild lands or have the potential to seriously disrupt non-motorized recreational activities and degrade wildlife habitat and the solitude of the Area. Alternative F would close only 4,470 acres to ORV use. Is this balance? Fully one-half of the entire Resource Area would still be open to ORV's, and with little or no restrictions!

RESPONSE TO COMMENT 9

UINTAH MOUNTAIN CLUB

[Comment page 1]

1 See the response to comment 15-19.

OFF-ROAD VEHICLES

It is clear that off-road vehicles are a growing and constant threat to this and other fragile desert areas. Desert soils and vegetation are especially, and most ORV users make no distinction as to the type of terrain they traverse. They are not only uninformed, but they are generally unconcerned about the niceties of soils, plant, and wildlife conservation. Scars in the desert take centuries to heal, as can be readily appreciated from the traces of Fremont people who had far less ability to abuse the land. Little-used areas here in northeast Utah still bear the mark of off-road motorized use decades after the fact. Roads encourage trails, and trails encourage trail-blazing. Anyone who has seen the demlise of the Book Cliffs can attest to that. It is unreasonable to expect that BLM can manage an area the size of the San Rafael for ORV use on "existing roads and trails". Rather than use the argument that "we can't enforce closures, so we might as well make it
2 legal", it would be far preferable to close large areas to ORV's, spend the budgetary monies to enforce closure, and enforce regulations limiting ORV's to well-demarcated and signed "designated roads and trails". Conflicts should be anticipated and headed off early. We emphasize that roads and trails should be well-marked as designated ORV routes. Trail guides might be most helpful.

Under no circumstances should BLM accede to the wishes that the San Rafael be made an ORV park. This is certainly one of the most perverted and misguided themes to surface in recent memory! Save the San Rafael for its natural integrity, and for the things we're running short on: solitude, quiet, naturalness.

RANGE MANAGEMENT

The draft RMP notes that over half the range in the San Rafael is in fair to poor condition. Yet Alternative F does not aim to make significant reductions in grazing allotments or AUM's. Instead you propose a series of range "improvements" to increase the ability of the land to bear the same numbers of livestock. This is not a rational
3 approach to this age-old problem, but it does bear amazing resemblance to the recent Recovery Implementation Program for endangered Colorado River fishes which purports to recover the species while allowing more water development: the same thing that got the fish in trouble in the first place. Livestock is responsible for the condition of the range. And only the reduction or removal of the responsible culprit will lead to meaningful range recovery. Cattle are hell on riparian areas: one doesn't have to be a range conservationist or wildlife biologist to see that. Guzzlers away from water-courses may help, but the impact of sheer numbers of livestock on sensitive areas is the primary reason for range deterioration in the San Rafael. More attention needs to be given to alternative grazing systems. Grazing in riparian areas needs to be stopped. A commitment needs to be made to remove livestock from important wildlife areas, such as crucial bighorn sheep habitat.

WILD/ SCENIC RIVERS

We applaud BLM's decision to emphasize the San Rafael and Green Rivers, and Muddy Creek as candidates for Wild or Scenic status. We hope BLM will actively seek designation of these watercourses as Wild or Scenic in the near future. We only add that we think that
4 "Wild" status for the San Rafael River should include reaches upstream to Red Canyon. There is really no good reason to leave this stretch out of your recommendation, so pleae reconsider this.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

These areas are among the most important in any Resource Management Plan. We are pleased that you have designated thirteen areas as ACEC's. However, there should be a a firm commitment by BLM to preserve more than just token remnants of the Swell.

RESPONSE TO COMMENT 9 UINTAH MOUNTAIN CLUB

[Comment page 2]

2 See the response to comment 44-6.

3 See the response to comment 7-1.

4 See the response to comment 3-20.

ACAC'S (cont'd.)

5 To that end, we strongly urge that BLM "get serious" about protecting the ACEC's that you have designated. Not only should these areas have strong "No Surface Occupancy" stipulations, they should be closed to ORV's, oil and gas development, and mineral leasing during the next planning period.

6 Recently we became aware of a proposal by the Utah Wilderness Association for a San Rafael Swell ACEC that would include the entire Swell, or over half a million acres. This is not an unreasonable proposal, and merits serious consideration. Within this larger ACEC Sids Mountain, Mexican Mountain, San Rafael, Crack Canyon, Muddy Creek, and Devils Canyon WSA's, and the San Rafael River and Muddy Creek corridors would be closed to ORV's and mineral leasing and mining entry. We believe that these areas actually merit this extraordinary consideration, and we back this concept.

WILDERNESS STUDY AREAS

7 Your Alternative, nor none of the other alternatives, would offer significant protection from commercial activities and off-road vehicle use. The WSA's in this area should be kept inviolate, just as if they were Wilderness Areas. To do less than this contradicts the spirit and purpose of the Federal Land Policy and Management Act of 1976. Close these areas to mineral leasing and ORV use.

CULTURAL RESOURCES

8 Many of the backcountry archaeological sites have not received adequate inventory, and thus the magnitude of the resource which must be protected is probably unknown to BLM. Nothing in Alternative F would lead us to believe that BLM is serious in protecting the extraordinary cultural resources of the Swell. The extent of country that will be open to mineral leasing and entry, and widespread ORV abuses leaves very room for adequate preservation--only mitigation (how we have come to hate that word!). All identified sites in the backcountry should be closed to theses activites. BLM should commit a large portion of its resources and budget to enforcement of ORV closures and other restrictions that protect our collective cultural heritage. This means that there must be a new emphasis on enforcement personnel, a concept that has heretofore been anathema to BLM. This will have to change if we are to save a significant portion of the archaeological resource.

In summary, the draft RMP does not have a meaningful range of alternatives, since all alternatives call for unwarranted off-road vehicle access and few real restrictions on mineral development, oil and gas extraction. Wilderness study areas are not adequately protected, and the direction of range management neglects the very real need to curtail grazing in some areas with poor range.

We urge you to implement the suggestions of conservation and environmental groups around the state and region to improve the San Rafael RMP. At this watershed time in the history of the San Rafael, it is critically important to err, if err it be, on the side of protection and preservation of this unique and wonderful natural resource. Anything less will compromise the character of the San Rafael and diminish the value of our public lands for years to come.

Sincerely,

Will Durant, President
Uintah Mountain Club

RESPONSE TO COMMENT 9 — UINTAH MOUNTAIN CLUB

[Comment page 3]

5 BLM is confident that the management prescriptions described in the proposed RMP would protect values identified within the ACECs.

6 See the responses to comments 15-9 and 15-10.

7 See the response to comment 6-5.

8 See the response to comment 3-7.

Utah Farm Bureau Federation
5300 SOUTH 300 WEST, SALT LAKE CITY, UTAH 84123

COMMENT 10

December 5, 1988

Jim Dryden, San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Mr. Dryden,

Serving as the state of Utah's and Emery County's largest general farm and ranch organizations, representing nearly 21,000 and 475 member families respectively, we present this joint statement in response to the Draft Resource Management Plan/Environmental Impact Statement on the San Rafael Resource Area.

We commend you and your agency for putting together this comprehensive plan and allowing concerned citizens and representative groups to respond to this important document. This plan clearly is a cornerstone in Emery County's future and it consequently demands a clear understanding of its potential impacts.

We recognize that this plan surfaces various issues of concern relating to major industries such as oil, mining, recreation, and agriculture. These industries clearly serve as major sources of revenue for Emery County's tax base, providing essential quality education and other public services its residents hope to maintain and enjoy. A large portion of Emery County is owned or controlled by federal or state government so it's easy to understand why Emery County's economic livelihood is so heavily dependent upon resources derived from public lands.

Because of our strong commitment to Utah's largest and most basic industry--agriculture-- the following detailed comments we offer are generally limited to domestic livestock grazing.

1 An overriding concept in your preferred alternative "F" is the use of the SCS critical soil loss criteria for determining "problem areas". We are concerned because of the blanket approach used which takes in large tracts of land and affects 43 grazing allotments within the resource area. These allotments are targeted for special management even though only a few acres of the allotment may be considered "critical soils". We would recommend on-site inspections of the allotments, to first determine whether the area warrants a "critical soils" designation at all and secondly to determine the specific areas that may need special management. This would alleviate many concerns of permittees that cuts in AUM's or a change in season of use would be recommended in an allotment that may be in good ecological condition with an upward trend.

RESPONSE TO COMMENT 10 — UTAH FARM BUREAU FEDERATION

[Comment page 1]

1 In the 43 allotments with 50 percent or more acres exceeding the SCS critical soil loss threshold (appendix N), a change from spring grazing (March 15 to June 15) to winter use was analyzed. This analysis assumption was made in an effort to measure possible impacts (draft RMP/EIS, page 4-89).

See also the response to comment 7-1, paragraph 3.

If changes are needed on an allotment, range use agreements will be pursued.

2 The difference in AUM's between the preferred alternative "F" and the "as is" alternative"A" is simply understated in many ways. One thing that is done in the plan to allotments with 50% or more critical soils and those with 50% critical soils and crucial wildlife habitat (light green and blue areas on the map that shows grazing actions and range improvement limitations for alternative "F") is to recommend a change in season of use from spring to winter. The plan states that the trade off will be almost even, but this is misleading in an area where the spring season of use is the most crucial time to have livestock on these rangelands. In reality AUM's are not being preserved, but drastically reduced. The change in season of use from the spring to the winter is essentially the same as cutting the permittee his total AUM's on that particular allotment.

3 We would like to recommend another management tool that could be used to alleviate 25% reductions in AUM's and changes in season of use from spring to winter. This management tool is water improvements. Alternative "B" states that each water improvement equals a 60 AUM increase. We would recommend building these improvements shown in alternative "B" to improve the distribution of the livestock that are currently grazing these 43 allotments and thereby reduce soil loss, if this truly is a concern. We would also like to recommend the range improvements that are proposed in alternatives B,C,and E, on 2,000 acres of the Forest Planning Unit allotments. We believe that both of these actions would improve the ecological condition of the ranges, help all species of wildlife in these areas, and take some of the wildlife grazing and trailing pressure off from adjacent private lands, without adversely affecting existing permits.

4 This preferred alternative does not adequately quantify and address its indirect negative impacts on domestic livestock grazing. In communication with local landowners, it appears the existing wildlife numbers referred to in the plan are understated. But the disturbing part of the preferred alternative calls for population increases as follows: antelope from 600 to 900, mule deer from 6,100 to 8320, elk from 600 to 730 and a habitat acreage increase for each of the above mentioned species. This corresponds with a decrease of 520 cattle and an increase of 15 sheep. In appendix H (pg. 136) under utilization, it states "Where grazing wildlife or wild horses or burros use the some area as domestic livestock, it may be necessary to gather utilization data prior to the turnout date for livestock."

5 We would strongly recommend that before these proposed reductions in AUM's and changes in season of use, are recommended and before any increases in wildlife numbers are stated that some extensive utilization data (possibly 5 years) is collected on the aforementioned wildlife species and on any non-game wildlife species in the respective allotments. This would greatly improve the BLM's ability to determine what grazing animal is having the greatest impact on the rangelands. The casual reference referred to in appendix "H" shows a unique bias towards the domestic livestock grazing animals, when in reality it may be the result of some combination of wildlife species. Manipulation of wildlife numbers, instead of traditional permit reductions, may be needed.

RESPONSE TO COMMENT 10 UTAH FARM BUREAU FEDERATION

[Comment page 2]

2 See the response to comment 48-5.

3 Reservoirs and other water developments can be used to improve livestock distribution on an allotment. Development would be evaluated through an investment analysis at the activity-plan level and implemented as appropriate.

4 The existing wildlife numbers documented in the draft RMP/EIS were developed in cooperation with the UDWR. The numbers under alternatives A through F are anticipated results of the management prescriptions, not objectives of the alternative.

5 Wildlife monitoring studies are being implemented in allotments where conflicts between wildlife and livestock are thought to exist. If monitoring studies indicate resource damage by wildlife, then BLM may recommend to UDWR that herd numbers be reduced.

6 Other indirect impacts on domestic livestock grazing are the visual resource management (VRM) objectives. The concern we have here is the impact these restrictions may have on current livestock operations and future improvements (water developments, roads,etc.) and emergency situations such as emergency feeding and veterinary concerns. The plan is vague as to what actually can be done in each of these areas (VRM-1,2,3,) on an ongoing basis. We would recommend a more specific, detailed approach as to what will or will not be allowed in each of these restricted areas. We are concerned with the interpretation of these general guidelines, should a change in management of the area occur.

7 In light of budget deficits and comments from BLM personnel on any funding for range improvements it seems somewhat strange that the budget for the preferred alternative is $500,000 more than the "as is" alternative "A". We would recommend following a management scheme that would be closer to the $1 million budget in alternative "A". This would help to alleviate budget concerns and also be more consistent with past BLM management.

8 We would also like to comment on the economic and social impacts that the preferred alternative would have on the citizens in and around the SRRA. Because of the aforementioned detrimental impacts on the livestock industry that are not adequately addressed in the plan, we are concerned that snowballing detrimental economic impacts will be realized throughout the area. The changes in season of use and potential massive AUM reductions could cause many livestock operators to go out of business because of the lack of alternate spring forage in the area. This economic effect is not addressed in the plan, and neither is the loss of a great way of life that has had many important influences on the history of the area, the state, and our great country.

9

We appreciate this opportunity to comment and respectfully request your favorable consideration of our concerns. This plan will serve as a general management guideline that the public as well as your management agency needs a clear interpretation of, to minimize potential conflicts in the future.
Thank you for your cooperation in our meeting in Castle Dale on November 30, it was helpful to all those who attended.

Sincerely,

C. Booth Wallentine; Executive Vice President, Utah Farm Bureau

Mar U. Grange, President Emery County Farm Bureau

RESPONSE TO COMMENT 10 — UTAH FARM BUREAU FEDERATION

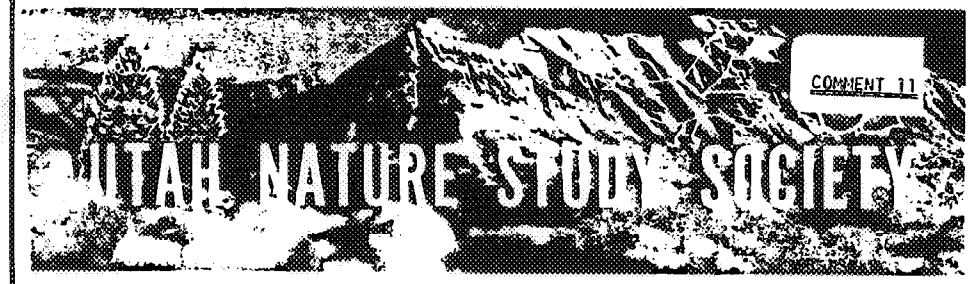
[Comment page 3]

6 See the response to comment 35-10.

7 See the response to comment 42-17.

8 See the responses to comments 48-5 and 47-4.

9 See the response to comment 35-28.



COMMENT 11

721 Second Avenue
Salt Lake City
Utah 84103

November 11, 1988

Mr Jim Dryden, San Rafael Resource Area Manager

Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Mr Dryden:

Concerning the Draft Resource Management Plan for the San Rafael Resource Area:

1 General Comments: Can Alternative F be managed to protect the resources without any budgetary increase for the next four to eight years? What happens if the management has no budget increase for San Rafael Resource Area? Will you be able to manage the off-road vehicle use to prevent damage to soils, cultural and biological resources? Will you be able to formulate a Habitat Management Plan, an Off-road vehicle plan, a wild and scenic river plan, and other plans that Alternative F proposes? What will be your budgetary priorities in Alternative F assuming no increase in funding?

I have found the maps totally useless. It is impossible to know where any of the designation boundaries occur. There are no dirt roads shown. There are no minor drainages (Cane Wash, Buckhorn Wash, etc.) shown. There should be one map showing all roads and trails (separately designated). All roads should be on all maps for purposes of referencing.

2 Lands: Table 1, S-5. Why are there roughly 50% increase in burros and wild horses in Alternative E with habitat area remaining the same. Yet on page 5-3 it states that wild horse and burro ranges would be expanded. Where will this expansion occur? Will this expansion occur in all the Alternatives? Will the soils tolerate this expansion? Is it not better that the horses and burros impacts be confined to existing areas? Likewise

3 why is there 10% more bighorn sheep on less habitat when compared to Alternative A? What is the rationale for these types of data analysis?

4 Page 2-6. Legislative action or actions of other agencies. It seems that the National Park proposal was specific (including the entire area) and National Conservation Area designation has been proposed. Likewise the Bureau of Reclamation is continually wish to manipulate natural saline springs within the region. This section could be expanded.

RESPONSE TO COMMENT 11 — UTAH NATURE STUDY SOCIETY

[Comment page 1]

1 Funding and personnel would be sufficient to carry out any alternative selected (draft RMP/EIS, page 1-2). Also see the response to comment 15-7.

2 As shown in the draft RMP/EIS (table 29, page 3-27) wild horse and burro range is divided into critical and yearlong range. Critical range is the range the equids now use. Yearlong range is the range that may have historically been used by the horses and burros. The acreage figures used in the draft RMP/EIS (table 1, page S-5) are yearlong. Any expansion in range for the equids would change from critical range (the area now used) to yearlong range (the presumed historical range of the equids). See map 42, draft RMP/EIS.

3 According to the draft RMP/EIS (table 1, page S-5) habitat is 150,000 acres under alternative A and 174,594 acres under alternative F.

4 There is no legislation pending before Congress regarding the creation of a national park, nor are formal proposals from other agencies pending before the Bureau. Therefore, these ideas were not addressed in the draft RMP/EIS. Also see the response to comments 15-10 and 15-74.

Page 2 (Utah Nature Study Society)

Page 2-15. What is the status of the previous tar sand leases? Have they been terminated? Under what conditons can termination occur? How will the present preferred Alternative deal with tar sands development?

5 Page 3-22. Table 27. Air pollution. What are the units in the Table?

6 Map 38. Why does the selection of only 5 sections of State Lands occur in Alternative F? Why not select other sections along San Rafael River and Muddy Rivers? Why not select other sections in proposed wilderness study areas?

7 RECREATION. Recreational use of the San Rafael region is clearly the biggest management problem the region has and herein lies the major conflicts. San Rafael Swell must be considered as an urban extension of the population centers along the Wasatch Front. Yet there is mention of recreation opportunity spectrum (ROS) which must include the destruction of soils by off-road vehicle use (page 2-5) which defeats the goals of the alternative F as well as create multiple-conflicts.

Page 2-8,9. Under soils does the BLM consider cross-country travel limitations as applying to motorized recreation? Likewise will motorized recreation be restricted from slopes in excess of 10%, etc.?

8 Page 2-9,10. Vegetation. (See also page 2-55, Alternative C and Appendix J, p. 161). What does reclamation entail? The North River road to the drill pad is not reclaimed and will never be reclaimed until the motorized recreation is eliminated from the road and the road is reseeded with shrubs.

9 Page 2-9,10. What is the definition of downed dead wood? Dead branches are currently removed from upright trees, both dead and living. Even down dead wood has ecological importance in arid regions. Little axes ring live trees which eventually (one to two years) will be treated as downed dead wood. Campfires in the San Rafael Swell as well as other regions of Utah are not kept to minimum size but are of huge size with very consumptive appetites for both wood, cans, aluminum and glass. It seems that fire pit education should be a major educational policy for the BLM.

10 Page 2-12. Endangered Species. Have activities or projects involving surface disturbance been checked in the past for these species. Will motorized recreational activiities require such checking and surveying in the future?

11 Page 2-44. Does recreational rockhounding include the gathering of dinosaur bones? Again education of the public in this respect is needed.

12 Recreation management. In the past, there has been no management of recreation. The Pathfinders Motorcycle Club development of the Temple Mountain motorcycle trails without an environmental analysis (one may have been completed after the trail was completed) with no multiple use planning as soil portection and threatened and endangered plant and animal surveys epitimizes past BLM management of the area and the lawless nature of many off-road vehicle uses. Under Alternative E, protection of soil, cultural,

RESPONSE TO COMMENT 11 UTAH NATURE STUDY SOCIETY

[Comment page 2]

5 The table has been changed to indicate micrograms per cubic meter.

6 State lands were identified for accquisition within ACECs that would be recommended for withdrawal, excluded from rights-of-way, and closed to mineral leasing, since the level of management would severely restrict surface use. Lands identified for acquisition are within the Upper San Rafael, Lower San Rafael Canyon, North San Rafael Reef, and Big Flat Tops ACECs.

A plan amendment will be prepared if necessary in the event of federal legislation that would set aside lands under special designation.

7 Slope restrictions would not apply in areas designated open to ORV use.

Under the proposed RMP, ORV use in critical soil areas would be limited to designated roads and trails. Critical soils and slope would be considered during development of the ORV implementation plan.

8 Reclamation requirements are given under Standard Operating Procedures (draft RMP/EIS, pages 2-8 to 2-12).

9 Dead and down wood is wood that is on the ground and is dead.

10 Federal law and BLM policy require that T/E species be conserved and that no actions authorized on BLM-administered lands contribute to the need for listing of any other special status species.

See the response to comment 3-12.

11 Collection of dinosaur bone is not allowed on public land under any program including rockhounding without a permit (draft RMP/EIS, page 2-44).

12 The Temple Mountain Motorcycle Trail was evaluated through the National Environmental Protection Act (NEPA) process, and no significant impacts were identified. Mitigating measures were developed and implemented as necessary.

BLM does not agree that emergency closures to ORV use are necessary at this time in Buckhorn Wash or in the Temple Mountain area.

-3- (Utah Nature Study Society)

wildlife, and unique and threatened and endangered species must be a major component of the plan. A biological, cultural and soil survey must be completed before the BLM co-operates with the management of the Temple Mountain motorcycle trail. The BLM must examine whether this location is the best use of the land and the best location of off-road vehicular use. Plants and soils are taking a beating along this trail. This trail must not become a BLM National Disaster Trail (P 2-54). It seems that emergency closure (page 171) should be instituted in Buckhorn Wash, along the San Rafael River and the Temple Mountain area. Page 4-1 and Table 54 shows that Alternative F is one of the more destructive alternatives with respect to ORV recreation and admits that this recreation can not be mitigated, but is purely destructive and out of control under all alternatives.

13 Page 2-58. How was the number 761,820 acres in Alternative F open to ORV use arrived? By roughly dividing the total acreas by two? It seems that most of the San Rafael Resource area ORV use should be limited to existing roads. Thre is no reason to conquer terrain in this region.

14 Page 2-55. There must be campsites which ORV use and loud radios are totally restricted from the area so that one can enjoy the peace and quiet of the region. Motorcycles must be parked out of the area. Many a camping trip and outing of Utah Nature Study Society has been ruined by motorcycles. It is impossible to go on a three day weekend without having such ruinous times. The proposed campsites and facilities in the San Rafael Resource area must be constructed so as to deter vanadalism (picnic tables must be made of reinforced concrete, etc.). These areas must be patrolled often on weekends including evenings to assure vandalism and noisy activities will not occur. Facilities at the Wedge Overlook must be built such that the facilities can not be dumped over the edge. Campfire must be limited to small constructed camp fire rings and all other rings must be destroyed. Campsites for tents must be available. There is a tendency to create hardened campsites for motorhomes and ignore the needs of tents. Tan Seeps must not be used for any camping as it is an important water source for wildlife.

15 Page 2-57. What is a non-system road for ORV use? Is this a trail? How will the Temple Mountain motorcycle trail be managed under Alternative F? When recreational vehicles are confined to existing roads and trails, just what is the definition of a trail? Does it include livestock and game trails? dry creek beds? all jeep trails? What roads have been closed in the region? What trails are closed in the region? What is the definition of a road?

P. 3-16. Soils. Recreational use (footed and motorized) also subject soils to erosion.

16 P 3-44. What is a special recreational management area? What is being managed? If the region is a special recreation management area, why are vegetation losses occurring (P 3-46) with dry soils contributing to dust? Where is the special recreation management? Why establish more camp and picnic sites if the areas are heavily vandalized? Why allow the San Rafael Desert Race if so many conflicts occur?

RESPONSE TO COMMENT 11 — UTAH NATURE STUDY SOCIETY

[Comment page 3]

13 The number of acres open to ORV use under alternative F were determined through the conflict analysis process. Where no conflicts were identified, the area would remain open to ORV use. ORV designations were modified in the proposed RMP to reflect public comments. See the response to comment 44-6.

14 Resource allocations in the proposed RMP were adjusted on the basis of public comments and new information. There would be ample opportunities to find solitude.

Recreation site facility design or camping restrictions would be decided at the activity-planning level.

15 BLM system roads have been defined in the Glossary of the final EIS.

A trail is generally an unimproved jeep trail; a road usually receives periodic maintenance. The ORV implementation plan would address which non-system roads or trails would be open or closed.

16 See the draft RMP/EIS, page 3-43. A definition of special recreation management area (SRMA) has been added to the glossary.

The San Rafael Desert motorcycle race in past years has been allowed subject to numerous special stipulations to minimize resource damage. BLM is a multiple-use resource agency; the ORV race is recognized as a multiple-use activity.

Page 4 (Utah Nature Study Society)

WATER AND RIPARIAN ISSUES. Riparian habitat. Definition. "A unique, specialized form of wetland restricted to areas along, adjacent to, or contiguous with, perennially and intermittently flowing rivers, streams, and other bodies of water" (Page B-16). 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 managment"(P. 2-68). In response to Intermountain Water Alliance concern about monitoring the animal life in Tan Seeps during the Kirkwood tar sands development the BLM responsed with "the spade-foot toad is not a threatened and endangered species, and adverse impacts to the toad are not expected to be significant. It is widely distributed in Utah; therefore, further study in relation to this proposed action does not seem warranted" (Response 2.15, Final Environmental Assessment for the San Rafael Swell Combined Hydrocarbon Lease Conversion proposal). Thus this lack of interest in management of natural functions of wetlands, riparian zones and water resources is so very typical of public agencies. The spotted frog has been eliminated in large parts of Utah, Nevada, Oregon, and Montana largely because natural functions of these aquatic resources are not managed. Fragmentation of riparian zones by water projects and roads has greatly altered the natural functions of these water sources. Bridges and culverts over streams and intermittent streams have not allowed for the continuity of the riparian zone, but has fragmented this zone forcing animals into the arid region and across roads rather than along streams.

Thus it is my conclusion that riparian and wetlands and water sources are not protected in arid regions because they are too small, do not contain threatened or endangered species, and no one is interested in determining just what animals do use these sources and what is the welfare of the animals which do use these sources. Only vegetation types are mitigated. Animal losses are totally unmitigated and unnoticed. Furthermore, many
17 riparian habitats in arid regions do not have indicator plants because of the scouring of habitats by floods. Will the BLM protect these small aquatic habitats in arid regions if laws, executive orders, and regulations do not apply? Will the BLM monitor the animals that use these sources to determine there importance?

18 Maps 75 and 76 are somewhat confusing. Do riparian habitats have water-that is are they aquatic habitats? Are springs in the desert defined as riparian habitats or aquatic habitats? What is the definition of riparian habitat by which May 75 was made? What is the definition of aquatic habitats by which May 76 was made? Are small permanent or ephemeral seeps included in the inventory? One ephemeral seep in Cane Wash contained speckled dace until a flash flood destroyed the seep. This seep had no plant life along its wet zone. Would this type of seep be aquatic or riparian or neither since it did not contain a threatened or endangered species? These same small aquatic zones are the most impacted by recreation (footed and motorized) users. Will the BLM be monitoring these impacts?

19 P. 2-73. Alternative F. Does the riparian and aquatic habitat inventory include a biological survey and to what degree?

20 Map 77. What is the basis of the riparian zones having full fire suppression. Have fires occurred naturally in these regions?

RESPONSE TO COMMENT 11 UTAH NATURE STUDY SOCIETY

[Comment page 4]

17 See the response to comment 15-3.

This inventory would include animals as well as plants, hydrology, soils, and landform. Monitoring would be established at varying degrees of intensity depending on the resource condition and value, but would include monitoring of wildlife.

18 See the Glossary.

19 An extensive inventory would be conducted to determine existing riparian habitat and its ecological condition. An intensive inventory would be conducted on areas emphasized because of resource condition, potential conflicts, or uses.

20 The riparian areas have been identified for full fire suppression with the condition that fire suppression methods exclude motorized earthmoving equipment and aerial chemical fire retardants.

The resource area has had 10 to 12 fires in the last 10 years. The majority of these fires were within the riparian habitat. Tamarisk, an invading brush species, is more fire-tolerant than are the native brush and tree species. Fire suppression was deemed necessary within this habitat to prevent loss of the native brush and tree species and the spread of tamarisk.

Page 5 (Utah Nature Study Society)

21 P. 2-65. There is a program to "monitoring existing water quality and watershed conditions that contribute high salt and sediment loads to the Colorado River Basin". The BLM must also recognize that saline content, sediment, and total dissolved solids in the Colorado River basin is a very natural phenomena. Monitoring of such water quality criteria should be applicable only to human activities. There are many plants and animals that depend on the salt water environments. Thus State standards (P. 3-17 and 3-20) should not apply unless it applies to human sources. Have there been any analysis done on the waters before the huge impacts of the region occurred since the construction of the Huntington and Hunter power plants? To clean up these streams into compliance with state standards as noted in the wild and scenic river designation (p. 160) would be an ecological disaster. If salt loading from public lands is unknown (p. 3-60), why allow the Bureau of Reclamation to destroy natural saline springs to reduce the Colorado River saline content?

22 P 3-36 and P. 152. Will a habitat managment plan be developed in the future for aquatic habitats? I would hope that the BLM does not destroy riparian and aquatic habitats to improve water flows (this has occurred in the Bonneville Basin) without a thorough animal use analysis. Would the habitat management plan be incorporated into the wild,scenic and recreation river study plan? Would the habitat management plan be made for the San Rafael River before the grazing or recreation are giving the time of year allocation (p. 3-36 and p. 152)? Protection of riparian zones must include protection from degredation by both livestock and recreation users (p. 96).

23 Map 39. What are public water reserves? What public are these waters reserved for? Who has withdrawn the Green River and lower San Rafael for power site? This power site withdrawal should be terminated. Is this possible?

24 SUMMARY. The San Rafael Swell is a unique resource and must be managed as If budgetary restraints interfere with the implementation of the costly preferred alternative F, it is only logical that Alternative D be classified as the managing tool for the area. This alternative costs less, preserves the greatest amount of the unique features of the region and still allows for multiple-use- albeit more restrictive multiple-use than Alternative F. Off-road vehicle use must become under control and must be confined to roads. Alternatively, the area should be a National Park with its greater law enforcement image.

Utah Nature Study Society will continue to work with the BLM to improve the management of the San Rafael Swell region. Please keep us informed of the opportunities. Please send us the Record of Decision on this project.

Sincerely,

Peter Hovingh

Peter Hovingh, Chairman
Issues Committee
Utah Nature Study Society

RESPONSE TO COMMENT 11 — UTAH NATURE STUDY SOCIETY

[Comment page 5]

21 BLM recognizes that much of the salinity, sediment, and total dissolved solids entering the Colorado River drainage are from natural geologic erosion (draft RMP/EIS, page 3-18). Water quality must be monitored as an entire unit and not as individual parts. It is very difficult to distinguish exactly which activity is contributing sediment and salt to the drainage systems when the contributions are non-point. However, changes in water quality with respect to both the time and distance often identify when and where a problem is occurring. It is often possible to determine if a specific activity is causing a problem or if it is just a matter of natural geologic erosion. State water quality standards are set by state and federal regulations for particular stream segments or particular water uses (see the response to comment 84). State water quality standards are monitored by the Environmental Protection Agency (EPA). Environmental impact statements were written for both the Hunter and the Huntington plants before any action was taken [BOR, BLM and USFS, 1975; BOR, BLM, BSFW, USFS and FHA, 1972; BLM, 1977; BLM, 1979]. There are also several U.S. Geological Survey (USGS) gaging stations from which data have been collected anywhere from 1909 to the present.

The Colorado River Basin Salinity Control Act of 1974 directs the U.S. Department of the Interior (BLM and Bureau of Reclamation (BOR)) to improve the water quality of the Colorado River. The Colorado River Basin Compact States, of which Utah is one, have adopted numeric salinity criteria for the basin (that is, there are salinity values that must not be exceeded). Human-caused activities have accelerated natural erosion. BLM's intent is to decrease the rate of erosion, not to prevent the natural processes from proceeding.

22 The management of the riparian areas is set out by the Riparian Area Management Policy, signed January 22, 1987 by the Director of BLM. The management policy is further defined by the Utah State Office Policy for Riparian Area Management (Instruction Memorandum UT 87-261). Both policies may be examined in the San Rafael Resource Area (SRRA) office.

Habitat management plans (HMPs) would be completed in the future.

23 See the response to comment 15-117.

The existing powersite withdrawals are Federal Energy Regulatory Commission (FERC) withdrawals. No specific projects are planned. The withdrawals are in the process of administrative review to determine if they still meet the applicable withdrawal criteria. However, if any actions are proposed in these areas, FERC would review the proposals to make sure they are consistent with the purpose of the withdrawal.

24 The comment is acknowledged.

COMMENT 12

Utah Petroleum Association

A Division of Rocky Mountain Oil & Gas Association
56 EAST 300 SOUTH, SUITE 200/SALT LAKE CITY, UTAH 84111-2202/PHONE (801) 363-5757

PRESIDENT
GARY K. FISHER
Chevron U.S.A., Inc.

EXECUTIVE DIRECTOR
JIM PEACOCK

December 5, 1988

Mr. Jim Dryden
Area Manager
San Rafael Resource Area
Bureau of Land Management
900 North 200 East
Price, Utah 84501

Dear Mr. Dryden:

The Utah Petroleum Association, a state division of the Rocky Mountain Oil and Gas Association, respectfully submits the following comments on the San Rafael Resource Management Plan.

1 We are opposed to the direction the BLM has taken in its Preferred Alternative for the San Rafael RMP with regard to multiple-use activities on public lands. In particular, we believe the Preferred Alternative unacceptably restricts and minimizes oil and gas exploration and development opportunities. The dramatic increase in the application of restrictive stipulations in the San Rafael Resource Area is alarming. Specifically, the use of standard stipulations in the area has been reduced by approximately 64 percent while the use of special stipulations has been increased by over 750 percent. The use of no surface occupancy stipulations has also been increased by another 40 percent. While we acknowledge and support that leasing has been increased by 95 percent on those lands previously unavailable for lease, most of these lands are still unavailable for surface occupancy. Therefore, there is no question that overall the new RMP will even more severely restrict access to public lands in the SRRA for oil and gas activities.

2 We also strongly question the BLM's decision to place its primary focus on wildlife, recreation and aesthetic values. Under current management, 23 percent of the SRRA is subject to restrictive lease stipulations for these values, including the no lease areas. While in our view, existing management is also cause for concern, the proposed management changes are even more disturbing because over 50 percent of the SRRA will be subject to restrictive stipulations. It is our belief that the proposed change in management exhibits a lack of consideration for commodity values.

3 It is our belief that the BLM is using the restrictive NSO stipulation excessively and without proper justification. We point out that in the Bill J. Maddox decision (83 IBLA 29), the Interior Board of Land Appeals provides that "a NSO stipulation

RESPONSE TO COMMENT 12 — UTAH PETROLEUM ASSOCIATION

[Comment page 1]

1 See the response to comment 6.

2 See the response to comment 6.

3 See the response to comment 6.

Mr. Jim Dryden
December 5, 1988
Page 2

should only be imposed where there is evidence that less stringent alternatives would not adequately accomplish the intended purpose by containing the adverse effects of oil and gas operations within acceptable limits". The decision also states, "The record must reflect that proper consideration was given to the alternatives in leasing the land in question and justification should be provided for the determinations made". While the various discussions may refer to the decisions being proposed under each alternative, they do not provide the necessary rationale for the decisions.

While a significant portion of the SRRA is believed to be moderate to low potential for oil and gas, it must be stressed that most of this area has not been adequately explored for energy resources. The result of the increased constraints on access required by the Preferred Alternative will be that many of these lands will never be explored. Therefore, it will never be known whether they contain critically needed domestic supplies of energy resources.

4 We are also concerned that the planning documents do not comply with the BLM's Supplemental Planning Guidance (SPG) for Fluid Mineral Leasing. Chiefly, the SRRA planning documents fail to display the actual standard and restrictive stipulations which will be applied throughout the planning area. Given the recent emphasis on preleasing analysis requirements, it is important that the plan contain not only a discussion as to where and why certain restrictions may be applied, but also exactly what the stipulations are.

5 Additionally, the SPG requires land use plans to include discussions of each phase of oil and gas activities. These discussions should generically address what happens during the leasing phase, exploration phase, the production phase as well as the abandonment and reclamation phase of operations. In accordance with the SPG and the National Environmental Policy Act, the discussions must also describe the various mitigation measures available to reduce or avoid adverse impacts which would result from oil and gas activities. Such information is of paramount importance since the planning documents will also serve as the oil and gas leasing decisions document. This information would be particularly useful in Chapter 4, Environmental Consequences, because then it can be demonstrated that oil and gas activities are compatible with sensitive resource uses. We would like to recommend that the SRRA review the West HiLine RMP in Montana because it provides an excellent example of the types of information which should be incorporated into the final RMP/EIS for the SRRA.

We express serious concern with regard to the proposed designation of numerous ACECs in the SRRA. According to the BLM's ACEC Guidelines, the stated purpose of an ACEC designation is as follows, "The ACEC designation highlights areas where special management action or attention is needed to protect important historic, cultural, scenic and natural values or to protect human life and safety from natural hazards". They further state. "...an ACEC should be held to the minimum area necessary to protect life and safety or the resources on which the designation is based.

RESPONSE TO COMMENT 12 UTAH PETROLEUM ASSOCIATION

[Comment page 2]

4 See the response to comment 6.

5 See the response to comment 6.

Mr. Jim Dryden
December 5, 1988
Page 3

The ACEC designation, as a significant BLM land management tool, is not intended to blanket large areas with specific restrictive stipulations. The ACEC designation is also not used as a substitute for a suitability recommendation for a wilderness study area".

6 It is evident that the BLM did not comply with the above referenced direction. Seven of the thirteen proposed ACECs do blanket large areas, 214,380 acres, with specific restrictive stipulations, five of which require no surface occupancy on 214,080 acres. Further, Sids Mountain, San Rafael Canyon, San Rafael Reef, Muddy Creek, and Segers Hole proposed ACECs comprise all or major portions of existing Wilderness Study Areas. Such designations are in direct conflict with the intent of the ACEC regulations that ACECs not be used merely because an area is not recommended for wilderness designation. Based upon the nature of the ACEC proposals, we strongly recommend that they be reevaluated and modified to comply with the direction in the regulations.

7 While it is correctly stated in the planning documents that the BLM is required by law to use the least restrictive stipulations which will still accomplish the management objectives for an area, as we have pointed out earlier in our comments, there is no true justification for many of the restrictive stipulations. We would also inquire why the BLM believes a no lease designation is required for five ACECs when a NSO stipulation would achieve maximum protection of the existing resource values. According to an Interal Memorandum regarding direction contained in the Robert G. Lynn decision (76 IBLA 383), Director Burford states, "The justification (not to lease) must be substantive and site specific-...Ordinarily, adequate justification should not be possible since a NSO stipulation effectively prevents damage to any resources or land values. Therefore, in virtually all cases, unless lands are excluded by leasing by law, regulation or are formally withdrawn, applicants should at least be offered a lease with a NSO stipulation...Obviously, a NSO stipulation should only be used as a last resort since BLM is compelled by numerous IBLA decisions to consider whether less restrictive stipulations would suffice to adequately protect the public interest." We have not found evidence in the planning documents that a no lease decision will be any more effective than a NSO stipulation and we strongly recommend the BLM modify its no lease decision in the final planning documents.

8 We are disturbed by the statement on Page 2-74, Volume One, of the plan which indicates the BLM intends to require offsite mitigation in addition to standard reclamation procedures in big game habitat when unreclaimed disturbance caused by a user exceeds 10 acres in two years. Big game habitat covers millions of acres in total, and hundreds of thousands of acres within the planning area. With this type of restriction, the effects of a 10 acre disturbance would be extremely minimal to big game habitats, but would have deleterious effects on all types of commodity use. Further, it is not specified whether this restriction would be applied based upon cumulative activities throughout all

RESPONSE TO COMMENT 12 UTAH PETROLEUM ASSOCIATION

[Comment page 3]

6 See the response to comment 6.

7 See the response to comment 6.

8 See the response to comment 6.

Mr. Jim Dryden
December 5, 1988
Page 4

of the big game habitat areas, or only on the BLM portion. Regardless of how this restriction is applied, we are opposed to a management concept which is so restrictive and affords so little opportunity for development of resources without the added expense of offsite mitigation.

9 We are also concerned with the excessive use of VRM Class I. It appears that the BLM is using all possible methods to prevent as much surface use as possible in the SRRA. Most of the 231,750 acres allocated to VRM Class I have also been stipulated with NSO stipulations or no leasing. We believe the restrictions proposed in the Preferred Alternative will effectively preclude multiple-use management on the public lands within the Resource Area.

The State of Utah is currently economically depressed and is in need of new forms of revenue. It appears as if the BLM has chosen to ignore the needs of the State and the local area by proposing implementation of a land use plan which would adversely affect opportunities which would provide needed economic growth.

We recommend that the final San Rafael Resource Management Plan more accurately and realistically reflect a philosophy and management plan that encourages and promotes oil and gas exploration on an equal multiple use basis with wildlife, recreation and aesthetic values. We believe critically needed energy leasing, exploration and production can be achieved in an environmentally safe and compatible manner.

Thank you.

Sincerely,

Jim Peacock

Jim Peacock
Executive Director

JP:ba

RESPONSE TO COMMENT 12 UTAH PETROLEUM ASSOCIATION

[Comment page 4]

9 See the response to comment 6.

COMMENT 13

Utah Professional Archaeological Council

105 Allen Hall
Brigham Young University
Provo, Utah 84602

December 7, 1988

Mr. James Dryden
San Rafael Resource Area Manager
900 N. 700 E.
Price, Utah 84501

Dear Mr. Dryden:

The Utah Professional Council is an organization of professional archeologists, museum specialists, and cultural resource specialists who work in Utah and/or have an interest in Utah's historic and prehistoric past. UPAC members are a diverse group that include cultural resource professionals who work in state and federal government and academia, and as private cultural resource consultants. We have read the Resource Management Plan (RMP) for the San Rafael and direct the following comments to your attention.

We commend the Bureau of Land Management for designating Areas of Critical Environmental Concern (ACECs) for the pictographs along Interstate 70, the Rochester rock art site, the Dry Lake Archeological District, the Temple Mountain Historic District, Copper Globe, and Swasey Cabin, and for treating the Tomsich Butte Historic District as a special emphasis area within the Muddy Creek ACEC. However, we do not agree that the Dry Lake Archeological District should be open to mineral leasing and mining entry, disposal of mineral materials and ORV use. Allowing these activities to take place within this important archeological ACEC will only diminish its archeological values. The plan should specifically state what the "special conditions" are "that will be designed to prevent disturbance or damage to the surface which could adversely affect those values" in the Dry Lake Archeological District. All ACECs established for their cultural values
1 should be closed to ORV use, mining, oil and gas exploration and production, and other disruptive surface use.

The plan also states that a study of the Dry Lake Archeological district will be initiated to "identify the archaeological values and their spacial [sic], temporal, and cultural relationships." We commend the BLM on their plan to initiate such a study but the specifics of this study should be presented. Will the study consist of an intensive 100%

RESPONSE TO COMMENT 13 UTAH PROFESSIONAL ARCHAEOLOGICAL COUNCIL

[Comment page 1]

1 See the responses to comments 3-44 and 15-6.

inventory, a sample inventory, testing, mitigation or a combination of the above or something else? Who will do this work? Will it be funded by the BLM? Is there sufficient funding for this study? When will the study be started? The plan should require that the results of this study be written up in a professional cultural resource report.

2 The plan further states that historic structures in the Tomsich Butte and Temple Mountain Historic Districts will not be disturbed before they are recorded. These historic structures should be evaluated for possible inclusion in the National Register of Historic Places (NRHP) and also for inclusion in the Historic American Building Survey (HABS). When will the "intensive data recovery program" at the Temple Mountain, Tomsich Butte, and Copper Globe Historic Districts be initiated? How much work will be done? What are the estimated start and completion dates for this work? These items should be specified by the plan. The plan should specify that the results of these investigations be written up in a professional cultural resource report.

3 If the Bureau intends to designate Copper Globe, Swasey Cabin, and the I-70 Pictographs for their public value, a more specific plan should be presented regarding the proposed "mitigation of scientific values before the site is turned over to public use." The plan should specifically state what type of investigations will be done. How much investigation will be adequate? Will the BLM fund this work? Is there sufficient funding for it? What is the schedule for conducting such investigations? When will the interpretive signs be installed?

4 We are disappointed in the small number of acres designated as ACECs for their cultural values and for the small number of cultural resource sites protected in ACECs. Furthermore, it is certain that the sites contained in the proposed cultural ACECS are not representative of the planning area as a whole in terms of type, density, location, cultural affiliation, age, or function. In fact, from the data contained in the RMP, it is not certain that a single Fremont village site, a very important site type in the planning area, is contained in any of the ACECs. We recommend that the BLM use existing professional literature (e.g., Black and Metcalf 1986; Coulam et al. 1983; Copeland and Webster 1983; Hauck 1979; Tipps 1988; Thomas et al. 1981) to select additional ACECs to be protected for their cultural values. When considered as a group, these ACECs should contain sites representing all cultural affiliations, ages, types, functions, and locations of sites known or expected to be located in the planning unit. These ACECs should be closed to all surface disturbances. The plan should also provide for special protection for sites that cultural resource professionals considered eligible for inclusion in the National Register of Historic Places when they recorded them.

RESPONSE TO COMMENT 13 UTAH PROFESSIONAL ARCHAEOLOGICAL COUNCIL

[Comment page 2]

2 See the response to comment 15-6.

3 See the response to comment 15-6.

4 All sites nominated as cultural resource ACECs are included in the preferred alternative (draft RMP/EIS, page 2-51). The suggestion for additional ACEC management is similar to management described as part of the Conservation Objective (draft RMP/EIS, pages 2-44 and 2-45).

We applaud the BLM in their desire to conserve 20% of the known sites at any particular time. However, we do not agree that a 20% sample is necessarily sufficient or that ". . . research effectiveness declines greatly above that level." The BLM should provide citations from the published cultural resource literature indicating that larger samples are redundant. We recommend that the conservation sample be larger, perhaps 50% of the known sites, since less than 5% of the sites expected to exist are known. We also object to Criterion 3--that sites in the conservation category will be selected in areas where there are few current surface use conflicts. Use of this criterion implies that sites are randomly distributed across the planning area and that it makes no difference where the sample is saved. Previous professional research in the planning area has repeatedly demonstrated that sites are clustered relative to certain critical resources which vary greatly throughout the planning area. Selection of sites for conservation by Criterion 3 will result in a biased sample being saved. Criterion 3 makes no sense from any research perspective and will only hamper future research that needs to have a representative data base from which to draw.

5 In addition to the criteria listed for placing sites in the 20% conservation category, we recommend that a representative sample of sites from all cultural affiliations, ages, functions, and locations be saved. We are very concerned that the plan does not state how these sites will be protected or how they will be closed to "conflicting uses." In fact, the plan implies that they will not be adequately protected when it states that "if a listed site is destroyed, damaged, or endangered, a similar site in as good or better condition may be substituted." The plan does not state what will happen if such a replacement site does not exist. How does the BLM plan to protect these sites from dispersed recreation activities such as ORV use? Considering the small number of sites to be "protected" and the large number that will be damaged or destroyed, it is incumbent on the Bureau to devise an effective means for protecting these sites. The plan should specify a means for protecting these sites.

The plan states that sites in the conservation category will "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." Who will determine when the technology has advanced to this state and when the last 20% should be used up?

The plan should state how sites will be selected for the Public Values Category.

The plan does not state how sites in the Information Potential category will be protected "until they have been appropriately studied." Clearly, these sites can be protected from licensed activity through permit

RESPONSE TO COMMENT 13 UTAH PROFESSIONAL ARCHAEOLOGICAL COUNCIL

[Comment page 3]

5 See the response to comment 15-108.

stipulations, but how will sites be protected from ORV disturbance and other activities that do not require permits?

The BLM states that it will determine what is "appropriate study" for sites in the Information Potential category. We recommend that the State Historic Preservation Office, the Advisory Council on Historic Preservation, and interested professionals also be consulted. The plan should also specify what constitutes appropriate study.

6 The plan states that there are approximately 1500 known sites in the planning area. How many of these sites have been considered eligible for inclusion in the National Register of Historic Places by the cultural resource professional who recorded them? What category will these sites be placed in? How will these sites be protected? Will the BLM undertake the paperwork to formally nominate these sites to the National Register? And if so, when? These sites should be protected.

7 Under Alternative F, the plan states that the Bureau estimates loss of 6707 sites by the year 2000. For the Bureau to permit such a loss is tragic and untenable. The plan states that there are only 1500 known sites in the planning area at this time. Destruction of 6707 sites would represent more than four times this total. The planning area contains many important cultural resources, types of sites, and cultural manifestations that simply do not occur elsewhere in Utah or anywhere. Loss of such a significant proportion of the non-renewable cultural resource base is totally unacceptable.

Furthermore, the loss may be higher than that estimated by the plan because the loss is based on the assumption that only 1 site in 10 will be damaged or destroyed by ORV use. We believe that this number is significantly higher and request that the BLM provide documentation that only 1 in 10 sites will be impacted. Furthermore, we hold that the BLM's assumption that only 1 in 100 sites will be affected by grazing is also in error. Many more than 1 in 100 sites are affected by trampling; trampling causes artifact displacement and breakage. In addition, overgrazing, which is currently common in the planning area, causes erosion. Erosion damages and destroys cultural resource sites.

8 The BLM states that there are an estimated 18 sites per square mile or 70,000 total cultural resource sites in the planning area but does not indicate how these numbers were derived. We derived our own estimate based on site density data presented in published and unpublished professional literature on the area (e.g., Black and Metcalf 1986; Copeland and Webster 1983; Hauck 1979; Tipps 1988; Thomas et al. 1981). These data suggest that the BLM's estimate of 70,000 sites may be greatly inflated, and that the "average" site density may be closer to 9 sites per square mile, resulting in about 35,000 total sites. If in fact there are only about 35,000 sites

RESPONSE TO COMMENT 13 UTAH PROFESSIONAL ARCHAEOLOGICAL COUNCIL

[Comment page 4]

6 BLM is required to nominate to the National Register of Historic Places all sites that meet the criteria for eligibility. Undertaking the paperwork is an administrative concern, not a decision that can be made in the RMP. Placement of sites in categories by objectives and site-specific management take place during activity-level planning (draft RMP/EIS, page 2-44).

7 BLM's estimate (final EIS, table 1, summary) that 6,107 sites would be damaged in some degree by the year 2000 does not mean the BLM finds this acceptable. Losses would certainly be much higher without planned (or even current) management. Estimations are based on the criteria listed in the draft RMP/EIS, page 1-8. See also the response to comment 3-7.

8 BLM's estimate of site numbers is derived from all present information in the area, not just the small sampling listed in this comment. BLM recognizes that because it lacks a statistically valid sample, the numbers should not be construed as absolute (appendix U). However, if the commentor's numbers were used for impact analysis, they would reduce all site numbers by 50 percent, including sites damaged or destroyed. See also the response to comment 3-7.

in the planning area, loss of 6707 sites represents approximately 19%. For the BLM to permit the damage and destruction of 19% of all expected sites in the short time frame between now and the year 2000 is a travesty. The BLM is charged by the federal government with protecting cultural resources under its jurisdiction. By allowing such destruction, the BLM is violating this stewardship.

9 We also note with deep concern that the BLM is closing only about 4,400 acres of this vast planning area to ORV use. ORVs are probably the single greatest threat to cultural resources in the planning unit. ORVs drive over sites displacing artifacts and accelerating erosion. They also create greater access and access spells more vandalism, more pothunting, more surface collection, and more damage in general to cultural resource sites. ORV campers may unknowingly camp on archeological sites, and/or take wood from cultural resource sites to use as firewood, both of which damage archeological sites.

10 We recognize that the BLM lacks sufficient funding to protect all cultural resource sites in the planning area through patrols. The next best measure of protect is to limit access. Therefore, we recommend that the BLM close the Wilderness Study Areas to ORV use. This will go a long way to protecting a large number of cultural resource sites. While sites in the Wilderness Study Areas will be subject to some degree of damage, it is well documented that people participating in motorized recreation do much more damage than people afoot. When was the last time you saw a backpacker packing a gun and shooting at petroglyphs? Because of the lower incidence of site damage in Wilderness Areas, we also encourage the inclusion of more Wilderness Study Areas and more ACECS, both of which should be closed to ORV use.

11 In most of the rest of the planning area, ORVs should be limited to existing roads. These roads should be specifically identified in the plan. Finally, the BLM should designate certain circumscribed areas specifically dedicated to ORV use. One such area could be the existing motorcycle trail system. Another could be Buckhorn Wash. Although we recognize that the cultural resources in these areas will be forfeited, these areas could be completely inventoried and studied before additional damage takes place so that some information would be salvaged. The trade off would be protection and conservation of a very large number of other sites.

12 It is unfortunate and inexplainable that cultural resources were not treated as an "issue" in the preparation of this plan. Cultural resources meet the definition of an issue as presented in 43 CRF 1610.4-1 and should be included as an issue in the final RMP.

13 In sum, we feel that the plan protects too few sites, and provides inadequate protection of all sites in the planning area with the possible

RESPONSE TO COMMENT 13 UTAH PROFESSIONAL ARCHAEOLOGICAL COUNCIL

[Comment page 5]

9 BLM recognizes ORV use as one threat to cultural resources. ORV closures (as opposed to limiting use to existing or designated roads and trails), while limiting impacts, may also limit the ability to patrol an area and can result in more identified vandalism, done by people seeking to avoid being observed or detected. BLM recognizes closures to be effective as a means to protect cultural resources, but primarily as a part of site-specific management which would be developed in activity plans after the RMP is final.

10 See the responses to comments 13-9 and 44-3.

11 See the response to comment 44-6.

12 See the response to comment 3-2.

13 exception of the I-70 pictographs and the historic sites protected as ACECs. We urge the BLM to provide a means for truly preserving a greater number of sites, not simply providing lip service that says they will be protected. Cultural resources are non-renewable and must be protected in accordance with the law. It makes no sense to sacrifice such a large number of sites for the short term gain of opening the wilderness to motorized recreation.

Sincerely,

James D. Wilde,
President

JDW/mdd

RESPONSE TO COMMENT 13 UTAH PROFESSIONAL ARCHAEOLOGICAL COUNCIL

[Comment page 6]

13 BLM is confident that management outlined in the draft RMP/EIS (pages 2-44 and 2-45) is a realistic framework within which sites would be protected. See also the response to comment 3-7.

NOTE: The list of references that accompanied this comment is not reproduced here.

COMMENT 14

UTAH TRAIL MACHINE ASSN.

P.O. Box 379 • American Fork, Utah 84003

27 Sept., 1988

Jim Dryden, SRRA Manager
Bureau of Land Management
900 No. 700 East
Price, Utah

Dear Jim,

With the draft RMP/EIS for the San Rafael Resource Area, the BLM has yet again demonstrated it's total incapability to contend with OHV recreation. However distressing, this is understandable. No one in the BLM rides OHVs for recreation, therefore, the entire concept is alien if not downright anti-thetical. Our requests for facilities are met with glazed eyes and jaws agape.

1 Nowhere is this lack of comprehension more apparent than in Alternative E. No OHV user that we have ever encountered has demanded that all other users be excluded so that they could play. Alternative E insults OHV users by dragging them down to the same low depths as the radical environmentalists and hikers. OHVs and their users are flexible, adaptable and, as you will find out, powerful. We are firmly in favor of multiple use of the land and CAN co-exist with virtually any use scenario.

What OHV users want is trails. The BLM apparently cannot comprehend this! A trail corridor 8½ feet wide covers 1 acre per mile of length. We cannot even imagine a trail system, even one with up to 6 sacrifice area/OHV playgrounds, that would cover more than 5000 acres, yet we are presented with Alternate E containing many hundreds of thousands of unwanted, inaccessible, unusable, wasted acres. Get rid of it and in its placeprovide us with a set of concrete goals and objectives

RESPONSE TO COMMENT 14 UTAH TRAIL MACHINE ASSOCIATION

[Comment pages 1, 2, and 3]

1 See the response to comment 44.

Development of additional trails would be considered at the activity-plan level for the San Rafael Swell SRMA.

Information about cultural sites in SRRA was published in National Geographic in 1980 [Smith, 1980]. Once this information has been given to the public at this level, it is no longer possible to keep the areas unknown.

2

for number of miles of trails you intend to build or designate and their location. Forget acreage; it's a wasteful concept.

We request the above because it truly would be resource management planning. BLM's plan in the past with respect to OHV recreation has been one of INERTIA: do nothing. The only officially designated OHV trail in the entire SRRA was built by volunteers and presented to the BLM. It has been treated as the SRRA's "token trail" (as in "token minority"). As a result of it's INERTIA the BLM has failed almost completely to comply with the duties it set itself in the CMA. What was done was done only after complaints of Price Office INERTIA were registered with the BLM in SLC. And what happened to our second trail system proposal? It too appears to have died of an overdose of INERTIA. At a publicmeeting concerning this RMP in Huntington, Utah in early 1987, we were urged to bring to the BLM's attention any special uses that we wished included in the plan. One of us immediately took maps showing an existing 25 mile trail system in the upper reaches of Crack and Chute Canyons to Terry Humphreys. The trails are not in the RMP and Terry Humphreys is gone. In fact, recreation ranks so low in the SRRA that his position as recreation specialist has not even been filled!!

It hardly needs stating, after all this, that Utah's OHV users have sought assistance from their Congressional delegation to get this ridiculous situation resolved.

However, since the RMP will undoubtedly look something like Alternative F, we will offer some comments on that:

1 We have a deep and abiding suspicion of the differentiation between "existing" and "designated" roads and trails for OHV use. BLM has demonstrated itself on many occasions to be monumentally incompetent at identifying existing roads, much less trails. How can we expect you to "designate" a road you can't even find? Please let users do the designating.

2 During your planning period, up to the year 2000, anywhere from 1 to 5 million acres of BLM land in Utah alone will be designated as Wilderness. We therefore believe that your planning goal, Pg 2-87, of sacrificing an additional 30000+ acres of motorized recreation land to primitive recreation is uncalled for and should be reversed.

3

3 Popularizing the I-70 corridor pictographs will surely result in their vandalization. We feel that all culturally significant sites in SRRA should remain unpublicised. Although it sounds xenophobic, the fact remains that many sites known to and visited by locals remain pristine, while sites such as Temple Mountain and Buckhorn Draw, which are accessible to "outsiders" have been partially destroyed. Learn your lesson from this and keep your treasure secret!!

1

Most sincerly

Richard A. Brass

Richard A. Brass

Vice Pres.

COMMENT 15

Utah Wilderness Association
455 East 400 South #306/Salt Lake City, UT 84111/(801)359-1337

December 6, 1988

Mr. James Dryden
San Rafael Resource Area Manager
Bureau of Land Management
900 N. 700 E.
Price, Utah 84501

Dear Jim:

Here are the Utah Wilderness Association's comments on the draft San Rafael Resource Area RMP/EIS. From the many discussions we have had since the plan's release, the disappointment expressed in these comments will come as no surprise. However, we have not approached this comment with the intention of "nit-picking" BLM's effort, but with the intention of identifying those areas where the plan can be improved and by offering serious, legitimate solutions to the many issues facing the San Rafael. We sincerely believe that our suggested changes in the plan will result in a final plan that is acceptable to the majority of publics concerned about the Resource Area.

There are a number of points we would like to make in addition to the resource by resource analysis contained herein.

1 There appears to be a serious lack of resource data available on the San Rafael. The RMP contains almost no information on current recreation use, realistic projections for future recreation use, or developed recreation potential. This despite the tremendous interest shown for this area in the past several years. Almost nothing is mentioned about populations or habitat for non-game or other high
2 interest (such as predators) wildlife species. Riparian areas receive little discussion despite the
3 overwhelming importance riparian zones have in determining ecosystem health. Significant
4 development proposals, such as tar sands development and damming the San Rafael River, that may still be "live" issues are not even mentioned in the RMP/EIS. And there is little justification
5 provided for many of the assumptions used in Chapter 4's analysis of impacts. Without much better resource information the impact analysis will be inadequate and future monitoring will have little meaning.

Much of this reflects on another serious concern we have with direction of the planning effort. As we have tried to monitor existing RMPs and Forest Plans in Utah, we consistently run up against the

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[Comment page 1]

1 BLM recognizes that some data are not available (draft RMP/EIS, pages 3-44 and 46). BLM is confident that the impact analysis for the various alternatives is adequate.

2 Scoping and public participation did not identify nongame as a management issue or concern. Wildlife habitat would be managed for a diversity of species (draft RMP/EIS, page 2-68). Activity plan development and implementation would be evaluated for impacts to nongame habitat.

3 Riparian habitat is addressed (draft RMP/EIS, pages 2-68 and 2-73). As noted, additional inventories are needed to determine ecological status and resource conflicts.

4 The assumptions utilized in the draft RMP/EIS, chapter 4 are based upon past and present demands and interests in public resources and their potential for development. No information has been presented to indicate that these assumptions are incorrect.

5 See the response to comment 15-4.

6 question of what was intended by the plan. In other words, what is the desired future condition of the Resource Area? To be more specific to the San Rafael RA, it isn't possible to determine what BLM's desired future condition for, say, Sid's Mtn. is. Does BLM want a plethora of uranium mines or an oil and gas field in Sid's Mtn? Will it be an ORV race track? Or does BLM want this area to provide a primitive recreational experience in a pristine landscape? Any of these outcomes are possible given the guidance, or lack thereof, in the draft plan. As we've pursued other plans, we hear agency planners asking these same questions and regretting more time wasn't spent defining the answers in their plans.

7 In one sense, this RMP addressed one of our greatest complaints with other plans, the lack of maps. A good map is worth 10,000 words. Unfortunately, the GIS-generated maps are confusing, at best. Without identifiable landmarks (peaks, rivers, canyons, major roads, topographic lines) it is extremely difficult to read the maps. Including the 82 small maps in the EIS was a great concept, but without landmarks they are much less useful than they could be. We suggest that the 1:250,000 scale BLM Land Ownership and Public Management maps be used as the base map for printing the final RMP/EIS pocket maps. The number of lines may get very confusing on the small maps in the EIS, but maybe providing a mylar overlay with many of these features on it will work.

8 There is a lack of consistency between the RMP/EIS and other BLM documents for the San Rafael. In particular, it is impossible to believe it is the same agency that made "suitable" wilderness recommendations for six WSAs in the Resource Area, that is now making recommendations that those same areas be available for oil and gas development, mining, ORV use and the like! Also, many of the mineral ratings for these areas are quite different in the RMP when compared to the Wilderness EIS and the SAI studies prepared for that EIS.

9 Finally, we are extremely disappointed that the suggestions we provided over 18 months ago for developing a "Conservationists" alternative for this plan were not even addressed, much less used, in the draft RMP. You'll recall our meeting in Moab when we discussed our suggestions for an Alternative with the District planning coordinator. I believe it is correct to say that UWA's recommendations were consistent with the type of information needed to develop an alternative for detailed analysis in the RMP. In February 1988, we also submitted nominations for 13 ACECs. Again, those nominations were not considered in the draft plan, contrary to regulations requiring that legitimate nominations submitted by the public must be considered in the planning process (portions of some were considered because BLM also selected them for analysis in the RMP). We have included both the May 1987 Recommendations for an Alternative (Appendix 2), and the February 1988 ACEC nominations (Appendix 1) as part of this comment. We strenuously suggest these recommendations be considered in the final plan.

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[Comment page 2]

6 Several comments requested quantitative and site-specific information. The majority of these comments appear to have resulted from a misunderstanding of the BLM planning system. A mistake often made is to assume that the RMP should contain enough detail to allow immediate design and implementation of total resource management. It would be impossible to accomplish that level of planning on a million acres of public land, given the present time and budget constraints. BLM uses the activity plans by program (range, wildlife, etc.) to provide the site-specific detail needed to meet the objectives identified in the RMP.

7 Additional features, points of reference, and township and range markers have been added to the large proposed alternative maps. A plastic overlay with additional features has also been included for use with the page-size maps. Using the 1:250,000 ownership maps as a base would have displayed too much information to discern the proposed actions.

8 BLM's mineral ratings for wilderness study areas (WSAs) in SRRA are different from those prepared by Science Applications, Inc because of differences in the two rating systems.

BLM (appendix Q) assessed an area's potential for the occurrence of a given mineral resource, while Science Applications estimated the size of a given mineral deposit within an area and then assigned a level of certainty that deposits of such size actually occurred. BLM rated the potential for occurrence of deposits of any size as simply low, moderate, or high. The Science Applications system consisted of two ratings: favorability (f) of 1 to 4 depending on the size of anticipated deposits, and certainty (c) of 1 to 4 for the degree of certainty that deposits of that size actually occur, based on the data available.

The two systems have no direct relationship; however, when two sets of ratings are compared more closely, they indirectly appear to agree. Science Applications rated WSAs within the resource area f2/c1 for oil and gas, except for Horseshoe Canyon WSA, which was rated f2/c2. These ratings imply the presence of small oil and gas fields with low levels of certainty.

With such low levels of certainty, assessment of the resource is open to interpretation. In the RMP, BLM's ratings for areas containing WSAs range from low to moderate. For oil and gas, BLM's interpretation is basically in agreement with that of Science Applications. For uranium resources, Science Applications rates two of the WSAs as f4/c4, two as f3/c4, one as f3/c3, one as f4/c2, and one as f2/c4. These ratings imply the presence of relatively large deposits with, in most cases, a relatively high degree of certainty; these ratings can be indirectly associated with the moderate to high ratings presented in the draft RMP/EIS.

10 Though it isn't likely it can be included as part of this planning effort, we would like to see the RMP serve as a catalyst for analyzing the San Rafael Swell for national conservation area status. The Swell deserves special recognition and protection of its unique and outstanding natural values. BLM should be leading the charge for that attention and protection.

Aside from our many concerns with the RMP, it cannot be said that the San Rafael Resource Area staff has not been totally cooperative and helpful during this process. We are very appreciative of the frankness and openness in which you have discussed the plan. We hope to continue this level of dialogue as comments are analyzed and the final plan is completed and implemented. If you have any questions concerning anything contained in this comment, please feel free to contact our office.

Sincerely,

George Nickes
Assistant Coordinator

Gary Macfarlane
Conservation Director

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[Comment pages 2 and 3]

9 BLM did not carry forward the nomination of San Rafael Swell as an ACEC (appendix B).

The recommendations contained in the "Conservation" alternative were addressed in alternatives C and D of the draft RMP/EIS. Based on the analysis in chapter 4 of the draft, it was determined that the management prescriptions contained in the preferred alternative would best resolve the resource conflicts identified during the public scoping process and meet the national policy of multiple use and sustained yield required by FLPMA.

The areas recommended for ACEC designation in Utah Wilderness Association's letter of May 19, 1987, were considered in appendix B. The Labyrinth and Horseshoe Canyon areas would be evaluated for ACEC status after the RMP is approved because it would involve a joint study with the Grand Resource Area, which would require a plan amendment for both resource areas.

10 BLM received numerous comments regarding a special designation for the San Rafael Swell. Given the vast interest in this concept, additional information has been added concerning a national designation. A new appendix (appendix W) describes what BLM believes would be a logical area and management direction for the San Rafael Swell, should a national designation be pursued by local, state, and national representatives and the public.

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RECREATION

Perhaps the most disappointing aspect of the draft RMP is its failure to recognize or address, in a substantive fashion, the existing major conflict on the San Rafael--the use of off-road vehicles and interactions between motorized and non-motorized recreation users. This is the issue that has drawn the most attention over the past several years on the San Rafael Swell. It is an issue that is attracting more attention on all public lands. The plan does make vehicle use classifications, but there is no discussion of how these classifications will effect the inherent conflicts between these incompatible
11 uses. In reality, the draft only ensures that the conflict will increase. It basically leaves the entire resource area available, either as open or limited, to ORV use and makes no provisions to assure there will be areas dedicated to non-motorized recreation uses

The plan claims that under Alternative F there will be approximately 293,200 acres meeting Primitive and SPNM ROS classes. That claim isn't supported by fact. The management prescriptions
12 provided in the draft plan close only 4,470 acres to ORVs. There is nothing in the plan that excludes vehicle use on 293,200 acres. Compare this to Alternative C which states that 345,360 acres will meet P and SPNM classes and backs it up by closing 491,740 acres to ORVs. Without specific closures there is no commitment to provide P and SPNM recreation opportunities

The draft inaccurately claims that Primitive and SPNM recreation opportunities would increase
13 under Alternative F. It supports this "increase" by comparing Alternative F to the expected outcome of Alternative A. However, the current situation as described in the draft (p. S-6) is that 366,910 acres meet P and SPNM classes Alternative F would reduce this acreage by 21% It is also misleading for the draft RMP to characterize the No Action alternative as placing 0 acres closed to ORVs. The existing MFP closed several areas to ORVs. Those closures simply haven't been
14 implemented. However, that is no different than the closures that will be proposed in whatever the final RMP recommends. Without implementation the acres closed will remain at 0 Alternative A should reflect those areas closed to ORVs in the MFP.

Several problems created by ORV use, such as displacement of non-motorized users, and damage to
15 soils and vegetation, are identified in the draft (p. 3-46). Additional problems exist including stress to bighorn sheep, muddying of water sources, trampling of T&E species (identified in the BLM Wilderness EIS, Volume VI, pp. 39-40, as a serious concern in the Mexican Mountain area, but this threat is not mentioned in the RMP), harrassment of livestock and other wildlife species, and damage/vandalism to cultural sites. Clearly, there are compelling reasons to control ORVs and prevent their use in many areas.

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[Comment page 4 (1)]

11 See the response to comment 44.

12 BLM has considered this comment and added management prescriptions for P- and SPNM-class areas to the proposed RMP, chapter 2, Recreation. The proposed RMP would close all P-class areas as closed to ORV use and limit ORV use in SPNM areas to designated roads and trails.

13 Based on management prescriptions for alternatives A and F, there would be more acres in the P and SPNM classes by the year 2000 under alternative F than under alternative A.

14 The management framework plan (MFP) recommended that Buckhorn Wash, Sids Mountain, Muddy River, Mexican Mountain, and Wild Horse Butte be closed to ORV use. Wild Horse Butte was closed until the State of Utah obtained a recreation and public purposes (R&PP) lease on the area. The remaining recommended closures were not implemented, awaiting a resource area ORV implementation plan.

15 See the responses to comments 44-3 and 44-6.

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Alternative C seems to resolve many of these conflicts without unnecessarily restricting access to many parts of the resource area. It closes 491,740 acres (30 percent of the RA) to ORVs. More importantly, it closes the "right" areas--WSAs which are primarily used by non-motorized users, crucial year long bighorn sheep habitat, and ACECs designed to preserve other natural values. By restricting ORVs to designated roads and trails on an additional 606,110 acres, Alternative C will significantly reduce soil erosion by 267,750 to 2 million tons per year (p. 4-39). There will be a corresponding decrease in salinity in the RA's major water courses. Other restrictions will protect winter wildlife habitat and antelope fawning grounds.

16 Conflicts between recreationists would also be solved under Alternative C, and the resolution would be equitable. Of the ten most popular recreation areas on the San Rafael Swell identified in the draft (p 3-46), only two, Sids Mtn. Complex and the San Rafael River Canyons, would be closed to ORVs. The other eight would be available for vehicle access, as would 70% of the entire RA. By closing the WSAs, the plan would protect existing recreation uses and head off what is threatening to become a major conflict. For example, according to the BLM Wilderness EIS the primary use of the San Rafael RA's WSAs is primitive recreation. In the case of Sids Mtn. and Horseshoe Canyon North there are 4,000 RVDs attributed to primitive recreation and only 500 RVDs attributed to motorized recreation. Outside of the areas closed in Alternative C there are extremely limited opportunities for primitive-type recreation on the San Rafael. To the contrary, there are hundreds of miles of roads through scenic terrain in the remainder of the RA that would be available to ORVs. The recommendation to not close a single significant area is the plan's major downfall.

17 Alternative D is preferable to Alternative C in addressing most of the conflicts created by ORVs However, because it closes nearly 1.3 million acres of the RA to vehicle use, we harbor no illusions that it will adopted by BLM. But it does point out a number of important facts. Alternative D would reduce the number of cultural sites damaged by 400%, reduce vegetative disturbance by a similar

18 magnitude, and significantly reduce soil loss and salt yield Not all of these benefits would accrue solely because of ORV restrictions, but the majority can be directly attributed to that

19 For vehicle restrictions the final RMP should adopt the recommendations in Alternative C with the following modifications: 1) the upper reaches of Lone Man Draw, Iron Wash and N Temple Wash should be closed to protect year long bighorn sheep habitat and provide for extended backpacking/horsepacking trips in these drainages, 2) San Rafael River, Muddy Creek and Green River corridors should be closed except where existing roads currently access these corridors; 3) the N. Temple/Iron Wash motorcycle trail system should be closed; 4) the remainder of the RA should be restricted to designated roads and trails; and 5) restrictions should apply to mechanized as well as motorized vehicles. Perhaps some vehicle trails could be restricted to mountain bikes only.

These recommendations, while not as restrictive as Alternative D, strike a balance between Alternative C which resolves many resource conflicts, and Alternative D which resolves nearly all

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[Comment page 5 (2)]

16 See the responses to comments 15-12, 44-3, and 44-6.

17 The comment is acknowledged.

18 See the response to comment 44.

19 In response to public comment, the Bureau has re-examined the ORV management prescriptions and associated impact analyses. The proposed RMP (chapter 2, Recreation Management) would increase to 151,770 the acres closed to ORV use and limit ORV use to designated roads and trails on 1,027,380acres.

conflicts except for the desire of vehicle users to enjoy vehicle access to nearly every portion of the public lands. The recommendations also ban cross-country travel which is the most damaging to soils and vegetation. They also assure that primitive and SPNM recreation opportunities are protected, not with a hollow promise as with BLM's proposed action, but with management prescriptions that implement the stated objectives.

20 The draft's recommendation to restrict ORVs to designated roads and trails on 711,840 acres is commendable and a positive step in vehicle management. Unfortunately, the criteria of "roads and trails" is very disquieting without a map showing where these roads and trails are. It simply leaves too much room for interpretation for decision-makers. The final plan should indicate where these "roads and trails" are located.

21 It is also difficult to assess the impacts of the various alternatives on recreation because the draft is too generic and makes faulty assumptions. For example, very little knowledge of what kind or how many RVDs per year occur in the RA, or to what degree the various alternatives will affect this. If Alternative D will meet the demand for motorized recreation, and given that it solves many other resource problems, then perhaps its vehicle use recommendations should be adopted in the final plan. Unfortunately, the draft RMP and EIS do not contain the information necessary to make these decisions or to assess the tradeoffs.

22 The draft also assumes recreation use will increase 20 to 30 percent between 1985 and 2000 (p. 3-44). We suspect it has already increased by more than 30% since 1985! The San Rafael Swell, in particular, is no longer the hidden treasure it was just a decade ago. Use is increasing dramatically and the San Rafael's proximity to the Wasatch Front will only exacerbate the situation in the future. Also, many magazine articles, books and guides are focussing a lot of attention on the San Rafael. It is safe to say much of the increased use will be hiking, backpacking, horsepacking and other primitive uses. More accurate assumptions need to be used in preparing the final RMP.

23 The motorcycle trail system and CMA must be reanalyzed in the context of the RMP. Mistakenly, the draft treats the trail system as a foregone conclusion under all alternatives. That should not be the case. The trail system has never been analyzed in a larger context and if it was it couldn't stand up to an objective analysis.

24 The motorcycle trail system creates unacceptable impacts for bighorn sheep. This was recognized by BLM in the EA that was prepared for the trail system (EA No. UT-067-84-33). At the time the EA was developed, BLM recognized that the trail overlapped bighorn sheep habitat. The EA confirmed that bighorn sheep had been spotted in the area (North Temple Wash) but questioned whether the habitat was critical. That question is answered in the RMP. A good part of the trail system is located in crucial yearlong bighorn sheep habitat.

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[Comment page 6 (3)]

20 Given the large size of the resource area and the extent of the area where ORV use would be limited to designated roads and trails, a draft ORV implementation plan (appendix L) would be prepared for formal public review. The final ORV implementation plan would be announced in the Federal Register within 1 year after approval of the RMP.

21 BLM acknowledges that visitor data are not available (draft RMP/EIS, pages 3-44 and 3-47). BLM is confident that the analysis with a 30 percent expected increase in recreation activity is sufficient to address recreation impacts.

22 See the response to comment 15-21.

23 The activity plan and its environmental assessment (EA) were reviewed and found to address adequately impacts to bighorn sheep. The motorcycle trail system may be re-evaluated as part of the ORV implementation plan or the San Rafael Swell SRMA activity-planning process.

24 The trail system does not affect the crucial habitat of desert bighorn sheep. It overlaps yearlong habitat. Impacts to the bighorn habitat would be monitored; if necessary, action would be taken to mitigate identified impacts.

25 The location of the trail system is questionable from a recreation standpoint. Having hiked much of the system, it is clear that it is not designed with the "average" rider in mind. Many sections are extremely difficult and probably dangerous for less-than-expert riders. This was born out by the fact that when I hiked the trail several months (and at least one "Easter season") after it had been established, fewer than ten motorbikes had used it. There may be a need and justification for a motorcycle trail system on the San Rafael. But, without question, if a land manager was to start from scratch in developing such a system this area would not have been selected. The RMP needs to analyze the system in this context, with an eye toward solving a problem not creating one. The existing trail system should be closed and if a trail system is deemed necessary, a more suitable location should be found. There has never been a need shown for a motorcycle trail system on the San Rafael, let alone on this site

Also, the way in which this trail system was established must be questioned, as should follow-up actions by the person responsible. The trail was originally established illegally and without authorization from BLM. Construction included damage to public resources. One year after the trail system was approved, the applicant, again without authorization, erected several large wooden signs in many canyons along the Reef. The signs "warned" cyclists of potential wilderness designation. This kind of behavior deserves reprimand, not encouragement from BLM

26 Another issue lacking discussion in the draft is the growing demand for commercial outfitter/guide permits. The draft does mention this increasing demand, but does not analyze the impacts of this phenomenon on other users or the resource. It is possible, for example, using models from other rivers to determine when the social carrying capacity might be exceeded on the San Rafael or Green rivers, rivers that are seeing a rapid increase in use. Horsepacking and backpacking use pose similar problems especially with larger groups. The RMP needs to anticipate these inevitable problems and plan for them rather than react after the problem develops. That is the purpose of planning. The RMP should set limits on the number of commercial outfitters and the size of groups (both commercial and private).

27 More analysis and consideration needs to be given to developed recreation opportunities. We share BLM's concern for upgrading the San Rafael Campground and improvements at other sites to reduce human waste and trash. The draft proposes to develop or expand recreation sites at the San Rafael Campground, Justensen Flats, Tomsich Butte, the Wedge, and Swasey Cabin. What level of development is proposed at each of these sites and when are these developments budgeted for and expected to be completed? What are the priorities and how will these particular proposals reduce user conflicts in the RA? These issues should be addressed in the final plan.

28 All of this points to a suggestion UWA made some time ago: The RMP should be accompanied by a comprehensive recreation plan for the San Rafael Swell. Obviously, this isn't going to happen in the

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[Comment page 7 (4)]

25 Safety considerations for the trail are an administrative concern and therefore not appropriate for resolution through the planning system. They will, however, be addressed in activity-level planning after the RMP is final.

26 Specific recreation management actions will be addressed in activity planning after the RMP is final.

27 Site-specific activity plans for these improvements would be developed after the RMP is finalized (draft RMP/EIS, page 2-8).

28 A site-specific recreation management plan would be prepared for the San Rafael Swell SRMA following adoption of the RMP (draft RMP/EIS, page 2-8).

short turn around time anticipated between the draft and final RMP. But at least the RMP should initiate the process of preparing such a plan. The recreation plan could address many of the issues raised above, and highlight the recreation values of the Swell, rather than ignore them in planning as has been done for the past 40 years.

WILD AND SCENIC RIVERS

BLM has done an excellent job in determining "wild and scenic" eligibility and potential classification for segments of the San Rafael River, Muddy Creek, and Green River. There are two short segments, however, that are recommeded for "scenic" classification that should be classified "wild".

29 On the San Rafael River, the river segment from the Mexican Mountain WSA boundary near Red Canyon to Lockhart Wash should be classified "wild". By definition, if it is within a WSA it must meet wild river criteria. It is true that ORV impacts are occuring on part of this stretch, but BLM must recognize that if those impacts are significant enough to disqualify the segment from "wild" classification, then the interim management policy for protecting WSAs has been violated. The wild river classification must be expanded and the ORV impacts eliminated through an ORV closure and rehabilitation, if necessary.

30 On Muddy Creek, the 4-mile long river segment from Hidden Splendor to where the river exits the Reef, should be classified as "wild". This is a fantastic section of river and in describing the extent of human impacts in the corridor the RMP states, "[f]aint 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."

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[Comment page 8 (5)]

29 BLM does not believe that the WSA naturally assumes wild classification for river segments. The existing jeep trail, which lies west of Lockhart Wash on the river's south side, is visible from the river area.

The suitability study/EIS would determine (1) the suitability of the river segments for designation to the wild and scenic river system and (2) whether the potential classification of each river segment is correct. Under the proposed RMP, ORV use in that area would be limited to designated roads and trails.

30 See the response to comment 15-29.

SOILS/VEGETATION/GRAZING

The proposals for grazing and vegetation management to protect sensitive soils and watersheds in the RMP contain many positive recommendations. However, significant improvements need to be made in Alternative F to make more balanced allocations which recognize the unique values in the San Rafael and protect basic resources--soil, water and vegetation. Grazing of domestic livestock can no longer play the dominent role on the public lands. It is only one use and must be managed with other resources in mind.

Array of Alternatives

One major concern with the livestock grazing proposals is the limited range of alternatives presented for grazing. It is true the allocation of forage has some variability, ranging from 44,000 to 96,000 AUMs. However, the plan did not choose to analyze a no-grazing alternative. Such an alternative ought to be analyzed to provide a comparison which to judge the other alternatives

31 Although the BLM maintains a no-grazing alternative is not required (page 2-5) based upon a recent court case (NRDC et al. v. Hodel), other court cases indicate a no-grazing alternative ought to be included {NRDC v. Morton (1972) and NRDC v. Morton (1974)}. Furthermore, the issue is not whether a no-grazing alternative is "infeasible or unreasonable," it is the importance of providing an analysis of no-grazing for scientific and comparison purposes. The last paragraph on page 2-5 makes no sense. Why doesn't a no grazing alternative provide an environmental baseline given that much of the resource area may eventually return to pre-grazing condition? To dismiss important analytical alternatives as merely "speculative analysis" is antithetical to the purposes of NEPA and FLPMA.

32 Most dissapointing with the array of alternatives is the similar amount of grazing land under each alternative (page S-5). The least amount of acreage grazed is 1,523,630 acres, the most is 1,620,820, hardly an array of alternatives as is requried by the CEQ regualtions. There is only a 6% difference in acreage grazed, less than 100,000 from the most to the least grazed alternative.

33 A real array of alternatives would consider eliminating bighorn sheep habitat, other crucial wildlife habitat, critical watersheds, T&E plant species areas and important riparian areas from the grazing base under certain alternatives. For example, Alt. C, as the wildlife alternative, should have as a goal to eliminate all domestic livestock grazing in crucial bighorn sheep habitat. In any case, much of the above described terrain would be classified as unsuitable to domestic livestock because of the rugged nature of the land.

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[Comment page 9 (6)]

31 A no-grazing alternative was not analyzed because it was not thought to be reasonable. BLM is under no obligation to assess a no-grazing alternative where livestock grazing is a historic use in the area, and where this type of alternative would be infeasible and unreasonable (Natural Resources Defense Council, Inc., et al. v. Hodel, 624 F. Supp. 1045 (D. Nev. 1985). Further, the current situation (draft RMP/EIS, table S-4, page S-5) presents the environmental baseline against the impacts BLM chose to measure. Where past grazing has already occurred, a no-grazing alternative does not present a baseline, as suggested in this comment; rather, it presents a speculative scenario based on the abolition of an existing use.

32 See the response to comment 3-31.

33 BLM believes the steps described in alternative C would be adequate to protect wildlife habitat and nonmotorized recreation pursuits.

Ecological Range Condition

The current ecological range condition in the Resource Area is of serious concern. Most allotments have more than half their acreage in poor to fair condition. The RMP notes that 56% of the range is in poor to fair condition and only 9% is in excellent condition. That must change.

34 Unfortunately, there is very little change in current range condition under Alternative F (Appendix R). That is one of the major failings of the RMP and is the major failing of past range management on the San Rafael. We recognize that secondary succession comes slowly, if at all, on arid desert ranges. However, the goals should be to improve all allotments in less than satisfactory condition. Allotments should be all moving in an upward condition.

35 The draft RMP is unclear as to how projected ecological conditions in the various alternatives were calculated (Appendix R). Were the projections based upon grazing at projected preference or projected actual use? The distinction is important in understanding the basic assumptions that have gone into the analysis of environmental impacts.

36 For the most part, the allotment categorization is quite good. However, we have some suggestions that should be adopted for certain allotments. Critical allotments--those inside our recommended ACECs and those which contain crucial wildlife, watershed/soils, archaeological and vegetation (T&E plants)--should all be placed within the I category because of the potential grazing conflict with other resources. This places the emphasis on properly managing grazing in those allotments. Factors other than ecological condition alone should play a major role in allotment categorization.

Therefore, we have some specific recommendations. Black Dragon, Big Pond, Georges Draw, Taylor Flat and Temple Mountain are all along the Reef which is an important area for recreation/aesthetics, bighorn sheep and T&E plants. Although these allotments, for the most part, are in good condition, they should become "I" allotments because of the importance of the other resources. McKay Flat, in the southern part of the Swell should also be placed in the "I" category. Head of Sinbad, McCarty Canyon, Mesquite Wash and South Sids should become "I" category allotments because they are within the Sids Mtn. ACEC (Head of Sinbad is partially within the I-70 ACEC) and contain the most important bighorn sheep habitat in the resource area.

Range Management

The past history of the administration of range management on the San Rafael has been quite poor. Only 20 of the 101 allotments have had monitoring studies for more than five years. Yet, the BLM maintains that monitoring is essential before needed changes in grazing management can be made.

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[Comment page 10 (7)]

34 It was necessary to make assumptions (appendix R) to estimate the ecological status of allotments by the year 2000 under each of the alternatives. As the comment states, secondary succession does come slowly in desert ranges, and by the year 2000, very little change to ecological status would be measurable under any management prescription. Ecological status does not equate with range condition (i.e., good, fair, or excellent) but simply refers to where the vegetation is in relation to its natural progression toward climax or the potential natural community (PNC).

The general assumptions used were that allotment management plans (AMPs) and the elimination of spring grazing would improve ecological status, and the absence of an AMP would cause a decline. The projected ecological status was based on grazing at the upper allowable level (active preference). The ecological status shown in appendix R (table R-1) for alternatives A through F is not the condition for which the range would be managed. The desired ecological status would vary by allotment, as well as by individual ecological site. It is not always desireable to achieve a late seral stage, because, in some instances, forage for both livestock and big game would be more desirable at a lower ecological status.

35 See the response to comment 15-34.

36 Based on evaluation of resource values and conflicts, BLM believes the current categories are proper. BLM reviews allotment management categories periodically and changes them when needed (appendix G).

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37 Only 17 allotments have allotment management plans (AMPs) and only 6 of those AMPs are actually being followed or will be retained under alternative F (page 2-41). Every allotment should have an AMP and the most critical allotments should be prioritized to receive allotment planning first. AMPs are more than just documents for allotments with conflicts or problems. In fact, their primary purpose is range management direction, permit stipulations and other obligations the permittees and BLM must meet to comply with the public trust.

38 To protect the vegetation and improve the range condition, we recommend that no spring grazing occur in the resource area, except in allotments with grazing systems (i.e. rest rotation) where it can be shown the range condition can improve. We also recognize allotments comprised of crested wheatgrass monocultures could be grazed every spring without doing much harm. (NOTE: For other suggestions, see the wildlife section)

39 We have some questions about managing the allotments requiring base waters--Horseshoe South, Horseshoe North, Iron Wash and Sweetwater Allotments. What are they? What are the 6,472 "base water" AUMs? Is the water on private land (there appears to be private land only in the Iron Wash Allotment)? If not, does BLM maintain any water rights on these allotments?

40 We recognize the utilization standards on page 2-36 are only general guidelines and give needed flexibility for different allotments in varying range conditions. However, we suggest that no standards above 50% utilization be adopted anywhere (except crested wheatgrass seeding monocultures). That figure is the generally accepted upper limit in range management. Shrubs are different than grasses and are less tolerant of grazing. Utilization standards, even in winter, should be lower for shrubs than grasses. BLM should monitor utilization during the grazing season, not just at the end of the season (see Appendix page 136) to avoid overuse during critical conditions such as drought. It is poor management practice to leave all utilization studies until after the grazing season.

41 The BLM must maintain an aggressive program of permit compliance and range monitoring. Permit violations must be stopped and restitution made. If drought conditions occur, the agency must have the flexibility to act by shortening or eliminating grazing seasons.

42 The BLM should adopt a policy of leaving vacant allotments vacant when they contain important wildlife resources and transferring livestock out of areas where conflicts exist. Three allotments--Cox (Don), Justesen and Horseshoe South--have had no use, according to Appendix I, for the past five years. Since Horseshoe South is an important recreational, wildlife and archaeological area, it ought to be closed to use. Also, large contiguous blocks of unused and unsuitable terrain should

43 be removed from allotment boundaries. Ironically, BLM recognizes the importance of the ungrazed San Rafael Reef (Appendix B) and proposes it as an ACEC to protect important areas, "from grazing

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37 Allotments were identified for AMPs (appendix I) because of potential or existing conflicts. Additional AMPs may be pursued as the need arises; an AMP is not a prerequisite to proper range management.

38 Grazing may be changed from spring to winter in allotments with 50 percent or more critical soils, but all changes must be based on rangeland monitoring (appendix N). Other allotments may have changes in spring grazing as a result of rangeland monitoring. Many of the proposed AMPs may implement a grazing system to provide periodic spring rest and allow plant vigor and ecological status to increase. The AMPs would be based on the actual conditions and needs of the individual allotments.

39 Base water is water that is suitable for consumption by livestock and is available and accessible to the authorized livestock when the public lands are used for livestock grazing.

A service area was established around each water, and the grazing capacity within the service area was allotted to the holder of the base water. These grazing privileges are authorized in much the same way as are those based on land. Both private individuals and BLM maintain water rights on these allotments.

40 These comments have been taken into account; the upper limit for summer, fall, and winter utilization has been changed to 50 percent (proposed RMP, chapter 2, Grazing Management).

Utilization is monitored during the grazing season on high-priority allotments (appendix H).

41 BLM appreciates the commentor's concern about user compliance with grazing licenses. BLM makes every effort to enforce the grazing regulations. The regulations provide for adjustments in active use for conditions such as drought, fire, flood, or insect infestation (43 CFR 4110.303(c)).

42 Federal laws and regulations establish methods for closing areas to grazing. Although unsuitable grazing land is included within the boundaries of an allotment, it is not given a grazing value and consequently is not figured as part of the allotment's carrying capacity.

43 Because the relict vegetation areas within San Rafael Swell ACEC are inaccessible to livestock, changing allotment boundaries would have no effect.

and surface disturbance that could destroy their value as a botanical preserve and comparison area." However, no proposal to adjust allotment boundaries to eliminate grazing in the San Rafael Reef ACEC is proposed under any alternative.

44 Grazing must be managed to recognize the other resources on the San Rafael. Areas need to be closed to grazing to protect important wildlife habitat (see wildlife section). Crucial watersheds and riparian areas need protection and conflicts with recreationists and archaeological resources must be avoided. Important archaeological sites should be fenced or excluded from livestock impacts. Unsuitable areas and unused areas should not be included in forage allocation projections. Because of the San Rafael's

45 preponderance of unique, endemic and T&E plant species, those species need to be protected. Finally, livestock AUMs should be reduced to what is actually used--the gap between preference and actual use should be closed.

Soils

46 The proposal to protect soil and watershed values through evaluating the season of use is quite good. However, the RMP does not make commitments that such changes will actually be implemented. Allotments with more than 50% critical soils, as defined in Appendix N, should require a change in season of use, reductions or elimination of livestock grazing depending on the situation. Those with significant portions of critical soils, (25 to 50%) should adopt grazing systems or adjust allotment boundaries to protect the soil resource.

47 One of the unique features of the San Rafael is the cryptogamic soil. This important soil stabilizer and indicator of ecological health has gone unnoticed in the draft RMP. Grazing management should protect and enhance the formation of cryptogamic soils.

Riparian Areas

One of the most important resources on the San Rafael is the riparian resource. The draft RMP indicates that only 14,770 acres of riparian habitat are found in a resource area over 1,500,000 acres in size. The importance of riparian areas for wildlife, recreation and cultural resources can't be over-emphasized.

48 One of the major problems with the RMP is the lack of information giving the current ecological/range condition for riparian vegetation. Given the BLM's recent commitment to riparian management evidenced by the recent riparian workshop in St. George, the plan should provide for protection of riparian areas. Great promises for better management were made but actions speak louder than words. We're watching the San Rafael to see if BLM is committed to action or talk.

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44 See the response to comment 15-42. Based on the analysis in chapter 4 of the draft RMP/EIS, BLM believes that the management prescriptions in the preferred alternative would best resolve the resource conflicts identified during the public scoping process and meet FLPMA's multiple-use and sustained-yield requirements.

45 Adjustments in AUMs would be made only from active preference based on rangeland monitoring and would not affect total preference (43 CFR 4110.3-2).

46 In areas determined to be exceeding the SCS critical soil loss threshold, and in a downward trend, a change in livestock management may be necessary. This could be a change in grazing season, reduction in livestock numbers, implementation of a grazing system, or some other management that would provide some protection of critical soils areas (appendix N). Reductions would be based on rangeland monitoring. Changes in management can occur as data become available.

47 BLM recognizes that cryptogamic cover is extremely sensitive to surface disturbance (draft RMP/EIS, page 3-18). Cryptogamic cover is a soil resource and would be considered under standard operating procedures for surface-disturbing activities.

48 See the response to comment 15-3.

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49 Also, the map in the RMP (vol. 2, page 75) excludes many perennial water sources which contain riparian vegetation. For example, Horseshoe Canyon contains the perennial Barrier Creek and 2,500 acres of riparian vegetation (BLM draft wilderness EIS, vol. V, pages 9 and 10 of the Horseshoe Canyon WSA (North)) The final RMP must do an adequate job in identifying riparian areas.

50 We recommend that all allotments with riparian areas have separate utilization studies for those areas. For example, the Saddle Horse allotment is in very good condition according to the RMP; however, our experience has shown that riparian areas in the wash bottom in Saddle Horse Canyon are filled with Russian thistle and under cottonwood tree groves little vegetation is found. Also, BLM policy in Utah permits no livestock utilization in excess of 50% in riparian areas (IM UT 87-261) on areas in good condition and the policy states, "If the area is in poor condition to begin with, the utilization will probably need to be much less."

Unfortunately, most riparian areas in the resource area are in allotments without grazing systems or fences. Therefore, livestock use, particularly cattle, is too heavy in the riparian areas The final RMP must make recommendations to either exclude livestock, establish grazing sytems or establish very short seasons so that the utilization standards on riparian areas can be met. It is not acceptable to have heavy utilization in riparian areas to get 50% utilization in uplands If utilization is only taking place in riparian areas in allotments then the carrying capacity and allocation must be based on what is being used. It is not possible to maintain the utilization standards (for uplands) in the draft RMP and comply with riparian management policy.

The importance of riparian areas requires the BLM to manage them in the publics' interests. The same old management will not work and is not acceptable to the publics who own the land

Vegetation Scientific Study Areas (see also the ACEC section)

51 We support BLM's recommendation for the Bowknot Bend and Flat Tops ACECs and believe other important areas should be considered for scientific study. BLM should recognize that most of the resource area has been grazed and that any ungrazed areas of truly relict vegetation are rare, if non-existent. It is important that near natural areas be considered for comparison areas in the absence of any truly ungrazed sites. Areas that may have been lightly grazed or only grazed for a few years since the arrival of white man still offer important scientific values.

52 The Gilson Buttes Sand Dunes do contain a unique plant community on sandy soils. Welsh's documentation clearly shows that the vegetation on the dunes, though somewhat similar to surrounding areas, is nonetheless endemic to the San Rafael Desert. Also, BLM indicates in the MSA that, "Due to the lack of water, the Gilson Buttes area is only slightly used by livestock." Therefore, it would make an outstanding ACEC candidate.

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49 Barrier Creek (map 75) is included in the riparian habitat acreage (draft RMP/EIS, page 3-36). The riparian habitat on the map is not continuous because of the mapping system used. For display purposes, the geographic information system (GIS) uses 10-acre cells, and habitat within the cell is not displayed unless it equals or exceeds 5 acres. Riparian habitat management however, would be based on actual riparian areas. The riparian acreage in the WSA includes the Green River, which makes up most of the 2,500 acres.

50 If inventories show that livestock grazing is contributing to the degradation of the riparian habitat, specific management actions would be developed and implemented through activity plans to address livestock utilization, numbers, grazing systems, and seasons of use.

51 BLM appreciates this statement of support. See appendix B for a discussion of Gilson Buttes and Hebes Mountain.

52 See the response to comment 15-51.

53 The Hebes Mountain area deserves closer evaluation to determine if ecological values do exist. It is an isolated mountain top and was orginally considered by BLM for ACEC status in the MSA (see page 2-186 of the MSA). The Nature Conservancy recommended the area for RNA status in 1986.

54 Other sites, included in ACECs for other resources, ought to be considered for vegetative ACEC designation. For example, the North Sids Mountain allotment is 100% (see Appendix R) in Potential Natural Community, or climax. Even though the area is lightly grazed by recreational stock (horses),

55 it should be considered for ACEC designation. Keesle Country should be reconsidered for ACEC status. It is included in the Scenic Muddy Creek ACEC and may have been used by sheep in the past. However, there is apparently no current grazing and the Nature Conservancy considers the area as a potential RNA.

56 The biggest problem with vegetation ACECs is the sad history, filled with BLM mismanagement, of the Link Flats ISA. Link Flats was administratively designated in the mid 1960s by BLM to protect unique vegetation values. Ironically, BLM allowed grazing to continue and constructed a stock pond in the Link Flats ISA in 1974. Although BLM felt shortly after the area had been designated for protection that it really didn't warrant that protection, it was never protected as it was supposed to be nor was the protective designation rescinded. That sends a signal to the public that the laws under which our national treasures are managed will not be followed. It is an indictment of BLM's apparently insubordinate attitude toward the public lands the agency manages in trust for the citizens of the United States.

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53 See the response to comment 15-51.

54 BLM considered many areas for ACEC designations. ACECs that were selected for reasons other than vegetation are protected from most intrusions except grazing. Because these areas are currently being grazed, the vegetation cannot be considered relict.

55 See the response to comment 15-54. The Keesle Country area was not found to qualify as a relict vegetation area (appendix B).

56 Link Flats Instant Study Area (ISA) does not contain any ecologically unique rangeland values. Grazing has taken place in the area since at least the 1950s. In 1969 and 1970 the Price District Manager stated that Link Flats should be dropped from consideration as a natural area because the plant association was a grazing climax, not an ungrazed association of plants.

WILDLIFE

Wildlife is one of the most important public concerns in Utah as evidenced by a recent survey, conducted by Utah State University for the Utah Division of Wildlife Resources (Utah Residents' Opinions About Wildlife and Wildlife Resource Management, Richard S. Krannich Ph.D. and Donald T. Chundy, Ph.D., February 10, 1987). That survey shows overwhelming support for wildlife and protection of wildlife habitat. The San Rafael Resource Area contains critically important wildlife habitat, particularly for desert bighorn sheep. it is unfortunate the San Rafeal RMP does not recognize wildlife as a critical resource and basically continues the status quo--a sure prescription for problems.

57 One of the major failings of the draft is the complete omission of any discussion of non-game mammalian species (except the potential for the endangered black footed ferret) and most bird species. The San Rafael RA is home to several species of canid, felid and mustelid predators including mountain lions, kit foxes and badgers. The plan inadequately discusses habitat requirements,

58 populations, potential threats and management implications for these species. Furthermore, the plan contains little information about avian species, with the exception of raptors. What are the habitat requirements, populations and management implications for avian species including upland game birds, waterfowl (they exist along the Green River and other riparian areas) and passerines?

59 The draft RMP does a commendable job in identifying raptor nesting sites and proposing guidelines for their protection. However, how will raptor nesting sites be protected from February 15 to June 15? Will mineral lease stipulations require seasonal or no-surface-occupancy stipulations? Will ORV closures be placed on these areas? Will nesting areas be withdrawn from mineral entry? The RMP is not specific as to how these sites will be protected and how management will deal with changes in raptor nesting areas.

60 A question we have with the draft RMP is the fact no forage is allocated to wildlife although forage is allocated to livestock. We recognize the BLM is moving away from a strict definition of allocation of AUMs for livestock and wild horse and burro management (see BLM Manual, 1622.31 A.3.e. and 1622.41 A.3.b.). However, those same regulations require that RMPs, "contain criteria or other information to show how increases or decreases in available forage will be apportioned among competing uses following the procedures described in 43 CFR 4110." Are we to assume that any increases in forage will be allocated in a specific AMP? Are we to assume that adequate forage will be provided for wildlife numbers whether they increase, decrease or remain static? Are we to assume that livestock numbers will be reduced if forage is utilized in excess?

The RMP includes considerable discussion about big game species in the resource area. After reviewing the information about big game, we have several question and concerns.

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57 See the response to comment 15-2. No estimate of predator populations is available. At this time, there is no known threat to these species, nor do they provide any implications for management.

58 See the response to comment 15-2. Upland game birds (primarily chukar) and waterfowl found within the resource area rely heavily upon watercourses (riparian habitat). Management of the riparian habitat will consider these species.

59 Permitted activities and ORV use with 0.5 mile of active nest sites would be restricted during the nesting season (February 1 to August 15 annually) under the proposed RMP (chapter 2, Habitat Management). This would restrict all permitted events, such as oil and gas development, mineral lease development, and ORV use. Mineral entry was not found to affect raptor nests, since the major nesting areas do not have high mineral potential. Nest sites would be considered further in the ORV implementation plan.

60 The RMP does not allocate forage to wildlife, but it does set priority for competing uses. The criteria for apportioning additional forage were described in the draft RMP/EIS, page 2-37. Adjustments in forage use levels may be made at the activity-plan level or at any time deemed necessary as a result of rangeland monitoring (draft RMP/EIS, page 2-36).

61 Of primary concern to the Utah Wilderness Association is the desert bighorn sheep herds in the SRRA. The map on page 71 indicates bighorn sheep are found only along the San Rafael Swell. What about Labyrinth Canyon on the Green River and side canyons such as Horseshoe Canyon? The BLM Wilderness draft EIS indicates that desert bighorn sheep "may frequent" the Horseshoe Canyon North WSA.

62 How were the projected bighorn sheep numbers under the various alternatives computed (S-5)? Given that Alternative C is the wildlife alternative, why didn't the alternative show a number closer to the UDWR prior stable population (2,920 bighorns)? The 860 bighorn sheep projected for alternative C is little different than the 800 predicted for Alternative F. It is clear the array of alternatives do not meet the CEQ regulations and management when every alternative is biased toward resources such as livestock grazing and mineral development rather than wildlife. It is not surprising that there is little difference in projected bighorn numbers under the various alternatives because there is no real array of alternatives for acres of land grazed by livestock, a major conflict with bighorn sheep (see Grazing section).

63 The major problem with the RMP's recommendations for bighorn sheep is the inadequate protection offered these species. All crucial habitat remains in grazing allotments under Alternative F. Yet, Georges Draw, Taylor Flat and Big Pond allotments are grazed by domestic sheep and found within bighorn sheep habitat. Goodson (1982) noted that, "[C]o-use of ranges by domestic and bighorn sheep has been consistently linked with declines, dieoffs, and extinctions of bighorn populations from historical to recent times" (Effects of Domestic Sheep Grazing on Bighorn Sheep Populations: A review. In Biannual Symposium and Goat Council, 3:287-313.) Goodson further states that the evidence about competition between bighorns and domestic sheep is, "...sufficiently strong to have prompted management decisions against co-use of ranges by bighorn and domestic sheep by federal land management agencies and state wildlife departments."

The RMP maintains on page 4-97 that disease transmission would be reduced under all alternatives except Alternative B. How will this be done if large areas are not closed to grazing or removed from allotments?

We suggest the BLM eliminate domestic sheep from crucial bighorn range in the above referenced allotments and adjust allotment boundaries in the San Rafael Swell to eliminate terrain that is unsuitable or only marginally suited for livestock. If what the BLM maintains on page 4-97 is true, the adjustment should not adversely affect domestic livestock because the rough areas of the Reef itself, around Muddy Creek, and in the Sids Mountain region are not used or suitable for either domestic sheep or cattle. Furthermore, the BLM needs to take action to prevent co-use by domestic sheep and bighorns in critical watering areas by preventing livestock from entering the canyons that cut through the Reef.

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[Comment page 16 (13)]

61 No information is available on desert bighorn sheep distribution or numbers in these areas. BLM will inventory and address desert bighorn sheep management in the cooperative study for Labyrinth and Horseshoe Canyon ACECs.

62 Because bighorn sheep were reintroduced to SRRA as recently as 1978, and have not yet occupied all of the available habitat, they are not expected to achieve prior stable numbers by the year 2000. Populations are expected to increase under any of the alternatives until they come in contact with limiting factors.

BLM has reviewed the alternatives and and believes they meet the Council on Environmental Quality (CEQ) guidelines. The closeness of the bighorn numbers in each alternative is attributable to the biological potential of the bighorn rather than to the lack of a sufficient array of alternatives.

63 A management prescription was added to the proposed RMP, chapter 2, Habitat Management, to prohibit a change in kind from cattle to domestic sheep within the bighorn habitat. BLM believes this action and the development of waters would prevent disease transmission from livestock and bighorn sheep.

The impact analysis (draft RMP/EIS, chapter 4) showed that interaction between livestock and bighorn would be reduced through changes in seasons of use and reductions in levels of livestock use. The reduction in interaction was found to reduce the potential for disease transmission (draft RMP/EIS, page 4-88). BLM will consider unsuitable or marginally suitable livestock use areas at the activity-plan level.

64 The goal should be to eliminate the chance of disease transmission between domestic livestock and bighorn sheep. When allotments become vacant in bighorn habitat, they should remain so. When opportunities arise to transfer livestock out of bighorn habitat to newly vacant allotments, it should be done.

65 Mineral leasing and location should be prohibited in bighorn sheep habitat. In the definitive work on desert bighorns, The Desert Bighorn: Its Life History, Ecology and Management, Monson and Sumner, it is noted, "Of all the activities which have brought man into desert bighorn habitat, mineral exploration and development seem to have been the single greatest adverse factor." The expert biological information clearly shows mineral development is incompatible with desert bighorn sheep. Therefore, all bighorn habitat should be closed to mineral entry and closed to leasing (see also the minerals section). This should cause little adverse impact because the San Rafael Swell is rated low for oil and gas (RMP map 78) and uranium is an unlikely prospect (see Appendix 3: UWA Wilderness EIS comments for more information). The fact that the area has a "low" mineral rating does not diminish the urgency to withdraw important bighorn sheep habitat from mineral activity. There is always someone willing to "bet the farm" on a marginal mineral prospect. In just the past few years we have seen proposals to explore for copper, gold, and now glass sands within bighorn ranges. Hoping nothing will happen is not good enough. BLM must take direct measures to prohibit these kinds of activities.

66 Lastly, bighorn sheep must be isolated from motorized activity (see Appendix 2). Studies have shown that bighorns are extremely sensitive to motor vehicle disturbance. Bighorn habitat should be closed to ORVs and only exisitng roads should be left open. It is of critical importance to close vehicle routes through the Sids Mtn. area (the San Rafael's premier bighorn range) and the illegally constructed Temple Mountain motorcycle trail as it, too, is within crucial bighorn habitat.

Desert bighorn sheep are an extremely rare and sensitive species. Only 1500 inhabit Utah's public lands according to BLM's public land statistics. Given their extreme value to the state for both consumptive and non-consumptive uses, utmost attention must be paid to their habitat requirements.

67 The RMP is not clear as to where critical fawning areas for antelope are located and how these areas are to be protected. Map 72 indicates habitat areas but not crucial habitat. All crucial habitat should be off limits to ORVs, mineral leasing and mineral location to prevent harm to antelope populations during critical times.

68 Crucial elk and deer winter range should be closed to ORV and snowmobile use to prevent stress. These areas should carry, at a minimum, a no-surface-occupancy stipulation for mineral leasing. Future coal leasing in critical habtitat should only be allowed if no on-site impacts would occur (coal

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64 See the response to comment 15-63.

The allotments currently grazing domestic sheep would not be required to change to cattle, but if they do convert to cattle, they would not be allowed to change back.

65 Crucial bighorn sheep habitat contains areas of low and moderate potential for oil and gas and areas of high potential for gypsum and uranium. Most of the crucial bighorn sheep habitat is under category 3 (no surface occupancy) or category 4 (no lease) for oil and gas leasing. Also, most of the area either is withdrawn or segregated from mineral entry or requires a plan of operation for mining claim activity. Impacts to the remaining 9,080 acres of crucial habitat were reviewed in chapter 4 of the final EIS, and BLM concluded that seasonal restrictions would adequately protect the resource.

66 BLM is confident that the changes in ORV designations in the proposed RMP adequately address the needs of bighorn sheep.

See also the response to comment 15-24.

67 Antelope fawning habitat locations are unknown at the present time. However, under the proposed RMP, all antelope habitat would be inventoried to identify fawning areas. Fawning and general habitat would be managed according to the management prescription presented in the draft RMP/EIS, page 2-73.

68 The proposed RMP would close crucial elk and deer winter range to surface-disturbing activities and use of ORVs (including snowmobiles) during the winter use period (generally December 1 to April 15) (draft RMP/EIS, page 2-73). The proposed RMP would also impose seasonal restrictions to prevent mineral leasing activities while the deer and elk are present. The offsite mitigation requirement would prevent any surface-disturbing activity from having a long-term effect on the habitat.

There is no critical habitat identified within the known recoverable coal resource area (KRCRA). Crucial deer and elk habitat within the KRCRA is addressed under coal unsuitability criterion 15, appendix F.

Crucial elk and deer winter habitat was considered during the categorization process, and those allotments having serious conflicts (over half the crucial habitat for deer and elk) were placed in allotment management category I (improve). The remaining crucial habitat area is not believed to have serious conflict. The allotments and their categories are listed in appendix G.

68 portals, miner entries etc. should be located outside of critical winter range). In addition, these allotments should be classed as category "I"

Wildlife values have historically been subordinated to livestock grazing on public lands. In the past few years (technically since FLPMA), the agency has issued grandiose statements and directives for managing wildlife on an equal basis with other resources (for example see the BLM publication, Fish and Wildlife 2000, A Plan for the Future). Unfortunately, when faced with tough decisions BLM abandons its lofty goals and returns to business as usual. The draft San Rafael RMP is no exception.

MINERALS

The RMP devotes considerable attention to the various mineral resources and federal mineral permitting processes found in the San Rafael Resource Area. It is important that analysis take place, but the indication in the RMP (page 3-5) show that no oil is being produced in the SRRA and only 44,738 mcf of gas is being produced. It is important to recognize since the potential for economic recovery of mineral resources is low and the value of other resources is high, the management plan for the San Rafael Resource Area must take that fact into account.

69

However, the RMP disappoints in this critical aspect. Most of the resource area is wide open to mineral development without adequate environmental restrictions. For example, the area proposed for NSO or no-lease (oil/gas) in Alternative F is even less acreage than the current situation. This recommendation was made despite the significant level of public concern in recent years for preserving the natural values of the San Rafael Swell.

The analysis of impacts from mineral development/leasing is inadequate. Appendix S lists only 230 acres disturbed by producing oil and gas wells, 480 acres from geophysical exploration and 90 acres from mineral exploration. However, over one million acres of land will be open to this kind of use. Clearly, the assumptions and the analysis contained in chapter 4 of the draft RMP do not meet the CEQ regulations or the NEPA tests for judging worst case scenarios.

70

Oil/Gas

The oil and gas potential map on page 78 brings to light two important points. First, it shows that most of the resource area is low or moderate for oil and gas potential. That rating may, in fact, be rather high as no oil at all is being produced within the San Rafael Resource Area. Also, the question must be asked where the information for this map came from? Is it industry information or does it represent some verifiable data gathered by BLM geologists? If it is the latter, we would like that information or report from which that information was obtained.

71

Second, regardless of the information upon which the map is based, it shows that conflicts between oil/gas and natural values are largely non-existent. An area of prime concern is the San Rafael Swell itself. This entire area is rated as low for oil and gas potential. (NOTE: the difficulty in reading the map makes us unsure of the boundary delineation between low and moderate potential on the west of the Swell in the Sids Mountain WSA) That is certainly confirmed by the SAI studies done for BLM for the BLM wilderness EIS. The Labyrinth Canyon, Horseshoe Canyon and Dry Lakes areas, also of great concern to the Utah Wilderness Association because of their outstanding natural values, are only rated as moderate for oil and gas potential by the map. The SAI report for Horseshoe Canyon North would indicate a lower rating (low) for oil and gas in Horseshoe Canyon.

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[Comment page 19 (16)]

69 BLM is obligated to apply the least restrictive level of stipulations to oil and gas leases necessary to resolve resource conflicts (76 IBLA 395 (1983)). The area under category 4 (no lease) in the proposed RMP (chapter 2, Oil and Gas Management) is 66,880 acres, which is less than is currently under category 4. Category 3 (no surface occupancy) lands would be increased to 228,050 acres.

70 Impacts are seldom known with any certainty and must be based on certain assumptions (draft RMP/EIS, page 4-2). The scenarios for oil and gas leasing, geophysical exploration, and locatable minerals activities were developed from planning area files containing data on past and current activity.

The acres in appendix S are not the total disturbance that would be caused by an activity, but rather the amount of land that would remain unreclaimed by the year 2000 because of ongoing use or unsuccessful reclamation. Oil and gas activity would disturb a total of 600 acres by the year 2000; geophysical exploration, 1,440 acres; and locatable minerals, 240 acres (draft RMP/EIS, page 4-3).

BLM is confident that it has met NEPA requirements and CEQ guidelines.

71 The information for the oil and gas resource assessment came from many sources, including published geologic guidebooks and periodicals, district and resource office oil and gas files, state oil and gas records, industry sources, and the geologists' personal knowledge of the area. The information did not come from a single source or report. These various sources of information were analyzed and used to prepare the oil and gas section of the MSA. The reference section from the MSA has been brought forward and included in the RMP, based on this comment. The MSA is available for review in the Moab District and SRRA offices.

Given the fact that current production of oil is non-existent and the fact the area has received low mineral ratings, it is incomprehensible that BLM only proposed to prohibit leasing on 4,970 acres of sensitive land. We suggest the entire San Rafael Swell, Green River Corridor, Dry Lakes archaeological district, critical wildife habitat and our proposed ACECs be closed to leasing.

72 Direction (76 IBLA 395)) which BLM interprets as requiring the least restrictive oil and gas stipulations be applied to protect the resource does not excuse the agency from practicing balanced multiple use management as required by FLPMA and a host of other laws, nor does it restrict BLM from protecting the natural values in the San Rafael Resource Area. Deusing v. Udall clearly points out leasing is discretionary and Conner v Burford and the 1987 Oil Leasing Reform Act re-emphasizes the decision-making processes, including NEPA, that must be used in making lease decisions. In any case, leasing sensitive resources like bighorn sheep habitat, archaeological treasures, undeveloped recreational terrain, and T&E plant sites does not protect the resource. Even leases with an NSO stipulation, because that stipulation can be waved, do not provide the minimum protection necessary for these areas (see BLM Manual 1624.21A.1.d. and 1624.22C.). Unless you want an oil field in an area, don't lease it!

73 The caveat in the plan which allows the NSO stipulation to be waived in ACECs established for scenic values defeats the purpose for issuing an NSO lease. It should be removed in the final RMP. We recognize there are provisions in BLM regulations for waving this stipulation, but it should not be applicable in these areas.

Tar Sands

This resource, like the oil and gas resource, is of very limited importance in the SRRA. Even though a tar sands EIS was done because of the presence of oil-impregnated rocks, development is highly unlikely due to the small size of the deposits. SAI noted for the Mexican Mountain WSA that there are a, "[m]ultitude of problems associated with development of oil-impregnated rock deposits. . ." Hydrocarbon leases of any kind should not be issued for ACECs or other sensitive lands.

74 We have two important questions regarding tar sands. First, we have no record in our files of a final decision ever being released on the San Rafael Swell Combined Hydrocarbon Lease Conversion Final Environmental Assessment (August 1985) on which we submitted comments. Was it ever finalized? Second, why weren't tar sands discussed in the draft RMP? Development of tar sands is different than oil and gas although they are both leaseable hydrocarbons.

Locatable Minerals

With the exception of uranium and vanadium, most of the San Rafael Resource Area is devoid of commercially developable quantities of locatable minerals. Thus it only makes sense to propose to

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[Comment page 20 (17)]

72 BLM does not agree that the no-surface-occupancy stipulation would not protect other resource values. The exception would be granted only where the no-surface-occupancy stipulation was applied to protect scenic values, and only when a site-specific EA concluded that the proposed action would not adversely affect those scenic values.

73 See the response to comment 15-72.

74 The record of decision was issued October 3, 1985, and two combined hydrocarbon leases (CHLs) were issued as a result.

Tar sand is addressed in the oil and gas section (draft RMP/EIS, pages 3-1 through 3-7). The draft RMP/EIS did not assume any tar sand production was. A clarifying statement has been added to the final EIS, chapter 4, Introduction, Analysis Assumptions.

withdrew from location ACECs and other sensitive areas. In so doing, shortsighted proposals like mining for glass sands inside the San Rafael Reef WSA or gold and copper exploration in the Sids Mtn. WSA can be avoided. Proactive resource management would dictate closing sensitive areas before extremely dubious and potentially damaging proposals like these come forth. Only 4,970 acres are
75 proposed to be closed to location in the draft RMP. Given the important resources that can be harmed by mineral activities (wildlife, cultural and archaeological resources) and the lack of potential for locatable minerals over much of the resource area, it only makes sense to significantly increase the areas proposed for withdrawal in the draft RMP.

Uranium and vanadium are found in the resource area. Yet, the draft RMP overplays their importance. Map 79 indicates areas of high uranium potential. This map conflicts with previous BLM information.

For example, the map shows much of the Sids Mountain and the San Rafael Reef as having a high potential for uranium. However, the SAI reports indicate uranium potential for these areas are f2 and
76 f3 (low to moderate). Even in areas of the Swell where uranium potential is higher, production is unlikely because, "[u]ranium in this area (and elsewhere in the United States) is uneconomical to extract. . ." SAI further notes much of the area has already seen uranium exploration and production (see also Appendix 2)

Page 3-15 of the draft RMP states what is perhaps the best summary of the value of uranium in the resource area. "Essentially no production of uranium from the planning area has occurred since 1985."

The natural values of the San Rafael are locally and natioanlly known. It has been proposed as a national park and contains a variety of features rarely seen in other areas, even those on the Colorado Plateau. Therefore, proposing to withdraw the areas we have recommended and supported for ACEC
77 status would be the highest and best use for those areas. Even then, a majority of the resource area would be open to mineral entry.

Coal

The western portion of the resource area has considerable coal development and production. The appendices and map volume also indicate areas suitable for leasing. However, the RMP does not make
78 it clear whether this planning process will recommend new areas for coal leasing.

We have some questions about the coal resource in the SRRA. Will new areas for leasing be recommended in the final RMP? If so, have formal determinations and consultations with the Fish and Wildlife Service as required by the Endangered Species Act taken place (see coal leasing criterion #9)?

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[Comment page 21 (18)]

75 In response to public comment, BLM has reviewed the impacts of mining on sensitive resource values. In the proposed RMP, 66,880 acres would be proposed for withdrawal or segregation from entry.

76 The term "mineral potential" used in the draft RMP/EIS is the potential for mineral occurrence, not mineral development. Mineral potential is based on geology, stratigraphy, and other physical characteristics, and would not change because of economic fluctuations. It might change if new information became available. The Science Applications, Inc. study defines an f2 area as containing less then 500 tons of uranium oxide, while an f3 area contains 500 to 1000 tons of uranium oxide. Both areas have a certainty rating of c4 or high certainty that ore will be found in an area. Thus, there would be a high potential for the occurrence of uranium ore deposits in both the San Rafael Reef and Sids Mountain, but a low to moderate potential for actual development.

77 See the response to comment 15-75.

78 The draft RMP/EIS (page 2-16) states that only the two established identifiable coal deposit areas (Wasatch and Emery) have potential for coal development. Unsuitability criteria were applied only to these areas. Leasing by application only could occur on lands that have been analyzed using the criteria. Unsuitability criterion 9 was discussed with the U.S. Fish and Wildlife Service (USFWS) (appendix F).

79 The responses to coal leasing criteria 11, 12, 13 and 14 seem to be either contradictory or confusing (see Appendix F). First, why has BLM determined there are no golden eagle roost concentration areas yet 11 active nests exist in the KRCRAs? Second, there is no conclusion to criterion 14 (migratory birds of high interest) which calls for unsuitability determinations in important habitat. Why? Third, the analysis on criterion 13 is confusing. Are the five active falcon nests in the KRCRAs prairie falcons, peregrine falcons (a T&E species) or merlins? Lastly, no areas were declared unsuitable for mining based upon multiple-use tradeoffs. It must be remembered that minerals are not the dominant use on public lands and that mitigation, a justification for finding no areas unacceptable for leasing, is not synonomous with protection.

Material Minerals

80 We have a couple of brief comments and questions about mineral materials (sand, gravel etc.). Why are over one million acres of land available for mineral materials under Alternative F when the RMP indicates on page 3-9 that this material is found throughout the planning area? Map 22 shows a community pit near Tomsich Butte. Doesn't such a distant location from population centers contradict the direction on page 3-12 that community pits are to be located in strategic areas? Also, how did the Tomsich Butte location escape the conflict criterion found on page 3-12?

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[Comment page 22 (19)]

79 Unsuitability criteria 11, 12, 13, and 14 all relate to different aspects of raptor habitat. As criterion 11 states, the identifiable coal deposit areas contain 11 active golden eagle nests. However, this should not be construed to mean these areas serve as roost or concentration areas during wintering or migration. The conclusion for criterion 14 is found under criteria 9, 11, and 12. The text has been changed to show that five active prairie falcon nests exist within the identifiable coal deposit areas.

The multiple use trade-offs screen was applied to the potential coal areas (identifiable coal deposit areas) with the assumption that the areas could be developed and mined using only underground mining methods (appendix F). Conflicts with other resources can be mitigated when coal is mined underground. BLM has assessed these trade-offs and has determined that other resources can be protected.

80 Mineral materials occur throughout the planning area, but a given type of mineral material such as building stone, clay, or sand and gravel may be limited in extent. The most common mineral materials are fill dirt and rock.

The strategic geographic location must include availability of material to be sold. An EA was completed on the Red's Canyon community pit near Tomsich Butte, and mitigating measures were developed to resolve conflicts with other resources.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

81 UWA supports designation of the 13 ACECs proposed in Alternative F of the RMP. We feel that in many instances the boundaries should be expanded to better represent the resources deserving protection, that additional ACECs should be designated, and that management prescriptions need strengthening to adequately protect important resources. For the San Rafael Swell, Alternative C goes a long way toward reaching these objectives. It is not sufficient, however, for protecting Labyrinth and Horseshoe Canyon ACEC nominations along the eastern boundary of the Resource Area

82 **1. Bowknot Bend:** We support BLM's recommendation for designating and managing the 1,830-acre Bowknot Bend ACEC.

83 **2. Hebes Mountain:** We question the decision to not include Hebes Mountain (960 acres) as an ACEC. Because there appears to be some controversy over the presence of relict vegetation on Hebes Mountain, we encourage BLM to further investigate that possibility. If relict vegetation is confirmed, then Hebes Mountain should be designated as an ACEC.

84 **3. Big Flat Tops:** We support BLM's recommendation for designating and managing the 2,640-acre Big Flat Tops ACEC.

85 **4. San Rafael Reef:** BLM's recommended ACEC should be expanded as shown on the map accompanying Appendix I of this comment. This addition includes crucial year long bighorn sheep habitat and known bighorn sheep use areas, riparian habitat, and likely contains all or some of the eight candidate, proposed endangered, or endangered plant species that have been identified in or near the San Rafael Reef WSA (BLM Wilderness EIS, Volume VI, p. 10).

Because of these natural values and the recreation potential of the Reef, the "vegetation and scenic values" classification should also include "biological, T & E species, and recreation values" as resources the ACEC is designed to protect.

The EIS actually argues for enlarging the ACEC and including biological values as needing protection. In the rationale for the San Rafael Reef ACEC the EIS states, "[t]he area also has specific value as lambing and rutting areas for Utah's second largest population of bighorn sheep, a nationally important species" (EIS p. 91). It doesn't make sense, therefore, to exclude areas from the ACEC that are crucial or known bighorn sheep use areas.

86 The stipulations for managing the ACEC need strengthening by closing the area to ORV use, mineral leasing, and withdrawal from mineral entry. Again the EIS argues, "These values [bighorn sheep] need protection from conflicting land uses that could remove or decrease essential habitat components

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81 As a result of public comment, the Horseshoe Canyon and Green River Corridor will be evaluated for ACEC status following approval of the RMP, because it would involve a joint study with the Grand Resource Area which would require a plan amendment for both resouce areas. See appendix B.

82 BLM appreciates this statement of support for designating Bowknot Bend as an ACEC.

83 Based on additional evaluation, Hebes Mountain is not recommended for ACEC designation. See appendix B.

84 BLM appreciates this statement of support for designating the Big Flat Tops as an ACEC.

85 The proposed boundary for the San Rafael Reef ACEC contains the majority of the crucial desert bighorn sheep habitat in the area.

Current protection measures for the federally listed plants have been considered sufficient to ensure the survival of the species. Because of the protection currently afforded T/E plants and crucial bighorn sheep habitat, it was not considered necessary to include them in the ACEC designation.

86 The management prescriptions proposed for the San Rafael Reef North ACEC include closure to oil and gas leasing, proposed withdrawal from mineral entry, and closure to ORV use (proposed RMP, chapter 3). Expansion of the ACEC is not believed necessary, as most of the values mentioned are protected by law or some other level of restriction.

or displace bighorn sheep" (p. 91). Obviously ORV use and mineral development are "conflicting land uses that could remove or decrease essential habitat components or displace bighorn sheep" In one portion of the additional lands recommended for ACEC status this displacement is occuring. It is the result of the motorcycle trail system that was established in 1985.

87 **5. Dry Lake Archaeological District:** We support BLM's recommendation for a 16,990-acre ACEC. ORVs should be restricted to designated roads, the ACEC should be placed in Category 3 (NSO) for leasing and withdrawn from mineral entry. These management prescriptions are necessary to protect the area from the "grave danger of piecemeal disturbance" that BLM recognizes the area faces.

88 **6. Gilson Buttes:** We disagree with the decision to not designate Gilson Buttes as an ACEC. Several unique endemic plants have been described in the MSA and the area contains unique and fragile soil properties. While it might be true that some of these endemic plants are found in other parts of the San Rafael Desert, they are not included in any ACECs. Establishing a 1,750-acre Gilson Buttes ACEC would help preserve a site for these unique vegetative values

89 **7. Highway I-70 Scenic Corridor:** We support BLM's recommendation to designate this ACEC. The corridor should be placed in Category 4 (No Lease) and withdrawn from mineral entry. Oil and gas development or mining operations would destroy the scenic qualities the ACEC is designed to protect.

90 **8. Muddy Creek:** BLM's recommended ACEC should be expanded as shown on the attached map (Appendix 1) This includes adding the Segers Hole ACEC to the Muddy Creek ACEC The expanded boundary would include all of the Muddy Creek WSA which in its entirety is a spectacular scenic resource. Five candidate, one proposed, and two listed endangered plant species are found within the Muddy Creek WSA and surrounding lands (BLM Wilderness EIS, Volume VI, p. 8). The additional acreage also includes crucial yearlong bighorn sheep habitat and a population of bighorn sheep.

Because of these values and the presence of the wild and scenic river candidate Muddy Creek, the ACEC should be designated as a scenic, biological, recreational, and T & E species ACEC.

91 The management prescriptions for the Muddy Creek ACEC should close the area to ORV use, place it in Category 4 (No Lease), and withdraw it from mineral entry. Mineral development or ORV use is inconsistent with providing a quality primitive recreation experience, and would jeopardize bighorn sheep and T & E plant species. This recommendation is similar to Alternative C for this ACEC

92 **9. San Rafael Canyon:** The 58,510-acre ACEC proposed in Alternative C should be adopted in the final RMP. The San Rafael River corridor is becoming extremely popular for hiking, backpacking, rafting, tubing, canoeing and kayaking. The ACEC should be closed to mineral leasing, mining, and

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[Comment page 24 (21)]

87 Elimination of other uses is not necessary to protect the cultural resource values in Dry Lake ACEC. The study proposed in the draft RMP/EIS (page 2-44) would collect that information so that other uses would not be a conflict in the ACEC. The preferred alternative would, however, limit ORV use to designated roads and trails.

88 Based on public comment, Gilson Buttes will be reconsidered for ACEC designation following further evaluation. See appendix B.

89 BLM appreciates this statement of support for the I-70 Scenic Corridor ACEC. Through the impact analysis in the draft RMP/EIS (chapter 4), the ACEC restrictions were found to be the lowest levels required to maintain and protect the resource values.

90 In response to public comment, BLM has reviewed the impacts, and the proposed RMP includes the following changes: Muddy Creek ACEC would be in leasing category 3 (with no exception), and the ROS P-class areas would be closed to ORV use.

Expansion of the ACEC is not deemed necessary based on the impact analysis in the draft RMP/EIS (chapter 4). Restrictions are listed in the proposed RMP (chapter 2, Recreation and Visual Resource Management (VRM)). See also the response to comment 15-85, paragraph 2.

91 See the response to comment 15-90.

92 In response to public comment, BLM has reviewed the impacts, and the prescriptions in the proposed RMP have been changed as follows: the Upper and Lower San Rafael Canyon ACECs would be in leasing category 3 (with no exception), proposed for withdrawal from mineral entry, and closed to ORV use.

ORVs except on existing roads. Those portions within the Sids Mtn. and Mexican Mtn. WSAs should obviously be closed to ORVs. Mineral development or further ORV damage will render these sections of the river unsuitable for "wild" river status

93 **10. Sids Mountain:** Alternative C's ACEC boundary is preferred because it also includes the UWA-proposed Devils Canyon ACEC. The resource use restrictions in Alternative C should be adopted in the final RMP

94 Sids Mountain WSA is the most crucial area deserving special protection on the San Rafael. It contains exceedingly rare biological values including Utah's second largest desert bighorn sheep population (Sids Mtn. has become a nursery for other reintroductions), two listed endangered plant species, possibly six candidate or proposed endangered plants (BLM Wilderness EIS, Volume VI, p. 14), significant areas where the vegetation is rated in "excellent" or "PNC" condition, and 18 miles of the San Rafael River and numerous other perennial water sources. Sids Mountain's numerous long canyons form the San Rafael's most extensive canyon system. These attributes are attracting a burgeoning primitive recreation constituency.

95 To protect these values it is essential that the Sids Mountain ACEC be closed to mineral leasing, withdrawn from mineral entry, and closed to vehicle use. The rationale provided in the EIS for establishing a San Rafael Reef ACEC should be applied here as well since the Sids Mountain area contains the San Rafael's largest bighorn sheep population, and it is far more threatened than is the population along the Reef. The ACEC should be designated as a biological, vegetation, recreation, and scenic values ACEC.

96 UWA provided BLM with a list of 13 ACEC nominations in February 1988. We are submitting them again along with a map for your consideration (see Appendix 1) We are disappointed that several of these nominations were not even considered in the draft RMP and sincerely hope they are not overlooked in the final plan. In particular, we encourage BLM to give special attention to the San Rafael Swell ACEC nomination.

97 The caveat that allows NSO stipulations to be waived within scenic values ACECs should be dropped from the plan. Surface-disturbing mineral activity would not be consistent with the VRM Class I status of these ACECs. It would also allow for destruction of other important values in these areas. Primitive and SPNM recreation opportunities would be lost, as would crucial bighorn sheep habitat.

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93 The Devils Canyon portion of Sids Mountain ACEC was considered but rejected based on the rationale contained in appendix B.

94 BLM is confident that the proposed RMP would provide adequate protection for the special values within the Sids Mountain WSA if Congress releases the area from wilderness review without designating it as wilderness.

95 See the response to comment 15-94.

96 See the responses to comments 15-9 and 15-10.

97 See the responses to comments 15-72, 15-92 and 15-94.

WILDERNESS STUDY AREAS

There is an undisputable inconsistency between the draft RMP and the Utah BLM Statewide Wilderness EIS. There are seven WSAs (excluding Link Flats ISA) totalling 251,895 acres in the SRRA. BLM has recommended six of these WSAs (240,000 acres) as "suitable" for wilderness designation. UWA has proposed 346,000 acres of the SRRA within these six WSAs for wilderness designation.

98 It is inconceivable how BLM can recommend these areas for wilderness designation in the wilderness EIS, but propose a management scheme in the RMP/EIS that allows mineral leasing, mining and vehicle use throughout these areas. At a minimum, the RMP should recommend management prescriptions for "suitable" WSAs that will protect those values and uses that a wilderness recommendation would provide. Unlike a wilderness designation, these areas would not be placed forever off-limits to other uses. Rather, BLM would be saying that for this planning period it believes these values are worth preserving on 240,000 acres of the Resource Area. For the purposes of this RMP, and consistent with BLM's desire to protect these areas and uses as spelled out in the Wilderness EIS, it is irrelevant what congress ultimately decides on the wilderness question. In our comments on the Wilderness EIS, UWA provided extensive justification for preserving these six proposed wildernesses. We are including that comment here as part of our rationale for preserving these areas in their natural condition (Appendix 3).

The inconsistency between these two plans would be glaring if the wilderness issue was being considered in conjunction with the RMP as is occurring in most states. The fact they are being considered seperately does not dismiss the need to maintain consistency in the recommendations. Imagine the confusion if the RMP was recommending an area for wilderness designation and, concurrently, recommending the area be left open for mineral development and vehicle use. Yet that's what the RMP does.

99 The chart on p. 2-53, Volume I, does not accurately reflect the number of acres protected within ACECs and should be corrected. For example, the chart indicates that only 67,680 acres of the Sids Mtn. WSA is within an ACEC. However, additional WSA-acreage is included in the San Rafael Canyon and Highway I-70 Scenic Corridor ACECs. The portion of the Sids Mtn. WSA that is within a nominated ACEC is actually closer to 80,000 acres. Other such discrepancies may exist on the chart.

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[Comment page 26 (23)]

98 BLM agrees that the WSAs contain important resource values; however, under the principles of multiple use and sustained yield, preservation may or may not be the highest and best use of those lands. Based on the scoping and public input processes and on the resulting analysis of alternatives A through F, BLM is confident that management prescriptions contained in the proposed RMP would adequately provide both for resource use and for the protection of important values.

99 The chart in the draft RMP/EIS (page 2-53) is correct. Acres from San Rafael Canyon and I-70 Scenic Corridor ACECs are included in the ACEC acreages.

CULTURAL RESOURCES

The San Rafael Resource Area is rich in archaeological and historical resources. Not only are the various rock art sites in the Buckhorn Wash area popular visitor sites, but recent cultural resource studies have pointed to the importance of this area for Fremont and other cultures. (see BLM publications The Tar Sands Project: An Inventory and Predictive Model for Central and Southern Utah by Betsy L. Tipps, Cultural Resource Series No. 22; and The Castle Valley Archaeological Project: An Inventory and Predictive Model of Selected Tracts, Kevin D. Black and Michael D. Metcalf, Cultural Resource Series No. 19) The draft RMP does not take the necessary measures or approach to properly manage and preserve this important resource.

100 One of the major problems with the RMP is the omission of cultural resources as a planning issue (1-2). This is an extremely perplexing oversite of the Moab District that has been repeated in the San Rafael draft RMP as it was in San Juan draft RMP. Cultural Resources should be identified as an issue in the final plan as this concern meets the regulatory definition of an issue and is of prime importance in the San Rafael Resource Area (see 43 CFR 1610.4-1).

101 The biggest threat to archaeological and historical resources in the San Rafael Resource Area and particularly on the San Rafael Swell is ORV use. Page 2-10 of the document indicates that all areas subject to surface disturbance that have not been previously inventoried for cultural resources must be inventoried prior to starting the activity, but makes no provision for this. It further states that both direct and indirect damage will be curtailed without eliminating valid existing rights. Since ORV use is not and never has been a valid existing right, how does the BLM intend to protect cultural resources in areas open to ORVs? Obviously it can't be done without closing or restricting ORVs to designated roads over most if not all of the resource area. Pages 3-42 thru 3-43 clearly demonstrate the problems with direct and indirect impacts of permitted use and unrestricted use, such as ORVs. Yet the plan provides little protection for cultural resources. For example, less than one percent of the resource area is closed to ORVs, grazing and mineral leasing/location.

102 Appendix U (page 237) assumes that 1 in 10 sites in areas available for ORV use will be damaged Upon what data is this based? The appendix indicates that people (including ORVs) concentrate in probable cultural resource areas; therefore the expected damage from ORVs ought to be higher. It may be a good approach to assume that sites are randomly distibuted for the purposes of estimating site density, however, sites are clustered in favorable areas, the same ones ORVers, hikers and cattle use.

103 Appendix U also assumes that 1 in 100 cultural sites will be impacted due to grazing. Again, cattle and humans, both historic and pre-historic, use[d] the same areas. Also, secondary impacts from erosion as a result of grazing could cause more than 1 in 100 sites to be damaged given the resource area's propensity for critical soils as documented in the draft RMP.

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100 See the response to comment 3-2, paragraphs 2 and 3.

101 See the response to comment 13-9.

102 Assumptions in appendix U are the result of BLM staff experience in the area over the past 10 years. BLM is confident that impacts to cultural resources are adequately addressed with these assumptions.

103 See the response to comment 15-102.

104 The RMP is unclear as to the number of extant cultural sites in the resource area and the assumptions of the number being lost. It is assumed that about 6,700 sites will be destroyed over a 12 year period, anywhere from 1500 - 2500 sites would be available for use and approximately 75,000 sites are said to exist in the resource area (see pages S-6, 4-16 and 237).

First, by averaging professional archaeological information presented by Black and Metcalf it appears that there are about 9 sites per square mile, and that the total number of sites is much less than half the assumed number in the plan. Where does the assumption in the RMP come from? Using the more conservative figure, all the archaeological sites could be destroyed in the next fifty or so years!

105 Second, if the loss estimates presented in the plan are correct, BLM's direction certainly does not live up to the planning criteria from FLPMA which requires consideration of the relative scarcity of the values involved and a weighing of long-term versue short-term benefits (see page 1-6 of the RMP for the FLPMA criteria). It is quite obvious the destruction of a critical non-renewable resource will continue at an alarming rate under alternative F. Besides not complying with FLPMA planning direction, it does not meet the National Historic Preservation Act of 1966 and subsequent amendments which require the agencies to preserve "historical and cultural foundations of the nation. . .as a living part of community life and development."

106 We have some questions about the management of cultural resources proposed in the RMP. What does it mean that the cultural resource inventories and mapping will be done administratively (1-6)? What is the anticipated funding, and what if money is not available?

107 What about sites that are considered eligible but not already listed in the National Register of Historic Places? Information in the reports by Black, Metcalf and Tipps indicate that there are more than 100 such sites identified by those archaeologists. These sites should be protected by the plan. The BLM should also add to the list of eligible properties by consulting other professional archaeologists and organizations and available literature.

108 Where does the rationale for listing 20% of the resource areas's sites as conservation sites and the criteria for selecting those come from (2-44 and 2-45)? The 20% figure may be too low, particularly if that is the minimum for a representative sample. Future archaeologists may not want to investigate those last remaining 20% of the sites, fearing that their methods are not yet advanced enough and that they may actually cause damage. Also, sites could easily be destroyed before being discovered. Therefore, protecting more than the 20% of known sites is important because 20% of the known sites does not reflect 20% of the sites in the resource area.

The criteria for the selection of conservation areas should be changed. Criterion # 1 needs to be expanded to include a representative sample of sites of all ages, all cultures and all site functions

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[Comment page 28 (25)]

104 See the response to comment 13-8.

105 BLM is confident that the proposed RMP and final EIS meets the requirements of FLPMA and the National Historic Preservation Act. See also the response to comment 3-7.

106 BLM is required to inventory all cultural resources. That is not a planning decision draft RMP/EIS, page I-4). The timing of such inventory, along with the priority of staffing and funding, will be resolved by BLM, the Department of Interior, and Congress.

107 All known sites would be protected under this plan (draft RMP/EIS, pages 2-44 and 2-45). BLM maintains a file of known sites including those listed or eligible for listing in the National Register of Historic Places. Sites documented by the referenced authors are in those files.

108 The rationale for placing 20 percent of all known sites in the conservation category comes from a sampling study, which shows that accuracy increases sharply at first as sample size is increased, but drops off with subsequent increases. The MSA specifically identified the Elk Ridge Archaeological Project by Evan DeBloois as the reference to support the 20 percent figure. The conservation category is used to protect sites until they become the last remaining sites. In order to use these sites, archaeological methods would have to be advanced enough that the destruction of a site would be offset by a significant addition to the body of knowledge about the area's archaeology. Because these are to be the last sites remaining, they need to be a representative sample (cultural affiliation, age, function, etc.). This is one reason the sample is not random. Criterion 2 recognizes that many sites have been damaged and that if a site is to be one of the last remaining sites, it should have enough values left to make the effort of saving it worthwhile. BLM recognizes that criterion 3 helps bias the sample, but so does the present nature of the resource itself. However, biased samples can be worked with. If similar sites are present outside an area of conflict, it would be irresponsible to intensify that conflict by selecting those where conflict is expected. The latitude to exchange a site in the conservation category recognizes that sites can be vandalized or otherwise threatened even though they are in a protective status. Once a site loses its value, it should no longer be conserved just because it is in that category; another would be selected to replace it, if possible.

As with all BLM activities, currently available professional input would be sought from regional research designs, professional organizations such as Utah Professional Archaeological Council, and the most recent research reports from the area as well as the Utah State Historic Preservation Office (draft RMP/EIS, pages 2-10 and 2-11).

109 Criterion #3 defeats the purpose of selecting sites. By avoiding areas with conflicts, a representative sample may not be chosen. As has been pointed out in this comment, archaeological sites are clustered in areas of current human and livestock use.

The BLM should consult with other professional archaeologists before determining what appropriate informational study entails (2-45). The agency needs the benefit of outside professional and public advice.

110 The BLM has not studied all potential archaeological ACECs and alternative F chooses only one prehistoric ACEC, other than pictograph panels, for ACEC status. Although the selection of the Dry Lake ACEC is positive, it only represents one geographic area. Other clusters of sites, including Tan Seep, Sids Draw, Lockhart Draw, Oil Well Draw, Taylor Flat, Link Flats, Sagebrush Flat and the Dike, have been identified in a BLM publication by Tipps as important. BLM should include those areas as ACECs (they are included in the UWA San Rafael Swell ACEC recommendation).

111 It is obvious too many sites are being destroyed. Although many of the measures to protect and manage archaeological resources (see pages 2-44 and 2-45) are positive, the funding levels appear inadequate (page 2-7). ORV use is a major threat to sites and can destroy sites that have never been discovered. If 80% of the sites are going to be available for destruction, how will BLM ensure the other 20% are protected given the current funding projections? The RMP needs to be revised to strengthen necessary archaeological provisions.

RESPONSE TO COMMENT 15 — UTAH WILDERNESS ASSOCIATION

[Comment page 29 (26)]

109 See the response to comment 15-108.

110 Although all archaeological sites could likely meet the literal requirements of an ACEC, the management objectives and direction in the final EIS (chapter 2, Cultural Resource Management) would provide the framework to manage most sites without special management of an ACEC. The archaeological ACECs were identified not only for their value, but also to resolve conflicts among cultural values and their objectives; for example, the pictographs have a conflict between public use and information potential.

111 BLM is confident that the provisions of the proposed RMP are adequate to manage all cultural resources in the planning area. The proposed RMP assumes that funding would be available to implement the plan. See also the response to comment 3-7.

VISUAL RESOURCES

The San Rafael Resource Area represents one of the most stunning, scenic landscapes managed by the BLM. A report prepared by Utah State University's Institute for the Study of Outdoor Recreation and Tourism describes the San Rafael's scenic values in this way:

"The most significant aspect of the geography of the San Rafael Swell is its superlative canyonlands landscapes. The scenery of the San Rafael Swell is superior to many of the better recognized canyon country areas to the south. It is comparable to the scenic quality of Canyonlands and Capitol Reef National Parks and is perhaps superior to that of Arches National Park." (Land Use in the Utah Canyon Country: tourism, interstate 70, and the san rafael swell, Phase II, Final Report, Royer and Dalton, 1972.)

Only Alternative C portrays a recognition on BLM's part of the superlative scenic values of the San Rafael. Even at that, the management prescriptions assigned to Class I Visual Resource Management areas do not protect these scenic values and they appear inconsistent with direction in the BLM Manual Handbook (H-8410-1).

112 According to the Handbook, "[m]anagement decisions in RMPs must reflect the value of visual resources" (H-8410-1, p.6). How can the San Rafael RMP meet this requirement when the EIS indicates BLM expects many incompatible actions related to mineral development and grazing will occur in Class I VRM areas (RMP/EIS Appendix V)? What is the purpose of VRM classes or Visual Quality Objectives if they can be blatently and consistently violated? In order to at least retain some integrity for VRM classifications would it not be better to simply place the entire resource area in Class III or Class IV, since actions that are incompatible with these classifications are not expected or proposed to occur?

113 There is ample justification in the Handbook for establishing realistic VRM classes, and for using these classes in management decisions. The BLM Manual (H-8410-1, p. 6) states, "[t]he assignment of visual management classes is ultimately based on the management decisions made in RMP's." The Manual goes on to state, "[i]n fact, the value of the visual resource may be the driving force for some management decisions." Therefore, it is entirely justifiable and imperative that the RMP prohibit incompatible activities. All VRM Class I areas must be placed in Category 4 for mineral leasing, withdrawn from mineral entry, and off limits to ROW construction and other management activities that would impair these pristing landscapes.

114 ACECs established on the basis of scenic values must be placed in Category 3 (NSO) or Category 4 for mineral leasing and withdrawn from mineral entry. The stipulation in the draft RMP that allows NSO requirements to be waived should not apply to scenic ACECs. It is incompatible to allow any oil

RESPONSE TO COMMENT 15 UTAH WILDERNESS ASSOCIATION

[Comment page 30 (27)]

112 Appendix V describes, by activity, development scenarios and resulting actions expected to occur within the VRM classes under each alternative. These actions were analyzed with regard to estimated VRM impacts anticipated over a 15-year period, in order to compare the effects of the VRM management prescriptions for each alternative. Appendix V does not attempt to judge the acceptability of the impacts, nor does it imply approval of the actions.

113 BLM believes the management prescriptions as outlined in the proposed RMP would adequately protect VRM class I areas.

114 In the proposed RMP, all scenic ACECs in leasing categories 3 and 4 would be managed as VRM class I. See also the response to comment 15-72.

and gas activity within these areas or any Class I VRM area (see Appendix V, draft EIS). It is misleading at best for BLM to give the illusion that visual quality objectives are important when, in reality, they are playing no role in management decisions. The VRM classifications recommended by Alternative C should be adopted and management prescriptions applied that will insure the San Rafael's extraordinary landscapes are not diminished.

15 The final RMP/EIS needs to better define how visual resources are being used in this planning effort. Given BLM's obvious intentions to allow VQOs and VRM classifications to be consistently violated, it is completely unclear why the visual resource issue is even carried beyond the inventory phase.

WATER

The plan does not discuss in any detail potential water development projects. The map on page 39 raises questions about potential dam sites and about the extent of public water withdrawals.

116 Are any dams on the San Rafael River, Muddy Creek or Green River planned for the resource area? If so, why weren't they analyzed in the draft RMP, and what is the current status of the proposals? We are particularly concerned about the San Rafael dam site at Hambrig Bottom. Why didn't the draft RMP analyze elimination of the powersite withdrawals?

117 Are the public water reserves, identified on page 39, water sources owned by the U.S. as opposed to private water ownership on public lands? Are these waters available for adjudication by other parties or will they stay in public ownership? Are there many water sources in the San Rafael Resource Area, like those mentioned as base waters in certain allotments (see our grazing section), which are privately owned?

These questions are important because water is the lifeblood of the desert. The RMP should commit BLM to aggressively pursue water reserves for public purposes on the San Rafael Resource Area.

RESPONSE TO COMMENT 15 UTAH WILDERNESS ASSOCIATION

[Comment page 31 (28)]

115 See the response to comment 15-113.

116 No dams are planned on the San Rafael River, Muddy Creek or the Green River in the resource area, nor is a dam site presently proposed at Hambrick Bottoms. The existing powersite withdrawals are in the process of administrative review to determine if they still meet the specific withdrawal criteria.

117 A public water reserve (PWR) is a reservation under one of several executive orders for public land containing a spring or waterhold, reserving water to the public for the purpose of human and animal consumption.

PWRs are in the process of administrative review to determine if they still meet the specific reservation criteria. Once it has been determined that a PWR meets these criteria, BLM would file a water right for any PWRs that do not presently have one. The majority of the PWRs identified on map 39 do have a BLM water right filed on them. Water is adjudicated by the Utah State Engineer. BLM would keep all certificated water rights. There are four springs in the Iron Wash Allotment, seven in Horsesnoe South Allotment, one in Horseshoe North Allotment, and three in Sweetwater Allotment. These are privately owned and were used as base waters for establishing these allotments. See the response to comment 15-39.

NOTE: Comment 15 from the Utah Wilderness Association was accompanied by three appendixes, which are not reproduced here.

COMMENT 16

WASATCH MOUNTAIN CLUB
868 South, 200 East #111
SALT LAKE CITY, UTAH 84103

December 3, 1988

Mr. James Dryden
San Rafael Resource Area Manager
900 North 700 East
Price, Utah 84501
Attn: RMP Public Comments File

Dear Sir:

The San Rafael Resource Area contains some of the finest but least known natural areas in Utah. The resource area contains critical wildlife habitat, archaeological resources, potential wilderness areas, and scenic areas which have been proposed for National Park Status. The final management plan should recognize the value of these resources and should provide protection from damage caused by ORV use and from mineral activities.

1 The entire San Rafael Swell should be designated as an Area of Critical Environmental Concern (ACEC). Within this ACEC all ORV's should be restricted to existing roads and mineral leasing and development should be restricted to the maximum extent possible consistent with pre-existing rights. Special attention should be paid to protection of the Sids Mountain WSA, the Mexican Mountain WSA, the San Rafael Reef WSA, the Crack Canyon WSA, and the Devils Canyon WSA.

Other areas which deserve ACEC designation include: Horseshoe Canyon WSA, the Green River Corridor, Bowknot Bend, and Flat Tops.

Grazing has a place in the resource area but it should be managed to protect wildlife and the land. Grazing should be reduced on areas designated as being in fair or poor condition and in riparian areas. Also, livestock should be removed from critical bighorn sheep range.

Please include these comments in the public record for the draft RMP and send me a copy of future mailings regarding the RMP.

Sincerely,

John Veranth, President

John Veranth

RESPONSE TO COMMENT 16 WASATCH MOUNTAIN CLUB

[Comment page 1]

1 See the response to comment 44.

COMMENT 17

THE WILDERNESS SOCIETY

CENTRAL ROCKIES REGION

December 6, 1988

Jim Dryden
San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Mr. Dryden:

Please accept the following comments on the San Rafael Draft Resource Management Plan and EIS from The Wilderness Society and the Southern Utah Wilderness Alliance.

In General

1 Although the draft RMP/EIS is necessarily a complicated document, there are some simple changes that BLM could make to enhance the plan's usefulness to the public. For starters, a base map containing cultural features is some detail such as watercourses, roads, towns, and geographic contours is needed to orient reviewers to the land being considered. Without such a map, the planning exercise becomes little more than a cut and paste activity in which abstract geometric shapes are planted here and there as if the life of the land were not at stake. For instance, it is difficult to divine just where important riparian areas are on map #75, or precisely what land offers high versus moderate oil and gas potential on map #78.

While computer generated maps offer versatility, they should simultaneously offer clarity and accuracy. It would help to have a series of overlays to fit over a single base map. Alternatively, the cultural features base could underlay each map printed as part of the RMP.

2 Please print a final RMP which contains the entire document within one cover. It is absurd to have a final document which is only complete when combined with selected portions of the draft. How expensive can it be to print an RMP which is complete in a single volume? Whatever that expense may be, it is likely made up for by the ease of use that a single volume brings.

Utah Office
436 East Alameda Avenue, Salt Lake City, Utah 84111
(801) 355-4742

RESPONSE TO COMMENT 17 THE WILDERNESS SOCIETY

[Comment page 1]

1 See the response to comment 15-7.

2 The comment is acknolwedged.

BLM believes that funding would become available as the various portions of the plan are implemented. The proposed RMP would be used as a basis for requesting increased funding to implement the plan.

Given the current trend toward frugality and budget trimming in federal government, and the fact that the proposed RMP would cost 25% more than present management, how will the RMP be implemented if full funding is not provided by Congress? The final RMP should address this concern in some detail, citing the ways in which a budget shortfall would affect planning issue resolution. The BLM should aim first to protect and enhance natural resource values; mitigation, monitoring, and resource protection or rehabilitation should take precedence over raising the level of commodity outputs. Setting a priority on resource protection may mean that across the board cuts would be inappropriate and damaging to resource values.

3 A copy of the San Rafael MSA should be available for public review in the BLM Utah State Office.

Planning Issues

4 In defining planning issues, the BLM should have included cultural resource management and riparian area protection, especially since these issues were raised in scoping meetings and written comments by members of the public. While BLM puts some emphasis on management of both cultural and riparian resources in the draft RMP/EIS, greater priority is warranted. Each qualifies under the criteria for identifying planning issues, as outlined in the Draft RMP/EIS, page 1-1. These include:

1) presenting an unresolved question regarding allocation of a specific resource;
2) presenting major land use conflicts regarding management or maintenance of a base resource;
3) an issue which can reasonably be resolved in alternative ways by BLM field managers;
4) concerns which can be identified on a map;
5) issues which are timely.

Cultural Resources

5 The EIS estimates that approximately 70,000 archeological sites may exist in the Resource Area, and states that only 1,500 sites (2%) have been recorded (EIS 3-42). Additionally, the EIS states that: "The planning area is considered to be the center of the Fremont culture [Jennings,1978], and its abundant cultural resources show human presence in the area over the past 12,000 years. The information that could be gained from cultural resources in the planning area is not available elsewhere." (EIS 3-42).

The EIS also reports that vandalism, mineral exploration, recreational use, and livestock grazing have inflicted unknown damage to archeological resources in the Resource Area. Moreover, if alternative F is adopted, the EIS estimates that 6,707 of the cultural sites will be damaged or destroyed within the planning period. This is only infinitesimally better than under present management, and, arguably, constitutes unnecessary and undue degradation under the FLPMA. The Resource Area should

RESPONSE TO COMMENT 17 THE WILDERNESS SOCIETY

[Comment page 2]

3 The MSA is available for review in the Moab District and Utah State Offices.

4 See the response to comment 3-2.

Riparian area management was treated as a planning issue (draft RMP/EIS, page 1-2).

Planning issues for this RMP effort were formulated in compliance with the NEPA scoping process in 40 CFR 1501.7, 43 CFR 1610.4-1, and BLM manual section 1616.1. Concerns raised by the public during the scoping process were evaluated to determine whether they met the criteria for a planning issue. (See the draft RMP/EIS, page 1-1).

5 See the response to comments 13-7, 3-2 and 3-7.

commit to a broad based program of cultural resource inventory before activity plans are drafted and before more undocumented, irreplaceable resources are lost. Cultural resource management has not been given the weight it should have been in the RMP. Please make it a planning issue in a revised draft or final San Rafael RMP/EIS.

Riparian Areas

6 Since riparian areas make up only a small percentage of the Resource area, are exceedingly vulnerable to abuse, and are the most biologically productive areas in an area having a dry climate, it is important that they be sensitively managed. It is not redundant to consider riparian area management as a separate planning issue, in addition to the other five planning issues identified. Rather, it would be complimentary. A commitment to riparian area protection, one more sincere than offered in the draft plan, is appropriate given laws, executive orders, regulations, and instruction memos which require the BLM to manage riparian areas to preserve, protect, and restore naturally functioning ecosystems.

Within the RMP should be a timetable for the preparation of riparian area protection activity plans. Alternative F would increase the acreage of riparian areas within the San Rafael RA by an estimated 150 acres. More important is to identify the current ecological status of the 270 miles of identified riparian habitat and to restore its native productivity. Also, a thorough inventory of riparian areas is needed to know precisely what the resource is, how it is impacted, and what activities should be modified. Riparian areas should be withdrawn from mining claim location, closed to mineral leasing, closed to ORV use, and managed so as to minimize grazing impacts. Standard stipulations should be identified in the RMP for application to allotment management plans for the purpose of eliminating or reducing cattle from damaged riparian areas.

Responsible riparian area management presents an excellent opportunity for the BLM to showcase progressive resource management. It is doubtful that this can be done without elevating riparian area management to the level of a planning issue.

Recreation

"Recreational development is not the work of building roads into lovely country, but of building receptivity into the... human mind." Aldo Leopold

7 Recreation depends upon resource protection. Alternative F, the preferred alternative in the RMP/EIS, fails to protect a variety of vulnerable resources from degradation. For instance, out of approximately 1.5 million acres only 4,470 acres would be closed to ORV use, 6,750 acres are proposed for locatable mineral withdrawals, 8,580 acres would be excluded from domestic

RESPONSE TO COMMENT 17 — THE WILDERNESS SOCIETY

[Comment page 3]

6 See the response to comment 17-4.

The proposed RMP would guide management of all public lands and resources administered by SRRA. Activity plans would be developed to implement many of the actions identified in the proposed RMP and would include riparian management within them.

The proposed RMP requires plans of operation for mineral entry and no surface occupancy for mineral leasing (chapter 2, Habitat Management). ORV use would be limited to designated roads and trails. Rangelands would continue to be managed to produce livestock forage and water to meet current demand, so long as riparian values are protected (proposed RMP, chapter 2, Grazing Mangement).

The proposed RMP, chapter 4, contains a timetable for implementing the RMP, including management of riparian areas.

7 See the responses to comments 15-19 and 15-20.

livestock grazing, and 4,970 acres from oil and gas leasing. While other limitations are identified in the plan to protect resource values, the dearth of closures in indicative of the plan's priorities. In contrast, under alternative F 761,820 acres would be open to unlimited ORV use, 1,532,440 acres open to mining claim location, 1,606,320 acres grazed by domestic livestock, and 761,776 acres open to standard leasing practices. Alternative F is touted by BLM as a balanced land management proposal; perhaps, but a balance tilted decidedly in favor of commodity production rather than resource protection.

Recreation Opportunity Spectrum Classes

8 The draft RMP/EIS is confusing and contradictory in its application of ROS classifications to the preferred alternative. On page 4-91 of the EIS we find, "Under alternative F, the ROS class acreages would shift toward the resource-dependent (primitive) end of the spectrum. The P class would increase to 81,500 acres; the SPNM class would increase to 211,700 acres; the SPM class would decrease to 630,920 acres; and the RN class would decrease to 599,810 acres. The R class would decrease to 10,630 acres. The U class would remain at 20 acres." Elsewhere we see that under alternative F is a statement: "Do not manage lands for specific ROS classes." (2-59). In other words, while there may be lands that qualify for one ROS category or another under alternative F, no designation and no prescription will be attached to the classification. Yet on page 2-5 of the EIS is this: "Protect scenic and natural values and certain cultural resource values within the San Rafael Swell associated with recreation use. Manage for specific ROS classes in designated areas." Please clarify these directions in the final RMP.

9 We request that in the final RMP all Wilderness Study Areas and Utah Wilderness Coalition candidate wilderness areas (see enclosed map) be managed to retain their ROS-Primitive classification, that all ACECs be managed to retain Primitive or Semi-Primitive Non-motorized classifications, crucial Bighorn sheep, antelope, elk, and deer habitat be maintained as Primitive or SPNM, and riparian areas be managed as Primitive. Stipulations attached to the P and SPNM classifications should be as defined for alternative C page 2-55 and 2-56. Just as a purse without coin is merely a rag, ROS classifications without guts are but a sham.

Off Road Vehicle Management

10 It is appalling that not an acre of any WSA in the San Rafael Resource Area would be closed to off-road vehicles in the draft RMP. Be that as it may, the BLM should identify if and where any ORV conflicts have occurred within WSAs, riparian areas, crucial wildlife and T&E species habitat, candidate wild and scenic river corridors, and all potential ACECs. (Were conflicts identified in the MSA?) Where ORV conflicts arise in these areas, they should be closed to ORV use. Strong guidance should be written into the RMP which would allow for preparation of tiered implementation and activity plans.

RESPONSE TO COMMENT 17 THE WILDERNESS SOCIETY

[Comment page 4]

8 The proposed RMP includes management prescriptions for ROS P- and SPNM-class areas.

9 See the response to comment 17-8.

10 See the responses to comments 44-3 and 44-6.

The code of federal regulations (43 CFR 8431.2 -8432.1) requires stringent ORV restrictions where the need arises: "...where the authorized officer determines that off-road vehicles are causing or will cause considerable adverse effects upon soil, vegetation, wildlife, wildlife habitat, cultural resources, historical resources, threatened or endangered species, wilderness suitability, other authorized uses, or other resources, the authorized officer shall immediately close the areas or trails affected to the type(s) of vehicle causing the adverse effect until the adverse effects are eliminated and
11 measures implemented to prevent recurrence.... All designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands;..." The Interim Management Policy for WSAs (11/10/87) also supports this position: "If impacts of ORVs threaten to impair the area's suitability, the BLM may limit or close the affected lands to the types of ORVs causing the problems."

Closures to off-road vehicles should be implemented in the final RMP for riparian areas (14,770 acres), WSAs and Utah Wilderness Coalition candidate wilderness areas (approximately 600,000 acres), important cultural resource areas, existing ROS Primitive and Semi-primitive non-motorized classes, candidate wild and scenic river corridors, endangered, threatened, and sensitive species habitat, and seasonally to close crucial habitat for protection of bighorn sheep, antelope, elk, and deer. These closures are warranted by the nature of the resources we seek to protect and the inevitable conflicts which will arise between their protection and ORV use. Implementing all that we propose above is within the authority of the BLM and would still leave half to three quarters of a million acres open to ORV use. More appropriately, however, all lands in the SRRA that are not closed to ORV use should have restrictions limiting use to designated roads and trails. The prevailing management philosophy regarding those roads should be that any road not specifically posted open is assumed closed.

Grazing Management

In alternative F, grazing exclusions are proposed for 5,800
12 acres. This includes developed recreation sites and three proposed ACECs. About 4,500 acres of these exclusions are physically inaccessible to cattle, and the rest of the acreage is of little or no value for livestock. Despite good reasons to exclude cattle and sheep from some areas, the BLM has not proposed a single acre of meaningful livestock grazing exclusion. How embarrassing!

The proposed alternative would allow for (but not require)
13 protection of critical soils. As weak as this seems, it is a beginning. Other protective measures should be instituted to eliminate conflicts in riparian areas, predominately recreational

RESPONSE TO COMMENT 17 THE WILDERNESS SOCIETY

[Comment page 5]

11 See the response to comments 15-19 and 15-20.

12 Grazing exclusions were made in areas where livestock use is not compatible with other resource values, such as developed recreation sites and certain ACECs. Livestock were not excluded where potential conflicts could be mitigated.

13 An activity plan would be developed and implemented for the San Rafael Swell SRMA, which includes the areas mentioned (draft RMP/EIS, page 3-43).

areas, crucial wildlife habitat, T&E species habitat, and sensitive cultural resource areas. In narrow canyons such as crack, chute, bell, little wild horse, wild horse, red, devils, straight, black dragon, and others, cattle sometimes trample and over-utilize limited forage, foul water supplies, and leave behind enough feces to make recreational enjoyment all but impossible. In other areas, even where there are conflicts, ranchers (and I am thinking now of a cowboy I met along the San Rafael River who was looking for strays cattle) who are sensitive to potential conflicts do their cause good by amicably co-existing with other resource users. Does BLM anticipate educating the various resource users to each other's needs and expectations? The draft RMP/EIS fails to deal with potential recreation--grazing conflicts, and in so failing will inevitably intensify the conflict. Please address this concern in the final RMP. Perhaps a special management plan for the canyons is appropriate.

14 The draft RMP/EIS categorizes 33 allotments as being in need of improvement (including the San Rafael River allotment mentioned above) and proposes some changes in management. Some of these changes will no doubt enhance the recreational values of the areas affected and we applaud the BLM for proposing them. Others are less clear. Greater area should be excluded from range improvements, including WSAs, riparian areas, potential ACECs, and crucial wildlife habitat. A schedule for AMP revisions and implementation should be included in the proposed final RMP and the public invited to comment on revisions.

15 The EIS does not contemplate an adequate array of alternatives with regard to grazing restrictions to satisfy NEPA requirements.

16 The final RMP/EIS should also identify the amount of income from grazing fees and other sources in relation to expenditures being proposed for range management. How are funds allocated by federal, state, and local agencies, as well as by the grazing advisory boards for grazing management on the SRRA? What returns to the treasury occur from grazing management of these lands?

Wild and Scenic Rivers

17 The BLM did a good job of studying rivers for inclusion into the Wild and Scenic Rivers system. We concur with the agency's assessment of all three sections of the Green River. On the San Rafael River we believe that from Fullers Bottom to Tidwell Bottoms (sections 2, 3, and 4) the river should be classified as wild, sections 1 and 5 as scenic. Muddy Creek deserves classification as wild for sections 1, 3, 5, and 6 as defined in the draft RMP, scenic for the other two shorter stretches (draft RMP/EIS appendix J). Where impacts are substantially unnoticeable, as in the lower stretches of Muddy Creek and in section 3 of the San Rafael River, the more protective classification should be preferred by BLM. Management prescriptions should be aimed at preserving the values which led

RESPONSE TO COMMENT 17 THE WILDERNESS SOCIETY

[Comment page 6]

14 Development of range improvements would be limited in riparian areas, crucial wildlife habitats, proposed ACECs, critical soils areas, and developed recreation sites (draft RMP/EIS, pages 2-73, 2-72, 2-39, 2-49, 2-62, 2-66 and 2-55 respectively).

AMPs would be revised and implemented as budget and schedule allow. Revised AMPs must be agreed upon by all permittees within an allotment prior to implementation. Several requests have been received to initiate a coordinated resource management plan for AMPs to provide input to the AMP by all interested parties. BLM would seriously consider this process in all allotments having significant resource conflicts. Emphasis would be placed on high-priority (category I) allotments (appendix G).

15 See the response to comment 15-31.

16 The draft RMP/EIS discussed only significant or potentially significant economic effects. The criterion for significance was a 1 percent change to an economic indicator for an individual, business, industry, community, region, or government entity. Changes to federal revenues did not meet this test of significance. Also, planning guidance does not require analysis of government receipts.

17 See the responses to comments 3-20 and 1-1.

to the proposed classification as wild or scenic and at managing these rivers for primitive recreation opportunities.

Wilderness Study Area Management

18 Wilderness Study Areas must be managed to protect their wilderness suitability in the interim before Congress either designates them as wilderness or releases them for other uses. Wilderness allows a variety of uses to occur, but the management emphasis ought to be to retain a naturally operating ecosystem (see the Wilderness Act of 1964, Interim Management Policy, Code of Federal Regulations). To this end, the BLM should give maximum protection within its discretion to protecting wildlife, including threatened, endangered, and sensitive species, to vegetation, riparian areas, and primitive recreation opportunities such as hiking, hunting, fishing, sightseeing birding, and the like. It is entirely appropriate that the agency close all WSAs to off-road vehicles, that closure to leasables be instituted, that some grazing exclusions be applied, and that locatable mineral withdrawals be proposed. Why is none of this is being proposed in the draft RMP?

Road and Trail Management

19 The draft RMP/EIS fails to discuss management of hiking trails for recreational use. The final plan should consider trail maintenance, especially within WSAs, ACECs, along rivers, creeks, and within canyons. Closing certain hiking routes to all motorized vehicles is appropriate in canyons and in other remote and environmentally sensitive areas. Heavy ORV impacts are documented for the 846,340 acre San Rafael Swell Special Recreation Management Area (see draft RMP/EIS 3-47) which was designated in 1981 along with a 49,220 acre Labyrinth Canyon SRMA. This area should be considered by BLM as an ACEC with management compartments within it being defined by the primary uses and resource values. The area should also be considered for management as a National Conservation Area. In the meantime, conflicts between motorized and non-motorized users need to be more carefully looked at and managed in these areas.

Utah instruction memorandum 89-134 directs BLM to consider managing dirt or gravel roads as "backcountry byways." The proposed final RMP/EIS should consider which roads might appropriately qualify under this new program and develop management prescriptions to protect their rural scenic qualities.

Wildlife

Bighorn Sheep

20 Bighorn sheep crucial habitat should be protected by seasonal ORV closures, NSO leasing stipulations, seasonal surface disturbance closures, and domestic livestock grazing exclusions. Yearlong habitat should be protected by limiting ORVs to designated roads, and by subordinating domestic livestock grazing concerns to bighorn sheep needs where conflicts arise. Domestic

RESPONSE TO COMMENT 17 THE WILDERNESS SOCIETY

[Comment page 7]

18 See the response to comment 3-25.

19 See the responses to comments 15-6 and 15-10.

20 See the responses to comments 15-60 through 15-68.

livestock grazing allotments should be reduced where conflicts with bighorn, antelope, or elk occur. An accurate population inventory is needed for bighorns, as is a study which analyzes the elements of bighorn sheep crucial habitat. Population goals should be set in the RMP. These goals should be consistent with the Region-wide Bighorn Sheep Management Plan (WO Instruction Memo 88-209). Re-introduction of bighorn sheep to their native habitat should be considered and coordinated with relevant Utah agencies. The proposed final RMP should integrate the above comments to establish general directions from which HMPs may be developed.

Antelope

21 In preference to the prescriptions in alternative F, the proposed final RMP should protect both lambing and rutting seasons. Protection should occur from April 15 to July 15, and from October 16 to January 31. A thorough inventory of fawning and rutting areas is needed to protect the animals; until the inventory is complete, protection should be given to the entire identified range. In addition to defining range and numbers of individuals, the inventory should sample the health of the antelope population. ORV closures should protect fawning areas. Limitation of ORVs to designated roads should apply to all antelope habitat. Prohibitions against surface disturbing activities ought to apply seasonally. NSO stipulations should protect fawning areas from exploration and development of leasables.

Elk and Deer

22 Crucial winter range should be protected from ORV and other surface disturbing activities. Cattle grazing should be seasonally eliminated from the 18,200 acres of crucial elk winter range, since elk and cattle compete for forage.

Threatened and Endangered Species

23 The draft RMP/EIS recognizes the legally mandated need to protect threatened, endangered, and sensitive plants and animals which occur in the Resource Area. It should however set a higher priority on inventorying the land and preparing recovery plans. It would be useful to have a map associated with the proposed final RMP which identifies habitat for the species identified at 3-25 and 3-38 of the EIS. If the information for such a map is not at hand, the BLM should arrange to work with state and federal agencies and the Utah Heritage Program to acquire the data as soon as possible. Habitat for sensitive, threatened, and endangered species should be protected absolutely from damage by ORVs, mineral exploration and development, oil and gas leasing, livestock grazing, and other potentially damaging recreational uses.

24 The BLM should consider reintroduction of T&E species, such as the black-footed ferret, which were extirpated from the Resource Area.

RESPONSE TO COMMENT 17 THE WILDERNESS SOCIETY

[Comment page 8]

21 See the response to comment 15-67.

22 See the response to comment 15-68.

23 Management prescriptions contained in the proposed RMP would adequately protect known populations of T/E species. BLM is in the process of inventorying the planning area for additional information on T/E species. BLM does not publish the locations of T/E species.

Monitoring studies will be implemented this year on known plant locations and expanded as new information becomes available. The studies will be designed to monitor population trends and identify resourse uses that may be impacting the T/E species.

24 USFWS has lead responsibility for reintroduction of T/E species. BLM would cooperate with that agency in planning and providing for the recovery of any T/E species.

Wilderness

25 Most of our concerns about Wilderness Study Areas management have been elucidated above. Please also look at the map which is a part of these comments; it defines our wilderness proposal within the San Rafael Swell. We believe that the areas we propose for wilderness designation deserve to be protected as if they were WSAs. Much of the land that is within our proposal was eliminated from WSA status for specious reasons during the BLM wilderness inventory process. We maintain that all of our proposal is of wilderness quality.

26 We request that ORV closures extend to all of the land in our wilderness proposal because ORV use and primitive recreation as entirely incompatible uses. We further request that all land within our wilderness proposal fall under category III or IV oil and gas leasing if it is not designated by Congress. Wherever Category III is used, it should not be negotiable based upon mitigation proposals from developers; wherever it is applied it should be straightforward and ironclad. Portions of our wilderness proposal which contain crucial wildlife habitat, T&E species habitat, Class I VRM classifications, riparian habitat, cultural resources or are currently being considered for ACEC status should fall under category IV.

27 Existing Primitive and Semi-primitive non-motorized ROS classifications should be managed to maintain those classifications. Wilderness, once designated should be managed to protect natural values. Before designation those values should not be compromised.

Cultural Resources

28 As mentioned earlier, we believe that the SRRA should inventory its cultural resources before approving activities which could result in damage or destruction of irreplaceable archeological sites. This notion is supported by the EIS which states that, "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 curtaining valid rights." (EIS p. 2-11). This is a strong assurance that cultural resources will be protected. However, the EIS also states that "Inventory work will be conducted as funding and personnel are available." (EIS 2-9).

If the budget does not allow for inventory work, does this mean that an activity will not proceed? How does this relate to ORV designations, grazing, and dispersed recreational activities? Presumably, mineral leases and mining claims have some sort of valid existing right associated with them. How will these VERs be interpreted and how might the BLM condition operating plans to protect cultural resources? It seems that the agency should make

RESPONSE TO COMMENT 17 THE WILDERNESS SOCIETY

[Comment page 9]

25 See the response to comment 3-24.

26 See the response to comment 15-98.

27 See the responses to comments 3-23 and 3-25.

28 Inventory prior to development or other permitted impacts must be done (draft RMP/EIS, pages 2-10 and 2-11), whereas inventory for general planning depends on funding and personnel availability. The planning assumption contained in the draft RMP/EIS, page 1-2, states, "Funding and personnel will be sufficient to carry out any alternative selected."

its intentions known on these points in the proposed final RMP if it is going to successfully apply conditions in an activity plan.

29 The management objectives defined on page 2-11 of the EIS are good, and the fact that the BLM is concerned about "unnecessary and undue" degradation to the resources is appropriate. It would be helpful to add that all uninventoried lands should fit under objective #3, that is, to be avoided until their "information potential" is known. With less than 2% of the likely cultural sites in the SRRA discovered, it is prudent to be conservative in allowing potentially harmful development. All portions of the Resource Area which hold promise for discovery of cultural values should be managed for their "information potential" as defined in the EIS page 2-45.

30 To protect uninventoried lands from ORV damage, the BLM should limit use to designated roads. ORV closures should be applied to identified cultural sites. Livestock grazing should also be eliminated from areas that are identified cultural sites. The continuing damage that will occur from recreational use and existing grazing pressures recommends immediate cultural resource inventories and consequent protection. Oil and gas leasing in identified cultural site areas should fall into category IV. Hardrock mining in these areas should be withdrawn. While valid existing rights cannot be taken away, conditions may be attached to the means of access, exploration, and development to protect resource values. Cultural ACECs should be protected as completely as possible from disturbance and destruction.

Areas of Critical Environmental Concern

31 The San Rafael Swell has been long recognized for its superlative scenic values. It has been proposed as a National Park a number of times since 1935, considered for designation as a National Conservation Area, and recognized for its potential national landmark sites. The BLM and other conservation minded organizations and individuals have recently proposed wilderness designation for portions of the Swell. It is our view that the Swell need only remain as it is to be at its best: undeveloped, unpackaged, unimaginably rugged, beautiful. The draft RMP/EIS seeks a balance between preservation and development which includes nineteen potential ACEC nominations to protect a variety of uses.

The ACECs proposed by the BLM across all of the alternatives identify important values which should be protected. These ACECs do not entirely protect the resources they identify, however, but are a strong statement by BLM that the agency is concerned with protection of relict vegetation, recreation values, cultural values, and visual qualities.

Rather than fragment what we see as an integrated system, we propose instead a single scenic/ cultural/ natural values/

RESPONSE TO COMMENT 17 THE WILDERNESS SOCIETY

[Comment page 10]

29 Avoidance of all uninventoried lands in the planning area would require that it be closed to all uses until the cultural resource information had been collected. A closure of such magnitude would be untenable (see the response to comment 3-7), and information recovery by currently available techniques may not provide the best scientific data. Archaeology is constantly changing and finding new ways to collect information. The "once-over" approach suggested in the comment would not provide for this potential evolutionary advancement in data collection, whereas the conservation category does. All these categories need to be provided for.

30 The management prescriptions in the proposed RMP would protect archaeological resources. Activity plans would be developed and implemented along with monitoring to protect specific sites and meet the objectives identified (draft RMP/EIS, pages 2-10 and 11). See also the response to comment 3-7.

31 See the responses to comments 15-9 and 15-10.

recreational ACEC which encompasses the Swell from just north of the Wedge Overlook south to Goblin Valley and the Moroni Slopes, and on the west from the Manti La Sal National Forest to highway 24 on the east. Please see the enclosed map for more precise boundaries. The "importance" criteria for ACEC nomination is met by recognizing the significance of resources within the area nominated. Clearly, if an area can be seriously proposed as a National Park and a National Conservation Area, is full of potential national landmarks, archeological sites, wildlife, and wilderness values it should be considered a legitimate candidate for ACEC status.

31 This San Rafael Swell ACEC would include areas of outstanding scenic beauty such as the San Rafael Reef with its many slot canyons and dramatic uplifts, Muddy Creek, the Moroni Slopes, Hondu Country, and the little Grand Canyon of the San Rafael. A 1973 BLM study of the swell states that,"The San Rafael Swell's greatest natural resource is its aesthetic quality. Nature has applied space, color, texture, and symmetry with unparalled variety in this unique bulge in the earth. To this is added cool, clean air scented by pine and juniper, unpolluted soils and streets, solitude, peace, surprise, exultation, and wellbeing." The ACEC would cover an area of unique geological significance, including the entire swell with its Jurassic sandstones in the north and younger shale badlands to the west and south. The variety of geologic shapes, colors, and formations is impressive, well deserving of recognition and protection. Mineral entry, ORV damage, oil and gas exploration, and right-of-way corridors threaten to diminish the area's scenic values. The badlands in the southwest portion of the proposed ACEC are especially vulnerable to erosion and ORV abuse.

Since the region was once the center of Fremont Indian culture, an enormous variety of archeological resources occur within the proposed ACEC. From the pictographs and petroglyphs in Buckhorn Wash to the 12,000 year old buried Clovis site. "In importance they range from world famous rock art sites [Smith 1980] to obscure artifact scatters with only minimal scientific value" (draft EIS p. 3-42). There are many potential National Register and National Historic Landmarks sites in the area. These cultural and historic sites should be recognized for the unique values they embody, and some should be interpreted for public appreciation. Many now suffer vandalism and unnecessary degradation. Grazing, insensitive ORV use, other recreational activities, and possible mineral development also threaten to diminish cultural values.

The proposed ACEC also contains about 600,000 acres of land proposed by the Southern Utah Wilderness Alliance and The Wilderness Society as members of the Utah Wilderness Coalition for eventual wilderness designation. The eleven areas which make up the wilderness proposal should be recognized for their pristine desert and canyon qualities. Unchanged from frontier times, these areas offer an opportunity to escape from the

trappings of modern society and to appreciate unfettered nature. These areas contain crucial bighorn sheep habitat and may harbor endangered plants and animals. Two candidate Wild and Scenic Rivers and many miles of canyon-bottom creeks wind through the proposed wilderness areas. Critical soils and watershed areas occur around the edge of much of the proposed ACEC. Threats to
31 the integrity of the area include many of those previously mentioned: potentially excessive ORV use, locatable and leasable mineral entry with consequent road construction, and livestock grazing excesses.

Recreational opportunities ranging from roaded natural to primitive in the ROS scheme are available in the proposed San Rafael Swell ACEC. Such activities as camping, hiking, climbing, sightseeing, rockhounding, river running, ORV use, hunting, and picnicking would occur. The area is accessible to millions of visitors annually, and the diversity of activities available makes management of them all the more important, especially where simultaneous enjoyment of two or more activities may be mutually exclusive. Overuse and conflicting uses threaten to diminish the quality of visitor experiences and the productivity of the land for a multitude of uses.

Management prescriptions for this proposed ACEC should include:

- -- closure to mineral leasing
- -- withdrawal from locatable mineral entry
- -- ORV use limited to designated roads except in proposed wilderness areas which would be closed to ORV use
- -- excluded from land treatments
- -- managed as VRM class I
- -- surface disturbing activities prohibited
- -- right-of-way exclusion

Thank you for this opportunity to comment on the draft San Rafael RMP/EIS.

Sincerely,

Rodney Greeno
Issues Coordinator
Southern Utah Wilderness Alliance

Mike Medberry
Utah representative
The Wilderness Society

COMMENT 18

CELSIUS ENERGY COMPANY

79 SOUTH STATE STREET • P. O. BOX 11070 • SALT LAKE CITY, UTAH 84147 • PHONE (801) 530-2600

December 6, 1988

Mr. James Dryden
San Rafael Resources Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Attention: RMP

Dear Mr. Dryden:

Re: Draft San Rafael Resource Management Plan/Environmental Impact Statement

Celsius Energy Company provides its comments to the Draft San Rafael Resource Management Plan/Environmental Impact Statement ("RMP/EIS"). Celsius is an exploration and production company with its headquarters in Salt Lake City, Utah. Celsius owns oil and gas rights within the San Rafael Resource Area ("SRRA").

1 We are disturbed that the BLM's Preferred Alternative F subordinates mineral resource development to "other listed goals." In particular, we are troubled by BLM's proposal to establish vast areas of SRRA as Areas of Critical Environmental Concern ("ACEC"). Under the Preferred Alternative, the BLM proposes to designate thirteen ACEC's covering nearly 275,000 acres. We are concerned that the BLM is using ACEC's to protect areas of land which are already protected as wilderness study areas and/or by existing stipulations, regulations and statutes. We recommend that BLM tailor the ACEC designations to the few critical locations, if any, which are presently unprotected.

2 The draft RMP/EIS does not set forth adequate justification for the extensive imposition of no-surface-occupancy ("NSO") stipulations. See Bill J. Maddox, 72 IBLA 22 (1983). Even though we are pleased that BLM has proposed to open some additional lands for oil and gas leasing, it should reconsider using less stringent alternatives as compared with NSO stipulations -- otherwise, any leases issued, in effect, "would be rendered nugatory by the stipulation." A. Helander, 15 IBLA 107 (1974).

3 Similarly, we are alarmed by the Preferred Alternative's dramatic increase in Category 2 lands of 465,240 acres. If BLM imposes the tougher restrictions for Category 2 on these acres, undue financial burdens will be added to a distressed oil and gas industry. Under the Preferred Alternative, hundreds of thousands of unexplored acres, will probably never be explored. Also, it would have been helpful for our review if the Draft RMP/EIS had displayed the actual stipulations used for Category 2 lands.

RESPONSE TO COMMENT 18 — CELSIUS ENERGY COMPANY

[Comment page 1]

1 See the response to comment 6-5.

2 See the response to comment 6-2.

3 The exact wording of the stipulations will not be final until the proposed oil and gas category application is implemented. See also the responses to comments 6-1 and 6-4.

4 As with the excessive use of the ACEC designation, the BLM is too restrictive with its proposed designation of over 230,000 acres as VRM Class I. Further, we object to the requirement for offsite mitigation in addition
5 to standard reclamation procedures in big game habitat when unreclaimed disturbances caused by a user exceeds 10 acres in two years. The requirement is ambiguous at best and the planning documents fail to provide an adequate justification to support this requirement.

The practical effect of the BLM's Preferred Alternative will be to eliminate multiple use for a significant portion of the SRRA. As you may be aware, times are tough for the domestic oil and gas industry. Many producers are cutting back or eliminating their operations in the Rocky Mountain region because of the difficulties encountered in this area to successfully find and develop oil and gas resources. In addition, the State of Utah and many of its local communities are economically distressed because of the down turn in
6 the petroleum and mining industries. Accordingly, we are surprised that mineral resource development is relegated to a secondary status under the Preferred Alternative F.

We strongly urge the BLM to select Alternative B or modify its Preferred Alternative F to provide a more balanced approach which will equally promote the development of mineral resources as well as other values.

Very truly yours,

Thomas C. Jepperson
Attorney

pf

cc: R. J. Gill, Jr.
J. L. Healey
R. E. Hogan
R. M. Kirsch
G. L. Nordloh
W. F. Oline

RESPONSE TO COMMENT 18 — CELSIUS ENERGY COMPANY

[Comment page 2]

4 ACECs would be designated for their scenic values. The VRM class management objectives were established to protect those values.

5 See the response to comment 6-7.

6 See the response to comment 6-9.

COMMENT 19

Chevron U.S.A. Inc.
6400 South Fiddler's Green Circle, Englewood, CO 80111, P.O. Box 599, Denver, CO 80201

Lisa Flesche Mercier
Staff Analyst
Legislative and Regulatory Affairs

Denver, Colorado
December 7, 1988

San Rafael Resource Area
Draft EIS and RMP

Mr. Jim Dryden, Area Manager
San Rafael Resource Area
Bureau of Land Management
900 North 700 East
Price, UT 84501

Dear Mr. Dryden:

Chevron U.S.A. Inc. is seriously concerned and disturbed with the Preferred Alternative F for your draft EIS and Resource Management Plan for the San Rafael Resource Area. We believe that your preferred alternative would unjustifiably restrict the oil and gas industry's access to and activities on your resource area for the following reasons.

Drastic increase in restrictive stipulations.

1 Under current management, 23% of the resource area is subject to restrictive stipulations, while the preferred alternative would subject over 50% of this area to special stipulations. The need for restrictive stipulations on 23% of the area was questionable -- the increase to 50% makes us wonder whether you truly appreciate commodity uses as a valid multiple use.

No surface occupancy stipulation is used excessively and without justification.

2 You have not shown that less restrictive measures would fail to adequately protect other values, and therefore, under the IBLA's Bill Maddox decision (83 IBLA 29), we do not believe that your proposal to place the NSO stipulation on 245,810 acres is justified.

Proposed ACEC designations are not in accordance with BLM's guidelines.

3 Chevron is alarmed that you propose to designate 274,220 acres as ACEC's. BLM's ACEC guidelines state: "The ACEC designation ... is not intended to blanket large areas with specific restrictive stipulations." Your proposal most certainly does this! The thirteen proposed ACEC's average 20,000 acres each, and the No Surface Occupancy stipulation is applied to 214,000 of these 274,220 acres. We do not believe you have justified the need to place so much acreage into ACEC's.

4 Furthermore, we appreciate the need for an NSO stipulation in certain limited areas of a reasonable size -- but placing an NSO stipulation on so much acreage is tantamount to withdrawing it from oil and gas activities. Either formally withdraw these areas or make them available for leasing with reasonable stipulations!

RESPONSE TO COMMENT 19 CHEVRON U.S.A., INC.

[Comment page 1]

1 See the response to comment 6-2.

2 BLM understands the concern regarding placement of public lands in a no-surface-occupancy category for minerals leasing. BLM believes that exploration and development activities or possible production facilities would be incompatible with the ROS P class, scenic ACECs, or riparian and aquatic habitat. The analysis in chapter 4 of the final EIS showed that the no-surface-occupancy stipulation would have only a slight impact on industry.

3 See the response to comment 6-5.

In response to public comment, and upon review of the impact analysis, BLM has increased the number of acres in category 3 to 228,050and decreased the acres in category 4 to 66,880under the proposed RMP.

4 See the response to comment 19-2.

5 Offsite mitigation must only be used as a last resort after it has been determined that onsite mitigation cannot adequately protect big game habitat.

Chevron is seriously concerned that you intend to use offsite mitigation whenever unreclaimed disturbance exceeds 10 acres in two years. Offsite mitigation should only be used as a last resort to lessen the impacts of an activity if such impacts cannot be lessened onsite. There are very few circumstances when such impacts cannot be mitigated onsite. We are strongly opposed to the use of a hard and fast rule (10 acres in two years) that has no relation to whether the onsite mitigation is adequate to protect the habitat. Mitigation must always be tied into the intended purpose, and if the onsite mitigation is adequate, then no additional mitigation should be required.

Need to show wording of lease stipulations.

6 We need to see in the planning document exactly what the wording format would be for your various stipulations for oil and gas leases.

We would appreciate your serious consideration of these comments. Thank you for this opportunity to comment.

Sincerely,

Lisa Mercier

L. F. Mercier

LFM:js

RESPONSE TO COMMENT 19 CHEVRON U.S.A., INC.

[Comment page 2]

5 See the response to comment 6-7.

6 See the responses to comments 18-3, 6-1, and 6-7.

Domestic Exploration

Marathon Oil Company

P.O. Box 3128
Houston, Texas 77253
Telephone 713/629-6600

COMMENT 20

November 30, 1988

Mr. Jim Dryden
Area Manager
San Rafael Resource Area
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Mr. Dryden:

Re: Resource Management Plan

As a company that has been actively exploring for hydrocarbons in the state of Utah, I felt that it was incumbent for us to respond to the Draft Resource Management/Environmental Impact Statement for the SRRA. There are several troublesome areas that I would like to address.

1 First, my company is firmly opposed to the direction in which the BLM is moving in its Preferred Alternative (F) for the San Rafael RMP with regard to multiple use activities on public lands--more specifically the level of consideration given to oil and gas exploration and development opportunities. The tremendous increase in the restrictive stipulations application in the SRRA is oppressive. While the use of standard stipulations is recommended to be lowered by approximately 2/3, the special stipulations usage is being increased by over 750 percent. Additionally, NSO application is being forced up by 40 percent. Even though leasing is being increased by over 95 percent on those lands previously unavailable for lease, the vast majority of those lands will still be unavailable for surface occupancy. The end result is that oil and gas leasing and development will be much more restrictive than the current situation.

2 Secondly, we are very concerned by the BLM's directive, if Alternative F is adopted, to place its focus on wildlife, recreation and aesthetic values. Where is the consideration for commodity values? The reduction from 77 percent to less than 50 percent of the lands covered by standard stipulations is alarming. It certainly appears that the use of the NSO stipulation is excessive. Its intended use must be justified and I don't think the rationale has been properly set forth. The inability to properly explore the SRRA will be exacerbated by the increased constraints being recommended while recognizing that the area is considered to have moderate to low oil and gas potential. More constraints will not help determine if the area's hydrocarbon potential has been correctly estimated. We are reminded that once the geologic experts predicted there would be no oil found west of the Pecos.

RESPONSE TO COMMENT 20 MARATHON OIL COMPANY

[Comment page 1]

1 See the response to comment 6-2.

2 See the response to comment 19-2.

3 Thirdly, I cannot find any description of the various stipulations that may be applicable in the SRRA. That does not comply with the BLM's Supplemental Planning Guidance (SPG) for Fluid Leasing. Furthermore, the Draft does not discuss the various phases of oil and gas activities as it moves from the exploration to the production and transportation phases. In order to serve as the oil and gas leasing decision document, those discussions will be particularly important. Consideration should be given to including that discussion in Chapter 4, Environmental Consequences. It is our belief that, in doing so, it can be compatible with sensitive resource uses.

4 Fourthly, the designation of thirteen (13) ACECs in the SRRA seems excessive, especially the amount of acreage involved. An ACEC is not intended to be used as a substitute for a wilderness study area or to incorporate large areas having restrictive stipulations (NSO). Further evaluations and modifications should be made.

5 Fifthly, the statement made on Page 2-74 (1st volume) regarding offsite mitigation in addition to standard reclamation procedures in big game habitat when unreclaimed disturbance caused by a user exceeds 10 acres in 2 years is a bit outrageous. Disturbances of that small nature (10 acres) in areas that cover hundreds of thousands of acres within the planning area certainly appears to be an overreaction to such disturbances. It would be just one more expense that will have to be absorbed by the commodity developer with little or no economic benefit to the overall plan.

6 Finally, the extensive use of VRM Class I is troublesome. Since most of the 231,000+ acres allocated to this class have been "blessed" with NSO stipulations or no leasing, it has the same effect as eliminating multiple use management on the public lands in the SRRA.

Thank you for the opportunity to comment on the Draft Resource Management Plan/EIS.

Sincerely,

James H. Youngflesh
Advanced Senior Landman

JHY:cpr

RESPONSE TO COMMENT 20 MARATHON OIL COMPANY

[Comment page 1]

3 See the response to comment 6-4.

4 See the response to comment 6-5.

5 See the response to comment 6-7.

6 See the response to comment 18-4.

PERMITS WEST, INC.
PROVIDING PERMITS for the ENERGY INDUSTRY
37 Verano Loop, Santa Fe, New Mexico 87505 (505) 984-8120

COMMENT 21

September 16, 1988

Jim Dryden, Area Manager
San Rafael Resource Area
900 North 700 East
Price, Utah 84501

Dear Mr. Dryden:

My comments on the San Rafael Draft RMP/EIS follow. The relevant page number from the RMP/EIS precedes each comment.

Volume 1

1 2-9, 3rd paragraph: It is difficult to assess the impact of restricting construction and development in sensitive soil areas. Summarize how many high,medium, and low potential oil and gas acres overlap sensitive soil/slope areas. Maps on pages 69 and 70 of Vol. 2 suggest half the RA could be affected. Take soil/slope data and and apply it to lease terms so lessees know what to expect.

2-9, 4th paragraph: Access across slopes greater than 25% should be allowed if haul back methods are used.

2-9, last paragraph: Well pad reclamation should not begin until one year has passed or the reserve pit has evaporated. The closest state approved disposal ponds are in Grand County. The impact of requiring all reserve pit fluids to be immediately emptied and hauled as much as 100 miles must be evaluated.

2 2-10, last paragraph: Cultural resource clearances in areas which have been previously and intensively disturbed should not be required. It makes no sense to require a clearance of a vibroseis line on a highway shoulder.

3 2-11, 8th paragraph: Class 3 standards should only be required if a road is permanent. Given the extra disturbance inherent in building Class 3 roads (a flat bladed road is more narrow than a crowned and ditched Class 3 road), it would be counterproductive to require them until, for instance, a well is proven productive.

4 2-12, 1st paragraph: It is difficult to assess the full impact of this restriction. How many acres will be impacted? Is it really necessary to impose this restriction around ALL raptor nests? Many raptors are quite capable of thriving in close proximity to man, e.g., hatching peregrine falcons in downtown Salt Lake City.

5 3-37, 5th paragraph: Why is more protection given to nests on the ground or in low trees than to higher nests? If a nest is on the ground or in a tree less than 10' tall, it would be very difficult to see and impact it from 5,000' away. This seems to be contradictory and vastly more restrictive than necessary. Before such a retriction is imposed data must be supplied on an estimated number of nests and resulting "locked up" acreage.

6 4-8, 6th paragraph: The soil loss rate you call constant has more than an eight fold variation. Such a large range in your data makes any conclusion very suspect. Can more precise data be found?

RESPONSE TO COMMENT 21 PERMITS WEST, INC.

[Comment page 1]

1 In the proposed RMP, there are 480,160 acres of critical soils; 77,210 acres are in areas of high potential for oil and gas, 395,620 acres in moderate-potential areas, and 7,330 acres in low-potential areas. The area covered by critical soils is approximately 31 percent of the planning area. BLM believes it is not necessary to apply the standard operating procedures to lease terms, as they are properly applied to site-specific actions.

BLM believes that costs for the haul-back method would be excessive.

The text has been changed to include the reclamation procedure for reserve pits.

2 The law requires consideration of effects on cultural resources for all projects. On areas that have been intensively disturbed, the inventory and clearance would be a recognition that no cultural resources remain to be affected. An archaeologist would not have to inventory the project on the ground.

3 Road construction must meet the requirements of BLM manual 9113, which includes collector, local, and resource road standards. Reference to class III road standards has been removed from the proposed RMP and final EIS.

4 The restriction could seasonally restrict development on 100,000 acres. The majority of the nest sites are in areas with high to moderate oil and gas potential. However, because of the sites selected by the raptors and the closeness of the nests to each other, the actual area restricted is expected to be much less. The seasonally restricted areas apply to active raptor nests.

5 Raptors nesting on the ground or in low trees are more sensitive to human disturbance than are the cliff-nesting raptors. The seasonal closure would be applied only if an active nest is identified.

6 The reason for the range of values used in this analysis is discussed in the draft RMP/EIS (page 4-8 and appendix N). Due to the number of variables and the large size of the planning area, it was impractical to narrow the range of values for the analysis.

7 4-9, 6th paragraph: Even if the maximum rate of soil loss from all mineral activity (70,500 t) is divided by the minimum annual soil loss (7,135,900 t) for the RA, less than 1% of the soil loss is due to to mineral activity. Restrictions imposed on mineral activity because of sensitive soils are excessive. Enforcing such restrictions will divert limited resources from more serious erosion problems.

4-10, last paragraph: Why do geophysical activities cause 2,600 - 19,880 tons of soil loss on this page, but 6,480 - 49,700 tons on the preceding page?

8 4-82, last paragraph: You cannot increase operating and production expenses without affecting production. The South Last Chance Field illustrates this. As cited in Table 15, its "very remote location" makes it too expensive to lay a gas pipeline or to compress and truck the gas. Thus, the field is shut-in. Misunderstanding such a basic economic concept makes your other economic conclusions suspect.

Volume 2

It would be much easier to understand the RMP/EIS if:
a- the maps had been included in the text, as was done by the San Juan RA
b- the Appendices referenced the page number of the relevant maps
c- Townships and Ranges were included on the maps

9 16: This map and the one on page 29 appear to indicate a ring of no surface occupancy competely encircles and locks up a large area south of I-70 and west of U-24. Is this a drafting error, or is this the intent? Will road rights-of-way be granted through the perimeter on all sides at frequent geographic intervals?

201 & 202: A row summarizing the total amount of acreage by alternative for each potential zone would be useful.

The RMP/EIS is too vague and assumptions seem specious at best. Recommendations and emphasis for new or revised management direction are unsupported.

Please send me the revised or final RMP/EIS.

I thank you for the opportunity to comment.

Sincerely,

Brian Wood

Brian Wood

PERMITS WEST, INC.
PROVIDING PERMITS for the ENERGY INDUSTRY

RESPONSE TO COMMENT 21 PERMITS WEST, INC.

[Comment page 2]

7 Soil loss in the critical soils area is much more harmful than soil loss from the rest of the planning area, as the critical soils area is highly saline and highly erosive. BLM must adhere to the conditions in the Colorado River Basin Salinity Control Act of 1974. It is important that BLM do everything possible to minimize the impacts of human activity in these areas to comply with this act and with the state water quality standards. BLM does not believe that these restrictions are excessive.

Also see the responses to comments 43-1 and 11-21.

The figures on page 4-9 of the draft RMP/EIS (between 6,480 and 49,700 tons) are for soil loss. The figures on page 4-10 of the draft RMP/EIS (between 2,600 and 19,880 tons) are for sediment contributions to the drainages.

8 The costs of complying with the special conditions are not expected to affect production. As indicated in the impact analysis for economics in the final EIS (chapter 4, Economic Considerations, Minerals), economic impacts would be small.

9 In relation to rights-of-way, the "ring" is formed by avoidance areas and exclusion areas. In avoidance areas, rights-of-way would be granted only in cases where there is a prevailing need and no practical alternative location exists, and then only with appropriate provisions to protect the sensitive components. In exclusion areas, rights-of-way would be issued only in cases where there is a legal requirement to provide access (see the Glossary).

Texaco USA

PO Box 2100
Denver CO 80201
1001 17th Street
Denver CO 80237

COMMENT 22

October 20, 1988

Re: Draft Resource Management Plan
and Environmental Impact Statement (EIS)
San Rafael Resource Area
Emery and Sevier Counties, Utah

U.S. Department of the Interior
Bureau of Land Management
Moab District Office
P. O. Box 970
Moab, Utah 84532

Attention: Mr. Gene Nodine

Gentlemen:

Having reviewed the above caption Management Plan and EIS, Texaco would like to make the following comments:

1 1. Township and Range Grid:
It appears that the BLM's Township and Range Grid may be incorrect.

2 2. Texaco's Exploration Activity:
Texaco has oil and gas leases on 39,600 acres in Emery County, which fall within the BLM's high and moderate potential oil and gas areas. Texaco believes that the San Rafael Swell area offers high potential opportunities for oil and gas and plans additional activities in the areas.

3 3. Texaco's Recommendation:
Texaco believes that public lands should be managed for "multiple use" and the various resources involved (i.e. recreation, wildlife, timber, minerals, etc.) can be balanced with a minimum of restrictions to any particular resource. The areas described above should remain accessible for oil and gas exploration, including leasing, seismic, and drilling operations. Restrictions such as no leasing or NSO stipulations severely hamper the development of oil and gas as a valuable resource.

Therefore, Texaco recommends alternative B which is the least restrictive in terms of oil and gas activity. Alternative A would be the next most desirable and then possibly alternative F would be acceptable if the area of category 3 lands was substantially reduced.

RESPONSE TO COMMENT 22 TEXACO U.S.A., INC.

[Comment page 1]

1 Township and range were not delineated on any of the maps in the draft RMP/EIS; however, township and range have been added to the maps in the proposed RMP.

2 BLM data indicate moderate and low oil and gas potential for the San Rafael Swell. No new data have been made available to change this determination.

3 See the response to comment 6-1.

4 Areas that are not designated wilderness should be released for multiple use and not be put into broad special management areas (i.e. ACECs, WSAs, etc.) which severely restrict oil and gas activity. This is tantamount to "de facto wilderness".

Texaco appreciates the opportunity to comment on the Management Plan and EIS for San Rafael Resource area and we are hopeful that our comments will be seriously considered.

Very truly yours,

TEXACO INC.

Terrence M. Belton
Land Department
Western Region

TMB:clf
oct\19tmbl

cc: E. C. Burritt
J. K. Hendrickson

RESPONSE TO COMMENT 22 TEXACO U.S.A., INC.

[Comment page 2]

4 See the responses to comments 6-2 and 6-5.

COMMENT 23

TRANS-ATLANTIC PACIFIC INC.
U.S. Office · 22911 Mill Creek · Laguna Hills, CA 92653
(714) 859-8062

December 6, 1988

FEDERAL EXPRESS
1014288903

Mr. James W. Dryden
Area Manager
San Rafael Resource Area
BUREAU OF LAND MANAGEMENT
900 North 700 East
Price, Utah 84501

RE: DRAFT RESOURCE MANAGEMENT PLAN/ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Dryden:

We are a management consulting firm, specializing in mineral resources, and have been retained by the following individuals, unincorporated associations, and corporations to officially comment on the above-referenced draft Resource Management Plan/Environmental Impact Statement ("RMP/EIS"), dated August 1988, as provided therein: Brenda Migliaccio Kalatzes, an individual; Marie O. Migliaccio, an individual; Christopher Nick Kalatzes, an individual; Michael Nick Kalatzes, an individual; David O. Baldwin, consulting geologist; Migliaccio Uranium Properties, an unincorporated association; Trans-Atlantic Pacific Inc., a Delaware corporation; TAP Resources Ltd., a British Columbia corporation; Brenda Queen Mines Inc., a Nevada corporation; Golden Chest Inc., an Idaho corporation; Vikings Investment Corporation, a Nevada corporation; and Viking Resources Ltd., an Idaho corporation.

As you advised us at your open house held on September 29, 1988, at the Salt Palace in Salt Lake City, Utah, those individuals and organizations who do not submit comments on the RMP/EIS waive their respective rights to protest the final Resource Management Plan and Environmental Impact Statement as provided in 43 CFR 1610.5-2. Therefore, please be advised that under the terms of our engagement with the above-named individuals, unincorporated associations, and corporations, the comments herein are to be considered by the Bureau of Land Management as individual comments by the above in their respective names rather than collectively under the singular banner of this company.

Reference is also made to the enclosed comment letters we have compiled and signed on behalf of other interested parties and affected individuals at their request.

Our comments will be divided into the following categories: (1) General Comments to the RMP/EIS; (2) Comments to Chapter 3 - Affected Environment; (3) Comments on the Proposed Alternatives; (4) Comments on Mineral Resources in the Planning Area; (5) Temple Mountain ACEC; and (6) Summary and Recommendations.

1. General Comments to RMP/EIS

As an overall comment, we take exception to and question the validity of the entire RMP/EIS for the following reasons:

1.01 Planning Process (Volume One - Introduction)

We acknowledge that the planning process is regulated in accordance with 43 CFR 1610.4. It is our opinion, however, that the planning process should be revised for the following reasons:

1 1.01.01 the first three planning steps require the gathering of information from many sources, including the "public". In light of the recent ruling by U.S. District Judge Pratt in the National Wildlife Federation v. Burfurd, et al. Civil Action No. 85-2238 (D.D.C. 1985), input in the selection of planning issues, and comments for the final Resource Management Plan and Environmental Impact Statement by individuals and organizations who do not have a direct interest in the planning area should be discounted considerably or eliminated. The BLM should place more emphasis on the comments of the "local public", those individuals and communities who have a direct interest in local public land policies;

1.01.02 the procedures for public notification are inadequate, and do not assure sufficient distribution of the information to the public, especially the local communities and public most affected by changes in local public land policies;

1.01.03 longer comment periods are required to assure there is a thorough understanding of complex issues in order to make informed comments;

1.01.04 the RMP/EIS is misleading with the statement that "the proposed RMP and final EIS are subject to public protest through a formal procedure explained at 43 CFR 1610.5-2." The BLM should specifically emphasize to the public, especially the local public, that failure to submit comments to the RMP/EIS will result in the forfeiture of their respective right to protest. Once advised, the public should be granted an additional 180-day comment period.

1.02 Planning Assumptions (Volume One - Chapter 1)

2 The planning horizon in the RMP/EIS calls for 20 years, yet the year 2000 is used as a common point in time for the projection of future demands for public lands. There is a descrepancy of 8 years.

3 In addition, it cannot be assumed that there will be sufficient funding and personnel available to carry out any alternative selected, with the exception of Alternative A.

RESPONSE TO COMMENT 23 TRANS-ATLANTIC PACIFIC, INC.

[Comment page 2]

1 BLM appreciates the comment; however, since these are procedural matters based on laws, regulations, and BLM manuals, they are not appropriate for consideration as part of the San Rafael draft RMP/EIS public participation process.

2 Future demands for public lands beyond the year 2000 cannot be projected with accuracy. This date falls within the scope of the planning horizon, and BLM believes it is adequate for impact analysis (draft RMP/EIS, chapter 1, page 1-2).

3 See the response to comment 42-17.

1.03 Planning Issues (Volume One - Chapter 1)

4 Planning issues should include mineral resources, without which the RMP/EIS does not provide a complete management plan for the entire planning area pursuant to Section 202(c) of the Federal Land Policy and Management Act of 1976, and the principles therein for the use and observence of the principles of multiple use and sustained yield.

1.04 Qualifications of RMP/EIS Preparers and BLM Management Team

5 Upon written request to the BLM, we have been advised that the detailed qualifications of the preparers of the RMP/EIS, and the BLM's proposed management team are unavailable to us. In the private sector, on a project of the magnitude, complexities and importance of the proposed RMP/EIS, the close scrunity of the qualifications of the personnel involved in project planning and management would be a requirement. The public scrunity of the detailed qualifications of the project planning and management team should be made available.

1.05 Contradictions and Conflicts of Interest

The following contradictions and conflicts of interest have been noted in the RMP/EIS:

6 1.05.01 on page 1-4 it is stated in the section entitled "Management of Mineral Resources" that the management of most mineral resources is "governed strictly by law and ensuing department regulation, and is outside the discretion of the area manager." The approval or disapproval of required plans of operation for mineral resource exploration and development activities are at the discretion of the local BLM area manager. This is a contradiction;

7 1.05.02 on page 1-5, it is stated that the RMP/EIS "will not affect valid existing rights previously in place." However, the valid existing rights on unpatented mining claims are subject to validity examination and cancellation by the BLM. Such validity examinations and cancellations can and are influenced by economic conditions that may have changed substantially since the date of discovery. These same econmic conditions are often influenced, manipulated or controlled by the U.S. government. The BLM is an agency of the U.S. government and therefore such validity examinations and cancellations are a conflict of interest and can result in direct damages to interested parties who have invested substantial amounts time and money to develop the public lands in compliance with existing laws;

[Comment page 3]

4 During public scoping meetings, mineral resources were not identified as a planning issue. Minerals management is a management concern, and alternative B addresses maximizing mineral production. See also the response to comment 3-2 for a discussion of issue identification.

5 CEQ regulations (40 CFR 1502.17) require the listing of preparers and their qualifications in an EIS. BLM believes the list of preparers in the final EIS, chapter 5, fulfills those requirements.

6 A plan of operation can be disapproved if the action would cause unnecessary and undue degradation.

7 BLM operates within the mandates of the 1872 mining law, as amended.

BLM has no control over the economic conditions that could render an ore deposit valueless, thereby causing loss of the discovery and the valid existing right.

The BLM is a land-management agency and has no authority to direct other departments or agencies on matters outside of its purview.

Under alternative D, 1,282,070 acres or 83 percent of the planning area would be proposed for withdrawal or segregation from mineral entry (draft RMP/EIS, page 2-22). Valid existing rights would not be affected, but plans of operation would be required for mining-claim activity in the closed areas.

1.05.03 on page 2-6, it is stated that "All of the alternatives recognize valid existing rights...". This is not an accurate statement (reference Alternative D as an example);

8 1.05.04 on page 2-10, it is stated that the BLM may require a reclamation bond. Problems exist, however, with the current bonding requirements in terms of the discretionary nature of the size of bonds, the release of bonds after reclamation, and the general availability of bonds. The Congress is interested in reform and has commissioned several studies by the General Accounting Office. The present system, which allows a government agency, such as the BLM, to set the amount of the bond, to administer compliance, and to inspect and *release or demand forfeiture of bonds*, is fraught with opportunities for unfair treatment and is in need of reform;

9 1.05.05 on page 2-44 under the section entitled "Cultural Resource Management", the RMP/EIS states that to protect the historic values on Temple Mountain an intensive data recovery program would be initiated. However, on page 4-91, the RMP/EIS states that the Temple Mountain historical research would take one month and cost $5,000 - $10,000. The research and data recovery of the information on Temple Mountain cannot be accompolished within these time and budget allowances, and certainly would not be considered "intensive".

1.06 Chapter 2 - Tables

10 All of the tables in Chapter 2 are extremely difficult to comprehend and should be presented in a readable format. The same can be said for all of the tables presented in the RMP/EIS.

2. Comments to Chapter 3 - Affected Environment

2.01 Mineral Components

11 2.01.01 on page 3-15, it should be noted that although there are no known deposits of gold within the planning area, there are known occurrences of *microscopic gold. Gold is named* as a locatable mineral in footnote "a" in Table 48 on page 3-58. (See Section 4 - "Comments on Mineral Resources in the Planning Area");

RESPONSE TO COMMENT 23 TRANS-ATLANTIC PACIFIC, INC.

[Comment page 4]

8 The Bureau has authority under 43 CFR 3809.1-9 (1988 Edition) to require bonding, if deemed necessary. The RMP process and resulting document is not the proper forum for addressing change or revision of this or any other regulation (draft RMP/EIS, pages I-1 to I-14). See also the response to comment 8-1.

9 "Initiated" (draft RMP/EIS, page I-2) is the key word in this statement. If it is found that the information is already available to the BLM, $5,000 to $10,000 would not be needed. However, a study may show that more work is needed. The cost estimate was provided by professional historians who specialize in the history of mining.

10 BLM believes that the tables in the RMP/EIS are understandable.

11 Although microscopic gold may exist in the planning area, no occurrence has been reported that could be classified as a deposit (an occurrence of sufficent extent and degree of concentration to invite exploration).

12 2.01.02 on page 3-15, vanadium is a strategic mineral and should be added whenever mention is made to uranium and gypsum. In the San Rafael Swell, more vanadium has been extracted than uranium. Vanadium and uranium should be considered by-products of each other. Vanadium-uranium ores are currently being purchased by UMETCO Mineral Corporation, substantial quantities of domestic uranium have recently been contracted for purchase by the Japanese, and new legislation was passed by the Senate that will be a significant boost for the domestic uranium industry. (See Section 4 - "Comments on Mineral Resources in the Planning Area").

2.02 Economic Considerations

13 2.02.01 New economic considerations for the local economy should be prepared based upon the potential for renewed minerals exploration, development and mining activities within the RMP/EIS planning horizon.

3. Comments on Proposed Alternatives

3.01 14 The Analysis Assumptions presented on page 4-2 are now outdated and should be revised. The RMP team should not assume that: (a) the current regulatory framework will remain constant when, in fact, they are "aware that laws, regulations, and agency policy often change"; (b) all management actions and designations will be adequately funded and staffed when, in fact, they are not; and (c) big game species such as Big Horn Sheep will achieve maximum numbers when, in fact, the Big Horn Sheep transplanted to the Temple Mountain area are not doing well.

3.02 Alternative A

15 Alternative A presents a continuation of current management policies of the planning area, and should be an alternative to receive considerable attention, and adopted, with the following amendments: (a) the Temple Mountain Bike Trail should be closed as the accessibility afforded the naive public by the bike trail has caused the needless destruction of cultural resources, and exposed the riders to the potential dangers of open mine tunnels and shafts, and exposure to radon gases and radioactive radon daughters; and (b) uncontrolled ORV use in the planning area should constrained as it causes extensive landscape damage, some of which would be irreversible, results in the destruction of cultural resources, and exposes the public to potentially dangerous situations.

RESPONSE TO COMMENT 23 — TRANS-ATLANTIC PACIFIC, INC.

[Comment page 5]

12 The draft RMP/EIS, page 3-15, states that vanadium is produced as a by-product of uranium. Therefore, the current and potential for development of vanadium would be the same as that for uranium.

13 The baseline mineral exploration, development, and mining activity scenario under existing management estimates increases in oil and gas and mineral materials, with other production estimates remaining the same. These baseline estimates are consistent with baseline levels of economic activity by sector estimated by the Utah Office of Planning and Budget.

14 The analysis assumptions (draft RMP/EIS, page 4-2) were made to facilitate impact analysis. Periodic review of the plan is provided for (appendix A), and any major changes in the laws or regulations may require modification of the plan. The various portions of the plan would be implemented as funding becomes available. The bighorn sheep are assumed to achieve maximum numbers only on crucial habitat. Herds are not expected to achieve prior stable numbers due to their slow reproductive rate.

15 Based upon the analysis in chapter 4 of the draft RMP/EIS, BLM believes the management prescriptions of the preferred alternative would best resolve the resource conflicts identified during the public scoping process and would meet the multiple-use and sustained-yield requirements in FLPMA.

3.03 Alternative B

16 Alternative B should also receive considerable attention. This is the alternative that takes into consideration the two most grandfathered activities in the planning area, mineral resources and grazing, and appears to have the most significant positive economic impact in the local economy.

3.04 Alternative C

17 Alternative C is an unacceptable alternative for the following reasons:

3.04.01 the proposed ACEC's permanently close or restrict surface occupancy of high potential mineral and strategic mineral resource properties, including the nationally signifcant Temple Mountain;

3.04.02 severely limits and restricts right-of-way corridors;

3.04.03 excludes from range improvement virtually all of the planning area;

3.04.04 could result in litigation that could prove too costly for the government to prudently defend;

3.04.05 is not consistant with the policies of multiple use and sustained yield as it emphasizes increased recreational opportunities and wildlife protection, and curtails other land uses.

3.05 Alternative D

18 *Alternative D is wholly unacceptable for the following reasons:*

3.05.01 it radically conflicts with the policies of multiple use and sustained yield by permenantly closing the planning area to essentially every fundamental public land use;

3.05.02 severely damages the local economy;

3.05.03 represents the basic withdrawal of public lands without the approval of Congress;

3.05.03 would result in litigation that could prove too costly for the government to prudently defend.

[Comment page 6]

16 See the response to comment 23-15.

17 See the response to comment 23-15.

18 See the response to comment 23-15.

3.06 Alternative E

Alternative E is unacceptable for the following reasons:

19

3.06.01 it concedes, among other things, significant mineral and strategic resources in order to maximize motorized recreation, a form of recreation that has already been shown to severely damage the environment and needlessly destroy cultural and other resources;

3.06.02 closes, among other areas, Temple Mountain and its significant mineral and strategic mineral resources to exploration and development for the sake of a motorcycle trail (Temple Mountain Bike Trail) and a local motorcycle club;

3.06.03 is in conflict with the principles of multiple use and sustained yield of public lands;

3.06.04 exposures the public to potentially dangerous situations;

3.06.05 would result in litigation that would be too costly for the government to prudently defend.

3.07 Alternative F

20

Alternative F is the preferred alternative of the BLM. It is also the alternative that requires more intensive management than any of the other alternatives presented in the RMP/EIS. We have serious reservations as to the BLM's ability to adequately perform the tasks outlined on page S-3 and more fully described in pages 4-82 through 4-97 under the proposed budgets and personnel. We would, however, be receptive to Alternative F, provided Temple Mountain is dropped from ACEC consideration for reasons stated below entitled "Comments regarding the Temple Mountain ACEC" and ""Summary and Recommendations").

4. Comments on Mineral Resources in the Planning Area

4.01

21

In the planning area, the BLM should maintain the right of access to and use of public lands whenever mineral resource and strategic mineral resource potential exists in the absence of other overriding national interests. Minerals and raw materials represent both the real wealth and the basic ingredients of our modern civilization, and their influence upon international politics is immense. According to John Knebel, President of the American Mining Congress, "mining is everybody's business. No matter what we do in our daily lives, mining is involved in some way - from the electricity that illuminates our homes to the books that enlighten our minds."

[Comment page 7]

19 See the response to comment 23-15.

20 See the response to comment 23-15.

21 The draft RMP/EIS, page 1-5, states that the RMP would not affect valid existing rights previously in place. Only 68,660 acres out of 1,539,190 acres in the planning area or about 4 percent would be proposed for withdrawal or segregation from mineral entry. A segregation or withdrawal would be proposed only where the conflict between mining activity and other resource values could not be resolved otherwise.

Mining is a major contributor to the economic stability, welfare and defense of the United States. Annually, America's mining industry produces over $50 billion worth of nonfuel minerals and coal, and directly employees over 300,000 persons. For every direct employee in the mining industry another 1.25 is indirectly employed as a result thereof. When the industry's nonfuel production is processed into finished materials for use in defense, construction, electronic, and other industries, mining production generates in excess of $250 billion a year.

In his speech at the recent American Mining Congress Convention, U.S. Secretary of the Interior Donald P. Hodel pointed out that the "strength and vitality of our economy and our ability to protect our national security must continue to rest on a strong minerals and
21 materials foundation." Secretary Hodel further stated that "we have to remove many barriers to competitive land access."

The U.S. Bureau of Mines has estimated that U.S. metal mines must boost productivity by 40% over the next 10 years to compete with foreign operations, while other industry officials suggest that our mines must double their productivity during the next decade merely to maintain their present position.

A strong, viable domestic mining industry and a dependable supply of mineral and strategic mineral resources that are sufficient to meet our economic, societal and defense requirements, are prime requisites for the revitalization of the United States. Our government has long been aware that the country is far too dependent upon foreign sources for many of the raw mineral commodities and refined metals, especially critical and strategic minerals, necessary to maintain the economy and national security. Yet, instead of encouraging growth in the domestic mineral resources industry, the exact opposite is being accomplished through, among other things, excessive strict environmental regulations and standards, and the wholesale closing off of increasing amounts of public lands to mineral exploration and development.

The mineral resources industry does not need or want all of the millions of acres of public lands in order to make economic development possible. But it does need the right of access to public lands whenever mineral potential exists, and the use of small areas which are found to contain mineral reserves, to provide jobs and minerals essential to our society and eliminate dependence on foreign sources. If this is allowed to continue, or worsen, our national security and economic stability may be placed in jeopardy, and we run the risk of inflicting permanent damage upon the nation's domestic mineral resources industry.

21 As the U.S. population grows and our standard of living increases, the demand for metals and minerals will also continue to increase. As the world population grows, and the presently underdeveloped countries raise their respective standards of living, their mineral demands will also increase. It is difficult to imagine how this tremendous increase in population will impact the supply and demand for metals and minerals, but it is obvious that new sources must be discovered and developed.

Land use planning must insure maximum access for mineral and strategic mineral resources exploration and development that is consistent with sound management and conservation practices.

4.02 The RMP/EIS states that the locatable mineral resources found in the planning area include uranium, vanadium, gypsum and copper, of which uranium, vanadium and gypsum are the predominate. The RMP/EIS states that there are no known gold deposits in the planning area, 22 therefore gold was not addressed, and that the strategic mineral vanadium is produced as a by-product of uranium. Since no uranium was currently being produced, no vanadium was being produced.

The tone of the RMP/EIS is to downplay the importance of the mineral and strategic mineral resources known to be present in the planning area because of the current market conditions of these mineral and strategic resources, or the lack of discovery thereof.

In the mining industry, it is a well established fact that geologic understanding and knowledge concerning mineral resources is continually advancing, as evidenced by the many recent discoveries in Nevada and across the nation. New geologic concepts and exploration tools will continue to be developed to aid in identifying new targets on old mining properties and previously undiscovered mineral deposits. With this fact in mind, the full mineral potential within the planning area cannot yet be known. The importance of mineral resources within the planning area was therefore downplayed based on current geologic knowledge and market conditions. This is quite evident as mineral resources is a "management concern" rather than a planning issue.

An important example is gold. The RMP/EIS states that there are no known "deposits" of gold in the planning area. The term deposits can be used to designate a natural occurrence of a useful mineral or ore in sufficient extent and degree of concentration to invite exploitation. Although there are currently no known gold "deposits" within the planning area there are known "occurrences" of microscopic gold. Gold recovery technologies have advanced to the point that microscopic gold can be commercially extracted.

[Comment page 9]

22 See the responses to comments 23-11 and 23-12.

As stated earlier, vanadium and uranium should be considered by-products of each other. Approximately 4,000,000 pounds of vanadium oxide and 1,300,000 pounds of uranium oxide have been produced from the San Rafael Swell, primarily from Temple Mountain, and vanadium-uranium ores are currently being purchased and commercially processed by UMETCO Minerals Corporation at their processing facility in Blanding, Utah. And recently, two Japanese electrical utilities (Tokyo Electric Power Company and Chubu Electric Power Company) have contracted to purchase approximately 15.4 million pounds of domestic uranium over a 10-year basis under the purview of the Nuclear Non-Proliferation Treaty and the Nuclear Cooperation Agreement. In addition, the Uranium Revitalization Tailings Reclamation and Enrichment Act recently passed by the U.S. Senate should serve to revitalize the domestic uranium mining industry.

4.03 Based on the above, mineral and strategic mineral resources should be a specific planning issue, and the final RMP/EIS should address this
23 nationally significant issue and provide access for mineral exploration where the potential exists for same.

5. Temple Mountain ACEC

5.01 It is proposed in the RMP/EIS that Temple Mountain be designated as an Area of Critical Environmental Concern ("ACEC"). We submit herewith that Temple Mountain be dropped from ACEC consideration for the following reasons:
24

5.01.01 Temple Mountain's existing grandfathered commercial relevance overshadows its discernible physical, on-site, cultural resource merits. According to the RMP/EIS's own definition of same, the only physical structures remaining on the north side of Temple Mountain are two miners cabins built by Lawrence Migliaccio. On the south side there remains a miners cabin from Brenda Migliaccio Kalatzes' uranium-vanadium mining activities during the 1970's and 1980's. These cultural resources have already been recorded as noted in 5.01.03 below;

5.01.02 the stewardship of Temple Mountain should remain in the hands of those whose capital, sweat, blood, and lives have gone into making it a valuable and nationally significant contributor to our nation's steel, energy, and defense industries for the past one-half century, the Migliaccio Family. The Migliaccio Family built the very cultural resources the BLM now desires to protect on Temple Mountain, and have protected these resources until the BLM and other federal and state agencies introduced Temple Mountain to the public. These same cultural resources, the heritage of the Migliaccio Family, have subsequently been damaged or destroyed as a result of government agencies' intervention;

[Comment page 10]

23 See the response to comment 23-4.

24 BLM recognizes the historic significance of Temple Mountain and the threats to its integrity posed by vandalism, recreation activities, and future mining. Without special management, this valuable resource could be permanently lost. Therefore, BLM has proposed the Temple Mountain area for ACEC designation.

See also the response to comment 23-9.

5.01.03 the RMP/EIS proposes to designate Temple Mountain as an ACEC for the information potential of its cultural resource values as they pertain to historic uranium-vanadium mining activities, the very same such activities conducted by the Migliaccio Family, and as already recorded by the current steward to the property, Brenda Migliaccio Kalatzes. In
24 addition, the development of America's mineral and strategic resources industry and social history associated with the Temple Mountain Mining District is outlined by the U.S. Department of the Interior, the Atomic Energy Commission, and hundreds of pages of legal briefs and court recordings. Any diligent study of Temple Mountain conducted under the RMP/EIS would be redundant;

The RMP/EIS is proposing a budget of $5,000 - $10,000 and one months time to complete its study and recordation of the cultural resources of Temple Mountain. Brenda Migliaccio Kalatzes has already expended over $50,000 (in 1976 dollars) and 10-years of time in compiling oral histories, historic documents and photographs, letters, scrapbooks, a commissioned photo-essay study of the environment and its cultural resources, and over 4,000 professionally written pages on history of Temple Mountain's national mining significance and the men and women who played an integral part of its evolution. The majority of this information is now irreplaceable and in many instances considered priceless. The time and budgets proposed in the RMP/EIS are simply not realistic, and the BLM will not be able to complete the outlined tasks in the RMP/EIS;

5.01.04 the BML personnel scheduled to conduct said study and recordation have not even been to Temple Mountain for approximately four years;

5.01.05 as history has recorded, the Migliaccio Family will defend their family legacy and validity of their existing rights should the final RMP/EIS provide for the closure of mineral entry or surface occupancy.

6. Summary and Recommendations

Land-use planning has become a means of restricting rights of mineral exploration, discovery, development and ownership. Federal environmental statutes frequently have been implemented at federal and state levels in ways that amount to direct or indirect land-use controls. The result is indiscriminate segregation of lands from both public and private use, rather than management of these lands.

All land-use legislation, planning and implementation should recognize the unique nature of mineral occurences. Government at all levels should establish "zero-based" land-use planning systems so that mineral earty closures and withdrawals can be reviewed and justified during each planning cycle, implement land-use planning in a manner consistent with the acts setting forth the national minerals policy, manage lands in accordance with the principles of multiple use and sustained yield, and recognize that mining is among the highest and best uses of the land.

Based on the above, we would recommend the following:

6.02 25 The adoption of Alternative A, with the amendments described in paragraph 3.02 above.

6.03 26 Alternatives C, D, and E should be dropped from consideration for the resasons addressed in paragraphs 3.03, 3.04, and 3.05 above.

6.04 27 Alternatives B would be our second preferable alternative, with Alternative F our third selection. However, should Alternative F be adopted, it should be amended and Temple Mountain dropped from ACEC consideration for the reasons discussed hereinbelow.

6.05 Temple Mountain be dropped from ACEC consideration. If, however, Temple Mountain cannot or will not be dropped from ACEC consideration, we propose tot following course of action:

28 6.05.01 Temple Mountain should not be closed to mineral entry during the study period by virtue of our comments in sub-paragraph 5.01.01 above. The actual cultural resources of Temple Mountain are not in the buildings left standing on the property. The buildings have been already been recorded and can be protected. The cultural resources are the visionary men and women who faced immeasurable hardships to develop Temple Mountain, and their struggles to keep it.

RESPONSE TO COMMENT 23 TRANS-ATLANTIC PACIFIC, INC.

[Comment page 12]

25 See the response to comment 23-15.

26 See the response to comment 23-15.

27 See the response to comment 23-15.

28 See the response to comment 23-24.

The proposed RMP would allow mineral entry in the Temple Mountain ACEC under the mining law, but would require a plan of operation for all related activities.

See the Glossary for definition of cultural resources.

If a study of the Temple Mountain area that meets the standards set by the Secretary of the Interior for recording historic properties exists and is available to the public, a new study would not be necessary.

28

6.05.02 The management of Temple Mountain and the recordation of its cultural resources should be laced in the hands of the very people who developed its mineral and cultural resources, the Migliaccio Family, and specifically Brenda Migliaccio Kalatzes. Ms. Migliaccio is the President of her own mineral resources management firm (this company, Trans-Atlantic Pacific Inc.) which has considerable knowledge and experience in managing historic mining properties., and as referenced in sub-paragraph 5.01.03 above, she has personally already incurred all of the time and expenses to record the cultural resources of Temple Mountain as referenced in sub-paragraph 5.01.03 above. Without the assistance and co-operation of Ms. Migliaccio it would be virtually impossible for the BLM to conduct an in-depth and complete study of the cultural resources of Temple Mountain.

6.05.03 Trans-Atlantic Pacific Inc. and Brenda Migliaccio Kalatzes should be placed on the BLM's bidders list and afforded every opportunity to participate in any and all management services contracts and cultural resources research projects with respect to Temple Mountain and the Temple Mountain Historic Mining District.

We appreciate this opportunity to submit these comments on behalf of the above named individuals, unincorporated associations, and corporations, and welcome the opportunity to discuss them with you. Please insure that our name is included on your mailing list for all future notifications and other mailings concerning the RMP/EIS.

Respectfully submitted,

TRANS-ATLANTIC PACIFIC INC.

Brenda Migliaccio Kalatzes
President

John W. Beasley
Chief Executive Officer

JWB:jb

UTAH POWER & LIGHT COMPANY
Research Farm - Livestock

COMMENT 24

Memo

TO: Mr. Jim Dryden
SRRA

FROM: Darce Guymon
Livestock Operations

DATE: Dec 6, 1988

SUBJECT: RMP

I have reviewed the proposed Range Management Plan and from the point of view of the livestock operations have a couple of comments which I wish to make known:

1 The Colorado River Salinity Forum works closely with the research farms to assure that we are not contributing to the salinity of the water from this drainage area. The work done would seem to indicate to me that the major culprit in the San Rafael area is the Mancos Shale slopes. Mancos shale is a salt bearing layer of clay which acts as a pipeline of highly saline water. The proposed RMP addresses erosion, particularly erosion due to range mismanagement, as the primary threat to water quality. I would hope that the final draft may have at least a statement to the effect that the steep blue slate slopes are the primary pipeline of salts into the San Rafael drainage. Erosion, though important, is a lesser contributor.

2 Our other concern is the reduction of AUMs available through our permit. Water development would definitely improve stock distribution and thereby increase carrying capacity of the range. This is graphicall demonstrated in the figures supporting your alternative B. Water development is limited, though, in Alternative F in VRM 1,2 and 3 areas. (Mostly in VRM 1, but to lesser extent in the others.) Water development could also be limited in Riparian areas and other areas of critical concern. Water development; for the livestock, wildlife, vegetative health, recreational users, feral animals, and all other facets of range management, should be encouraged rather than limited.

Another note which I hope will be of interest to you is that we have been working with Texas Power & Light Company, now merged to form TU Electric, in eastern Texas. They do strip mining down there and are required by legal permitting to restore the mined areas to a given level of vegetative productivity. That is sand hill country and very fragile. The primary grass species is gramma grass, which is also most temperamental and difficult to establish. They tried compactors and rollers and hand planting seedlings and several other methods to get the land back to the required level of productivity. They never achieved that goal until they began running cattle on part of the land. They now use cattle on all of their range restoration projects, and have shortened the period required to have the land ready for resale by three to five years! Their comments include such observations as that cattle provide just the right amount of compaction with every step they take. They also note that each cow track is a miniature reservoir, serving two

3 or three seeds. They are certainly sold on the results. Cattle can be used as an integral part of range management and restoration.

4 We have foreign visitors here regularly, and they almost inevitably comment on the cattle grazing along I-70 as being 'just like the movies', 'the real old west', or 'typically American.' Such comments reaffirm that livestock are a part of, not an intrusion on, a scenic vista. Perhaps such a statement could be included in the final draft.

Thank you for considering these comments. We look forward to working more closely with your department in the future.

RESPONSE TO COMMENT 24 — UTAH POWER AND LIGHT COMPANY RESEARCH FARM

[Comment page 1]

1 Salinity is a regional issue for the states in the Colorado River basin. It is estimated that the upper Colorado River basin (lands draining into the Colorado River system above Lees Ferry, Arizona) contributes 72 percent of the salinity to the lower basin; more than half of this is believed to come from public lands. The salt load in the lower reaches of the upper Colorado River basin is estimated at 600 to 700 milligrams per litre, without considering the effects of human activities [BOR, 1984].

See the responses to comments 11-21 and 43-1.

2 See the response to comment 10-3.

VRM classes may limit the installation of water developments in some areas. Range improvements are allowed in riparian areas where they would maintain or improve riparian habitat (draft RMP/EIS, page 2-73).

3 The comment is acknowledged.

4 The comment is acknowledged.

UTAH POWER & LIGHT COMPANY

COMMENT 25

SUITE B-115
1849 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116

ROBERT M. WHITEHEAD
MGR. LANDS &
AD VALOREM TAXES
[illegible]

G. JOSEPH LYON
SUPERVISOR, AD VALOREM TAXES
[illegible]

MICHAEL D. ERICKSON
SUPERVISOR, RIGHT OF WAY
[illegible]

CAROL J. KOEHLER
SUPERVISOR, RIGHT OF WAY
[illegible]

KAREN G. MATTHEWS
SUPERVISOR, LEASES
[illegible]

BURTON D. MANFIELD
RIGHT OF WAY REPRESENTATIVE
[illegible]

MARK G. WHITLOCK
RIGHT OF WAY REPRESENTATIVE
[illegible]

BRET C. MORGAN
RESIDENTIAL PROPERTY SPECIALIST
[illegible]

SCOTT M. CHILD
LAND STATUS ANALYST
[illegible]

December 5, 1988

Mr. Jim Dryden
San Rafael Resource Area Manager
BUREAU OF LAND MANAGEMENT
900 North 700 East
Price, Utah 84501

ATTN.: RMP

Dear Mr. Dryden:

We have received and reviewed the San Rafael Resource Management Plan/Environmental Impact Statement.

1 Utah Power & Light Company concurs with your recommendations as set forth in Alternative F with certain reservations. Those reservations are based on the impact that the recreation, wildlife habitat and cultural resources might have on the Company's grazing and water rights.

We appreciate your efforts and will remain involved as this Plan progresses through the monitoring and evaluating stages.

Very truly yours,

Karen G. Matthews

Karen G. Matthews
Supervisor, Leases

KGM:lh
KGM23/1209

RESPONSE TO COMMENT 25 UTAH POWER AND LIGHT COMPANY, LEASE SUPERVISOR

[Comment page 1]

1 BLM appreciates the comment.

COMMENT 26

DRAFT
SOLICITED COMMENTS ON SAN RAFAEL DRAFT
RESOURCE MANAGEMENT PLAN AND EIS
NOVEMBER, 1988

VOLUME ONE

1 FORWARD
LINE 13.....The affected environment is more grandfathered in mineral resource (strategic mineral resource) exploration and extraction "use" than any of the uses mentioned in this Introduction.

2 Mineral resource (strategic mineral resource) exploration and extraction should be added to "final" documents FORWARD. It should also be noted that "grazing" activities are the only other grandfathered activities.

3 FORWARD .....Misleading Dept. of Interior request stating
FINAL LINE first, "most" effective comments will relate
2nd PARA. to Chapters 3/4. Two paragraphs later "most"
PG.2 useful comments focus on Chapter 2.

4 PAGE S-2.....For environmental and evolutionarily grandfathered reasons ALTERNATIVE A and ALTERNATIVE B should be given the most consideration and one adopted. More dollars for the local and national community have been nurtured and expended by and for the mineral resources industry, more literature created by the mineral resources industry on the affected environments than contributions by industries associated with any of the other values under study. The mineral resources industry has kept this environment unique.

ALTERNATIVE C is too costly and just creates an environmental situation which already exists.

PAGE S-3.....ALTERNATIVE D is too costly and just creates an environmental situation which already exists.

5 PAGE I-6.....Boundaries of Prospective ACEC's Identified have not been forwarded to affected parties, especially the SAN RAFAEL REEF area as continually amended.

6 PAGE I-8.....4351...It is understood that the wildlife of consideration are transplanted Big Horn Sheep which are not doing, and have not done well enough to limit mineral resource and primitive recreational activities.

I

RESPONSE TO COMMENT 26 WILD HORSE STRATEGIC MINERALS

[Comment page 1]

1 The uses mentioned in the Foreword (inside cover of volume 1, draft RMP/EIS) are examples only and should not be construed as an all-inclusive list.

2 Grandfather clauses for minerals and grazing refer to WSAs, not to the RMP/EIS.

3 The comment is acknowledged.

4 See the response to comment 23-15.

5 Potential ACECs are discussed in appendix B and shown on maps 11 through 16.

6 Habitat Management (4351) is discussed in the draft RMP/EIS, pages 2-68 through 2-75 and addresses not only desert bighorn sheep, but also mule deer, elk, pronghorn antelope, amd riparian and aquatic habitats.

7 PAGE I-6.....4331...PROSPECTIVE ACEC's Identified, Temple Mountain's present grandfathered, valid, commercial posture dwarfs its tangable, this study, cultural value, Stewardship should remain in the hands of those whose capital, blood, sweat, and lives, have gone into making a valuable culture. Congressional whim should not be the determining factor in the contribution of the Temple Mountain Mining District, as outlined by the Atomic Energy Commission, to the world social and mineral resource industry in the future. Temple Mountain should be dropped from ACEC consideration.

8 PAGE 1-4.....MANAGEMENT OF MINERAL RESOURCES. Because Area Managers apporove, or disapprove, mandated Plans of Operation, totally at the discretion of Area Managers, and Valid Existing Rights are determined by Department of Interior affiliates this MANAGEMENT CONCERN must be addressed more fully.

9 PAGE 2-1 to 2-93 .....ALTERNATIVE A & B should receive the most attention and be adopted because of the literature cited in Appendix i of this comment document.

ALTERNATIVES C&D are too costly to administer and could create massive legal problems.

10 PAGE 3-14.....The strategic mineral vanadium should be added whenever mention is made of uranium and gypsum. In the Triassic ores of the San Rafael Swell more strategic mineral vanadium has been extracted than uranium. Almost 4,000,000 lbs of vanadium oxide from Temple Mountain alone! Also, Congress should be reminded the entire proposed San Rafael ACEC submission includes, and is for the most part, made up of the 359,090 HIGH POTENTIAL OCCURANCE acres of TABLE 21. Congress should be reminded to compare Map 79 with Maps 13,14,16. VOLUME TWO.

11 PAGE 4-1 to 4-1000 .....ALTERNATIVES A & B should receive attention and be adopted.
ALTERNATIVES C & D are too costly to administer and could create massive legal problems.

II

RESPONSE TO COMMENT 26 WILD HORSE STRATEGIC MINERALS

[Comment page 2]

7 BLM is confident that the rationale contained in appendix B adequately supports the designation of Temple Mountain as an ACEC.

8 BLM operates within the mandates of the 1872 mining law, as amended.

9 See the response to comment 23-15.

10 See the response to comment 23-12.

11 See the response to comment 23-15.

12 PAGE B-21 to B-26 .....The references cited in Appendix i of this draft comment document should be reviewed and added to the Final RMP/EIS (San Rafael) by the appropriate Preparers.

I appreciate the opportunity to comment on the San Rafael Draft RMP/EIS and appreciate the Dept. of Interiors hard work on this historically significant project.

I also request to remain, or be added to, the Governments BLM mailing list and continue to receive all public sector mailings concerning the San Rafael Resource Management Plan/Environmental Impact Statement.

Best Regards,

Craig Royce
Wild Horse Strategic Minerals
511 Duke Road Suite 12
Lexington, Ky 40502

III

RESPONSE TO COMMENT 26 WILD HORSE STRATEGIC MINERALS

[Comment page 3]

12 BLM has reviewed the list of references recommended for inclusion in the final EIS, but found no useful purpose that would be served by their addition.

NOTE: A 14-page list of references accompanied this comment letter but is not reproduced here.

COMMENT 27

United States Department of the Interior

BUREAU OF MINES

P. O. BOX 25086
BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

Intermountain Field Operations Center

August 29, 1988

Memorandum

To: Jim Dryden, San Rafael Resource Area Manager, Bureau of Land Management, 900 North 700 East, Price, Utah 84501
Attention: RMP

From: Chief, Intermountain Field Operations Center

Subject: Review of draft resource manangement plan/environmental impact statement for the San Rafael Resource Area, Moab District, and the Forest Planning Unit of the Sevier River Resource Area, Richfield District, Emery and Sevier Counties, Utah

As you requested, Bureau of Mines personnel reviewed the draft resource management plan/environmental impact statement for involvement with mineral resources and industry.

The document addresses alternatives for managing approximately 1.5 million acres of public land administered by the Bureau of Land Management, San Rafael Resource Area, Moab District, Emery County, and the Forest Planning Unit, Sevier Resource Area, Richfield District, Sevier County, Utah.

1 Minerals are discussed on pages 3-1 to 3-16. Oil and gas, coal, numerous mineral materials (sand and gravel, clay, building stone, etc.), uranium, vanadium, gypsum, and copper all occur within the resource area. A survey of our files confirms the above mineral discussion, but shows that manganese prospects occur in the Morrison Formation near Rochester and along the Muddy River. Our review also indicates that sulfur deposits occur along the San Rafael River. We suggest these minerals be included in the subsequent versions of the document. We appreciate the opportunity to comment.

William Cochran

RESPONSE TO COMMENT 27 U.S. DEPARTMENT OF THE INTERIOR, BUREAU OF MINES

[Comment page 1]

1 Manganese and sulfur have been added to the list of locatable minerals found in the planning area. Manganese is addressed in the draft RMP/EIS, page 3-13. The proposed RMP has been changed to include sulfur occurrences.

DEPARTMENT OF HEALTH & HUMAN SERVICES

COMMENT 28

Public Health Service

Centers for Disease Control
Atlanta GA 30333

November 29, 1988

Mr. Jim Dryden
San Rafael Resource Area Manager
U.S. Department of the Interior
Bureau of Land Management
900 North 700 East
Price, Utah 84501

ATTN: RMP

Dear Mr. Dryden:

We have reviewed the Draft San Rafael Resource Area Management Plan and Environmental Impact Statement (EIS) for impacts on public health and safety. We are responding on behalf of the U.S. Public Health Service. These environmental documents describe proposed resource management strategies for a large tract of public land in the Moab District. Six alternative management plans are considered in this analysis over a wide range of issues/concerns (e.g. livestock management, mineral development, etc.). Off-road vehicle (ORV) use is a component of all six proposed alternatives, particularly alternative E which emphasizes motorized recreation opportunities. Off-road vehicle use is increasingly recognized as a high risk recreational activity. In the Final Environmental Impact Statement (FEIS), we recommend the inclusion
1 of an assessment of the relative hazards of off-vehicle operation for each of the proposed alternatives. This analysis will clearly demonstrate that public health/safety has been and will continue to be a concern in the management of public lands. Furthermore, a section should be added to the FEIS detailing proposed BLM plans to minimize hazards of off-road vehicle operations under the selected land management plan.

Please send a copy of the Final Environmental Impact Statement for this project when it is available. Also, please insure that we are included on your mailing list for future documents which are developed for other projects under the National Environmental Policy Act (NEPA).

Sincerely yours,

David E. Clapp

David E. Clapp, Ph.D., P.E., CIH
Environmental Health Scientist
Special Programs Group
Center for Environmental Health
and Injury Control

RESPONSE TO COMMENT 28

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTER FOR DISEASE CONTROL

[Comment page 1]

1 The hazards of ORV use are not subject to control through BLM land-use planning.

HOWARD C. NIELSON
THIRD DISTRICT, UTAH

COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEES:
TELECOMMUNICATIONS AND FINANCE
COMMERCE, CONSUMER PROTECTION, AND COMPETITIVENESS

COMMITTEE ON GOVERNMENT OPERATIONS
SUBCOMMITTEE:
GOVERNMENT ACTIVITIES AND TRANSPORTATION
VICE CHAIRMAN

COPPER CAUCUS
COAL CAUCUS
RURAL CAUCUS
STEEL CAUCUS
MILITARY REFORM CAUCUS
TRAVEL AND TOURISM CAUCUS

COMMENT 29

Congress of the United States
House of Representatives
Washington, DC 20515

WASHINGTON OFFICE:
1229 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-7751

DISTRICT OFFICES:
#105 FEDERAL BUILDING
88 WEST 100 NORTH
PROVO, UT 84601
(801) 377-1779

#2307 FEDERAL BUILDING
125 SOUTH STATE STREET
SALT LAKE CITY, UT 84138
(801) 524-5301

92 EAST CENTER STREET #1
MOAB, UT 84532
(801) 259-7158

#114 FEDERAL BUILDING
125 EAST 100 NORTH
HEBER CITY, UT 84032
(801) 654-1144

UTAH TOLL-FREE NUMBER
1-800-240-1420

December 6, 1988

Jim Dryden, San Rafael
Resource Area Manager
Attn: RMP
Bureau of Land Management
900 North 700 East
Price, UT 84501

Dear Jim:

I congratulate you on a well written and carefully considered plan for the wise use of our natural resources. I appreciate the opportunity to make a few comments on the San Rafael RMP.

1 As the elected representative of the people of the Third Congressional District, I believe one of the necessary elements in the use of public land is access. In the San Rafael Swell, there are numerous roads such as Temple Mountain, Buckhorn Draw, Moore, Black Box, Window Blind Peak, etc. In examining the maps accompanying the proposal, I noticed no provision for the continued existence of these roads, especially through the ACECs. I believe a cherry stemmed right of way would be appropriate to preserve their integrity. This right of way could be noted in the text as extending 100 feet to each side of the center line or to the canyon walls as appropriate. Such right of way should be available to all county roads and existing BLM roads.

I am also concerned that possible road extensions or improvements could be difficult to make without specific provision for such in the text of the plan. For example, if Emery County desired to straighten out a curve, it could require land beyond the 100 foot right of way. I believe provision should be made in the RMP for potential future road construction. This will help avoid difficult confrontations between development interests and conservation groups.

RESPONSE TO COMMENT 29 — HON. HOWARD C. NIELSON, U.S. CONGRESS

[Comment page 1]

1 The county has a valid existing right for the roads on the county road system. This includes most of the roads mentioned. All of the alternatives recognize valid existing rights, including rights-of-way for county, state, or municipal roads (draft RMP/EIS, page 2-6). Establishing new right-of-way widths for the existing road system would be an considered administratively and is therefore not appropriate for resolution through the planning system. BLM has worked closely with the counties in the past regarding management of the road systems and expects the relationship to continue. Rights-of-way have been issued in the past for road realignments outside the recognized established road boundaries, taking into account the road requirements and the affected resources. This would continue to take place.

Nielson
Page 2
December 6, 1988

2 The proposed RMP would restrict ORV use considerably over the present situation. While I believe that there have been abuses in the past, over restriction will simply invite trouble. Specifically, the elimination of the Sids Mountain area from ORV use is puzzling in light of the current heavy demand there. Perhaps some accommodation could be made in conjunction with local ORV clubs.

3 I respect the desire of the BLM to allow for additional forage for wildlife. However, I view with grave concern any attempt to diminish grazing allotments that have a long established pattern of use, many of which have already been cut drastically in the last 20 years. In a county with high unemployment, it is important that the BLM's policies not be responsible for the loss of even one job.

Especially injurious would be the requirement that ranchers take their cattle off the range in the spring due to the wildlife critical habitat restrictions. Many of those ranchers will have to resort to feeding hay to their animals at considerable cost resulting in the distinct possibility that some may be driven out of business.

At a minimum, I request the BLM to notify each lease holder in writing about this latest proposed cut in their allotments. Please send copies of the letters to my assistant, Sam Klemm, at the above noted address for my Provo Office. Also, please keep him informed as to any hearings or meetings regarding this RMP.

Thank you for your consideration.

Sincerely,

Howard C. Nielson
Member of Congress

HCN/sk

cc: Emery County Commission
Bill Howell

RESPONSE TO COMMENT 29 HON. HOWARD C. NIELSON, U.S. CONGRESS

[Comment page 2]

2 The Coal Wash area within the Sids Mountain ACEC has not been closed to ORV use, but rather limited to designated roads and trails. Following completion of the planning process, a cooperatively developed ORV implementation plan will be distributed that will show which roads and trails are open and which are closed.

3 Allocation of additional forage for wildlife is not being proposed in the preferred alternative. Wildlife studies are being implemented in allotments where conflicts between wildlife and livestock are thought to exist. If monitoring studies indicate resource damage by wildlife, then a recommendation to UDWR for a reduction in numbers may be made. No actual reductions in livestock numbers are proposed in the preferred alternative. A 25 percent reduction in livestock AUMs was analyzed, where conflicts with wildlife exist, in an effort to measure possible impacts. Before any reductions in livestock numbers occur, 5 years of rangeland monitoring data is required. If changes are needed on an allotment, range use agreements will be pursued.

Changes in grazing season from spring to winter were analyzed as a result of conflicts with critical watershed areas not crucial wildlife habitat (draft RMP/EIS, page 4-89). At this time it is not known whether any of the allotments are exceeding the SCS critical soil loss threshold. This determination would be made on an allotment-by-allotment basis based on rangeland monitoring. If it is determined that the allotments are exceeding the SCS critical soil loss threshold, and the rangeland trend is down, then a change is necessary. However, the change may be a reduction in numbers, implementation of grazing systems, or other management change rather than a loss of spring range. Again, 5 years of rangeland monitoring is required before any reductions or changes occur.

All permittees in the SRRA were sent a letter telling them that the draft RMP/EIS was available for review. Three open house meetings were held to discuss the draft RMP/EIS. The Farm Bureau held a meeting to specifically address the range portion of the draft RMP/EIS and BLM representatives were available to answer questions. Therefore, BLM believes that livestock permittees or leasees had adequate notification of the draft RMP/EIS availability and ample time to comment on it.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2405

COMMENT 30

07 OCT 1988

Ref: 8PM-EP

James Dryden
San Rafael Resource Manager
Bureau of Land Management
900 North 700 East
Price, UT 84501

RE: San Rafael Draft Resource Management Plan/Environmental Impact Statement (DRMP/EIS)

Dear Mr. Dryden:

In accordance with the National Environmental Policy Act (NEPA) and our responsibilities under Section 309 of the Clean Water Act, the Region VIII office of the Environmental Protection Agency (EPA) has reviewed the referenced DRMP/EIS.

1 Based on our review and the criteria EPA has established to rate adequacy of draft EISs, we have rated this draft EIS as category LO (Lack of Objections). A summary of our EIS rating definitions is enclosed.

The bureau is to be commended for its commitment to the protection of soil, water, and air management. The bureau's recognition of water quality standards and the need to protect and improve these uses is also very good. The main areas that could be improved would be the use of statistical analysis to compare the figures in different alternatives and the presentation of more than one integrated alternative.

Sincerely,

Robert R. DeSpain

Robert R. DeSpain, Chief
Environmental Policy Branch
Office of Policy & Management

Enclosure

RESPONSE TO COMMENT 30 U.S. ENVIRONMENTAL PROTECTION AGENCY

[Comment page 1]

1 BLM appreciates the agency's lack of objections.

"Review of Federal Actions Impacting the Environment," EPA, Office of Federal Activities, Washington, D.C., October 3, 1984.

SUMMARY OF RATING DEFINITIONS AND FOLLOW-UP ACTION

Environmental Impact of the Action

LO--Lack of Objections
The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC--Environmental Concerns
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO--Environmental Objections
The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU--Environmentally Unsatisfactory
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1--Adequate
EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2--Insufficient Information
The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3--Inadequate
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FISHLAKE N. F.
115 EAST 900 NORTH
RICHFIELD, UTAH 84701

COMMENT 31

Reply To: 1920

Date: October 20, 1988

Jim Dryden
San Rafael Resource Area Manager
Bureau of Land Management
ATTN: RMP
900 North 700 East
Price, Utah 84501

Dear Jim:

The Draft Resource Management Plan and EIS for the San Rafael Resource Area does not coordinate well with the Fishlake National Forest Land and Resource Management Plan, completed in 1986. The Fishlake Plan provides for 3 utility corridor/windows adjacent to the San Rafael Planning Unit, near Fremont Junction. One is the existing powerline corridor in Trough Hollow and joins your designated corridor discussed on page 5-5 of the RMP/EIS. The second is an unoccupied utility corridor/window along the I-70 highway corridor through Salina Canyon. The third is an unoccupied utility corridor along Utah State highway U-72 corridor between the Fremont Junction area and Loa, Utah. Both of the latter or unoccupied utility corridors abut an area that is designated as an avoidance area in the San Rafael RMP/EIS.

1 Future powerlines from the Huntington or Hunter power plants to Nevada or California will need to utilize these corridors.

Revisions need to be made in the San Rafael RMP/EIS to allow these corridors across the Fishlake National Forest to be used. The most desirable would to establish corridors from the I-70 and U-72 corridors on the Forest north across the BLM to tie in with your designated corridor.

We appreciate the opportunity to review the San Rafael RMP/EIS and being able to work closely with you in coordinating our land management activities.

Sincerely,

J. Kent Taylor

J. KENT TAYLOR
Forest Supervisor

FS-6200-28(7-82)

RESPONSE TO COMMENT 31

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE, FISH LAKE NATIONAL FOREST

[Comment page 1]

1 The potential right-of-way corridor was selected utilizing existing groupings of rights-of-way. This location corresponds with the corridors identified in the BLM/USFS coordinated right-of-way corridor map, except where USFS identified "windows" and BLM did not. BLM believes there is no inconsistency. Utah Power and Light Company also advised BLM that existing transmission lines would be adequate for transmission of power from the Huntington and Hunter powerplants, even if the fourth unit at Hunter were to be constructed and that no new construction of transmission lines is anticipated through the year 2000. Therefore, no additional right-of-way corridors are being considered. Proposals utilizing the Fishlake corridor could still be considered on a case- by-case basis.

COMMENT 32

United States Department of the Interior
NATIONAL PARK SERVICE
ROCKY MOUNTAIN REGIONAL OFFICE
12795 W. Alameda Parkway
P.O. Box 25287
Denver, Colorado 80225-0287

IN REPLY REFER TO:

L7621 (RMR-PP)

OCT 18 1988

Memorandum

To: Manager, San Rafael Resource Area, Bureau of Land Management, Price, Utah

From: Associate Regional Director, Planning and Resource Preservation, Rocky Mountain Region

Subject: Review of the Draft San Rafael Resource Management Plan and Environmental Impact Statement (DES 88/0042)

The National Park Service (NPS) has reviewed the subject document and our comments are enclosed. We appreciate the opportunity to comment on the document. It is important that it be clear to the public reading the draft San Rafael Resource Management Plan/Environmental Impact Statement (RMP/EIS) that the management goals, objectives, and described means and schedules or priorities to accomplish them do not apply to the lands within the planning unit that are managed and administered by the National Park Service.

1 We believe an explanation of the interrelationship of Bureau of Land Management (BLM) and NPS is necessary, including a discussion of how BLM land managers take into account, as well as manage, in accord with the resources and management practices on lands adjacent to BLM administered public lands. It is our belief that the intent of the Federal Land Policy and Management Act and the recent nationwide agreement between our two agencies requires impacts to surrounding lands be analyzed. We request that BLM provide a complete discussion of how current and projected uses on BLM lands in Capitol Reef National Park, Canyonlands National Park, and Glen Canyon National Recreation Area might impact significant resources both within and outside park boundaries. This discussion, as required by Section 1502.16 (c) of the Council on Environmental Quality regulations for implementing the National Environmental Policy Act, is necessary to allow the public a clear understanding of the effects of the plan. The EIS should analyze the effects of BLM proposals on NPS operations and visitors.

RESPONSE TO COMMENT 32 NATIONAL PARK SERVICE, ROCKY MOUNTAIN REGION

[Comment page 1]

1 See the responses to comments 3-2 and 3-3.

In Volume I, Page 1-4, column 2, paragraph 3, entitled "Management of Grazing and Minerals on Other Federal Lands," after the conclusion of the second sentence we recommend the insertion of the following in lieu of the balance of the paragraph.

"In concert with the NPS, the San Rafael Resource Area has responsibility for administration of grazing management programs within Glen Canyon National Recreation Area (NRA). The resource consumptive uses, such as grazing and mineral extraction, authorized within Glen Canyon are mandated by the enabling legislation to be subordinate to the preservation of scenic, scientific, and historic resources and the public use and enjoyment of the NRA. Therefore BLM practices, objectives, and planned actions that are appropriate and applied elsewhere on the public lands in the San Rafael Resource Area may not be applicable or permissible within the boundaries of Glen Canyon NRA."

"Coordination of grazing responsibilities between BLM and NPS in regards to Glen Canyon NRA were addressed in the Umbrella Memorandum of Agreement for Grazing (1984) signed by the Directors of BLM and NPS, as well as the Interagency Agreement for Grazing on Glen Canyon NRA (1986) signed by the Rocky Mountain Regional Director and the BLM Utah State Director. Under the interagency agreement, the process for reaching grazing management decisions with the NPS includes obtaining written concurrence or disapproval from NPS, based upon a determination of the significance of the overall impact of the proposed grazing decision upon the purposes and values for which the NRA was established."

"Glen Canyon NRA is currently preparing a grazing management plan for the NRA with the active participation of BLM. The NPS grazing management plan will outline resource management, recreation use, and ecological objectives pertaining to each of the affected plant communities. Then, with the assistance of NPS, BLM will establish the grazing management systems and levels of use that will meet NPS objectives. This planning effort is underway and is scheduled for completion in early 1990. Therefore, grazing management decisions involving NRA lands are not covered under the grazing management issue of this draft RMP."

"Areas available for mineral disposition discussed within the draft RMP exclude reference to NPS areas, such as Capitol Reef and Canyonlands National Parks, which are closed to mineral leasing and entry. Under Title 43 of the Code of Federal Regulations, NRA lands are leased for oil

3

and gas only with the consent of NPS. Management of minerals falls under specific laws and regulations such as Title 36 of the Code of Federal Regulations, Parts 9A and 9B, and is beyond the full discretion of the BLM area manager."

"Wildlife, vegetation, disturbed land reclamation, cultural resources, recreation, soil, and water resources management on NRA lands are within the primary authority of NPS and addressed in their natural, cultural, and water resources management plan, general management plan, and other appropriate planning documents."

2 Page 1-5 of the RMP states management of cultural resources is governed by law and regulations and is therefore not considered as a planning issue. Livestock, wilderness, and wildlife management are also governed by law and regulation, yet these topics have been identified as planning issues. Alternative D should be expanded to include cultural resource enhancement by not only protecting the sites, but their settings as well. Ruin stabilization programs, public interpretation, and increased public awareness programs are also examples of ways the alternative could be modified to increase cultural resource protection efforts.

We note that the San Rafael RMP/EIS will address the eligibility and classification of Nationwide Rivers Inventory and other streams in the resource management area for consideration as potential components of the National Wild and Scenic Rivers System. The draft plan also provides for interim management of the identified values of these streams until Congress has an opportunity to consider their potential designation. We compliment the San Rafael resource management area for the consideration given these outstanding stream segments.

Our review of the document indicates that inventories of resources in the area are incomplete, particularly in terms of cultural resources and threatened and endangered species. We strongly support additional inventory and monitoring of resources and management actions to assure that irreplaceable resources are not lost due to lack of information. We understand the reluctance to divulge information on specific locations for threatened or endangered species, but it is difficult to determine from this EIS whether or not BLM has performed surveys of all areas to be developed.

3 Public lands in the Richfield District surround the Horseshoe Canyon Detached Unit of Canyonlands National Park. The San Rafael Resource Area administers grazing in this area. Two grazing allotments (Horseshoe North #5029 and Horseshoe South #5100) have been assigned to the "Improve" management category. Allotment Management Plans will be prepared for both. Given this

RESPONSE TO COMMENT 32 NATIONAL PARK SERVICE, ROCKY MOUNTAIN REGION

[Comment page 3]

2 See the response to comment 3-2, paragraphs 2 and 3.

Ruin stabilization, interpretation, patroling, and public awareness programs are all examples of management actions that can be used to implement the proposed RMP goals. Such specific management programs are handled through activity planning after the RMP is adopted (draft RMP/EIS, page 1-4)

3 The permittee can activate to allowable active preference. Any increase to this number would have to be based on monitoring if additional forage is available (draft RMP/EIS, page 2-36).

4

and the fact that #5029 has 55 average licensed use and 2145 allowable active preference and #5100 has 0 average licensed use and 2024 allowable active preference, what does BLM have in mind for those areas? Are increases in licensed use likely? If grazing use increases in #5029 and a flash flood takes out the boundary fence as occurred in 1988, significant impacts to cultural resources through site trampling may result. Similar impacts may occur as a result of trespass if grazing is allowed in #5100. These impacts should be recognized in the EIS.

4 Public lands in the San Rafael Resource Area, Moab District are downstream from the Horseshoe Canyon Detached Unit in the Horseshoe Canyon Wilderness Study Area (WSA). Given the fact that much of the Horseshoe Canyon Detached Unit is part of the Horseshoe Canyon Pictographs Panels National Register Archeological District, it would seem safe to assume that similar cultural values exist on BLM lands. What is the nature and extent of cultural resource in this area? Has an inventory been performed? Why was this area not considered for ACEC status in any of the alternatives, if not for its cultural values, then for its wilderness/natural values?

5 Public lands in the San Rafael Resource Area, Moab District in the Spur area between the Horseshoe Canyon WSA and the Green River are adjacent to Canyonlands National Park. We support assigning the portion of the area along the Green River as a Category 3 (no surface occupancy) land use management zone. The remaining portion of this area should be at least a Category 2 (special stipulation), not in Category 1 (open). This would allow restrictions to be placed on land use activities such as mineral exploration and development and ORV use, which could adversely affect not only cultural resources, but also the quality of the visitor experience in the very northwest corner of the Island-in-the-Sky District, Canyonlands National Park.

6 The Park Service is mandated to manage Horseshoe Canyon to exclude exotic species. We are concerned about the potential of effects from wild horses and vegetation such as tamarisk as well as with the current burro herd in Horseshoe Canyon and the associated impacts by trespass animals on the park. Planning for contiguous areas with the park should recognize this as a problem to be solved.

7 Areas of Critical Environmental Concern (ACEC) should be established as buffer zones on BLM lands adjacent to Capitol Reef and Canyonlands National Parks and Glen Canyon NRA. Proposed mining and mineral applications or operations in ACECs should be administered in accordance with an Interagency Agreement to be established between BLM and NPS. The language of the Interagency Agreement could be similar to that of the existing Geothermal Interagency Agreement that provides a mechanism for expedient review of proposed applications in the predetermined buffer zone.

RESPONSE TO COMMENT 32 NATIONAL PARK SERVICE, ROCKY MOUNTAIN REGION

[Comment page 4]

4 No archaeological values have been identified as needing the special management of an ACEC.

See also the response to comment 15-81.

5 See the response to comment 3-2, paragraph 1.

The Spur area between Horse Canyon and Green River is outside the planning area and therefore not discussed in this document.

In the ROS SPNM-class area, which includes land adjacent to the Glen Canyon National Recreation Area (NRA), ORV use would be limited to designated roads and trails.

See also the response to comment 15-81.

6 Public law 92-195 declares that wild horses and burros are to be considered as part of the natural system where they are presently found (that is, in 1971) and as such not considered an exotic species.

BLM is not aware of any study that indicates wild horse and burros contribute to the spread of exotic species such as tamarisk.

BLM recognizes the need to cooperate as much as possible with adjoining agencies and land owners. Whenever it appears that BLM's actions would affect adjoining parties, BLM would coordinate with its neighbors.

7 While BLM agrees that NPS must work to preserve resources within the parks, BLM does not support, and does not believe NPS should advocate, the establishment of "buffer zones" around national parks. BLM believes NPS must be very cautious in its efforts to set guidelines and establish restrictions for activities occurring outside of national parks.

8 We can find little information on the cumulative effects of the proposed action in the RMP. This information must be provided for cultural resources, and the indirect and cumulative effects on NPS lands adjacent to the resource management area should also be identified.

9 The Consultation/Coordination section describes NPS plans and then states "Management of public lands would vary among the RMP/EIS alternatives and may or may not be consistent with NPS management." The EIS should discuss what the impacts of inconsistent management would be on NPS resources and visitors. Alternatives C or D would offer the most protection to NPS units affected by this plan and are therefore the most preferable alternatives for the NPS.

Additional specific comments on the San Rafael RMP/EIS are enclosed. Should you have any questions on our comments, please contact Christine L. Turk, Chief, Branch of Compliance, on FTS 327-2830 or commercial (303) 969-2830.

Richard A. Strait

Enclosure

cc:
Mr. Stewart, Regional Environmental Officer, Denver, Colorado, w/c enc.

RESPONSE TO COMMENT 32 NATIONAL PARK SERVICE, ROCKY MOUNTAIN REGION

[Comment page 5]

8 The impacts identified in chapter 4 of the draft RMP/EIS are cumulative effects.

9 See the response to comment 3-2.

ADDITIONAL COMMENTS ON DRAFT SAN RAFAEL RESOURCE MANAGEMENT PLAN/EIS

1. Additional minerals issues which are important include:

-Glen Canyon NRA was withdrawn from mineral entry under The Mining Law of 1872 (The Enabling Legislation establishing Glen Canyon NRA of 1972, and Mining in the Parks Act of 1976).

-Geothermal leasing is prohibited within Glen Canyon NRA under the Geothermal Steam Act of 1970 (BLM 43 CFR 3201.1-6).

-Off lease seismic exploration is not authorized on Glen Canyon NRA in association with oil and gas activities.

Glen Canyon NRA is currently in the process of preparing an environmental analysis of mineral leasing on the open Recreation and Resource Utilization (RRU) zoned lands within the NRA. The purpose of this document will be to determine, based upon sensitive resources, which RRU lands can be leased and under what conditions leasing will occur. We will coordinate the preparation of this analysis with BLM.

2. Compatibility with adjacent land uses is of concern to Glen Canyon NRA. We are concerned over the compatibility with adjacent oil and gas leasing categories, ORV classifications, and ROS designations.

10 -Map 17, page 17, Vol. II, shows adjacent lands open to oil and gas leasing with standard stipulations (category 1). Depending on the results of our analysis, we may zone adjacent lands within the NRA differently. You may wish to make note of that in the text or on the map.

11 -Map 63, page 63, Vol. II, shows adjacent lands open to ORV use. However, ORV use on NRA lands are restricted to designated (identified as open in our general management plan) roads. To avoid later enforcement problems, we suggest you also point out this difference in use restrictions.

12 -Map 58, page 58, Vol. II, shows adjacent lands as ROS semi-primitive motorized. Again, RRU lands within the NRA restrict motorized activity to designated roads. Adjacent NRA lands in the Natural zone (i.e., Horsethief Canyon) are closed to motorized activity and are closer to ROS-P designation.

13 3. Pages 2-31 and 3-50 of Vol. I and Map 39 of Vol. II discuss an adjacent land withdrawal for powersite (hydroelectric purposes) by the Federal Energy Regulatory Commission (FERC). We were not aware of such a land withdrawal and wonder if this withdrawal of federal land was by the Bureau of Reclamation for which FERC may be involved in permitting. Because of proximity to park lands, we would like clarification on what constraints exist in association with this withdrawal. Neither the text nor maps on minerals indicate that this area is withdrawn from these uses. Page 3 through 14 of Vol. I puts this withdrawal in an open category but separate from other open areas. No explanation is given in the text for the difference in management or administration within this withdrawal.

RESPONSE TO COMMENT 32 NATIONAL PARK SERVICE, ROCKY MOUNTAIN REGION

[Comment page 6]

10 Comment noted.

11 See the response to comment 32-5, paragraph 3.

12 See the response to comment 32-5, paragraph 3.

13 See the response to comment 11-23.

14 4. Page 2-85; We suggest that Table 11 under grazing show acreages covered by this RMP which is in Glen Canyon NRA (i.e., that portion of the Henry Mountains RA administered by San Rafael RA). However, we also point out the concern highlighted in our cover letter which states in part, "Bureau of Land Management (BLM) practices, objectives and planned actions that are appropriate and applied elsewhere on the public lands in the San Rafael Resources Area may not be applicable or permissible within the boundaries of Glen Canyon National Recreation Area." We also suggest that a note be included in Table 11 to reflect this.

15 5. Page 3-39, Table 37: We suggest that you show acreage of Horseshoe South allotment within Glen Canyon NRA on this table and what category it is in ("I"). Also show category on Map Pocket B, Existing Livestock Grazing Management, Alternative F. Appendix R; Table R-1, page 227, shows a "Glen Canyon NRA (5015)" allotment or sub-allotment. The grazing pocket map has the area numbered as 5105. To what lands are these referring? If they refer to Glen Canyon NRA lands, we point out our cover letter comments on the development of the Glen Canyon Grazing Management Plan. It is highly unlikely that the ecological condition objective will be 100% early seral.

16 6. Page 4-99, Table 73, Summary of Major Environmental Consequences and Irreversible or Irretrievable Commitments of Resources: This table is missing any information about Cultural Resources. According to the text there will be major impacts and irreversible or irretrievable commitments of this resource that should be incorporated into the Summary.

17 7. Page 5-6: The discussion on Glen Canyon NRA should mention that land along the BLM/NPS boundary falls into the RRU zone and the Natural zone (Horsethief Canyon). Minerals leasing is not allowed in the Natural zone and may be allowed in the RRU zone following the preparation of an environmental analysis and identification of significant sensitive resources.

18 8. Page 5-9: Under National Park Service, the paragraph on Glen Canyon NRA is recommended to be revised utilizing information contained in comment "1" above. The discussion of minerals procedures within Glen Canyon NRA should not be included in this RMP, since administration of minerals would be under the Henry Mountains RA in this area and thus covered in their planning and the NPS minerals leasing environmental analysis currently being prepared.

19 9. Page 3-24 lists the "Glen Canyon General Management Plan"(1979) as proposed. The General Management Plan is final and was published in the Federal Register, November 21, 1979.

20 10. Volume 1, Page "I"-14, paragraph 3, states that BLM manages grazing uses on Glen Canyon National Recreation Area. To more accurately reflect the BLM responsibilities within section six of the Glen Canyon enabling legislation, the word "manages" should be changed to "administers."

RESPONSE TO COMMENT 32 NATIONAL PARK SERVICE, ROCKY MOUNTAIN REGION

[Comment page 7]

14 Table 7 (draft RMP/EIS, page 1-14) indicates that BLM administers 12,780 acres within the Glen Canyon National Recreation Area.

15 Horseshoe South is included within the areas shown in the draft RMP/EIS, table 37, page 3-39. BLM does not believe it is necessary to break this out any further. The map has labeled that portion of Glen Canyon NRA which BLM administers. However, the allotment number is incorrect. BLM does not believe this is significant enough to reprint the map.

Our ecological site inventory completed in 1985 shows the Glen Canyon NRA to be 100 percent early seral (appendix R).

16 Table 73 has been changed to include Cultural Resources (final EIS, chapter 4).

17 The final EIS has been changed to include the natural zone designation.

18 The Glen Canyon NRA's northern boundary adjoins the resource area's southeastern boundary; therefore it was deemed appropriate to include a description of the administration of minerals within the Glen Canyon NRA.

19 The text of appendix B has been changed to reflect the Glen Canyon General Management Plan in final and was published in the Federal Register, November 21, 1979.

20 The text has been changed.

DEPARTMENT OF THE AIR FORCE
AIR FORCE REGIONAL CIVIL ENGINEER CENTRAL REGION
1114 COMMERCE STREET
DALLAS, TEXAS 75242-0216

COMMENT 33

September 12, 1988

Mr. Gene Nodine
Moab District Manager
Bureau of Land Management
P. O. Box 970
Moab, Utah 84582

Dear Mr. Nodine

This is in response to your request for comments on the Draft Resource Management Plan/Environmental Impact Statement submitted for the San Rafael Resource Area, Moab District Utah.

We continue to support the overall BLM planning concept. While actual conflicts between Air Force flying routes and the proposed resource management plan do not exist at the present time, routes and airspace requirements of the military do change frequently. Mission requirements, fuel costs, and environmental constraints all act upon the decision to locate a military training activity. In particular, low altitude high speed flight, because of general aviation and population pressures, has been relegated to those areas least accessible and sparsely inhabited.

1 For this reason, it is requested that you give full consideration to the extent to which management decisions associated with this management plan might adversely effect or restrict use of low altitude airspace by the Air Force. If restrictions are placed upon these military overflights, the negative impact on training and readiness will force the Air Force to object to the plan.

We hope this information is useful in your planning process. We thank you for the documentation previously provided and look forward to continued communication with your office. Our staff project officer is Mr. Raymond Bruntmyer, telephone (214) 653-3341.

Sincerely

JOHN A. MILLER, Lt Colonel, USAF
Director, Environmental Planning Division

Copy to:
HQ USAF/LEEV
Jim Dryden, San Rafael Resource Area Manager

RESPONSE TO COMMENT 33 U.S. DEPARTMENT OF THE AIR FORCE, CENTRAL REGION

[Comment page 1]

1 Under the proposed RMP, when the Air Force proposes a new route, an EA would be written to analyze the impacts of the proposal.

Castle Dale City
Box 726
Castle Dale, Utah 84513-0726
381-2119

COMMENT 34

December 6, 1988

Jim Dryden, San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Mr. Dryden:

1 We the jurisdiction of Castle Dale City wish to confirm our endorsement of Alternative A of the San Rafael Draft Resource Management Plan/Environmental Impact Statement which we understand will generally leave the area to the uses now constituted.

Our anaylsis of the San Rafael Swell area indicates that a balance now exists among the various interest groups and very little, if any, change needs to be mandated by special interest groups. We also believe that "nature" can work compatibly with sound structured economic and resource development, thereby, benefiting all.

It is our conviction that in this democratic nation of the United States of America, the beliefs and rights of all interested groups must be acknowledged and that no undue cutbacks and hardships should be placed on one interest group to benefit another.

In order that communication maybe more effective between all interested parties of the San Rafael Swell and those involved with the management of the area, we urge the relocation of your office to Emery County.

Logic tell us that if rural Utah is to stay alive, there is a definite need for continued use and development of the San Rafael Swell area as presently exists.

Sincerely yours,

Theron D. Jorgensen

Theron Don Jorgensen, Mayor
Castle Dale City

RESPONSE TO COMMENT 34 CASTLE DALE CITY

[Comment page 1]

1 The information collected through public input and BLM's knowledge of resource development opportunities and use conflicts indicated that management under the existing MFP (and reflected in alternative A of the draft RMP/EIS) is not adequate. This is demonstrated by the number and complexity of the planning issues and management concerns identified in the draft. Through the analysis of each alternative, BLM has determined that the proposed RMP best addresses these issues and concerns.

The option to relocate the SRRA office would be handled administratively by the State Director and is therefore not appropriate for resolution through the land-use planning system.

COMMENT 35

Emery County Board of Commissioners
P.O. Box 620
Castle Dale, Utah 84513
Telephone (801) 381-2119

Clyde W. Thompson, Commission Chairman
Duane L. Collard, Commissioner
Jerry D. Mangum, Commissioner
Bruce C. Funk, Clerk

December 5, 1988

Mr. James Dryden
San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Mr. Dryden:

As a commission we are appreciative of the opportunity to comment on the San Rafael Resource Management Plan and on having the opportunity to participate in the planning process. We recognize that with the substantial amount of public land in our county we will be impacted by the decisions that are made concerning the use of these public lands.

Accordingly, we would hope that your agency will respond with sensitivity and sensibility to the views of the local residents and officials who live and govern in this area.

It would seem if future management of the resource area is implemented in the most beneficial manner, the Bureau of Land Management office for the San Rafael Resource area should be located in Emery County. In this way, we believe, managers will be more sensitive to suggestions from individuals with both vested and intrinsic interests in the area.

Again, it is with sincere appreciation that we take the opportunity to respond to the different plan proposals that could do much to detract from or enhance our economies and life styles.

Sincerely,

Clyde Thompson, Chairman

Duane L. Collard, Commissioner

Jerry D. Mangum, Commissioner

EMERY COUNTY COMMENTS

ON THE SAN RAFAEL

DRAFT RESOURCE MANAGEMENT PLAN/ENVIRONMENTAL

IMPACT STATEMENT

GENERAL COMMENTS:

1 Emery County takes the position of generally supporting the BLM's preferred Alternative F of the San Rafael Draft Resource Management Plan/Environmental Impact Statement. In this position of support we are generally accepting and adopting as our own the San Rafael Resource Area planning team's rationale and expertise as they have articulated the issues. This expression of support is for much of the technical analysis, research, and recommendations found in the RMP and subsequently brought forward into the preferred alternative. There are, however, areas of concern with this alternative that require BLM clarification and modification.

SPECIFIC COMMENTS:

OIL AND GAS LEASING

2 Emery County does not support closing (Category 4) Bowknot Bend, Big Flat Tops, Pictographs, Copper Globe Mine, and Swasey's Cabin to oil and gas leasing, but the County does support a Category 3 (no surface occupancy) designation. This would be more in keeping with the BLM mandate that strict stipulations ". . .should only be imposed where there is evidence that less stringent alternatives would not adequately accomplish the intended purpose by containing

RESPONSE TO COMMENT 35 EMERY COUNTY BOARD OF COMMISSIONERS

[Comment page 2 (1)]

1 BLM appreciates this statement of support for alternative F in the draft RMP/EIS.

2 The final EIS, chapter 4 does not justify a lower level of restriction for the areas mentioned. Leasing would be inconsistent with the management prescriptions required of other uses to protect relict vegetation and cultural/historical values.

the adverse effects of oil and gas operations within acceptable limits.

3 The Commission does support special stipulation (Category 2) leasing of the Dry Lake Archeological District, the Temple Mountain Historical District and Muddy Creek. We would, however, request a detailed discussion be printed in the SRRMP Final Draft of all stipulations which may be applied to a given lease proposal in a Category 2 leasing area. This discussion would give all prospective lessees and the general or lay public a clear picture of the kinds of restrictions and allowances with which a prospective project may be faced (under Category 2).

4 The County is concerned about strict Category 3 leasing in the I-70 Scenic Corridor. It is felt that any application for leasing in this area be treated on a case by case basis. Where there is a possibility of vegetative or topographical screening, Category 2 leasing stipulations should be applied. We would remind BLM that the view shed to be protected is that view from the highway outward and not from the outer proposed boundary inward toward I-70. Protection of the view outward from the Interstate will allow for many opportunities to conceal activities including mining, drilling and mineral materials extraction from the casual view of the high speed motorist on the interstate. As a case in point, BLM will also recall that on April 20, 1988, BLM staff, the Moab District BLM Citizen's Advisory Board, Emery County officials and others toured some of the San Rafael Swell. While touring down I-70 no one in the

RESPONSE TO COMMENT 35 EMERY COUNTY BOARD OF COMMISSIONERS

[Comment page 3 (2)]

3 The stipulations developed for category 2 are listed in chapter 2 of the final EIS. Programs under which special conditions are listed include lands, cultural, wildlife and soils. The stipulations would vary for each lease tract according to the site-specific requirements for resource protection.

4 BLM agrees that applications should be reviewed on a case-by-case basis. The draft RMP/EIS (page 2-62) states that an exception to the no-surface-occupancy stipulation could be granted only where an EA concludes that the proposed action would not adversely impact scenic values. The exception would apply only to the I-70 scenic corridor.

group saw a uranium mine dump located in the area referred to as the "Head of the Sinbad" until it was called to the attention of the group by a local resident knowledgeable about the area.

Class 3 (no surface occupancy) stipulations are supported for Segers Hole. Class 3 leasing stipulations for Sid's Mountain and for the San Rafael Reef are supported with reservation. Where portions of these areas have moderate potential for oil and gas production and where some of these areas are away from the canyon rims and canyon bottoms, such areas should be designated Class 2 which would be in keeping with what was done in the San Rafael Canyon ACEC.

5 The Final SRRMP needs to clearly indicate the different leasing categories as they relate to specific ACEC's. There also needs to be a clear explanation that just because an area is designated as an ACEC it is not by definition or automatically VRM Class I. Further, VRM Class I areas should not exceed in total acreage those areas having no surface occupancy (Class 3) and no leasing (Class 4) stipulations. This should hold VRM Class I designation to less than 214,000 acres. The rationale for this is that VRM Class I designation creates a situation which is defacto Category 3 and 4.

The RMP at page 1-5 states that "Oil and Gas leasing categories will be applied according to the pattern of stipulations identified through the RMP." We urge that oil and gas leasing categories also be reflective of the potential for resource production. The value or potential value of the resource should not be inconsequential or

RESPONSE TO COMMENT 35 EMERY COUNTY BOARD OF COMMISSIONERS

[Comment page 4 (3)]

5 Under the proposed RMP, only 1,040 acres with high potential for oil and gas would be in category 3 (no surface occupancy), with no high potential area in category 4 (no lease). The remaining 105,270 acres with high potential would be in category 2 (special conditions) and 1 (open) (appendix Q). Appendix V has been revised for clarification.

subordinated to other values in the process of determining lease categories. As case in point, Appendix V indicates that 60% of the resource areas' high oil and gas lands and 55% of the areas' moderate potential lands will be under either VRM Class II or VRM Class III management. While this should not be perceived as being a problem, comments made in Appendix V are cause for concern (See discussion on Visual Resource Management and Mining below). Other restrictive stipulations may also apply. We believe VRM II and III stipulations, as they are proposed to be applied, are too restrictive given the resource potentials they may preclude. We recommend a relaxation of stipulations in areas of moderate to high potential for minerals or oil and gas. Stipulationin these areas should not exceed Category II leasing or VRM Class II limitations. We also request a discussion by BLM in the final RMP as to how it will factor the potential for economic production into its discretionary decision making process.

GEOTHERMAL MANAGEMENT

Emery County supports the BLM position.

COAL MANAGEMENT

6 Emery County supports BLM Coal Management as proposed under Alternative F with the exception that the 3980 potential acres closed to exploration identified in the I-70 Scenic Corridor ACEC should be open to exploration, with proper mitigation measures, if

RESPONSE TO COMMENT 35 EMERY COUNTY BOARD OF COMMISSIONERS

[Comment page 5 (4)]

6 In the proposed RMP, the I-70 Scenic Dorridor ACEC was dropped in the Forest Planning Unit (FPU). There are 2,700 acres of the Emery KRCRA that coincide with the FPU I-70 corridor and are now open to coal exploration and leasing under standard conditions. The remaining 1,280 acres fall within the I-70 scenic corridor and would be subject to the management prescriptions as described in the proposed RMP (chapter 2, Visual Resource Management).

the need and demand arises. The background rationale is (1) "Under current technologies, coal exploration can be effective only with some sort of drilling (p. 4-83)." (2) The number of holes drilled in the KRCRA would be increased by only one per year. (3) Explorative drilling will only temporarily disturb a site representing a minimal potential for scenic intrusion. (4) "Utah coal is popular because it generally has the lowest sulfur content per energy value derived. (Federal Lands, November 15, 1988, p.5.) and (5) "Utah was the first state to receive a coal lease application under the new lease system. Two subsequent applications are now pending, making it the only state where commercial interest in coal has not waned." op. cit. p.6. The coal resource is, therefore, too valuable to be foregone for the sake of one drill hole per year, particularly when one considers the range of mitigations available.

MINING

Page 242, Mining Law Administration states that roads, shafts, and some drilling "would not be compatible with the objectives of VRM Class II or III." This statement does not comport with
7 definitions of the visual resource management classes set forth on Page 176. It is well documented that roads, shafts, drilling and even waste piles may meet standards as set forth in the VRM class definitions. The general statement under 4132, Page 242, Mining Law Administration must be rewritten to state that roads, shafts,

RESPONSE TO COMMENT 35 EMERY COUNTY BOARD OF COMMISSIONERS

[Comment page 6 (5)]

7 Management decisions in the proposed RMP reflect the value of visual resources. Management actions would be evaluated on a site-specific basis using contrast-rating proceedures outlined in BLM manual (handbook) H-8431-1. The contrast rating provides a means for determining visual impacts and for identifying measures to mitigate these impacts. Under VRM class I, limited management activity can be allowed, but any changes to the characteristic landscape must be very small and not attract attention.

BLM agrees that exploration activities could meet the class II or III objectives. Appendix V has been changed to clarify the compatibility of exploration with class II or III objectives.

drilling, spoil piles and other evidences of mineral exploration "may be compatible with VRM Class I, II and III with proper mitigation techniques." The "general" comments also state that "only exploration (no mining for gypsum or uranium) would take place." This statement makes no sense. Why would there be exploration without the potential for development and production? As stated on page 242, 80% of the potential uranium development area would be in VRM Class II or III areas. As the RMP is currently written the resource in this area would be largely undevelopable in order to protect the visual resource. This level of restriction is unacceptable and, we believe, inconsistent with VRM class objectives as set forth in Appendix M. BLM has lost sight of the "casual
7 observer" standard. We would remind BLM that its staff had not noticed a mine waste dump lying squarely within the proposed I-70 scenic corridor until it was pointed out by a local government representative. This demonstrates the fact that production oriented activities may not necessarily impair VRM Class I, II, or III standards in the mind of the "casual observer". For this reason BLM must not place or effectively place blanket exclusions on <u>any</u> activities in <u>any</u> VRM class area. Each event or proposed event must be judged on its merit considering available mitigation and the perceptive abilities of the "casual observer". We would also point out that at 2-11 the RMP states "Road construction must meet BLM VRM Class III standards. If roads must meet Class III standards, how

can they not meet Class III standards under "Mining Law Administration" as stated on Page 242?

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

The RMP proposes that all ACEC's "would be VRM Class I", (Page 241). This is an unacceptable blanket application of restriction which is in direct conflict with the definition of ACEC wherein it is stated that "an ACEC is not intended to blanket large areas with specific restrictive stipulations". Furthermore, in applying VRM Class I standards to all proposed ACEC's BLM is contradicting statements elsewhere in the RMP where, for example, ACEC's, such as Swasey Cabin are proposed for VRM II.

Most ACEC's proposed in the RMP are proposed for purposes other
8 than visual resources. When an ACEC is proposed for purposes other than visual resources then we would support the application of no visual resource management class to the ACEC. BLM staff has assured local government that, for example, in areas of mineralization such as Tomsic Butte and Temple Mountain, mining could resume in the future provided that historical resources are documented. If VRM Class I, II, or III is applied and, if BLM sticks by its statement at page 242, then mining could never resume as has been promised.

We request that BLM discuss in greater detail the means by which exploration, mining, and drilling can be conducted in all four VRM class areas. This discussion would illuminate the general limits of manager discretion now implied in diffuse fashion in the

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[Comment page 8 (7)]

8 Thirteen areas were proposed for ACEC designation in the preferred alternative of the draft RMP/EIS. Six scenic ACECs would be managed as VRM class I and II (draft RMP/EIS, page 2-62). Two cultural/historic ACECs would be managed as VRM class II (draft RMP/EIS, pages 2-49 and 2-50). The management prescriptions proposed for the five remaining ACECs do not include specific VRM objectives. BLM does not consider this to be a blanket application of VRM class I objectives.

Under the preferred alternative, those ACECs not proposed for withdrawal (Tomsich Butte and Temple Mountain) would be open to mineral entry, with plans of operation required. The objectives of the proposed VRM class would be used to evaluate the plan and provide mitigating measures to protect the visual resource. The plan would be approved if it would not cause undue and unnecessary degradation (43 CFR 3809.0-5(k)).

All proposed actions would be evaluated on a site-specific basis using contrast-rating procedures outlined in BLM Manual (handbook) H-8431-1. The contrast rating provides a means for determining visual impacts and for identifying measures to mitigate these impacts. The decision to approve an action would depend upon the identified impacts, location, duration of the action and reclamation, and residual impacts remaining after the reclamation.

text. Such a discussion would certainly facilitate understanding by the lay and casual reader.

MINERAL MATERIALS

4131 Mineral Materials Management (page 241) states that "mineral material site development would not be compatible with VRM Class II objectives and . . .such sites would (not be located) in areas of critical environmental concern." It is well documented that mineral materials sites are readily screenable and concealable. In addition, man-made disturbances to the land can be reclaimed both naturally and through mans' efforts. Accordingly, there is no justification for blanket exclusion of mineral material sites in <u>any</u> VRM class areas including Class I areas or in any ACEC provided each
9 proposal is reviewed on its own merit and mitigated as needed. The blanket exclusion of mineral material sites from Class I and II areas and from ACEC's is unacceptable. We believe that BLM should show that there is some unmitigatable detriment to the resource responsible for ACEC designation before a material site permit is denied. As mentioned under Areas of Critical Environmental Concern, it would be helpful to the lay or casual reader if the final RMP would include a specific discussion of the area managers discretionary authorities relative to the permitting of mineral material activities in all VRM class area.

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[Comment page 9 (8)]

9 A typical material site exists for 10 to 30 years, which would constitute a long-term or residual impact. BLM has determined that impacts lasting longer than 5 years would not meet VRM objectives.

4333, VISUAL RESOURCE MANAGEMENT

Alternative F (2-5) states that no-surface-occupancy stipulations would be waived in areas managed for scenic values if an EA concludes that the proposed action would not adversely impact scenic values. We are concerned with apparent contradictions within the RMP relative to what is allowed or allowable in various VRM classes. We request a more definitive discussion of oil and gas, mineral, mineral material, and road construction activities allowable in all VRM classes and visual resource management areas. We would request clear statements as to whether, and under what circumstances, these types of activities would be allowed in all VRM class areas. This discussion, for the sake of understanding on the part of the lay reader, should include likely mitigation actions
10 that may be required in each of the several class areas including the duration and seasonal timing of visual intrusion. We are uncomfortable with the ambiguity in the expression "not adversely impact scenic values". By what measure is "adverse impact" going to be measured? Will duration and season of use be considered in all cases? Will potential economic values derived from the intrusion be considered? Does this "adverse impact" standard apply to all areas or just oil and gas activities? We request that BLM respond to these questions in the final RMP. With respect to the Scenic Corridor ACEC it should be specified that the visual resource of concern is that view from the I-70 right-of-way outward and not from the outer extremity of the Corridor toward the interstate. With

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[Comment page 10 (9)]

10 It is not the goal of the RMP, nor is it possible, to address every conceivable action or circumstance that may affect public land. The contrast-rating system provides a systematic means to evaluate proposed projects and determine whether they would conform with the approved VRM objectives. It also provides a means to identify mitigating measures that would minimize adverse visual impacts. The VRM objectives are one element considered in the decision-making process. Any action must be evaluated through the NEPA process, which may include socioeconomic considerations as well as environmental concerns. The field manager decides how much visual change is acceptable. The authorized officer would determine what constitutes an adverse impact, based on the contrast rating score of any site-specific development activity.

this understanding established we believe that mineral and mineral materials activities could occur within the Corridor as well as all other visual resource areas under appropriate plans of action. The following additional comments are offered.

- All visual resource areas should be open to mineral leasing, as proposed, but we object to special conditions to prevent surface occupancy. (Page 2-62) We believe that each proposed activity should be assessed on its own merit in all areas and in view of the broad scope of mitigation opportunities available to the project proponent and land managers.

11 - We disagree with any proposal that would categorically preclude mineral materials disposal on the basis of a VRM designation. Mineral materials disposal is an activity readily obscured from view and reclaimable once completed. This is particularly true in the rugged terrain and highly mobile soils of the San Rafael. Each mineral materials disposal activity proposed should be reviewed on its merit including the duration of activity and season of extraction. Furthermore, extraction for public purposes by public entities should be given higher priority than private for profit operations and time limited proposals should be given priority over long term operations.

- We support all visual resource areas being open to mineral entry, with plans of operation including parts of Sid's Mountain which has known mineral values.

12 - We support the avoidance of right-of-way for visual resource

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[Comment page 11 (10)]

11 The scenic ACECs were proposed for designation based on visual resource values (appendix B). The impact analysis in chapter 4 of the final EIS does not support a lesser level of restriction in order to protect the scenic and primitive values.

Mineral material disposal is not precluded in areas based on VRM designation. Instead, mineral material disposals are excluded from ACECs and other designated areas where such activity would be incompatible with other resource values, such as relict vegetation, primitive ROS class, historic/cultural values, scenic values, riparian areas, aquatic habitat, and developed recreation sites.

12 BLM appreciates this statement of support.

areas as avoidance is defined in the draft RMP glossary.

- We support maintenance of visual resource areas as open to range improvements with special conditions as proposed in the RMP.

13 - We support the exclusion of visual resource areas from land treatments as proposed except that these areas should be maintained as open to treatments for noxious weed and insect control as the need might arise. These control measures would be a matter of negotiation at the time of need between the responsible local government entity and the land manager.

- We support the designation of visual resource areas as limited to ORV use, with use limited to designated roads and trails. We are, however, cognizant of concerns by some over this allowance. In response to these concerns we suggest that BLM place as top priority the development of an ORV plan immediately upon adoption of the final RMP-EIS. We would ask that local government

14 be involved from the outset in the development of this plan. Furthermore, we would support the issuance of permits and collection of fees for certain ORV uses, particularly users on other than designated roads and trails. We agree with the RMP statement (2-57) that ORV use may be allowed under an authorized permit in areas designated closed or limited.

- We can agree with the designation of visual resource management

15 areas as VRM Class I, subject to the limitation discussed under Oil and Gas Leasing above, and <u>if</u> the definition for Class I as set forth in Appendix M is adhered to, and if BLM considers each

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[Comment page 12 (11)]

13 Land treatment exclusions do not include treatment for noxious weeds and insect control.

14 BLM appreciates the support for ORV use designations and will implement a cooperatively developed ORV implementation plan within 1 year after the RMP is adopted. This process will include public involvement.

15 BLM does not intend to use the objective of VRM class I to automatically preclude activities, providing the activity causes only a very low level of change to the characteristic landscape and does not attract attention to the casual observer.

proposal on its own merit, and if BLM considers the broad array of mitigations available to it including duration and season of use. We do not agree with the use of Class I management as an excuse for blanket exclusion of any activity including mineral, mineral material or road construction activities.

16 - We agree with the exclusion of visual resource management areas for commercial use of woodland productions. However, we believe downed dead wood should be maintained available for both private and campfire use.

- We support the proposal for fire suppression as set forth for visual resource areas.

17 - With regard to the central portion of the San Rafael Canyon, we agree with all stipulations except 1) the allowance for taking live wood for campfires. This should be dead wood only. 2) ORV use should be restricted to designated roads and trails. Also, we support the application of VRM Class II standards provided the definition of this standard as set forth in Appendix M is adhered to and available mitigations as mentioned above, i.e., monetary values, duration and season of use, are recognized and factored into the decision making process.

18 We accept and agree with the rationale as set forth in Appendix B for not designating Hebes Mountain, Little Black Mountain, and Gilson Butte as ACEC's.

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[Comment page 13 (12)]

16 Private offsite use of woodland products is not based on VRM classifications. BLM does not believe that there is sufficient dead wood in ACECs for private home use. Specific areas would be opened for private home use within those areas designated open to woodland product harvest. Onsite use for campfires of downed dead wood would be permitted in all ACECs.

17 The comment was considered, and a change from live to downed dead wood only has been made (final EIS, chapter 2, Visual Resource Management).

18 BLM appreciates this statement of support. Based on public comment, Gilson Buttes will be reconsidered for ACEC designation following further evaluation (appendix B).

ROADS

The BLM must remain aware of its responsibility to abide by state law relative to the designation of a road as a road. Furthermore, BLM must remain cognizant of county rights and responsibilities under grandfather 2477 roads. Finally, BLM must be aware that Utah State Law empowers counties to establish roads as either Class C or Class D.

As BLM reviews road improvement or maintenance proposals it must recognize that there are other authorities, primarily counties, with other responsibilities such as public safety and rights of access to private or state lands or other rights that must be considered. In view of the rights and responsibilities of others, BLM must employ a liberal, affirmative review and approval approach
19 to road projects.

We disagree with the blanket requirement at 2-11 calling for reclamation of roads constructed in conjunction with other projects to as near the original condition as possible. We believe that roads constructed should be considered for their value as access ways for other purposes such as recreation or public safety. A blanket reclamation order ignores these other potential values of the road improvement. We recommend that reclamation be done on a case by case basis following consultation with the interested local government having statutory authority over roads in the SRRA..

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[Comment page 14 (13)]

19 All of the alternatives recognize valid existing rights, including rights-of-way for county, state, or municipal roads. The final EIS provides additional discussion of valid existing rights.

The county has a valid existing right for the roads on the county road system under R.S. 2477. This includes most of the existing access roads in the planning area. See the response to comment 29-1.

A clarification statement has been added to the final EIS (chapter 2, Standard Operating Procedures) to address the county's concerns regarding reclamation.

WATER

20 At 3-19 the RMP states: "The RMP cannot be used to determine water rights, but it may be used as a basis to develop future uses for water in the planning area." We see a conflict between the statement that the RMP cannot be used to determine water rights and the follow-on comment that the RMP may be used to develop future uses. There is no meaningful difference between determining water uses and determining water rights. While BLM appears to be attempting not to, it nonetheless appears to us that the specter of quasi wilderness reserve water rights is being raised. This is a matter of great concern to us. We request that BLM discuss its intent relative to the future uses of water in the SRRA at much greater length and that it include local government and state water authorities in these discussions.

AIR QUALITY

21 At page 3-22 the RMP states that the MFP discussed managing the Swell as a Class I Air Quality area but that this approach was rejected when BLM "opted" to avoid restrictions to industrial growth by working within visual air quality Class II requirements. We believe that BLM acted beyond its authority when it considered managing the Swell as a Class I Air Quality area. BLM policy requires that the least-limiting level of restrictions be applied to oil and gas leases, (page 2-14). To overlie a congressionally designated Class II area with Class I management standards is wrong

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[Comment page 15 (14)]

20 As stated, the RMP cannot be used to determine water rights (draft RMP/EIS, page 3-19). The statement that the RMP may be used as a basis to develop future uses for water means that if water projects are proposed, BLM would apply for the water rights on these sites. BLM presently has no wilderness areas in the planning area, and the RMP is written assuming no wilderness designations. Wilderness areas would be designated by an act of Congress. BLM has not attempted to obtain, and has no plans to obtain, additional water rights based on wilderness designations. Future uses of water in SRRA may include stock ponds, guzzlers, water control structures, or pipelines and troughs. No major projects have been proposed in the RMP. BLM is required to obtain water rights through the state engineer before any water projects can begin. Notices are printed in the county newspaper for 90 days. Any person or agency may protest these applications.

21 As stated in the draft RMP/EIS (page 3-22), the special interest areas would be managed as an air quality class II area. The San Rafael MFP recognized the unique qualities of the San Rafael Swell and set a goal to protect these qualities through the RMP process. After considering methods of protection, it was concluded that these qualities could be protected through class II air quality standards. BLM acknowledges that changes in air quality class may be made only through a state or congressional decision. BLM did not intend to insinuate that it was working outside its authority.

in that it conflicts directly with BLM policy and it challenges the concept of state primacy in air quality matters. To state that BLM "opted" to not proceed with Class I air quality management presumes authorities which we believe BLM does not have. We request that the RMP specifically recognize that it will manage the lands in conformity with Class II air quality standards until such time as the State of Utah, which has primacy over air quality matters, determines that the Swell should be elevated to Class I air quality.

RECREATION

Emery County recognizes the value of the San Rafael Swell for recreational purposes. Furthermore, we are aware of the national trend toward motorized, mechanized, and touring related recreation while primitive recreation and back country use has experienced a multiyear down-turn. Accordintly, we do not support the BLM "ROS class acreage shift toward the resource dependent (primative) end of the spectrum" (p.4-90). The trend toward shorter duration motorized or mechanized recreation has been attributed to the aging of the baby boom population and to two worker families who have substantial disposable income and limited time to devote to recreation. Forest Service and Park Service visitation rates bear out these observations. It is not likely that the baby boomers, dispite their multiple talents will reverse the aging process and it is not likely that two wage earner families will return to single wage earner status. Accordingly, it is not likely that recreation statistics

22

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[Comment page 16 (15)]

22 BLM is confident that the proposed RMP provides adequate opportunities for both motorized and nonmotorized recreation.

will reverse their current trends. Given this reality, Emery County requests that BLM recognize its responsibilities to the recreating public by maintaining the maximum resource possible open to recreation opportunities that accommodate the motorized or mechanized recreationist and those with limited time to recreate. This recognition could take the form of encouraging pavings, road construction or improvements, scenic turnouts, campgrounds,
22 interpretive stations and more. As little resource as possible should be placed under the primitive category in the recreational opportunity spectrum. While we recognize that substantial portions of the Swell lend themselves only to "P" class recreation, we do not want this class of recreation expanded beyond its necessary and natural topographical limits. We support conservation of surface aesthetics and vegetation and, therefore, we support the limitation of off-road vehicles to designated roads and trails pursuant to an ORV management plan to be developed subsequent to adoption of the Final RMP EIS. We believe these recommendations respond directly to the planning criteria (#5) as articulated in the Draft RMP (Page 5). We would also suggest that recreational management, including ORV management, might lend itself favorably to a Coordinated Management Program (Stewardship Program). Our recommendation for a stewardship program is included under Additional Comments below.

GRAZING

23 BLM proposes to modify forage allocations or seasons of use

where there are conflicts with critical soils and crucial wildlife habitat. As to critical soils, we are concerned about the way in which BLM will mandate the reduction of livestock on slopes while retaining existing forage use on flat lands. We would ask that BLM avoid, to the extent possible, restrictions on flat lands that might otherwise occur as a result of protecting sloped areas.

24 The EIS dwells on changing season of use and cutting AUMs and does not adequately discuss other range management practices that could be implemented to improve range condition and reduce soil erosion. Water development, fencing, seeding, rest rotation, and deferred rotation are barely mentioned. Water development deserves special attention, because it has such tremendous potential to improve livestock distribution (listed as a problem on page 2-1), relieve pressure on riparian areas, and improve wildlife habitat.

25 Appendix I, alternative F states that 43 allotments would be analyzed for change in season of use (from spring to winter). This implies that permittees would lose spring feed but would gain winter feed. A closer examination of Appendix I shows that season of use would change on only 15 allotments. Thirty-one allotments with more than one season of use would simply lose spring use. We believe that the economic implication of these proposed changes should be reconsidered.

26 Another concern is that the EIS (Alternative F) does not identify ways to improve the range specifically for livestock grazing. Some practices are dismissed because they may not be cost

[Comment page 18 (17)]

23 In areas exceeding the Soil Conservation Service (SCS) critical soil loss threshold and in a downward trend, it may be necessary to change livestock management (appendix N). This could be a change in grazing season, reduction in livestock numbers, implementation of a grazing system, or other management prescription that would protect critical soils areas. Reductions would be based on 5 years of rangeland monitoring. Changes in management may occur as data become available.

Every effort would be made to reach an agreement with the operator on a grazing plan.

24 The RMP gives general guidance for the uses that may be allowed on public land and where such uses may be allowed. The specific management scheme for a certain area is developed in an activity plan, such as an AMP. Water developments, fencing, reseedings, etc., would be made part of the AMP system and developed as needed to implement the plan.

All plans are established to protect or enhance the basic resources, such as soil, water, and vegetation, as well as to improve conditions for livestock, wildlife, and other use activities on public land.

25 See the response to comment 48-5.

26 The investment analysis for each range improvement does consider benefits to other resources (draft RMP/EIS, page 2-36) See also the response to comment 35-24.

effective. Yet, improved range condition is assumed to reduce soil erosion and benefit wildlife. Why couldn't benefits to grazing, wildlife, and erosion be considered against the cost of improvements? Grazing, wildlife, and erodeable soils are listed as conflicting resources, yet practices that benefit one could benefit all.

27 We recognize the need for crucial wildlife habitat, but we are concerned that a distinction be made between crucial and conventional or standard habitat. Furthermore, we request that allotment adjustments be sustained by both the grazer and the wildlife population. The grazer should not be left alone to bear the burden of lessening range pressure when the wildlife population shares in creating that pressure. If this type of balance cannot be reached, we further recommend that where there is a reduction in domestic livestock grazing as a result of increased wildlife numbers or a reduction in domestic grazing because of proven livestock and wildlife stress to vegetation or soils without a corresponding decrease in wildlife numbers, then the BLM directly compensate the permittee bearing the loss, or, arrange for a permit buy-out by some organization such as The Nature Conservancy or the Wildlife Federation.

28 We appreciate the BLM's acknowledgment of the historic nature of grazing in the San Rafael Resource Area (p.2-5). We do, however, express concern over BLM's apparent lack of regard for what the agricultural community means to the social conditions of the county.

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[Comment page 19 (18)]

27 Wildlife monitoring studies are being implemented in allotments where conflicts between wildlife and livestock are thought to exist. If monitoring studies indicate resource damage by wildlife, BLM may recommend to UDWR that herd numbers be reduced. Grazing permits or leases do not convey any right, title, or interest to the permittees or lessees in any of the lands or resources held by the United States and administered by BLM (43 CFR 4130.2(b) and Section 3 of the Taylor Grazing Act of 1934, as amended). Therefore, compensation for loss of a permit or lease is not allowed.

28 The historical importance of agriculture to the social conditions of the region, particularly Emery County, was acknowledged in the draft RMP/EIS (page 3-64). Although the projected economic impact to ranchers in the area could be severe enough to directly affect their lifestyle, the number of people and amount of earnings affected relative to total county population, employment, and earnings was not enough to change the social conditions of communities within Emery County. Another factor contributing to this conclusion was the large proportion of affected ranchers, over 75 percent, who also have other sources of earnings.

We question the RMP statement that "Social conditions of nearby communities would not be affected." We do agree with the RMP statement that "The lifestyles of some ranchers would change." (p.4-96). Our perception is that even though the numbers of people involved in agriculture in Emery County are not nearly as great percentage wise as they used to be, the social impact and the moral fiber they bring to the area certainly merit more than the two lines that was offered under Alternative F. The BLM analysis that social conditions will not change is fallacious. The lifestyles of at least 62 ranch families will change. Because of the loss of spring grazing, this number may increase to at least 89 families who may be excluded and have their lifestyles altered thereby. These potential changes will alter our social make-up and how we view ourselves and in greater measure than is recognized by BLM.

29 The BLM considers at great length the protection of resources considered rare or in limited supply on public lands. We suggest that the Western American cattle and sheep man is an overlooked resource in the SRRMP. Unless there are some changes, this threatened and endangered species is certain to become extinct in this area.

30 Finally, we would suggest that BLM consider a Coordinated Resource Management Program (Stewardship Management Program) for the San Rafael Swell to provide on-going multiple interest input to its management. The first step in doing this would be to move the San

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[Comment page 20 (19)]

29 The comment is acknowledged.

30 BLM supports the concept of coordinated resource management planning.

The option to relocate the SRRA office would be handled administratively by the State Director and is therefore not appropriate for resolution through the land-use planning system.

Rafael Resource Area BLM office to Emery County where those who are most closely involved with the resource area can access management.

WILD AND SCENIC RIVERS

Emery County questions BLM resource specialist recommendations that Muddy Creek has potential for Wild and Scenic designation. "To be classified as wild, a river must be free of impoundments. The area must show little evidence of human activity and be generally inaccessable except by trail. . . The water must be unpolluted. . ."

To be classified as scenic. . ."The area must not show substantial evidence of human activity (p. 158 Vol II)."

31 Segment 1 of the Muddy Creek would not qualify as wild in that there is an manganese mining site that, as late as the late 1970's, was accessable by vehicle. Surface sampling and spectographic analysis also shows an area of high mineralization.

Further, a letter from Courtney Brewer, Ph.D., 208 Project Manager, to Gardell Snow, County Commissioner, dated January 1977, indicates that the Muddy Creek along that segment is certainly polluted. Mr. Brewer states ". . .the water in that location can kill if ingested. This means a 'red flag' for animals as well as humans."

32 Questions also arise concerning the lack of mention in the draft SRRMP of potential dam sites acknowledged by the BLM to exist during the wilderness study process on the San Rafael River. These sites should be discussed in the RMP.

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[Comment page 21 (20)]

31 The suitability study/EIS would determine (1) the suitability of the river segments for designation to the wild and scenic river system and (2) whether the potential classification of each river segment is correct. This comment will be considered at that time.

32 No dams have been proposed on the San Rafael River and no current interest is known to exist for such development. Therefore, discussion in the draft RMP/EIS would not have been appropriate.

ADDITIONAL COMMENTS

As was mentioned earlier, the BLM considers at agreat length the protection of resources considered rare, threatened or endangered on public lands. The resources include, but are not limited to, relict vegetation, scenery, and archaeological remains. We recommend that BLM give equal consideration to the increasing scarcity of economically developable natural reesources particularly including minerals and oil and gas. These resources will acquire
33 increased economic and strategic value with the passage of time. Furthermore, their occurrence approaches the rarity of other values for which BLM shows great concern. These resources should not be subject to plan stipulations or manager discretion so restrictive as to preclude their extraction to the benefit of either local, state or national economies or strategic interests.

New technologies including "super computing systems" are continually advancing the threshold of mans' knowledge of the earths' subsurface resources. Exclusion of roads and other explorational development activities in VRM Class I, II or III areas may be a short sighted and costly mistake considering the resource potentials that may be unknowingly forgone as a result of drawing premature conclusions. Advancing tehcnology argues against liberal application of restrictive stipulations and in favor of liberal use of affirmative management discretion.

34 At 2-5 the RMP indicates that "certain vegetation values" refers to many other things "ecological values on the Wedge." The

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[Comment page 22 (21)]

33 BLM is confident the that proposed RMP provides for balanced use and protection of all resource values.

The proposed RMP would be reviewed periodically and could be modified to accommodate changing technologies and resource emphasis (appendix A).

term "ecological values" is broad and all inclusive while vegetation values relates to a specific aspect of the ecology of an area. The RMP should explain exactly how the concept of certain vegetation values relates to the Wedge.

35 At 2-5 it is indicated that a no surface occupancy waiver will be available after an EA concludes that a proposed action will have no adverse impact on scenic values. This consideration should be amended to state that no permanent impact will be created and the determination of permanence should include the duration of the visual intrusion as well as other mitigation opportunities.

36 We object to the RMP orientation which places production and protection at opposite ends of the management spectrum (for example 2-2). Production can occur simultaneously with protection. Also we encourage BLM to provide protection to production activities and to the capacity to put the lands to use for commodity production purposes in the future.

County roads on BLM lands must meet county road standard.

37 At 2-10 (also at 2-11) the RMP states that vehicle tracks "will" be ripped 4-12". This act may destroy more resource than the original tracks. This instruction should be permissive changing the "will" to "may". We also refer BLM to our earlier statement wherein we recommend that BLM retain certain improvements for future use in consultation with total government.

38 At 2-10 the RMP states that grazing "improvements must not be

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[Comment page 23 (22)]

34 Management actions would be implemented to ensure compliance with the Endangered Species Act and to protect species of concern.

35 For any proposed action, BLM considers the duration of visual intrusions through the analysis of short-term versus long-term impacts.

36 BLM is making no attempt to put protection and production at opposites. The language is a means of analyzing the impacts of different management prescriptions for varying levels of resource use and protection.

37 The comment was considered and a wording change made (final EIS, chapter 2, Standard Operating Procedures).

38 BLM appreciates the commentor's pointing out the need to clarify its maintenance policy. A clarification statement has been added to the final EIS (chapter 2, Standard Operating Procedures).

disturbed". The RMP should specify that maintenance is not "disturbance."

39 The RMP makes the following statement: "The actual contribution of salt and sediment yield to the total Colorado River basin from drainage in the planning area is unknown" (3-18). At 3-19 the following statement is made: "The planning area is estimated to have sediment rates of about 0.5 to 8 tons per acre per year 0.2 to 3.0 acre feet per square mile per year." These comments appear to be contradictory and clarification is requested.

ADDITIONAL DEFINITIONS NEEDED

40 Base Resource (p.1-1) - Give a general definition

National Interest - Define as it relates to or compares to local or state interest and give examples for illustrative purposes.

41 Crucial Wildlife Habitat - As distinguished from general or conventional wildlife habitat.

42 Free Flowing - Include a discussion of the relationship between free flowing and fords installed at crossings.

43 Restricted - Explain that this means allowable with certain limitations.

[Comment page 24 (23)]

39 The actual contribution of salt and sediment yield to the total Colorado River drainage basin from the planning area has not been quantified. Salt and sediment were estimated for comparison of management activities and alternatives to the soils and watersheds. The estimates are presented as a range of values (rather than individual values) because of many variables in an area as large as the SRRA. These variables are discussed in the soils section of alternative A (draft RMP/EIS, page 4-8). The document has been clarified (appendix N).

BLM has considered this request and has provided additional definitions as deemed appropriate.

40 A general definition for base resource has been added to the Glossary.

41 Crucial wildlife habitat is defined in the Glossary.

42 Free-flowing is defined by Section 16 (b) of the Wild and Scenic Rivers Act as "existing or flowing in natural condition without impoundment, diversion, straightening, riprapping, or other modification of the waterway." The existence of low dams, diversion work, and other minor structures at the time the river segment is being considered shall not automatically disqualify it for a possible addition to the national Wild and Scenic System. A river segment may, in fact, flow between large impoundments and may qualify if conditions within the segment meet the eligibility criteria. In the absence of reasonable alternative routes, new public utility rights-of-way on federal lands affecting a wild and scenic river area or study area would be permitted. Where new rights-of-way are unavoidable, locations and construction techniques would be selected to minimize adverse effects on scenic, recreational, fish and wildlife, and other values of the river area. There are no specific requirements concerning the length or the flow of an eligible river segment.

43 Restrict, as used in this document, follows the standard dictionary definition: to confine or keep within limits. BLM does not believe it necessary to add to this meaning.

COMMENT 36

EMERY COUNTY ECONOMIC DEVELOPMENT COUNCIL

P.O. Box 297, Castle Dale, Utah 84513
Telephone: (801) 381-5576

December 6, 1988

Jim Dryden, San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Mr. Dryden,

We appreciate the opportunity of commenting on the DSRRMP plan.

The Emery County Economic Development Council has always maintained that the San Rafael Swell is one of our most important resources. We are very interested to see that this unique resource is properly managed so that its full potential may be realized. With this in mind, we request that the BLM begin a dialogue with local officials and citizens to examine other possible options for the management of the San Rafael Swell. In particular, we are anxious to explore the possibilities that may exist to better protect the cultural and historic aspects of the Swell, and to preserve its unique and intriguing "character".

1 We also take the position of supporting Emery County's endorsement of alternative F with the changes and alterations submitted by Emery County in their response to the Draft SRRMP.

We further request that the BLM move its San Rafael Resource Area offices from Price to Emery County. This would do much to improve the service to those who use these lands and would undoubtably improve communications and working relationships as we continue to pursue the best course for management of the Swell.

Thank you for the opportunity to participate in the planning process.

Sincerely,

Wes Curtis

Wes Curtis, Chairman
Emery County Economic Development Council

RESPONSE TO COMMENT 36 — EMERY COUNTY ECONOMIC DEVELOPMENT COUNCIL

[Comment page 1]

1 BLM appreciates the comment. Please see the response to comment 35.

COMMENT 37

Emery County Road Department

P.O. Box 889
Castle Dale, Utah 84513

Phone (801) 381-5450
or
381-2550

December 2, 1988

James W. Dryden
Area Manager
Bureau of Land Management
P. O. Drawer AB
Price, Utah 84501

Dear Jim,

In response to the Draft RMP/EIS; I briefly comment. You and Mr. Nodine (and staff) are to be commended on the thoroughness of this draft proposal.

In reviewing the impact that Alternative A has had in present involvement with our division over Critical Soils, WSA, NEPA, visual resource restrictions, endangered plant and wildlife species, riparian, mining, salinity, archeology and historical issues, I honestly must say that any alternative that "tightens the knot" further would be viewed as too cost prohibitive and restrictive to stay open for business. Per our conversation last summer it appears that 34 of our free use pits are imperiled by the minimal classification of CS or ACEC per Alternative F (your preferred alternative).

1 As stated then, cost of maintenance issues are our main concern, plain and simple! If our production crews have to travel more than 5 miles with repair materials roll back costs of operation cover us up. Our network entails over 1100 miles of road jurisdiction in over 4300 square miles. When you mentioned that we already had too many pits I knew that we would have problems because we have to few at present; though we are trying to honestly please you and are holding requests to a minimal, believe me!

Your staff have patiently and professionally handled our problems both internally, with your processes, and externally, in the field with our processes. Frankly, we simply will make no move without consulting your people. Now some organizations would find that an issue to fight over, we do not. Frankly we covet our relationship with BLM because you and your people have worked very well with us. Our processes are complex to maintain roads. The liability we assume today becomes more awesome by the hour. If we are to have roads the FWHA say they will meet a certain minimal acceptable standard. The UDOT people have been helpful but it's difficult to maintain a positive relationship as more stiffer regulations are imposed upon us with less revenue anticipation.

RESPONSE TO COMMENT 37 — EMERY COUNTY ROAD DEPARTMENT

[Comment page 1]

1 None of Emery County's free use permits are in areas closed to mineral material disposal, but many occur in areas with special restrictions (draft RMP/EIS, pages 2-26 to 2-77). Existing permits would continue under existing stipulations until the permits expire. Management prescriptions contained in the proposed RMP would then be applied to the renewed free use permit.

The impact analysis indicates that availability of mineral materials would not be appreciably affected, although management prescriptions could increase production costs (final EIS, chapter 4). If the permittee decides the cost of complying with the stipulations exceeds the benefits of the permit, the free use permit would be relinquished.

Letter to James Dryden
December 2, 1988
Page Two

Our whole mode of operations have changed drastically from former times. We have placed ourselves into your hands as a resource management tool and a wonderful reciprocal relationship has evolved. We appreciate that! Since your staff has endeavored to help us understand and view processes from the BLM's perspective we have vastly improved operations (I feel). Frankly I would prefer to take our chances with current relationships being what they are and stay with Alternative A. Your helping us step by step to address issues has benefited us greatly. As you became impacted from Washington D.C. your people interpreted and assisted us in adjustment. Its been a type of phase operation and falls within the scope of our capabilities. We can gear ourselves in stages with your assistance, but not adjust as radically as Alternative F appears to potentially impact us.

2 The minute that you mention soils restrictions you impact roads of necessity. To virtually surround us with a minimal classification CS scares me to death! The values within this classification are extensive and imposing. I'm not confident that you realize that a road must be built to basic specification utilizing certain forms of aggregate for travel surfaces and structurally sound materials for substructure integrity. These are all soils; we work with dirt! If you impose more critical restrictions upon us where do we go for the correct materials to maintain your roads? I have trouble viewing this from both our perspectives. I honestly feel, even in view of Alternative F, that you want and regard roads as essential. You and your staff have been gracious to convey thanks to us for better roads so we know you appreciate them. I simply do not understand how we will be able to continue services to the BLM or the constituency if borrow materials access is denied us or have become so restrictive from a cost standpoint that we cannot maintain roads any longer.

I wish at its inception or perhaps a year or so into your study that road processes could have been recognized and addressed directly with our department. I mean in a real "shirt sleeve" sense wherein we could have gone over the network together, reviewed with you our processes of maintenance and raw materials needs then discussed the regulations that impact our department directly from a road maintenance point of view.

I still have problems with Mr. Bailey's decision last spring to not allow us access into our Hiawatha pit, because of the wildlife habitat restriction which still had 30 days to run out, during an emergency.

RESPONSE TO COMMENT 37 — EMERY COUNTY ROAD DEPARTMENT

[Comment page 2]

2 The standard operating procedures have been reviewed and updated (final EIS, chapter 2, Standard Operating Procedures).

The critical soils were identified because they are highly saline and highly erodible. Special conditions are proposed for road construction (final EIS, chapter 2, Soil, Water and Air Management) to protect these areas. BLM believes these conditions are reasonable and would not seriously impact the road department. Restrictions to protect critical soils would not apply to the collection of road materials, but only to the design of new roads and other construction activities. See the response to comment 43-1.

BLM appreciates the county roads and the road maintenance performed by the county and hopes that its cooperative working relationship with the county can continue.

Yes there was evidence that about half a dozen deer were still foraging in the area, but human life was imperiled and we had to delay rehabilitation to search for other materials and were subjected to super expensive contractor costs and tort liability exposure before the problem was remedied.

The value of human life was immediately apparent to me. One human is not the worth of six inconvenienced deer. Alternative F(2) "to protect crucial wildlife habitat" says to me that further instances are likely in the future. My observations as well as my men's have been that animals born in this mechanized age care less about our operations than the experts. My men love it when the deer and the antelope play in the vicinity of our projects. They don't appear stressed at all. They just hang around and eat. I dare say if we went back to horse drawn scrapers and equipment these animals would be far more impacted listening to the horse whinny and team drivers screaming and cussing during the super extended stays necessary to repair roads in primitive fashion. Somewhere or other we've lost sight of some common sense issues.

I can assure you that my men love this country more than most do and have been more conservative and attentive to resource management than the vast majority ever will be.

In summary, I feel that there appears to be a real conflict potential even though "access to state or private lands will not be denied. The rights of state and local governments to control and maintain use of their roads are established by law; the state has a further legal right to enjoy development of inheld state lands". (re Vol 1,2-24,4211 Rights-of-Way)

We realize that effective management is crucial to prevent further losses to the environment but I also see a trend to manipulate nature somewhat by establishing new riparian and aquatic areas and introducing non native species of wildlife though compatable, also while at the same time reducing the domestic grazing populations through a restrictive permit process. This leads one to suspect we will have much diversity of wildlife with much more restricted access in which to enjoy them. One might narrowly view this as the eradication of the traditional western economy. One might also expect to see a cow or domestic sheep as often as a mountain lion in the years ahead.

Letter to James Dryden
December 2, 1988
Page Four

Perhaps even a few more years yet future one may well expect to see a Homo sapien less regularly than the wild burro population at which time one would hope a generous mix of Homo sapien might be reintroduced for contrast.

At any rate all restrictions considered one cannot help feeling that the proverbial "water is under the bridge" and brace for the program ahead. I can't help but think that the response window should have been 4-5 years so that those impacted could have collectively responded in as thorough a way as your RMP/EIS proposal. Despite it all we are still determined to get along but you can expect our next 10 year road maintenance agreement to have many bail out and restrictive clauses to protect our processes from mid stream changes. For example when a microscopic cactus or a woody stemed broadleaf species is discovered and borrow materials access is denied, it would be reasonalble to conclude that the BLM find us an alternative borrow source in the same area or expect road maintenance to cease in that particular service zone. We could post signs where service is withdrawn. These issues can of course be mitigated at time of the 10 year agreement. Again we do enjoy a good relationship with BLM and hope that it's not to late to incorporate our needs into your plan.

Kindest Regards,

Rex Funk,
Supervisor

RF:cjw

cc Commissioner Jerry Mangum

FERRON CITY

COMMENT 38

P.O. Box 829
Ferron, Utah 84523

Telephone:801-384-2350

December 6, 1988

Jim Dryden, San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Mr. Dryden,

We appreciate the opportunity of commenting on the DSRRMP plan.

We are certain that through such cooperative efforts the interest of all can be met.

1 Ferron City takes the position of endorsing alternative F of the Draft SRRMP as it has been submitted by Emery County with the articulated recommends for changes and alterations.

Additionally, and in keeping with the Emery County proposals, we request that the BLM move the San Rafael Resource Area offices from Price to Emery County. This will help bring those involved with the management decisions closer to those who are using the lands.

We also request that the BLM enter into a dialogue with local officials and other interested parties to see if other management options might exist to better protect the historical multiple uses in the San Rafael Resource Area.

Thank you again for the opportunity to participate in the planning process.

Sincerely,

Max H. Ralphs, Mayor
Ferron City

MR:jb

RESPONSE TO COMMENT 38 FERRON CITY

1 BLM appreciates the comment. Please see the response to comment 35.

HUNTINGTON CITY CORPORATION COMMENT 39
HUNTINGTON, UTAH 84528

December 7, 1988

Jim Dryden, San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Mr. Dryden:

We comment on the DSRRMP plan with appreciation for the opportunity and much concern over the impact. Our cooperative efforts should be for the benefit of all concerned.

Huntington City agrees with and endorses alternative F of the draft SRRMP as submitted by Emery County with the articulated recommendations for changes and alterations.

1 We would like to go on record of joining with Emery County and other cities in the county requesting that the BLM move the San Rafael Resource Area Offices from Price to Emery County. This will make for a closer relationship with management decisions and those using the lands.

We also request additional dialogue with local officials and other interested parties to determine if other management options might better protect the historical multiple use in the San Rafael Resource Area.

Thank you for the opportunity to participate in the planning process.

Sincerely

Shirl C. McArthur, Mayor
Huntington City

SCM/jl

RESPONSE TO COMMENT 39 HUNTINGTON CITY

1 BLM appreciates the comment. Please see the response to comment 35.

ORANGEVILLE CITY
Orangeville, Utah 84537
Telephone 748-2651

COMMENT 40

December 7, 1988

Mr. Jim Dryden, San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Mr. Dryden,

Orangeville City feels it necessary to write this letter concerning the DSRRMP plan and hopes that through the efforts of all concerned this plan can be successful.

As a concerned city we endorse Alternative F of the Draft SRRMP as it has been submitted by Emery County with the articulated recommendations for changes and alterations.

1 In keeping with the Emery County Proposals, we request the BLM move the San Rafael Resource Area offices from Price to Emery County. This move will help bring those involved with the management decisions closer to those who are using the lands.

We would also request the BLM enter into a dialogue with the local officials and other interested parties to see if other management options might exist to better protect the historical multiple uses in the San Rafael Resource Area.

Thank you for this opportunity of participating in the planning process.

Sincerely,

Tom Humphrey
MPB

Tom Humphrey
Orangeville City Mayor

TH:ja

RESPONSE TO COMMENT 40 ORANGEVILLE CITY

1 BLM appreciates the comment. Please see the response to comment 35.

COMMENT 41

SOUTHEASTERN UTAH ASSOCIATION OF LOCAL GOVERNMENTS

JIMMIE WALKER
Chairman

WILLIAM D. HOWELL
Executive Director

P.O. Drawer 1106 • Price, Utah 84501-0881 • Telephone (801) 637-5444

December 6, 1988

Mr. Jim Dryden
San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, utah 84501

RE: RMP

Dear Mr. Dryden:

This letter constitutes the response of the Southeastern Utah Association of Local Governments to the Draft San Rafael Resource Management Plan.

First, I would like to commend you and your staff for your willingness to be available to local government and assisting in our understanding of the many points made in your draft cocument. Your candor and openness are appreciated.

We would like to add our organization to the list of people and entities expressing support for the comments of Emery County submitted to you under other cover. We agree with and support each of the concerns and recommendations set forth by Emery County and we await your response to the several questions they raise.

We will attempt to avoid duplicating comments made by Emery County for the sake of brevity.

1 We are concerned that the RMP discusses at length the exclusions and limitations that will be placed on human uses of the resource and little is specifically said about how human activities will or may be accomodated within the parameters of these limitations. To a degree this gives the RMP a negative flavor that could be misleading. For the benefit of the lay reader as well as for the purpose of clarifying the affirmative aspects of the plan we would suggest that the plan incorporate a section which discusses hypothetical situations and possible BLM responses to these situations. This approach would give the lay and casual reader a better opportunity to assess the real world impact of various plan proposals. Such a discussion could take the form of a question answer display. Examples follow:

REGIONAL CLEARINGHOUSE

RESPONSE TO COMMENT 41 SOUTHEASTERN UTAH ASSOCIATION OF LOCAL GOVERNMENTS

[Comment page 1]

1 Planning and CEQ regulations require BLM to address reasonable and foreseeable alternatives. It would not be possible to display all the possible hypothetical management combinations that could be selected.

Page 2

1. Can either oil and gas exploration or production occur in a VRM class I area? If it can, what kinds of stipulations can a project sponsor expect to encounter?

2. Can either mineral exploration or extraction occur in a VRM class I area? If so, what kinds of stipulations can a project sponsor expect to encounter?

3. How will a grazer having both critical soils (slopes in excess of 20 degrees) and noncritical soils in the same allottment be expected to manage his herd to protect the critical soils?

4. What does BLM mean when it states that the RMP will not affect water rights but it may affect water use in the resource area?

5. Does BLM differentiate forage use pressure into that pressure created by livestock and that pressure created by wildlife and will wildlife be expected to share in the mitigation of excessive forage pressures?

6. Under what circumstances could mineral or oil and gas development occur within an ACEC and specifically within an historical ACEC?

We are certain that there must be other general questions raised by others that could be included in a straightforward question answer format. As an alternative to inclusion of such a discussion BLM might consider answering these questions in the response to public comment document. This, at least would provide a source of information comprehensible to the lay public.

We would offer the following additional comments for consideration.

2 1. Duration should be a major consideration when a determination is being made as to visual or other aesthetic impacts. A visual impact of a couple years for example is insignificant in the overall scheme of public lands management.

3 2. The scenic highway corridor must consider only that view from the Interstate outward and not from within or on the outer boundary inward toward the Interstate. This will allow many opportunities for economic or commodity production without degrading the scenic view from the highway.

4 3. Alternative B indicates that AUM's may be increased while simultaneously reducing soil erosion with proper development and distribution of water resources. We suggest that BLM consider water management as a preferrable way to relieve both soil erosion and vegetation pressure. We find this alternative preferrable to reducing AUM's or changing seasons of use on selected allotments. We would reiterate an often made comment that wildlife benefits substantially from improvements including water improvements added to the land by grazers.

RESPONSE TO COMMENT 41 SOUTHEASTERN UTAH ASSOCIATION OF LOCAL GOVERNMENTS

[Comment page 2]

2 See appendix V. BLM recognizes that short-term visual impacts of less than 5 years may be insignificant and were not considered in the draft RMP/EIS.

3 The critical viewpoint within the I-70 scenic corridor would be the lanes of the highway. Proposed uses of the public lands outside the highway right-of-way, but within the corridor, may be authorized if the use could be located out of the traveling public's view.

4 See the response to comment 35-24.

Page 3

5 4. We are concerned that VRM class designation may be managed so restrictively that most of the high and moderate potential oil and gas lands may be effectively excluded from either effective exploration or development or both. We ask that BLM give higher priority to the resource potentials when establishing standards for aesthetic (VRM) management. We would remind BLM of the transitory nature of man's activities as well as the land's immense capacity for natural reclamation.

We appreciate this opportunity to comment on the Draft San Rafael RMP/EIS.

Sincerely,

William D. Howell
Executive Director

WDH:mvw

RESPONSE TO COMMENT 41 SOUTHEASTERN UTAH ASSOCIATION OF LOCAL GOVERNMENTS

[Comment page 3]

5 See the responses to comments 35-10 and 35-11.

COMMENT 42

NORMAN H. BANGERTER
GOVERNOR

STATE OF UTAH
OFFICE OF THE GOVERNOR
SALT LAKE CITY
84114

December 8, 1988

Jim Dryden
San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Ut 84501

Re: San Rafael Resource Management Plan (RMP)

Dear Mr. Dryden:

The State of Utah, through the Resource Development Coordinating Committee, has reviewed the Draft Resource Management Plan and Environmental Impact Statement for the San Rafael Resource Area. I want to thank you and your competent staff for involving the state in the planning process, and for the time you spent personally acquainting the Committee with area issues.

In general, the information and analysis presented is impressive in both quantity and quality, as is the range of alternative resource allocation plans considered. The BLM is to be commended on its efforts to this point. However, I hope that the informational concerns expressed in the attached comments will help the BLM focus its proposal to a point where the state can concur with the preferred alternative.

Thank you again for the opportunity to be involved in the planning process.

Sincerely,

Norman H. Bangerter
Governor

NHB/MEG/jh

COMMENTS OF THE STATE OF UTAH
TO THE SAN RAFAEL
DRAFT RESOURCE MANAGEMENT PLAN (RMP)
DECEMBER 1988

GENERAL COMMENTS

1 **Goals: A primary concern of the state is to assure that the economic needs of both the state as a whole, and the local residents, are met by the BLM's proposed allocation of the area's resources. The BLM asserts that the preferred alternative balances the interests competing for the use of those resources, but does not state the subjective criteria by which this balance was determined. This balance of uses, as determined by the BLM, is then used to justify controls, of many kinds and degree, for portions of the resource area. The state requests that the BLM discuss the rationale for the "balance" proposed in the preferred alternative, and ensure that all proposed controls are the least restrictive necessary to accomplish the goals of the final management plan.**

2 **Maps: The maps presented as part of the proposal are woefully inadequate. The reader cannot correlate the boundaries of the various management areas displayed to a sufficient number of specific topographic features. As a result, the maps themselves present very little specific information, and make an analysis of the BLM's proposed plan unnecessarily difficult.**

For example, map 63 (Vol. 2, p. 63) displays the extent of the four types of off-road vehicle (ORV) use designations proposed for the preferred alternative. The map demonstrates that the BLM has carefully drawn the boundaries of each use area, judging from the detailed squiggle each boundary line forms. However, no useful topographic information is shown. ORV use is inextricably tied to surface features. Users drive their ORVs to scenic areas and campgrounds, and use motorbikes and ATVs upon certain types of terrain. The map does not locate any rivers, mountain peaks, desert flatlands, campgrounds, dirt access roads or other items of interest to an ORV user. Without these types of reference points, the reader of the map cannot evaluate the potential for ORV use within each of the BLMs proposed categories, and thereby make an informed comment on the merits of the BLM's proposal.

RESPONSE TO COMMENT 42 STATE OF UTAH, OFFICE OF THE GOVERNOR

[Comment page 2 (1)]

1 The RMP is based upon the criteria provided in FLPMA (draft RMP/EIS, pages 1-5 and 1-6). The alternatives developed in the draft RMP/EIS reflect these and other criteria, as well as the needs of the public expressed through public input. Through the impact analysis contained in the draft RMP/EIS, chapter 4, BLM determined that the preferred alternative would best provide for use and protection of public lands.

2 Additional features, points of reference, and township and range markers have been added to the maps for the proposed RMP. A plastic overlay with additional features has also been included for use with the page-size maps. Using the 1:250,000 ownership maps as a base would have displayed so much information that the reader could not discern the proposed actions.

It is recognized that the maps do show three towns and three major paved highways, and that a comparison of the maps allows the reader with prior knowledge of the area's topography to glean some useful information from the maps. For example, a comparison of map 16 (Vol. 2, p. 16) and the previously mentioned map 63, along with prior knowledge of the topography of the San Rafael Reef and Swell, allows the reader to understand that some of the areas listed as "ORV use limited to designated roads and trails" on map 63 are areas of very rugged terrain. However, even this information is too sparse to be helpful. Where, for example, are the rugged cliffs in relation to the boundary between the "limited use" areas and the neighboring "open" areas shown on map 62? What is the rationale for locating the boundary where it is? Without topographic reference points, these important concerns cannot be addressed.

These concerns are not confined to the ORV use maps. The reader has a difficult time evaluating "Visual Resource Management Class" alternatives (Vol. 2, p. 64-68) or "Grazing Action" alternatives (Vol. 2, p. 49-54) without knowing the type of surface features within each designated area.

The inadequacy of the maps also raises sufficiency of public notice concerns. The plan, if adopted, would place restrictions upon the public. The BLM has the obligation to properly inform the public of these restrictions. If the public cannot interpret the information presented by the BLM, and thereby determine how to behave in a given situation, the BLM will have failed to meet its obligation, and the plan may be impermissibly vague.

It is recommended that the BLM use the most detailed maps available as a background to the information of interest. Topographic maps would be preferable, but, at a minimum, the background should show rivers, major dirt roads, mountain peaks, drainages, campgrounds and similar features. Both the State of Utah (with AGR) and the BLM (with LIS) have the ability to manage resource information on digitized information bases. These systems can and should be used to display and overlay resource information for resource managers.

3 Areas of Critical Environmental Concern (ACEC): Map 16 (Vol. 2, p. 16) identifies several proposed ACECs, some of which correspond to current Wilderness Study Areas (WSA) shown on map 10 (Vol. 2, p. 10). On pages 2-5 and 2-53, under a discussion of the preferred alternative, it is stated that should any WSAs be released from wilderness review without a wilderness designation, they would be managed as ACECs. A comparison of Maps 10 and 16 and an examination of the acreage figures on page 2-53 shows, however, that the proposed ACEC boundaries are not coterminous with the WSA boundaries. No reason is given for the change other than some unspecified "manageability" concerns mentioned in Appendix B (Vol. 2, p. 96). In addition, the BLM has proposed that different

[Comment page 3 (2)]

3 The statement from the draft RMP/EIS (page 2-5, Wilderness Study Area Management) was not meant to imply that the WSAs would be managed in their entirety as ACECs, but rather that portion that meets the criteria for ACEC designation (see table 9 in the proposed RMP). It should be noted that "wilderness values" would not be a criterion for ACEC designation. The display in the draft RMP/EIS (page 2-53) sets forth the specific management prescription for each WSA by alternative.

The ACECs listed under preferred alternative were recommended for their scenic values. Except for the San Rafael Canyon, the acreage shown in the draft RMP/EIS (page 2-53) represents the class A scenery areas as determined by BLM within each of the WSAs. Thus, the difference in acreage between the two.

The San Rafael Canyon ACEC was proposed for its scenic qualities. However, the emphasis is on the San Rafael River and the corridor along the Buckhorn Road. The difference in management prescriptions is based upon the quality of the scenic resource and the potential impact of surface disturbance, extent of the viewshed, and kind and intensity of resource uses. In the final analysis, BLM deemed it important to accommodate as many uses as possible in the San Rafael Canyon Middle Portion (Buckhorn Road). The management prescription for this portion would do that and still maintain the scenic resource.

Also see the response to comment 3-49.

portions of the San Rafael Canyon ACEC be given different surface use designations. It is requested that the BLM provide a rationale for the different designations and boundary locations so the state may make an informed evaluation of the BLM's plan.

4 The preferred alternative ("F") of the proposed RMP identifies Temple Mountain and Tomsich Butte as potential "special management area" ACECs in order to protect evidence of historical mining activities. The plan identifies the most likely potential threat as assessment work or small scale mining, (Vol. 2, p. 93) which activities are entirely permissible under the federal mining laws. (30 U.S.C. 180 et. seq.) The RMP lacks a serious discussion of how the proposed "special management" designation will protect the historical areas from mining claimants who have every right to use the surface for mining purposes, without withdrawing the land from the effect of the mining laws and initiating "validity" challenges of the existing claims.

5 The Gilson Buttes and Hebes Mountain ACECs were not nominated under alternatives C, D and F. (See Vol. 2, p. 89 & 94.) It is requested that the BLM reconsider its decision concerning the two areas, and either reaffirm with a complete explanation or alter its decision in the final plan. Both potential ACECs are small. Gilson Buttes is a very prominent feature deserving some level of special management attention. Hebes Mountain may or may not be a relict plant community, but more information concerning the studies performed by the BLM is required to make an informed evaluation of the BLM's decision.

6 Right-of-Way Management: The BLM is apparently proposing areas of "standard" right-of-way management within both existing WSAs and ACECs proposed for "no surface occupancy" designation. (Compare: north end of Sid's Mountain WSA/ACEC and middle of Muddy Creek WSA/ACEC on maps 10, 16 and 29; Vol. 2, p. 10, 16 and 29) Further, the "no surface occupancy" ACECs are apparently to be designated right-of-way "avoidance" areas, rather than being proposed for the arguably more consistent "exclusion" area designation. (See right-of-way definitions on page 2-24.) The BLM should clarify their rationale for the designations and resolve these apparent inconsistencies in the final plan.

7 River Use: BLM should recognize the increasing use of the San Rafael River and Muddy Creek by boaters and of the river corridors by hikers. The RMP should contain a statement of recognition of river and river corridor use and a statement of the proposed or future need for management policies, including possible maintenance of facilities and existing roads.

8 Inholdings: A stated assumption of the plan (p. 1-2) is that management of the surface use of private and state lands or of nonfederal minerals will not be addressed. This is not realistic

RESPONSE TO COMMENT 42 — STATE OF UTAH, OFFICE OF THE GOVERNOR

[Comment page 4 (3)]

4 BLM does not propose to restrict mining activity allowed under the 1872 mining law. BLM proposes to (1) initiate a data recovery program; (2) record structures before they are disturbed; and (3) require a plan of operations (draft RMP/EIS, pages 2-44 and 2-50).

5 Refer to appendix B for discussion of the Hebes Mountain and Gilson Buttes ACEC nominations.

6 Areas within existing WSAs will continue to be managed in accordance with the IMP until they are either designated as wilderness or dropped from further consideration by Congress.

The granting of a right-of-way by the BLM is a discretionary action. Proposals within ACEC avoidance areas would have to meet the special management prescriptions for the ACEC to be approved. BLM believes that a limited number of right-of-way proposals may be able to meet the ACEC conditions, whereas oil and gas development activities could not.

7 BLM certainly recognizes the use of the San Rafael River and Muddy Creek by boaters and hikers. For this and other reasons, both areas are under study for wild and scenic river eligibility and will be managed to protect their potential classification until final determination is made. Appendix J presents the results of BLM's preliminary study of these three segments. Specific management of these river segments would be developed in an activity plan.

8 BLM recognizes that the state has the legal right to enjoy economic development of inheld state lands. Those ACECs recommended for withdrawal in the proposed RMP would be closed to mineral entry, excluded from rights-of-way, and closed to mineral leasing. Development of the state lands would be inconsistent with BLM's management objectives. Accordingly, the inheld state lands in these ACECs are identified for acquisition in the proposed RMP.

Where ACECs would be managed in a less restrictive manner, BLM does not believe the state's legal right to enjoy economic development of inheld state lands would be eliminated or severely hampered.

The RMP assumes continuation of existing patterns of state and federal land ownership. It is anticipated that specific proposals for changes in land ownership, whether by state selection, state exchange, or Project Bold, would be considered through a plan amendment (draft RMP/EIS, page 1-2). As indicated, most of the scattered tracts identified for disposal are available for selection by the state. Because of the blocked nature of the rest of the public lands, consideration of other lands for disposal (including exchange) would best be considered on a case-by-case basis through the plan amendment process.

with respect to state holdings within proposed areas of restricted surface use or other resource development constraints, such as "unavailable for lease" designations. Based upon both the Congressional policy established at the time of Utah's statehood, and subsequent judicial precedent, the state has the right to access its inholdings, and to use the lands as it sees fit, in order to maximize revenue for the school trust funds. The RMP must identify any potential conflicts between the state's enabling act mandate for trust land management and the proposed BLM management policies, including the nature of any subsequent Congressional directives supporting the policies. The RMP should also establish plans or identify criteria for resolution of such conflicts, including potential restrictions upon the state's access/use and the possibility for land exchanges.

9 Range and Wildlife: The plan is unclear about the present and anticipated condition of the range under the various alternatives. The difficulty lies in the use of "ecological status" to define "range condition". (See glossary, p. B-8)

10 On page 3-24, under the title "Resource Condition and Potential", the plan states "Ecological status [of the entire resource area] can be summarized as follows: 9 percent early seral stage; 47 percent mid-seral; 22 percent late seral and 9 percent PNC [potential natural community]". Appendix R (Vol. 2, p. 209) lists, for each of the proposed alternatives, the ecological condition of each grazing allotment. However, the plan does not discuss the optimum ecological status for use by either livestock or wildlife. Is PNC the best, or is some earlier seral stage more appropriate? For example, once a site is occupied by a climax stand (PNC) of pinyon-juniper, most understory vegetation is excluded, and the site may be listed as "poor" (range condition) for livestock or wildlife. Use of the "ecological status" definition as a substitute for a "range condition" statement may lead to misleading results. The final proposed plan should clarify these terms and contain a discussion of the potential of the range to support livestock and/or wildlife.

11 The use of the terms "maintain", "improve" and "custodial" to categorize grazing allotments has caused some confusion. The term "improve" has been equated to "poor range condition," despite the statement in Appendix G (Vol. 2, p. 133) that the three categories represent the allotment's potential to respond to management. A short statement to clarify the issue would be helpful.

12 The plan states on page 2-37, "Currently, little or no forage is reserved for big game or wild horse or burros grazing the public lands." Is there sufficient forage available for the number of wildlife proposed for the preferred alternative ("F")? It would be helpful if the AUMs to be allocated to wildlife, as well as the total carrying capacity of each allotment, were listed next to the livestock AUMs shown in Appendix I (Vol. 2, p. 137).

[Comment page 5 (4)]

9 BLM and other land management agencies have adopted the term "ecological status" in place of "range condition". Appendix R displays the current ecological status and the status that it is assumed could be achieved under the various alternatives. These classes may not be the desired ecological status but show the progress that may be achieved with the time restraints; condition reached by year 2000. When activity plans are developed for each allotment, the desired ecological status would be determined by ecological site and by allotment (see the Glossary and appendix R). It is not always desirable to achieve a late seral stage. In some instances more desirable forage (perhaps for livestock and big game) would be obtained at a lower ecological status.

10 See the response to comment 42-9.

11 These catagories represent the allotment's potential to respond to management, or the degree of resource conflict. It is not a description of ecological status.

12 The preferred alternative did not establish population objectives for wildlife. BLM assumes sufficient forage is available unless rangeland and wildlife monitoring studies indicate that adjustments in animal numbers or management are necessary.

The AUMs produced and actually available for use by different kinds of grazing animals have not been determined and therefore cannot be noted in appendix I.

Page Five
Utah State Response

13 **Riparian Lands:** The plan indicates on page 3-41 that riparian areas are heavily utilized by livestock under the present management conditions. On page 4-88, the plan states that the preferred alternative would increase riparian acreage by 150 acres, due to unspecified controls on development activities, ORV use, and livestock. Though much of the details are properly left for later implementation plans, these statements do not sufficiently address the important issues related to riparian areas. The plan should specify the methods to be used to protect and improve the conditions within riparian areas, and should explain how acreage estimates under the various alternatives relate to the BLM's standard riparian area management policy, including, as a baseline figure, how the standard policy would affect the current situation.

14 **Recreational Use Allocations:** The State of Utah tries to act as an advocate for a very wide spectrum of recreational users of the state's resources. The attempt to balance conflicting recreational uses may sometimes, in one area, favor one use over another, but will hopefully provide for all types of users as the statewide recreational resource base is considered. One such conflict involves motorized versus primitive recreation, both of which are legitimate recreational opportunities. The proposed plan appears to favor motorized recreation over more primitive, dispersed recreation without an explanation or exposition of the supporting information.

15 An analysis of the plan indicates that, under the preferred alternative, the BLM intends to let the area naturally drift toward the developed end of the Recreation Opportunity Spectrum (ROS). (See page 2-55) By the year 2000, about 80 percent of the lands in the resource area will have been claimed by motorized recreation. (See page S-6.) Motorized use is perceived as an impairment of more primitive recreational opportunities. Upon what data does the BLM base this allocation? State officials have roughly estimated, based on OHV industry figures and demographic records, that 75 percent of the state's population does not use OHVs. Seventy percent of the remaining 25 percent who do own OHVs live in the Wasatch Front area, and indicate a preference to use vehicles at areas within an hour's drive from home. Emery and Sevier Counties together represent about 2 percent of the OHVs in the state. (It is recognized these figures do not include out-of-state users.) The BLM should review its ROS area allocation and policy, with particular attention to OHV use designations, with a view toward allocating motorized use in the San Rafael area based upon the statewide motorized recreational needs, perhaps in conjunction with the Statewide Comprehensive Outdoor Recreation Plan (SCORP). The final plan for the San Rafael area should discuss the allocation decision in more detail, with particular attention to the rationale for the designations made.

16 The plan quietly indicates that much of the detail concerning OHV use in the resource area will be determined after adoption of

RESPONSE TO COMMENT 42 — STATE OF UTAH, OFFICE OF THE GOVERNOR

[Comment page 6 (5)]

13 The preferred alternative states that specific management actions would be identified through activity plans after the completion of the RMP (draft RMP/EIS, page 2-73). The draft RMP/EIS states (page 2-68, Management Common to All Alternatives) that riparian and aquatic habitat would be managed to preserve, protect, and restore natural functions. It was determined in the analysis that different alternatives would provide for differing rates of recovery of the riparian habitat, but that the riparian habitat would improve under all of the alternatives.

14 In response to comments, the proposed RMP has been changed to include ORV management in ROS P- and SPNM-class areas in order to reduce conflict between motorized and nonmotorized recreation.

15 Table S-6 in the draft RMP/EIS depicts a summary comparison of impacts by alternative. BLM did consider the Statewide Comprehensive Outdoor Recreation Plan, as well as other multiple-use concerns, in developing allocations. Motorized recreation constitutes only a small part of the reason for a trend toward the motorized end of the spectrum. It was assumed that certain nondiscretionary mineral activities would occur, resulting in the majority of impacts to primitive recreation. Under the proposed RMP, BLM would provide additional management prescriptions to minimize or eliminate surface disturbance in P- and SPNM-class areas, thereby protecting existing opportunities for primitive recreation experiences.

the final RMP, including the designation of appropriate roads and trails for the areas allocated to the "limited to designated roads and trails" category. (See Appendix L, Vol. 2, p. 169) The final plan should affirm this intention more clearly, and indicate the public input process to be employed, including the needs of organized OHV events. Further, the plan should contain a serious discussion of proposed conflict resolution mechanisms between motorized and nonmotorized recreationists. The plan should also discuss the education, enforcement, and judicial steps proposed to ensure that areas marked "designated trails only" do not deteriorate into no restriction areas.

17 Budget: All the alternative actions discussed in the plan call for an increase in management costs over the current level. (See pages S-2 & 2-7) The preferred alternative requires a 25 to 30 percent increase in funds. Is it realistic to propose a 25 percent increase in the light of current federal budgetary concerns? What does the BLM propose to do if the increase is not granted? How will the available funds be distributed among the various management actions proposed?

SPECIFIC AGENCY COMMENTS

TRANSPORTATION

18 The recommended alternative provides for the establishment of ACECs around existing major highways and minor roads. These ACECs, like wilderness study areas, place restrictive conditions upon use of the surface, and are essentially incompatible with roads. The Department of Transportation recommends that the boundaries of all ACECs established for scenic values, except the pictographs, be set back from the road a distance sufficient to allow minor road improvements and realignments to proceed without undue permitting delay. Such set backs would not alter the scenic values of the ACEC, because the roads are already present.

WILDLIFE RESOURCES

19 Page 2-10, Vegetation -- Reseeding can be successful from October 1 through March 30 in the San Rafael Resource Area. The period November 16 through January 31 should be included in the final plan as a potential reseeding period.

20 Page 2-12, Wildlife -- Due to the diversity of raptor species known to inhabit the San Rafael area, the nesting season extends from February 1 through August 15. The crucial period is when a nest territory is occupied. Planning dates specific to individual species are available from the Utah Division of Wildlife Resources' Southeastern Regional Office in Price, Utah, and should be incorporated into the final plan.

[Comment page 7 (6)]

16 See the response to comment 15-20.

17 Each alternative was developed based upon its own goals and objectives and had to be reasonable in terms of costs of implementation. The alternatives were developed under the assumption that funding would be provided to implement the RMP (draft RMP/EIS, page 1-2). However, if funding levels are not made available as expected, BLM would re-evaluate priorities and timeframes.

18 All of the alternatives recognize valid existing rights, including rights-of-way for county, state, or municipal roads. The final EIS provides discussion additional of valid existing rights.

The county has a valid existing right for the roads on the county road system under R.S. 2477. This includes most of the existing access roads in the planning area. See the response to comment 29-1.

19 The document has been changed to reflect the comment (final EIS, chapter 2, Standard Operating Procedures).

20 The final EIS, chapter 2, Standard Operating Procedures reflects the change requested in this comment.

Page Seven
Utah State Response

21 The "Standard Operating Procedures" section of the plan should be modified to prohibit disruptive human disturbances, as defined on pages 2-69 to 2-75, in the critical habitat ranges, as established in the RMP, for these species during the following times:

Species	Winter Range	Parturition	Migration
Elk	12/1 to 4/15	5/15 to 7/5	10/1 to 11/30 3/1 to 4/30
Mule Deer	12/1 to 4/15	5/15 to 7/5	10/1 to 11/30 3/1 to 4/30
Moose	12/1 to 4/15	5/15 to 7/5	---
Desert Bighorn	---	4/15 to 5/31	---
Pronghorn	severe snow	5/15 to 6/15	---

22 Finally, the "Standard Operating Procedures" section of the plan should require that activities which result in damage to critical valued habitats or use areas, as determined by DWR and BLM, be mitigated as either "on-site" or "off-site" projects. Avoidance of impacts should be required whenever practicable. Surface disturbance impacts lasting beyond the first revegetation period (long term) should be mitigated "in-kind" and "one-for-one". When necessary, other mitigation measures could be negotiated. Short term projects that exceed 10 acres disturbance, but have potential for revegetation during the first growing period, should require mitigation. Lesser projects should normally require revegetation and impact avoidance measures.

Page 2-68, Habitat Management (raptors) -- See comments provided for page 2-12.

Pages 2-69 through 2-74, Alternatives A, B, C, D, E and F -- See comments provided for standard operating procedures on page 2-12.

23 Page 2-12, Endangered Species Management -- Special management consideration should be given to the entire array of high interest wildlife and species of special concern that inhabit the San Rafael Resource Area. Such a list is available from the Division's office in Price, Utah.

STATE LANDS

24 Page 1-7, Criteria for Alternative Formulation -- With few exceptions, no specific parcels are identified as suitable for disposal through exchange, yet several parcels of state land are identified as possible acquisitions under the various alternatives.

RESPONSE TO COMMENT 42 STATE OF UTAH, OFFICE OF THE GOVERNOR

[Comment page 8 (7)]

21 The crucial habitat used by mule deer and elk in the planning area is winter habitat. The final EIS (chapter 2, Habitat Management) reflects the dates provided for winter range. No crucial moose habitat has been identified within the planning area.

The final EIS (chapter 2, Habitat Management) reflects a change in dates for desert bighorn sheep and antelope in response to this comment.

22 All projects that damage the resources would be mitigated through avoidance or through stipulations to eliminate or reduce the severity of the adverse impact (standard mitigation). The projects would also have to be reclaimed when completed (draft RMP/EIS, pages 2-8 to 2-12).

Offsite mitigation would be required along with standard mitigation (draft RMP/EIS, page 2-74) on large, long-term projects that remove a total of 10 acres of crucial habitat. The amount of offsite mitigation would be decided at the time of the permitting and would be negotiated between BLM and the applying company. Mitigation, both offsite and standard, would be coordinated with UDWR.

23 Special management considerations for the high-interest wildlife and species of special concern inhabiting SRRA have been addressed under the raptor stipulation (draft RMP/EIS, page 2-68) and management of riparian habitat (draft RMP/EIS, page 2-73). These species would be considered in all management actions.

24 See the response to comment 42-8.

To the degree that state acquisition criteria are consistent with BLM's disposal list, an exchange may proceed without plan amendment. BLM should recognize, however, that the reasons why BLM does not want certain lands are the same reasons why the state would not want to acquire those lands. If BLM is serious about acquiring state land, the RMP should, at least, specify the criteria by which lands will be considered for disposal through federal/state exchange.

25 Page 2-30, Lands -- The identification of lands for "possible" acquisition provides no direction regarding lands actions. The BLM should determine whether the public values at risk because of nonfederal ownership merit protection by acquisition, at the expense of other lands with public values, and then affirm its decision in the final RMP.

26 Page 2-76, Fire Management — Planning for modified suppression should be coordinated with the Division of State Lands and Forestry where nonfederal lands are likely to be involved.

STATE HISTORY

27 The Utah State Historical Preservation Office concurs with the plan to classify cultural resources into three different categories; conservation, public values and information potential (p. 2-11, 3-42 and 2-44), and finds the cultural resource management objectives to be adequate. The SHPO concurs with the use of the ACEC concept to protect cultural resources. The SHPO suggests, however, that implementation of the objectives may be difficult, given the current budget and manpower situations discussed above. For example, it is anticipated that 20% of each known site type will be placed into the conservation category in order to maintain an adequate number of undisturbed samples of the site type. The rationale is sound, but 20% of the estimated 70,000 possible sites (see p. 3-42) equals 14,000 sites slated for preservative protection. Is the 20% level a realistic and practical objective?

28 Alternative D provides the most protection for cultural resources because it is the most restrictive for surface disturbance activities. However, despite the alternative's proposed restrictions on surface disturbances, and a concurrent decrease in the requirement for cultural resource surveys, no decrease in the expected number of cultural site discoveries is shown. The BLM's cultural resource analysis for each alternative should reflect a realistic and practical level of site inventory activity, which level should be tied to the proposed level of surface disturbance.

(End)

jh

[Comment page 9 (8)]

25 See the response to comment 42-8.

26 Fire management activity plans referred to in the draft RMP/EIS (page 2-76) are coordinated with the Division of State Lands and Forestry.

27 Not only is the 20 percent level considered realistic and practical, but the whole category of preservation for the future would not work without it. For a discussion of sampling percent and rationale, see the response to comment 15-108.

Under the proposed RMP, BLM proposes to designate the Pictographs, Copper Globe Mine, Swasey Cabin, Dry Lake Archaeological District, Temple Mountain Historic District, and Tomsich Butte Historic District as ACECs to protect existing and potential cultural resource values. The proposed management prescriptions for these areas include closures or restrictions for mining and mineral leasing, ORV use, rights-of-way, land treatments, etc. (proposed RMP, chapter 3). BLM expects that most would not need intensive management. Also, since sites tend to be clustered, monitoring 14,000 sites is not as great a task as it may appear to be.

28 BLM's cultural resource analysis reflects the level of inventory activity in response to a scenario of proposed developments presented for each alternative. The number of acres identified for development (hence required cultural surveys) changes little between the alternatives. Therefore, there is not much change in cultural resource inventory activity. This is because the areas where ORV use would be excluded or limited are not the areas where development is expected, so the number of cultural surveys is expected to remain about the same.

COLLEGE OF NATURAL RESOURCES
Utah State University
Logan, Utah 84322-5230

COMMENT 43

DEPARTMENT OF
RANGE SCIENCE
801-750-2471

November 21, 1988

Mr. Jim Dryden
San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, UT 84501

Attention: RMP

Dear Mr. Dryden:

I recently reviewed the draft resource management plan/environmental impact statement for the San Rafael Resource Area. After 25 years of research in the Colorado Plateau, including ongoing work on the effects livestock grazing on erosional susceptibilities in Capitol Reef National Park, lead me to question a number the assumptions that you have used in developing this plan.

All of your planning seems to be based on the following assumptions. (1) that there is one potentially stable (equilibrial) system for each range site. (2) that these potentially stable systems are frequently destabilized by improper use on the part of livestock operators, off-road vehicle users, miners, etc. and (3) that alterations of system structure (e.g. reducing livestock numbers, changing season of use, etc.) are needed to return these systems to an equilibrial and more productive state. I accept none of these assumption and provide the following rationale against them.

First of all, stable equilibria are probably not achievable in these ecosystems. Soil erosion and plant community development in your resource area are driven largely by vagaries of climate and very little of the resource area-wide responses can be explained by changes in land use policy and action. Even for the Navajo Indian Reservation (an area as similar to yours as Badger Wash), having greatly more livestock grazing year around, Graf (1986) found that the Palmer Drought Severity Index accounted for 38 to 66% of the variation in water and sediment yields in the Little Colorado and San Juan Rivers. Levels of livestock use, however, explained only 1-5% of the variation in water and sediment yields. If your objective is to reduce sediment and salinity moving from your entire resource area, it is thus unlikely that restrictions on livestock, off road vehicle and other mechanical disturbances on only part of the area are likely to produce measureable results. One can not reliably scale up results from small scale studies in space and time (as you have done) to resource area wide responses over decades (see Graf 1986 for detailed reasoning).

Most of the ecosystems within the San Rafael Resource Area are probably non-equilibrial, using the criteria of Ellis and Swift (1988). Even if they are not completely non-equilibrial, they might be better explained by multi-equilibrial models (Mentis 1986, Smith 1988) then the linear, deterministic, and reversible

RESPONSE TO COMMENT 43 UTAH STATE UNIVERSITY, COLLEGE OF NATURAL RESOURCES

The critical soil loss threshold is based on an SCS publication by Lamar Mason [SCS, 1978]. This soil loss threshold is defined as the maximum rate of soil loss beyond which soil erosion will reduce the land's capability to produce potential native vegetation on rangelands and woodlands. Associated with the critical threshold, SCS established a minimum ecological status that would be required to maintain enough vegetation cover so as not to exceed the soil loss threshold (appendix N). Mason [SCS, 1978] states that "average soils or most typical soils was used to determine the soil loss tolerance for each site or woodland ecosystem. If the user wants to be more specific he should determine soil loss tolerance for the specific soil he is working with."

BLM is not stating that there is one potentially stable system for each range site; rather, that one ecological status is preferred over another to protect the soils resource.

The information printed in appendix N (table N-3) is to be used as a guideline and starting point. The resource specialists will add to or change this table as more site-specific and area-specific information becomes available.

Any surface-disturbing activity will have an effect on the soils resource. The estimates of soil loss, sediment yield, and salt were based on several studies including specific research done by King and Mace [1953] on sedimentation in the San Rafael Swell; current BLM data on sediment yield in the same general area as the 1953 studies; a 1982 report on runoff and water quality from Mancos Shale in the Price River Basin [Jackson and Julander, 1982]; BLM Technical Note 373 on diffuse-source salinity of mancos shale terrain [Schumm and Gregory, 1987]; and the universal soil loss equation (USLE) factor data [Dissmeyer, 1981]; as well as the 20-year Badger Wash hydrologic study of grazed and ungrazed watersheds [Lusby, et al., 1971] (appendix N). BLM believes that this combination of studies closely resembles the SRRA and that it can comfortably use the information from these studies to represent the SRRA. USLE was used only to calculate sedimentation under bare soils conditions and even then was modified using these site-specific studies. BLM recognizes the limitations in using USLE (appendix N). All new information will be analyzed using the modified USLE, even though this prediction equation has its limitations. BLM will continue to use USLE until some other acceptable erosion prediction model is presented. BLM will always remain flexible enough to utilize state-of-the-art methods and gladly accepts assistance or suggestions when appropriate.

Erosion accelerated by livestock grazing has been well documented by many authors including Lusby [1979], Blackburn [1984], Leet [1986], Schumm and Gregory [1987] to name a few. An article under the commentor's authorship addressed the difficulty in distinguishing between salt and sediment

model of succession and single stable successional endpoint (climax) concept you assume. The differences between these alternatives are far from simply academic debates because one's perception of any system has a great deal of influence on how he goes about dealing with it (Ellis and Swift 1988). Appropriate policies and technical interventions can only be applied if the fundamental dynamics of the target ecosystems are clearly understood. Otherwise interventions are likely to be random activities which comprise development by trial and error. The time is past in which we can continue assuming that simplistic notions of dynamics of vegetation, soils, erosion, etc. are adequate.

Another major short-coming of this plan is the assumption that conditions at Badger Wash are similar enough to San Rafael to allow extrapolation of the research results from the former. Potter et al. (1985a&b) and others you cite, have recently shown that there is considerable variation within the Mancos shale formation. Small differences in the amount of salts, sands and slopes, for instance, can greatly influence erosional responses. Schumm and Gregory (1986), in a review that you commissioned, warn that landscapes elsewhere in the region away from Badger Wash may yield far different responses. They also advise that Badger Wash is 'badlands' type topography - making use of Badger Wash data a worst case type of example.

Prior studies by Hawkins et al. (1977) and Riley et al. (1982), showed that springs, wells and alluvial fills along arroyos were the major, proximate sources of salinity and sediments rather than overland flow from uplands where most livestock grazing, road building and off-road vehicle traffic takes place. Even if all of these other major point sources of salinity and sediment were mitigated, I doubt whether you could reliably measure additional diminishment in salinity and sediment production from diffuse sources into the permanent waters of the upper Colorado River drainage. Since Lusby (1979) can't adequately explain the mechanism by which winter livestock use apparently led to less erosion than spring use, it is probably dangerous to be making decisions on change of use seasons use of livestock on such purely empirical grounds. For instance, Harper and Marble (1988) have pointed out that at least some of the differences in responses observed could be due to recovery of cryptogamic crusts. This part of the vegetation was totally ignored by Lusby and colleagues. Thus, the postulated shrink-swell mechanism isn't the only possible explanation.

Another bothersome part of your assumptions are the validity of Lamar Mason's (1978) estimates of critical soil loss thresholds. In addition to being another one of your linear, deterministic and reversible, single stable point assumptions, how repeatable is this value? Would five different professionals who independently went to the field come to the same conclusion. The associated notion of minimal ecological status that is required to maintain enough vegetative cover so as to not exceed the soil loss tolerance also indicates to this reader that you believe there is only one possible pattern of degradation which is retraced by a similar pattern of recovery once disturbing factors are removed. Jameson (1987) has recently shown that hysteresis is the more usual pattern. I can think of instances in your resource area where there is actually more cover in so called degraded conditions, e.g. where species such as galleta and snakeweed may have replaced 'climax' shrubs and bunchgrasses such as shadscale and Sporobolus. If soil erosion on such sites produces reduced soil depths, it may be impossible for the original dominants to ever re-occur within

contributions made by livestock hooves and salts coming from the sides of arroyos. The commentor says that a resolution of the matter will take further research [West, 1983]. BLM's additional monitoring and studies should help provide a sound data base for these studies, as well as shedding light on site-specific problem areas, and potential solutions. Accelerated erosion has been shown to result from ORV traffic by West [1983], Webb and Wilshire [1983], Wilshire, et al. [1978], Heede [1983], Geological Society of America [1977], as well as many other activities. Surface disturbance caused by miners, etc., would also cause accelerated erosion for many of the same reasons as stated by the above authors. (See also MSA 4341, Potential for Special Management Designations, Sediment and Salinity).

The objective in alteration of system structures (for example, reducing livestock numbers, changing season of use, regulating ORV use) is not to return these systems to an equilibrium. BLM recognizes that these areas are dynamic, and that soil loss will continue to occur on these areas. However, BLM believes that soil loss may be occurring at a rate more rapid than that of natural geologic erosion.

The designation of the critical soils area was based on the salinity control 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, September 10, 1973; and Executive Order 12088, Federal Compliance with Pollution Control Standards, October 24, 1978, which 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. BLM does this within its planning process and management activities.

The main objective for the area chosen as critical soils is to reduce sediment and salt contributions to the Colorado River drainage. Some segments of stream within the critical soils are in exceedance of state water quality standards. BLM would manage these critical soils with that as its main objective at the activity-planning level. If changes in grazing systems are effective in reducing the salt/sediment load, then these may be the actions taken. Vegetation monitoring studies, along with soil and sediment studies, would be established to monitor whether the objectives in the RMP and activity plans are being met.

NOTE: The two-page list of references which accompanied this comment is not reproduced here.

any reasonable time frame, and certainly not the five year period you propose to check on whether your initial judgments have been in error or not. One cannot automatically assume that soil erosion is less in potential natural community (e.g. pinyon-juniper). Woodlands are now undergoing much greater erosion than in periods before European man came here (Wood, 1988).

In summary, I feel that you are putting the livelihood of a considerable group of people in jeopardy on the basis of questionable assumptions and highly dangerous extrapolation of selected information from elsewhere. Until the BLM can more reliably separate the effects of man's action from the predominant geological erosion at the scale of whole resource areas, I suggest that you forego such radical changes in management.

Sincerely,

Neil E. West
Professor

Attachment: literature cited.

COMMENT 44

November 30, 1988

Mr. James Ryden
San Rafael Resource Manager, Bureau of Land Management
900 N 700 E
Price, Utah 84501

Dear Mr. Ryden:

I am writing with respect to the Draft RMP/EIS for the San Rafael Resource Area.

1 The preferred alternative of the Plan is extremely disappointing inasmuch as it provides little apparent protection for the priceless scenic, recreation and wilderness values of this unique area. Originally, the San Rafael was an area of national park quality. As a result of years of neglect, mismanagement and development oriented policies, this is, for the most part, no longer true. The San Rafael has sustained an incredible amount of ORV damage, even in the WSA's, more than any other area in Utah. The damage is so serious in many places that it is doubtful, given the low rainfall, if it will ever recover. It is, in fact, a national disgrace, and the BLM should be held accountable for the results. The preferred alternative (F) for the Draft RMP/EIS does little indeed to improve the situation, or to even halt the continuing destruction. In order to provide some protection for the remaining treasures of this fragile area, I urge the following changes be made in the RMP:

2 1. The entire San Rafael should be established as a ACEC.

3 2. The WSA's and the San Rafael and Muddy Creek corridors should be closed to ORV's, mineral leasing and mining.

4 3. Horse Canyon WSA and the Green River corridor should be established as ACEC's , with the same provisions as 2.

5 4. Bowknot Bend and Flat Top ACEC's should be retained to protect the plant species.

6 5. On the remainder of the San Rafael, ORV's should be restricted to designated roads (no trails, including the illegal developed motorcycle trail).

7 6. The NSO stipulations must be enforced- no waiving at the request of the lessee.

8 7. Grazing allotments in fair to poor condition should be reduced, and all grazing should be eliminated from Bighorn Sheep range and in the riparian zones along the streams.

9 8. The Wild River classification should be extended to Red Canyon on the San Rafael and to the point where it leaves the Reef on the Muddy.

10 9. All archeological sites should be protected by closure to ORV's, mineral leasing, and mining ; a program of cultural resource identification and protection should be undertaken throughout the Reef.

11 10. The limitation of ORV's to designated roads and trails on 711,840 acres in the area is meaningless unless these roads and trails are identified. It is impossible to determine from the Draft what this means, and it could conceivably result in designation of every track (and the San Rafael is literally covered with these) as open to these terribly destructive machines. All designated roads and trails must be clearly marked on the maps, and should be signed on the ground.

RESPONSE TO COMMENT 44 JACK SPENCE

[Comment page 1]

In response to public comment, BLM has reviewed the analysis of impacts in chapter 4. Under the proposed RMP, ORV designations would be as follows: open, 326,760 acres; limited to designated roads and trails, 1,027,380 acres; open with seasonal restrictions, 33,310 acres; closed, 151,770 acres. Following issuance of the final RMP, BLM will develop a detailed map showing where these designations apply and also install signs as needed throughout the resource area to indiciate ORV restrictions (draft RMP/EIS, page 2-57).

1 BLM does not agree that SRRA has had years of neglect and mismanagement. The preferred alternative for the draft RMP/EIS followed the principles of multiple use and sustained yield as FLPMA requires.

2 FLPMA directed the Secretary of the Interior and BLM to designate as ACECs "...areas within the public lands where special management attention is required...to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards." Of the 1,463,840 BLM-administered acres in SRRA, alternative F proposes that 271,560 acres (14 separate areas, about 20 percent of the resource area) be designated as ACECs.

3 The WSAs within the planning area will be managed in accordance with IMP until they are either designated wilderness or dropped from wilderness review by Congress. As a result of public comment, the proposed RMP would close the north half of the San Rafael Reef and the Upper and Lower San Rafael Canyon ACECs and portions of Muddy Creek and Sids Mountain ACECs to mineral leasing and ORV use.

4 As a result of public comment, the Horseshoe Canyon and Green River Corridor would be evaluated for ACEC status following approval of the RMP (a joint study with Grand Resource Area which would require a plan amendment for both resouce areas).

5 Both Bownot Bend and Big Flat Top are carried into the proposed RMP as ACECs to be managed for relict vegetation.

6 As a result of public comment, the proposed RMP would close additional acres to ORV use. Also, ORV use would be limited to designated roads and trails on larger areas than in the draft. After the RMP is final, BLM will complete an ORV implementation plan and install signs to show which roads and trails are open or closed. See also the response to comment 15-23.

7 An exception to the no-surface-occupancy stipulation could be granted in certain scenic ACECs, if the proposed action could be accomplished within the standards established for that particular ACEC.

12 I wish also to endorse the UWA Conservationists Plan for the San Rafael which was submitted 18 months ago. This plan provides the necessary protection for the remaining remarkable scenery and wilderness of the area with a minimum of resource conflicts. Finally, I urge you

13 to designate the San Rafael as a National Conservation Area; this would extend this protection so that future generations of our citizens will be able to enjoy at least some of its priceless values.

Sincerely,

Jack T Spence

Jack T. Spence
PO Box 83
Teasdale, Utah 84773

RESPONSE TO COMMENT 44 JACK SPENCE

[Comment page 1, continued]

8 Livestock adjustments would be made only after adequate monitoring. Riparian and aquatic habitats would be managed to preserve, protect, and restore natural functions (draft RMP/EIS, page 2-68). Restoration of riparian areas would be considered and provided for at the activity-plan level. The proposed RMP would prevent change in kind of livestock from cattle to sheep in those allotments containing crucial bighorn sheep habitat.

9 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 (see appendix J).

10 Archaeological sites are scattered throughout the resource area; it would be impractical to close the entire resource area to these other uses (see also the response to comment 3-7). Following completion of the RMP, all cultural resources would be assigned one of three management categories: conservation, public values, or information potential (draft RMP/EIS, page 2-44). Also several ACECs were proposed to protect cultural values within the planning area, especially within the San Rafael Swell and Reef.

BLM recognizes the need to protect cultural resources and is confident that the proposed RMP provides an adequate framework for management of cultural resources in SRRA.

11 See the response to comment 44-6.

12 See the responses to comments 15-9 and 15-10, paragraph 2.

13 The proposed RMP discusses Congressional designation, National Conservation Area, National Recreation Area, etc. (appendix W).

COMMENT 45

2140 West 13180 South
Riverton,Utah 84065

James Dryden
San Rafael Resouce Area
Bureau of Land Mgt.
900 North 700 East
Price,Utah 84501

Dear Mr. Dryden:

This letter is concerning the San Rafael Resource Management Plan or RMP.Being a concerned citizen and member of the Sierra Club, I am writing you to make you aware of my objections to the proposed plan.I do not like the idea of having 761,820 acres wide open for ORV's.Along with the destruction of the land,there is also the problem of the noise it would cause. One of the main reasons to travel to these wilderness areas is to get away from the city and all of it's noise and pressures. I would hate to think that I would drive for three hours just to find the same kind of noise and destruction that is in the city. 1

Some of the other points that I support are as follows:

All ORV's should be restricted to designated routes outside the Utah Wilderness Coalition's proposed wilderness units in the San Rafael Resource Area.

Wilderness study areas and units of the Utah Wilderness Coalition's proposed San Rafael Wilderness should be off limits to ORV use. The Coalition's wilderness proposal in the San Rafael Resource Area should be designated as and Area of Critical Environmental Concern. 2

I also support wild and scenic river protection for the sections of San Rafael River and Muddy Creek within the San Rafael Swell,and the stretch of the Green River that lies within the San Rafael Resource Area. 3

Also the grazing allotments should be reduced in the Resource Area where the range is either poor or in fair condition. 4

In conclusion, I would like to again express my dissatisfaction over the proposed San Rafael Resource Management Plan. Let's not allow man and machine to destroy in a few short years that which has taken Nature centuries to create.

Sincerely yours,

Lon G. Leonard

RESPONSE TO COMMENT 45 — LON LEONARD

[Comment page 1]

1 As a result of public comment, ORV designations in the proposed RMP would be: open, 326,760 acres; open, limited to designated roads and trails, 1,027,380 acres; open, with seasonal restrictions, 33,310 acres; and closed, 151,770 acres. After the RMP is final, BLM would develop a detailed map showing where these designations would apply. Also, the resourse area would be signed to indicate ORV restrictions

2 See the response to comment 44-2. Under the proposed RMP, BLM would designate those areas that meet this definition as potential ACECs. Some of these areas may overlap WSAs, but ACECs are not evalulated against the same criteria as are WSAs.

3 See the response to comment 44-9.

4 See the response to comment 44-8.

Letters 44 and 45 are representative of 253 comment letters that were similar in content. BLM is printing and responding to these letters only once; the following is a list of commentors who contributed these letters:

Noon Alranarve
Russ Anderson
Jane Arhart
Robert W. Audretsch
Charles Ayers
Bertha Bagley
Charles M. Bagley, Jr.
Bill Baranowski
K. Renee Barlow
Jeff Barrell
Martin J. Barth
M. Shayne Bell
Sharon A. Bennett
Jay Bickford
Jennifer Bickford
Michael L. Binyon
George R. Birchfield
Connie Blaine
Shirley Boyce
Yvonne and Stephen Bradford
Leslie Brody
Lynette E. Brooks
Rhett Brooks
Leslie D. Brunell, et al.
Michaeline Bunting
Meg Burke
Jan Ellen Burton
Jack Campbell
Ronn L. Carpenter
Louis and Maria Carr
Kathleen Casey
Steve Chapman
Jonathan Cheney
Doug Chinn
Richard Lance Christie
Lori Clark-Erickson
Valerie P. Cohen
Howard M. Cornell
Peter Coulston
Susan E. Cox (2 letters)
Rebecca A. Crockett
Julie K. Curtis
John Czarnecki
Cathy Dahms
Daniel Dancer
Ellen Davis
Carol A. Day
Craig L. Denton

Colleen G. Dinsdale
Bryan Dixon
Richard W. Dougherty
Leisha Durfee
Sharon J. Eblen, et al.
Edward F. Engle
Steve Erickson
Richard M. Farnell
James B. Felton
Stan Ferris
Ari M. Ferro
Kathryn S. Field
Paul C. Fife
Bert Fingerhut
Timothy J. Flood
John Foley, et al.
Naomi C. Franklin
Lee Gallagher
Ruth Gallagher
Kathryn Snyder Ganta
Glen Gantz
Rachel A. Garrison
Gary L. Gianniny
Vera Giles
Jocelyn C. Glidden
Karen Glynn
Russell Goodwin
John Gould
T. S. Groene
Ellen H. Guthrie, et al.
Robert C. Hales
Harvey Halpern (2 letters)
Kimberly Hamblin
David Hamilton
Larry J. Hardebeck
Carvel R. II Harward
Trudy Healy (2 letters)
Werner Heibes
Christine Herdeklaro
Nick Hershenow
Don Higgins
Sandra K. Hinchman
Marianna Hopkins
Marc Hoshovsky
Brian L. Hutchings
Nancy Inaba
Brooke Jennings
Bruce Jensen
Alison Thorsted Johnson
Carolyn Jones, et al.
Daniel Jones
Robert N. Jones
Gary Jordan
K. C. Kaltenborn
Patricia Karz
Ed Kearney
Jean Kennedy
John Kennington
B. Kirby
Janice Klein
William M. Kleinschmidt
Martin P. Kogut
Koorosh Komeyli
Glen J. Lathrop
Machael Layton
Michael Layton
Peter S. Lenz
Marjorie G. Lewis
Bruce E. Liddiard
Eric R. Lindgren
Kim Lindgren
Jean M. Lown
Ken Lucas
Rudy Lukez
Kelly J. Lundberg
Kent S. Lundgreen
Thomas J. Lyon
Keith Maas
Tracey D. Maas
Tom Malley
Thomas J. Masoian
Hugh M. Matheson
R. Alan Maurer, M.D.
Bevery J. Maw
Craig R. May
Andrew McConkey
Daniel McGill
Martin McGregor
William C. McGregor
Greg McKennis
Mark McKenzie
Steven T. McMaster
Darrell H. Mensel
Tony Merten
Kathryn Metcalf
Sara Michl
George Miller
Jack E. Miller
Thomas Miller
Renee Monson
Elizabeth Morris
Preston M. Motes
Pat J. Mueller, et al.
Robert F. Mueller

Dave Naslund
F. Garth Nelson
Nancy L. Nesewich
Clayton Newberry
Gary C. Nichols
Joey Nielsen
Gary S. Oneal
Ted Owens
Randall D. Payne
Henry Peck (2 letters)
Dean Petaja
William V. Peterson (2 letters)
W. Robert Phelps
Richard Pimentel
Melvin E. Piper (2 letters)
Donald Porinton
Carol Poster
Claud H. Pratt
Christopher Purcell
Robert Rasmussen
John Paul Reeves
Thomas Ribe (2 letters)
David N. Ridinger
Marc C. Ristow
Kirk Robinson
Charlene Roth
Ward J. Roylance
Ronald L. Rudolph
Christopher Runk
K. Ryan
Sarah Salzberg
John Schaefer
Mark Schoen
Martin P. Schweizer
Owen Severance
Cherie Shanteau
Sharpsteen Catherine
Shaw R. J.
Sherrill Glenn
Sherwood Alan C.
Silcox Geoffrey D.
Smith Diane
Jeffrey Soderberg
John Spezia
Richard Spotts
Larry St. Clair
Julie Stafford
David H. Stanley
Douglas Stark
Al Stevenson
Bruce D. Stringer
Fred Swanson
John Swanson
Susan E. Sweigert
Thomas Tanner
Ginny Taylor
Julie Taylor
Kaye Terry
Tom Till
Christy Toohey
Phil Triolo
Robert Tubbs, Jr.
Mark N. Tuttle
Mark Udall
William Vogel
Arlene B. Wachter
Ronald K. Wackowski, et. al
John Wahl
David Weamer
Ann Wechsler
Gary Welker
James E. Whelen
William White
Tamara Wiggans
Margaret Wilburn
Brooke Williams
Bradford E. Willmore
Richard C. Wilson
K. Robyn Wittenberg
Michael Wolfe
William H. Wolverton
Tom Wood
L. Worthen
Mark W. Worthen
Mac and Marilyn Wright
Susan J. Wright
Noel Young
Steve Zachary
Daniel J. Zamecnik
Karen A. Zvonik (2 letters)
William J. Zwiebel

Cleveland Elementary School

COMMENT 46

P.O. Box 218 — Phone 653-2235
Cleveland, Utah 84518

DAN M. WELLS
Principal

6 December 1988

Mr. Jim Dryden
BLM
900 North 700 East
Price, Utah 84501

Res: ACEC

Dear Mr. Dryden;

This is a letter adressing my concern for the ACEC proposals that are being made concerning the East Central Region.

I am sure you are aware of the great use that this region gets from the people of this area. It is not only very valuable for the cattlemen and part of their livelihood but it is also a great training place for our young people. As the principal of an elementary school I am concerned about the possibility of not being able to take the students on field trips and provide academic programs associated with the out of doors. The training they get is invaluable in terms of how to get along and survive in their environment. Our heritage is part of this entire idea and we certainly don't want to lose any of that.

1 I am also very concerned about the proposed closing of roads into this area. Closing roads or even failure to maintain existing roads will greatly curtail its use as you are well aware. I strongly feel that all existing roads need to be at least maintained at their present level. In addition it should be in the propoposal that if future needs warrant, any road may be upgraded to meet the new need. This should include all two track roads as well as main roads. Many of our field trips are to places where the roads are only tracks.

2 Another concern I have is over the change in grazing allotments. Many of the parents of students at Cleveland Elementary are farmers and they need to be able to graze their cattle for a part or total livelihood. It is not right to change the allotments from grazing food producing animals which are used for making a livelihood to that of recreation animals that may have no value other than a short lived good time. I therefore strongly feel we not only need to keep the present cattle and sheep allotments but may in fact need to start considering replacing allotments that have been cut continually over the past few years.

3 I feel strongly that this land should be multiple use and everyone that has an interest should have access to it. This needs to include cars for those who are not able to walk, ride horses, etc. and still be available for those that want to hike, ride horses, etc.

4 In conversation with others it was proposed that a governing board which would be made up with membership from all groups that have vested interest be organized to determine use. I think this proposal has great merit and would champion this concept, in this proposal everyone could have an equal voice and the best possible use would be the result. If we have to make some changes lets do it with real input and decisons being made at the level of actual use. Some of the groups could include: grazers, recreaton users, wildlife interests, etc. There should be all age groups represented so that we don't have accessability denied to any group.

Thank you for this opportunity to express my feelings, and I hope that you can see my point of view and keep this land so that it can be used by all.

Dan M. Wells, Principal

RESPONSE TO COMMENT 46 — DAN M. WELLS

[Comment page 1]

This form letter was sent in by 84 people. BLM is printing this letter as being representative of the 84 letters and responding to specific comments only once.

1 All of the alternatives recognize valid existing rights, including rights-of-way for county, state, or municipal roads. The proposed RMP and final EIS provides additional discussion of valid existing rights. The county has a valid existing right for the roads on the county road system under R.S. 2477. This includes most of the existing access roads in the planning area. See the response to comment 29-1. A clarification statement has been added to the final EIS (Standard Operating Procedures) addressing the county's concerns regarding reclamation.

Given the large size of the resource area and the extent of the area where ORV use would be limited to designated roads and trails, BLM believes that additional time is necessary to produce a proper ORV implementation plan. This plan would be completed within 1 year after the RMP is approved. The final ORV implementation plan must provide the opportunity for public input and comment, and will be announced in the Federal Register.

2 See the response to comment 15-46. Before reductions or changes in management occur, 5 years of rangeland monitoring data are required.

See the response to comment 35-27.

3 FLPMA requires that BLM manage the lands for multiple use and sustained yield. The preferred alternative in the draft RMP/EIS provides for multiple use. Livestock grazing is just one of the many uses on public land.

See the response to comment 49-4.

4 BLM functions with a multiple-purpose advisory board which meets as necessary to advise the District Manager on multiple use issues.

Letter 46 is representative of 84 letters that were similar in content. BLM is printing and responding to this letter only once; the following is a list of commentors who contributed this letter:

Chuck Albeyta
Frank Allred
Phyllis M. Allred
Ray Allred
Dave Babcock
Boyd Berensen
Chris L. Carter
Clifton Carter
Clifton L. Carter
Mickie Carter
Catherine W. Casutt
Chad Casutt
Larry Casutt
Cathleen Christansen
Leona Christensen
Tresa Christensen, et al.
Bob Cook
Van Cook
Johnny S. Cooper
Mark Cornell
Jack Corvance
Tessie Elfring
Clyde Fish
Laura Flemett
Dale Foster
Alan Gardner
Jesse W. Gordon
MarLayne Gordon
Vaughn Guymon
Cathy Hammond
Gary Hammond
Chad Hansen
Darold Hansen, et al.
Georgena L. Hansen
Glen Hansen, et al.
Hans Hansen
Henrietta Hansen
Kirk Hansen
Vickie Hansen
Larry Hyatt
Alan Isaacson
Jay Jacobson
Earl M. Jensen
F. Alan Jensen
Hazel Jensen
Juanita Jensen
Kirk Jensen
Larna Jensen
Pauline Jensen
Phyllis M. Jensen
Richard Jensen
Vivian T. Jensen
David Johnson
Diana Johnson
Richard H. Jones
Richard Koncher
Michael A. Leach
Larry Lee
George C. Leighton
JayLene F. Marakis
Dennis Mortensen
Diana Mortensen, et al.
Lynn Nelson
Newel Nelson
Jim Nichols
Betty Olsen, et al.
Debra O. Olsen
Scott W. Payne
John Pell
Frances J Pitts
Gayle Preston
Bud E. Prettyman
Royce C. Rasmussen, et al.
Sharon Rasmussen, et al.
Sheri Rasmussen, et al.
Gene Rath
Fred J. Scarelli
Bunny Taylor
Delbert Thayn
Emma Tucker
Tim Turner
Clarence and Vida Wall
Dan M. Wells (2 letters)

COMMENT 47

December 3, 1988

Bureau of Land Management
Jim Drydren, San Rafael Resources Area Manager
900 North, 700 East
Price, Utah 84501

Subject: Draft Resources Management Plan

Gentlemen:

I have read and studied the Draft Resources Management Plan and have really look at alternative F and I can see some problems with it. But first I must say that I think the B.L.M really tried to address all the important issues of the San Rafael Resources area with regards to mineral extraction, grazing, wildlife, and recreation. I know if the B.L.M. would use alternative A, the San Rafael Resource Area would be managed as multiple use so that every one could live with that decision and be able to use the area as the use would
1 permit. I feel that the Draft Resources Management Plan was written too general and needs to have examples given to explain what could and could not happen and also give guidelines to the people that would have to administer it.

As I stated that I can see several problems with alternative F.

1. As stated in the goals for alternative F to provide for the protection of critical soils through the planning area and scenic resources within the San Rafael Swell. I feel that the protection of the critical soils is very important, but then I feel that the rest of the priorities are wrong be-
2 cause you have listed on number 4 of the goal of alternative F to maintain existing livestock, wild horses and burro, and minerals uses where no conflicts with the other listed goals would occur. This statement on number 4 is out of line because some one can always find conflict with something and you should delete the rest of the sentence after mineral use. The grazing and mineral use is the only way you receive any revenue of any amount from this land.

2. You have stated that you intend to afford special protection to crucial wildlife habit and to wildlife. Even though the area might be suitable to maintain several different spe-
3 cies of wildlife, that doesn't mean to go out and plant them in the area. There is just so much land, feed and water out in the desert no matter if cows or sheep or wildlife are eating and drinking it. I feel that if the grazing people have to keep to the number of animals on their permits to the benefit of wildlife, I think that the D.W.R. must buy the A.U.M.s from whomever holds them for the area and also they

RESPONSE TO COMMENT 47 JAY MARK HUMPHREY

[Comment page 1]

1 The comment is acknowledged.

2 The goals of the preferred alternative were selected by an interdisciplinary team with public input throughout the planning process. BLM believes these goals meet the present public demands.

3 See the response to comment 35-27.

must run the numbers that they say they have. As it is now, they tell you they have ten head of wildlife in an area but in reality they have maybe two or three times that number.
3. To change the use of the permits from spring and summer to fall and winter and number of days is almost saying that you are taking their permits away because their operations are set for the spring and summer use. There is not enough private spring range to hold the livestock until they go to the mountains.

4 4. If alternative F goes in and worst problems happen, and you reduce and cut the livestock from grazing the public lands, what would happen the enconomy of Emery County. Even though the livestock business is not the biggest business in Emery County, it is still a big part of the economy of the county. Could the county keep up the roads and police protection in that area if some of the tax base was gone.

5 5. As the book as stated in alternative B., you could almost double the livestock with just a few range and water improvements. Why not do the improvements to the range and leave the wildlife and livestock alone and this would help the critical soils problem.

As a permittee along I-70, I feel that there are several other problems I have to deal with.

6 1. The most important problem that I have with alternative F is the VRM Class 1 that is along I-70. With this classification, will I be able to put my sheep camp out in view of the freeway? Will I be able to maintain the ponds that are in sight with the free-way or will the ponds have to be removed? Will I be able construct new watering areas on that permit? Will I be able to use and maintain the roads that have been used for fifty years for my grazing operation? Will I be able to maintain the fences that were built to separate the different allotments?

7 2. Another problem that I have is, predator control. Will such control be allowed as we are now being able to do? This is very important to continued existance of my sheep operation.

8 3. In alternative F, you have proposed to make a recreation area out of the Swasey Cabin Area. What will be the impact on the grazing areas, the road and fences, and the water sources?

These are real concerns of mine and I would like you to address each one of the them.

9 In conclusion, I feel Alternative F favors the single use plan and not multiple use plan and that is what the public lands were set up by congress to be use for. I also feel that the cost of changing from alternative A to any of the other alternative would not justify the returns to the American Public. As it is now, you have recreation areas,

RESPONSE TO COMMENT 47 JAY MARK HUMPHREY

[Comment page 2]

4 The livestock-related effects on other businesses and local taxing district revenues were accounted for in the analysis (chapter 4, Economic Considerations, and appendix P). See also the response to comment 48-5.

5 Reservoirs and other water developments can be used to improve livestock distribution on an allotment with critical soils. However, in some areas water development is not feasible because of soils restrictions. Gully plugs and other structures may be used to reduce erosion in problem areas.

6 Temporary uses (such as parking of a sheep camp) are allowed. Maintenance of existing improvements such as water developments, roads and fences are allowed. The VRM Class I designation applies to future improvements. See the response to comment 35-15.

7 Predator control is an administrative action and therefore is not included in the RMP.

8 Cattle would be excluded from the proposed developed recreation site, which may be approximately 10 acres in size.

9 FLPMA requires that BLM manage the lands for multiple use and sustained yield. The proposed RMP provides for multiple use. Livestock grazing is just one of the many uses on public land.

wilderness areas, without having to designeate them, wildlife areas, and grazing. The geography hasn't changed in the last hundred years and probably won't change in the next two hundred years and you haven't tied up any large amounts of land for any one special use in the San Rafael area.

Thank you,

Jay Mark Humphrey

Jay Mark Humphrey
Permitee
Big Pond Allotment

December 5, 1988

COMMENT 48

Jim Dryden, San Rafael Resource Area Manager
Bureau of Land management
900 North 700 East
Price, Utah 84501

Dear Mr. Dryden,

I would like to comment on the effect the San Rafael Area draft RMP/EIS will have on my livestock operation.
You list the four goals in the following priority,

1. protection of critical soils and scenic resources.
2. Protection of critical wildlife habitat.
3. Provide special management for certain vegetation and cultural resource.
4. Maintain existing livestock and mineral use where no conflict of other goals exist.

1 I feel that number four, livestock and minerals should be of a higher priority and should also be given more consideration.

It is true that industry and coal mining have a great effect on the economy, but the livestock industry has a great effect on the stability of our communities in Emery County.

2 One of the objectives of the BLM enabling legislation is to stabilize the rural economies dependent upon the livestock industry, the proposed change in season of grazing will have a devastating effect on the livestock industry and the local economy. I feel ranchers are voluntarily taking care of the range. When adverse conditions are present (moisture drought ect.) cattle are not turned out on the range. In our situation which began with the Taylor Grazing Act, we have always tried to cooperate for the betterment of the range. We feel we have much more interest in the range and condition of this area than any other special interest groups. Ours as many others are starting in 3rd and 4th generation ranching. According to your figures and AUM active preference is 88,252 AUM,s actual use 56,781 or a 34% voluntary reduction.

3 Increase in wild life would have an adverse effect on the ranchers in our area, not only would wild life compete with cattle for forage on allotments but would compete on private land and farms of individual ranchers. This will have a great economic effect in Emery County.

The RMP has identified 43 allotments to change season of use from spring to late fall or winter because they exceed the critical soil loss threshold. On 16 of these allotments, and additional

RESPONSE TO COMMENT 48

MAX RALPHS

[Comment page 1]

1 The goals of the preferred alternative were selected by an interdisciplinary team with public input throughout the planning process. BLM believes these goals meet the present public demands.

2 See the response to comment 7-1.

3 The increased wildlife numbers under alternative F were projected based on improving wildlife habitat on public lands only. Private lands would not be needed to support the projected population increases. Improving wildlife habitat on public lands would have little effect on this problem, and may in fact reduce it. The Economic Conditions section in the draft RMP/EIS, chapter 4, did account for the livestock-related economic effects of increased wildlife populations on public lands.

reduction in numbers is recommended because of winter use conflicts with wildlife. I do not think this change is justified on the basis of reducing soil erosion. The justification given for this change (Page 4-89 , "Removing livestock during the high runoff period would decrease surface disturbance and allow for increases in plant density which would reduce runoff") is not accurate. The watershed literature cited in appendix N to support the elimination of spring grazing show that there is no spring runoff on the desert ranges. Runoff and sedimentation come from the intensive summer thundershowers. The soil disturbance from spring grazing is stabilized by this time by the crusts that form and protect the soil erosion. Erosion and salinity come from steep mancos shale not bench tops and flats, this is natural and cannot be prevented. Removal of cattle will have no great effect on this condition. Irrigation must bear some responsibility in salinity problems also. 4

I feel the economic consequences of these decisions are underestimated in the draft EIS. BLM provides greater than 50% of all spring feed in Emery County. Of the 101 allotments on the area, 75 have spring use. 43 allotments have been identified to eliminate spring use. of the 139 livestock operators, 89 could be excluded from using spring range. This would eliminate more than half of the current forage currently available in Emery County. The simplistic recommendation suggested as a worst case analysis was to substitute the hay normally fed in the winter and feed it in the spring in lieu of the eliminated spring grazing on BLM. This recommendation simply will not work. Transfer of use is to fall and early winter. There is already an abundance of feed in the form of aftermath that cannot be utilized at another time of the year. In addition, turning cattle out on BLM land at this time would be a hardship to most operations who are weaning and working their cattle during this period.

5 Cattlemen are reluctant to use desert range in the winter. The nutritional content of senescent forage and lowered digestibility of saltbrush is below the recommended levels of cows in their last trimester of gestation. In the past, cattle grazing out on BLM desert range over winter had only 50-60% calf crop. As the technology developed to harvest and store forage, most cattlemen pulled their herds off the deserts for winter.

The most severe effect of changing season of use is the shortage of spring feed it would create. There is no potential for developing more spring feed on public lands. There is limited potential for developing early spring pasture on private land. There is limited potential for developing early spring pasture on private land. Feeding hay in the spring, even if available has its drawbacks. Hayland starts growing in April, thus requiring feeding in drylots rather than feeding out on the cropland as is customarily done to return manure and urea back to the land as fertilizers. Disease and scours can be serious when feeding and calving in confined conditions. Confined feeding generally results in underfeeding which causes reduced milk production and reduced weight gains in calves. Furthermore, cows will not eat dry hay once they have tasted green grass.

In our operation, we have very little alternative spring feed.

RESPONSE TO COMMENT 48 MAX RALPHS

[Comment page 2]

4 The literature was reviewed and the final EIS (chapter 4, Grazing) changed. In the Badger Wash study, Lusby [1979] says "...it appears that the elimination of grazing during the spring period, February 15 to May 15, had basically the same effect on runoff production as the complete elimination of grazing," and this is a significant reduction in runoff. "Any treatment that produces a change in runoff would probably achieve a like change in erosion." Lusby also says (page 125) that practically all runoff is generated from summer rainstorms. Runoff may also occur in the springtime during the winter snow melt and thaw periods.

5 Of the 91 allotments with a 5-year average use of 56,161 AUMs, 77 have existing spring use which supplies an estimated 50 percent of the spring feed supply used by SRRA ranchers. Under alternative F, 43 of the allotments with existing spring use would be excluded from livestock grazing during this period. Approximately 7,000 AUMs currently supplied during this period would be affected.

The livestock impact analysis used enterprise budgets and ranch models prepared by Gee, et al., 1986 (appendix P). Gee's modeling did not analyze impacts of spring exclusions. Due to time and budget constraints BLM was unable to perform independent budget and modeling that accurately projected enterprise responses to spring exclusions. To approximate the net economic effect of spring exclusions, the analysis assumed that additional public rangeland forage during late fall and winter would not be utilized, and that forage lost in early spring would reduce herd size (as any forage reduction would) using Gee's ranch models, and that purchased hay would be used to make up the spring forage deficit. The problems of finding an alternative source of feed during the spring were discussed in chapter 4 (Economic Considerations). Although each enterprise would respond differently, and few would respond solely by feeding purchased hay, it is BLM's belief that this analysis approximates the net economic effect of spring exclusions.

There is some reason to believe that this type of analysis overestimates the net economic effect of spring exclusions. Some ranchers may use some of the additional forage during late fall and winter. In addition, several studies have found other more economical responses to spring exclusions than purchasing hay. If the most economical response to spring exclusions was feeding hay at $20 per AUM, this would imply a minimum value of public rangeland forage during the spring of $20 per AUM. Even accounting for any difference in variable cost of grazing BLM range versus feeding hay on private range, this value is far higher than the market appraisals of public rangeland forage.

There is some potential to develop early spring pastures. However, even if we fully develop all of our potential private land, the change in season of use will require a 30% reduction in cows we run because of the lack of spring feed. If we are a typical operation, a 30% reduction in gross revenues from 64% of the permittees in the area would reduce gross revenues of livestock operations in Emery County by more than $500,000. Variable costs would greatly increase if seeding to spring pasture is attempted. Loss of returns above variable costs from
5 your preferred Alternative F will be much greater than the $221,900. projected in the EIS.

Many ranchers cannot afford to implement costly seedings. Since the majority of ranchers in the are are getting up in age, many will elect to quit ranching. This would be a significant impact on the other Ag-related support industries, and subsequently affect the economy of the entire county. Energy and mining are the largest employers in the county, but agriculture and the livestock industry provides the stability to the county. I hope the BLM administrators will realize the full impact their decision may have.

I would recommend the BLM initiate the Coordinated Resource Management program as you evaluate the individual allotments and make consensus management decisions. Invite the SCS, Extension Service, Rancher representatives and perhaps the Forest Service to coordinate management and mitigate adverse impacts the decisions may have on individual ranchers and the economy of Emery County. This will bring cooperation in the range and the livestock industry.

Thank you for the opportunity to comment.

Sincerely,

Max H. Ralphs,
Limited Partnership

COMMENT 49

December 6,1988

James Dryden, Manager
Bureau of Land Management
San Rafael Resorce Area
900 North 700 East
Price, UT 84501

Gentlemen:

In an attempt to respond to the San Rafael Draft Resource Management Plan and Environmental Impact Statement; I am a firm believer in the multiple use concept for the use of our public lands and I have accepted the technical and expertise of the BLM as managers of the land. Your present proposal presents several concerns:

1 1. Your priority of protecting the soils could be better handled by developing water. Gullies could be plugged, dikes could be built, ponds created. This action would increase the AUM's for both wildlife and livestock and stop the erosion and improve the salinity problem of the Colorado River.

2 2. Your proposal for improving the soils by reducing the spring use is filled with inconsistencies. The soil and climate conditions are consistent throughout the area, but you are proposing that one grazing use be 60 days; another 90 days, another 105, and you are proposing to resolve these problems by reducing the present use of the permittee.

3 3. Your proposal leads me to believe that you have no real consideration for the preservation of the livestock industry of rural Emery County. Most livestock people limit their number to the amount of feed they have and the most critical period of the livestock industry is in the Spring. Very few livestock people could increase their numbers to consume all of the AUM's in a short winter use period.

4 4. Your arbitrarely setting of grazing dates without consultation with the users seems to ignore the BLM regulation that a management plan "should be prepared in careful and considerate consultation and coordination with affected permittees or land owners involved".

5 5. Your proposal seems to ignore the BLM directive that "Private and State lands shall be included in allotment management plans with the consent of the parties who own or control these lands".

6 6. Your proposal to restrict the use of the permittee to his actual past 5 year use, fails to take into consideration the fact that much of this non-use of AUM's has been non-use because of your unilateral denial of this use.

7 7. There is no notice of intent to compensate the permittee for your proposed reduction of use.

8 8. Your proposal of limiting the livestock industry to a winter use while allowing an increase of wildlife use for year around use is not consistent with good range management.

RESPONSE TO COMMENT 49 ORAL E. JOHANSEN

[Comment page 1]

1 See the response to comment 47-5.

2 The changes in season were analyzed to measure the possible impacts from using the SCS critical soil loss threshold.

See the response to comment 49-4.

3 See the response to comment 47-9.

4 The changes in grazing dates were made solely for analysis purposes. (draft RMP/EIS, page 4-89). At least 5 years of rangeland monitoring data are necessary before grazing season or livestock numbers can be adjusted. Permittees will be invited to assist in rangeland monitoring. If cnanges are needed on an allotment, range use agreements will be pursued.

5 Only public land is included in the RMP/EIS. AMPs would be written and revised following adoption of the RMP. At that time, private and state lands would be included in AMPs only with the consent of the parties that own or control such lands.

6 Permittees would not be restricted to using 5-year average licensed use under any alternative in the draft RMP/EIS. (Refer to appendix I.)

7 Grazing permits or leases do not convey any right, title, or interest to the permittees or lessees in any of the lands or resources held by the United States and administered by the BLM (43 CFR 4130.2(b) and Section 3 of the Taylor Grazing Act of 1934, as amended). Therefore, compensation for loss of a permit or lease is not allowed.

8 Wildlife monitoring studies are being implemented in allotments where conflicts between wildlife and livestock are thought to exist. If monitoring studies indicate resource damage by wildlife, BLM may recommend to UDWR that herd numbers be reduced.

9 I would propose that since we seem to concur on the multiple use concept of our public lands, that a Resource Management Plan should be formulated on a multiple use basis rather than the present unilateral plan made and proposed by the BLM.

All the users should have representatives and be allowed to make their problems known and their priorities of use presented to all the users. Then these same users could work out a Multiple Use Plan instead of a Unilateral Use Plan by one agency.

We are all stewards of our resources and the greatest conservationists are the ones whose livelihood comes from the wise multiple use of these limited resources.

Sincerely,

Oral Eugene Johansen

RESPONSE TO COMMENT 49 ORAL E. JOHANSEN

[Comment page 2]

9 See the response to comment 105-13.

Letters 47, 48, and 49 are representative of 71 comment letters that were similar in content. BLM is printing and responding to these letters only once; the following is a list of commentors who contributed these letters:

Benny Allred
Wimmial R. Allred
Bill Allred, et al.
Doyle Allred
Royce Allred
Randy Anderson
Robert Anderson
Jed Behling
Chris L. Carter
Clifton L. Carter
Mickie Carter
Annette S. Cook
Chall D. Cook
Dawna Cook
Phineas Reeve Cook
Reed B. Cook
Cottonwood Creek Livestock Association
L. Jack Curtis
Merrill Duncan
Mervin Duncan
Earl Gordon
Hugh Grange
Mar U. Grange
Courtney Guymon
Darce Guymon
Hal Guymon
Madge J. Guymon
Ray Guymon, et al.
Vaughn B. Guymon
Chad Hansen
Vickie Hansen
David Hinkins
Ross Hinkins
Wilford Mark Humphrey
Dickson S. Huntington
Royal M. Huntington
Albert C. Hyatt
Arden Jensen
Earl D. Jensen
F. Alan Jensen, et al.
Kay Jensen
Lloyd Jensen
Richard Lee Jensen
Vivian T. Jensen
Craig Johansen
Oral E. Johnsen
Keith A. Larsen
Lee Lemmon
Arlene C. Lemon
John Lemon
Loretta Lemon
Clyde D. Magnuson
Clyde J. Magnuson
Ina Lee J. Magnuson
David Martinez
Tom McElprang
Lynn Nelson
Newel Nelson
John C. Nielson, et al.
John Oliver, et al.
Don Oveson
Jesse J. Peacock
Stuart P. Ralphs
April Riley
Mike Riley
Robert Riley
Morris Sorensen, et al.
Dale L. Terry
Kenneth L. Winder
Kash Winn
Keith Winn, et al.

COMMENT 50

6 December 1988

Mr. Jim Dryden
BLM
900 North 700 East
Price, Utah 84501

Re: ACEC

Dear Mr. Dryden;

Previously this summer I received a summary report from the BLM office, mailed to me which seemed to show studies of every allottment and called for changes on most allottments, either to cut the AUM's on allottments, or cut grazing use, or to change grazing seasons to promote more winter use.

One area of plan F proposing more winter use also proposes at the same time, for stockmen accepting the idea of winter use that they cut their AUM's 25%. Most stockmen are not aware of this 25% cut.

Winter use as presently prescribed in the old plan fits the situation we are in
1 much better than plan F. Why?.... Because conditions are more naturally conducive for these stockmen, who are mostly farmers and stockmen, to feed these cattle in the fall and winter on the production of those farms and to send these cattle out onto the allottments in the spring so that they (the farmers) may begin the cycle of farming over again in the spring.

Having the livestock on a farm in the spring presents many real problems with regard to feed, fencing, and calving these cattle out.

Have you really made valid studies to determine if some of the items you studied...overgrazing for example, may in fact be more related to wildlife than it is to cattle? Alternative F seems very unfair regards to this (let's cut cattle numbers and build up wildlife numbers is alternative F's proposal).

Under the plan of more winter use alternative F proposes that most cattle allottment numbers be dropped 25% but the bighorn sheep numbers be increased This seems like more of a cut-throat scheme than a good plan for multiple use.

The cost of making and implementing alternative F approximately $1.5 million is overwhelming in itself considering the economic conditions present in our area. Where unemployment has been the highest in the state for some time.

You must consider also that the stockmen of this area are now and have always been very vital...to the economy of this rural area.

Did you know for example that 38,000 AUM's (which is approximately the total we have in the San Rafael area) will produce, considering an 85% calf crop as an average, 5,934 feeder cattle which will be taken from this San Rafael area to other markets in our state.

2 The average yield per head for these 5,934 market cattle can be expected to be $583.24 per heifer and $733.57 per steer based on actual market values.

A total of $3,909,836.00 can be expected as gross return from 5,934 head.

Approximately 71 bulls will be taken to market at $900.00 per head bringing the total dollars to $3,973,836.00. Additional gross returns from sheep may make the total figure approximately $4,335,416.00.

Many of the dollars the livestockmen gross will be spent right here; hiring help, buying feeds, machinery, automobiles, etc.

It is common knowledge that each dollar value of livestock produced will contribute $4.00 of economic wealth to the economy of the state and at least $7.00 of economic wealth to the United States.

3 Studies of these areas; at least over the past years 1987 and 1988 couldn't possibly, with the use of good judgement, be taken as indicators to base a planned

RESPONSE TO COMMENT 50 JOHANNAH JENSEN

[Comment page 1]

1 See the responses to comments 15-46, 35-27 and 10-1.

2 See the response to comment 48-5.

3 Rangeland monitoring studies include utilization, vegetation trend, and actual use, as well as climate studies. Therefore, any years with below-average precipitation are considered. Before any reductions in numbers or changes in management occur, at least 5 years of rangeland monitoring data are required. If any changes are necessary, range use agreements would be pursued.

Dryden Page 2

Range use Plan proposal to stay in place 12 years. These two years were not normal years—but drought or partial drought years and therefore I protest that they should be used as part of a five year study or as 40% of your study to make a plan so threatning to us as individuals and to primary economies of Rural Emery County in which we live.

The public Rangelands improvement act of 1978, 43 U.S.C.A. 1905 (a) contained a policy "to prevent economic disruption and harm to the western livestock industry...

We livestockmen will certainly be harmed if certain secondary pleasure interets prevail as they seem to be doing over practical economics of livestockmen and others living in this area. 4

I propose for my part that alternative F will still need a lot of study.

Myself I believe plan A, the present plan, to be workable, and manageable, and because of present economics more feasible, and more in line with the concept of MULTIPLE USE.

If Plan Alternative F is adopted as is...It would not serve adequately these same areas.

Thank you for your attention.

A concerned rancher.

Johannah Jensen

RESPONSE TO COMMENT 50 JOHANNAH JENSEN

[Comment page 2]

4 FLPMA requires that BLM manage the lands for multiple use and sustained yield. The preferred alternative in the draft RMP/EIS provides for multiple use. Livestock grazing is just one of the many uses on public land.

Letter 50 is representative of 22 comment letters with similar contents. BLM is printing and responding to this letter only once; the following is a list of commentors who contributed this letter:

Clifton Carter
Mickie Carter
Shirley Duncan
Allott Eden
Lamond Gardner
Chad Hansen
Glen Hansen
F. Alan Jensen
Glen Jensen
Johannah Jensen
Kay Jensen
Kevin Jensen
Vivian T. Jensen
George C. Leighton
Newel Nelson
N. Lynn Nelson
Scott W. Payne
Cloye D. Tucker
Ward Tucker
Loren M. Wells
Vernice E. Wells
Brad Wilson

COMMENT 51

EL RAY F. BAIRD
ATTORNEY AT LAW
1 EAST CENTER SUITE 211
PROVO, UTAH 84601
(801) 374-8622

October 25, 1988

Jim Dryden,
Area Manager BLM
900 North 700 East
Price, UT 84051
ATTN: RMP

RE: San Rafael Draft Environmental Impact Statement.

Dear Mr. Dryden:

I have been reviewing the Draft EIS on the SRRA.

1 I would like to express my concerns about proposed preferred alternative. My first concern is concerning mineral development. It appears that the area will be more open to development, than under the present procedures, even though there will be some non-surface alternatives, and even though the potential for coal and oil development is rated low in most areas. It is only recently that the public has become aware of the terrible dangers associated with tailings, and overburden, especially in Uranium. There are not enough specific comments in the Draft EIS, concerning reclamation, and watershed protection of areas that have mineral development.

2 I have not found anything that address the issue of backroads or mountain bicycles. It is my understanding that the BLM has issued no special regulations concerning mountain bikes. They are something which should be addressed in light of their mushrooming popularity especially in desert areas. They would be a better form of transportation in ACECs such as the Desert Bighorn Sheep range, than ORV'a would be. I also believe that they can be used with minimal intrusion to the environment if they are limited to designated roads or trails. Some trails or roads should be limited to foot, horse, and mountain bike traffic.

3 The preferred plan failed to list and include all of the critical ACEC areas. Incorporating the ones from the Watershed and Wildlife alternatives would be better to

RESPONSE TO COMMENT 51 EL RAY BAIRD

[Comment page 1]

1 Areas with high potential for oil and gas contain 106,310 acres (7 percent of the planning unit); moderate potential 1,011,890 (66 percent); and low potential, 420,990 acres (27 percent). Most of the planning area has moderate potential for oil and gas (appendix Q). The proposed RMP proposes to close 66,880 acres to oil and gas leasing and segregate or withdraw 68,660 acres from mineral entry. The oil and gas figure is lower than that currently closed (category 4), while the mineral entry figure is higher than that currently withdrawn. Dangers from tailings are generally confined to mill tailings from processed uranium ore. Waste tailings from uranium mines usually have levels of radioactivity too low to be hazardous.

BLM believes that reclamation is covered sufficiently under the standard operating procedures (draft RMP/EIS, pages 2-9 to 2-11). Restrictions to protect watershed are included for the different alternatives under program actions (draft RMP/EIS, pages 2-65 to 2-67). The anticipated impacts under the various alternatives are analyzed in chapter 4.

2 BLM has not issued any regulations concerning restrictions on mountain bikes.

3 See the response to comment 6-5.

preserve more areas. The Plan should incorporate more ACECs than the preferred alternative currently has.

4 There is nothing in any alternative that explains why the extended wilderness areas proposed by the Utah Wilderness Alliance, and the Southern Utah Wilderness Alliance are not also being proposed by the BLM. This needs to be addressed in the EIS, at least to help the Public understand why special protection is not being given to these proposed areas.

5 My greatest concerns however focus around ORV use. Much of the area will be completely open. I have seen completely open areas, and the destruction to the vegitation would be extensive. This will impair not only visual impacts, but watershed, wildlife maintenence, and range management. ORV use should be limited to designated routes in the SRRA, and these designated routes should be placed in the final EIS. I think this area merits special concern for preservation since Utah Congressmen are considering making this area a national park. The area should be managed with the minimum impact by ORV's. They should not be free to try their muscle on any hill, or free to go down every little cattrack of a road.

My Compliments on your cattle assessment. That area appears to balance well competing interests.

Sincerely,
ElRay F. Baird
ElRay F. Baird

RESPONSE TO COMMENT 51 EL RAY BAIRD

[Comment page 2]

4 See the response to comment 33-24.

5 See the responses to comments 44-6, 15-19, and 15-20.

DERK BECKSTRAND: Agency Manager
2157 N. 1000 W.
Provo, Utah 84601
(801) 377-5115

COMMENT 52

Dear Mr Snyder & B.L.M.

Recently I became distressed to learn that the San Rafael area is being considered for restricted use — particularly vehicular use.

It never ceases to amaze me how a relatively small organized minority can bring such sweeping changes to take away rights of the majority. In this case the rights of the majority to use & enjoy the San Rafael Swell. Few are the people who have the inclination, physical prowess, or time required to backpack the area. And can

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University Life Insurance Company of America

A Financial Service of Equitable United

DERK BECKSTRAND: Agency Manager
2157 N. 1000 W.
Provo, Utah 84601
(801) 377-5115

you imagine backpacking with children under seven years? A young family could never enjoy the San Rafael under the proposed restrictions.

Some remedies are no doubt needed for unresponsible wreckless vehicular offroading to prevent damage to the environment.

Sufficient restrictions to unresponsible offroading could be implemented to solve the environmental concerns while allowing virtually everybody the pleasure of enjoying the outdoors.

1 Placing signs explaining offroad restrictions & distributing written material where feasible & other like educational approaches would serve

College-Mutual Life Companies
The College Life Insurance Company of America
Mutual Life Insurance Company of America

A Financial Service of

RESPONSE TO COMMENT 52

DERK BECKSTRAND

[Comment page 2]

1 See the response to comment 44-6.

DERK BECKSTRAND: Agency Manager
2157 N. 1000 W.
Provo, Utah 84601
(801) 377-5115

society better than banning 90% of the people from the area. What good ~~does it do society~~ is a natural wonder to society if access to it is restricted to the small percentage that can walk there? When the natural wonder serves only a select few and not the whole which have a right to enjoy it.

2 By considering & implementing other guidelines limiting or eliminating where feasible, irresponsible offroading, educating area visitors by means of signs, written material, or mass communications, the problems facing the San Rafael area can be sufficiently alleviated to allow everyone a reasonable chance to enjoy its natural beauty & wonders.

Sincerely,

D. Derk Beckstrand

College/University Companies:
The College Life Insurance Company of America
University Life Insurance Company of America
A Financial Service of Conseco, Inc. (Nasdaq)

P.S. I am against the proposed restrictions

RESPONSE TO COMMENT 52 DERK BECKSTRAND

[Comment page 3]

2 BLM appreciates the comment.

COMMENT 53

Jim Dryden, Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

September 23, 1988

Dear Mr. Dryden:

1 I am distressed to learn that the BLM is planning to leave most of the San Rafael Resource Area to ORVs. Unrestricted -- or restricted but unsupervised -- use of these vehicles in desert lands results in destruction of vegetation that takes decades to regenerate, which is to say, for most of our lifetimes. That may not matter to some who live in the vicinity of the area, but we are talking about national lands. I hope you will consider the long-term effects rather than short-term pressures, and close the San Rafael Resource Area to all vehicles except on public roads currently in use, and to close to mineral entry and oil and gas leasing these same lands.

Sincerely

Bruce Berger

Bruce Berger
Box 482
Aspen, CO 81612

RESPONSE TO COMMENT 53 BRUCE BERGER

[Comment page 1]

1 See the response to comment 44-6.

COMMENT 54

VAL J. BIELECKI

1-17\88

Mr. Dryden,

After living and working in major urban areas in the U.S. and Europe and coping (just about) with the noise, conjestion, stench, etc. caused by vehicles taking over (BLM) and dictating how we live, I cannot
1 believe you are considering turning over about 900,000 acres of the San Rafael Resource Area. Perhaps ~~the~~ you've never been confronted with an area, small or large, run over by traffic. Rather than work out of places like Price, perhaps BLM employees should take training in places that have catered to automotive vehicles with disasterous results.

For that matter, I ~~question~~ question the BLM's motivation for its draft plan. I have never heard weaker argument than those offered by ORV proponents. They've been beaten-up pretty badly in debates that I've heard. It couldn't be the manufacturers lobby, could it? The Japanese with their Suzuki's, Honda's etc. will love it.

Sincerely,

Val J. Bielecki.

RESPONSE TO COMMENT 54

VAL J. BIELECKI

[Comment pages 1 and 2]

1 See the response to comment 44-6.

COMMENT 55

December 6, 1988

To whom this may Concern,

I'd like to Contest your proposal to turn Salt Wash and Coal Wash area into a wilderness area.

1 I personally feel that a wilderness area would not benefit the people of this County.

In a matter of concern to all the Cattlemen, businessmen and general population of this area who depend upon the natural resources of this land for their existance, which contributes to the economy of the local towns in this county.

I feel the Cattlemens Association is a valuable asset in maintaining the water and ponds in all this area which contributes to the survival of all the wildlife in the area, which would not be possible if this proposal passes.

Many people who now enjoy this area for picnics and outings would not be capable of enjoying these activities if this proposal were to pass.

I would like to be notified of any meetings or hearings concerning this matter.

RESPONSE TO COMMENT 55 GREG BLOOMER

[Comment page 1]

1 See the response to comment 3-24.

Thank you for your concern in this matter it is deeply appreciated

Sincerely,
Greg Blomm

Box 93
Clawson, Utah
84516

COMMENT 56

MR. CHARLES BONGO
PO BOX 1121
GRAND CANYON, AZ 86023

9/1/88

James Dryden
San Rafael Resource Area Manager
BLM
900 North 700 East
Price, Ut. 84501
attn. San Rafael DRMP + EIS

Dear Sir,

Thank you for the information. It is more than I expected. When I finish reading it I will give it to the local library for others to view.

I have read over most of the highlights and confess I have not been able to read it all as yet. I must comment on the painstaking detail in the research. It speaks highly of the desire to make the

Correct choice of land use.
However, I must say that I don't agree with the alternatives of the use of this important natural resource.

For example, If I read table 73 correctly, every alternative shows an increase in land and environmental damage or loss. Not one of the alternatives
1 displays less environmental damage. The lack of fairness in the choice of alternatives is a sad commentary on the future of a natural resource I feel should be turned into a National Park.

As I read on, all of the alternatives are based on alternative A, the worse possible

RESPONSE TO COMMENT 56 CHARLES BONGO

[Comment page 2]

1 See the response to comment 23-15.

Scenario for land and wild life preservation. Why weren't all the proposals based on the best possible scenario of virgin land?

I realize that there are different ideas about how to use all lands. I understand somewhere mining and cattle grazing etc. must be allowed.

I just feel that many areas in Southern Utah and Northern Arizona are special and unique and should be preserved for future generations to explore and enjoy. The San Rafael and surrounding lands are high in that priority.

If I had to choose from the alternatives, Alternative D comes the closest to protecting the land and environment. Inconsistant with that plan is the extensive use by cattle grazing.

2 Cattle grazing is potentially the most damaging due to the area that is ruined as the cattle roam over the cryptogamic soils and delicate plant life.

Why was this trade off included in the one proposal that came closest to wilderness protection?

In short, none of the Alternatives addresses my desires for the San Rafael Resource Area.

Thank you for your consideration of my thoughts and comments. Charles Bongo

RESPONSE TO COMMENT 56 CHARLES BONGO

[Comment page 4]

2 See the response to comment 15-47.

COMMENT 57

December 1, 1966
Orangeville, Utah

Dear BLM Supervisor

I am a life-long resident of Emery County and so his my Father and his Father was. Our family has had CATTLE permits in the San Rafael for many years, and we enjoy the Desert for its beauty and solitude; and its history.

I am not a member of any environmental group but I do consider my-self a conservationist I believe the San Rafael Swell is slowly being destroyed as a resource by the uncontrolled use of ORV's. There is no doubt that anything affecting grazing is detrimental - This is a fragile country and much damage has been done already. For someone who can truely appreciate the quite beauty and solitude of our desert country, ORV's are certainly not compatable with the experience. And they permanently scar the land which greatly distracts from its natural beauty - this is much more important to the general population (and to many local people also) than the right to ride these vehicles uncontrolled anywhere.

1 I urge you to restrict the use of ORV's to maybe 2 areas in the Swell and as far away from the most scenic country as possible. I want

RESPONSE TO COMMENT 57 LEE BUNDERSON

[Comment page 1]

1 See the response to comment 44-6.

1 my children to experience the San Rafael Swell as I did before ORV's. I want to see the grazing country preserved. There are many areas suitable for ORV's - the Swell is not one of them; it should be managed accordingly.

Sincerely,

Lee Blanderson

Lee Blanderson

COMMENT 58 Nov. 20, 1988

Jim Dryden, SRRA Manager

BLM Price, Utah

Greetings:

Following are my comments on DRMP/EIS. Regarding format, much information was presented here in a manner difficult for a general readership to understand. Perhaps separation of text and tabular information would make for clearer reading. Digitalized maps fall short of portraying substantial data to one accustomed to topography maps. Where resource use in your area is concerned, publication of topographic maps in the statement would lend clarification. The land at issue here is, after all, most notable for its physiography. 1

I am concerned that the DRMP losses sight of the value of one of our region's last remaining undeveloped tracts. As society expands and increasingly finds needs for open areas for contemplation and recreation, such areas as the SRRA will become invaluable. This is unique and irreplaceable terrain; and once scarred by roads, mineral exploration, and ORV's, it will require a great deal of time in mending. Witness the uranium mining scars of the past 30 years scattered about the Swell. The cost of disturbed landscapes is simply not worth our trouble anymore - managing for non-extractive resources seems much more reasonable to me. The air, water, plants, soil, and animals are what we're going to run short on in future times. 2

I am not supportive of any of the alternatives proposed in the DRMP. Alternatives C and D come closest to my perception of how I would rate the resource tradeoffs. Developed recreation should become a higher priority to land managers as more people discover the attributes of this region. I would say that much more of an effort should be made to redistribute recreationists than is offered for say, livestock and minerals. 3 A large concern of mine is that ORV users are in conflict with those who chose to enjoy their outdoors experience quietly. Many examples of conflict between motorized vehicular access with WSA boundaries will be offered in this process. My own travels in this area have witnessed ORV abuse in such areas as Mexican Mtn., San Rafael Reef, and Sids Mtn. There is nothing to prevent thoughtless ORV users to travel off trails and into washes of critical riparian zones along Muddy River and the San Rafael. Unfortunately, given the present enforcement of large motorized dirt bike rallies, much of the roadless terrain in the Swell is flagrantly abused. A campaign of public education and enforcement is needed to direct ORV users in the Goblin Valley area. 4

A step in the right direction by BLM was the old road to Mexican Bend. This bulldozed road closure is the type of assertive tact needed to curb WSA interim management ~~WSA~~ problems. Could this be accomplished in other areas while we await Congressional action on Wilderness? I support the designation of ACEC's in Alt. C in the DRMP, but beleive ORV restrictions must be made here in order to protect cultural, biological, and primitive recreation values. 5 6

I applaud your consideration of critical soils in the plan. Areas as identified as highly erodible and salty should be avoided by domestic grazing and mineral explorations. A high regard for local soil conditions can only stand to improve conditions of range, water, and air throughout the region. 7

RESPONSE TO COMMENT 58 BRUCE CHESLER

[Comment page 1]

1 See the response to comment 15-7.

2 The comment is noted.

3 The comment is noted.

4 See the responses to comments 44-3 and 44-6.

5 The comment is noted.

6 In response to public comment, the proposed RMP would increase to 151,770 the acres closed to ORV use and increase to 1,027,380 the acres where ORV use would be restricted to designated roads and trails.

The specific roads and trails to which ORVs would be restricted would be identified through an activity plan developed cooperatively after the RMP is adopted.

7 The comment is acknowledged.

8 Cultural resource management is likewise a concern of mine. By drawing too much attention to these sites, more of the same problems which have happened at Buckhorn Wash will occur. An attempt at furthering public education and awareness as to the unique resouce that cultural antiquities represent would be a sound approach in this regard. Calling the panels ACEC's and not enforcing their protection could result in some more target practice among the vandals.

9 I am supportive of all the riparian protection which could be afforded the drainages of the San Rafael, Muddy, and Green Rivers. These are the life-blood streams of and arid region and must be given Federal protection status on the order of Wild and Scenic Rivers. As recreation pressures on these places increase, certain restrictions and backcountry proceedures may have to be considered for these areas, such as and in effect in the National Parks.

I realize the difficulty of this task of pleasing all interests in the management of our public lands and appreciate this opportunity to respond to your plan.

Regards,
Bruce Chesler
Bruce Chesler

RESPONSE TO COMMENT 58 BRUCE CHESLER

[Comment page 2]

8 See the response to comment 44-10.

9 See the response to comment 44-9.

THE GALLERY COMMENT 59

79 WEST MAIN - PRICE, UTAH 84501 - TELEPHONE (801) 637-2306
GALE & HELEN COX, OWNERS

12/7/88

BUREAU of LAND MANAGEMENT

MR CLIM DRYDEN

I WISH TO OFFER MY SUPPORT OF THE "NO CHANGE ALTERNATIVE" FOR THE SAN RAFAEL RESOURCE AREA.

I PERSONALLY GO TO THE GOBLIN VALLEY AREA, COPPER GLORE, SAN RAFAEL BRIDGE SAND WASH, SADDLE HORSE CANYON + OTHER

1 AREAS IN THE RESOURCE AREA PROBABLY 12 TO 15 TIMES A YEAR, IN TOTAL.

I BELIEVE THE AREAS WELL MANAGED + APPROPIATELY USED BY ALL ENTITIES CONCERNED.

THIS IS A UNIQUE A RESOURCE IN BOTH RECREATIONAL + ECONOMICAL VALUE TO BE TAKEN AWAY FROM THE GENERAL PUBLIC BY DESIGNATING IT AS WILDERNESS

SINCERELY

Gale Cox

RESPONSE TO COMMENT 59 GALE COX

[Comment page 1]

1 BLM appreciates the comment.

Dec 7 1988 COMMENT 60

Dear Mr Dryden:

Although I know that letters like this are often "counted" pro or con — I want you to know that I have hiked in the red rock country of Utah — watched the moon rise in "silence" — listened to the owls at night.

1 [Please "keep vehicles to established roads"

"enforce vehicle noise pollution" — loud is not better.

"prevent over-grazing —

The BLM is not required to support vehicle dealers or cattlemen — but rather to manage the land for "all time"

Sincerely

Norman Crookston

4075 Gramercy
Ogden, Utah
84403

RESPONSE TO COMMENT 60 M. CROOKSTON

[Comment page 1]

1 See the response to comment 44-6.

COMMENT 61

KAREN E. EGAN
1112 SHADYOAK PLACE
SANTA ROSA CA 95404

December 2, 1988

Mr. Jim Dryden, Area Manager
Bureau of Land Management
900 North 700 East
Price UT 84501

Dear Mr. Dryden:

1 ORVS ARE RUINING THE SAN RAFEAL SWELL AT A RATE EXCEEDED ONLY BY THE FECUNDITY OF AMOEBAS. HIKING IN THE MUSSENTUCHIT BADLANDS, FACTORY BUTTE AND OTHER AREAS (AS I HAVE) IS BECOMING MORE LIKE STROLLING ALONG THE SANTA MONICA FREEWAY. LEAVE IT ALONE !!! CLOSE THE ENTIRE AREA TO ORVS, MINERS AND THE REST OF THE RAPE, RUIN AND RUN GANG. FOR ONCE, WHY DOESNT THE BLM TRY TO CHANGE ITS IMAGE AS THE BUREAU OF LIVESTOCK AND MINING?

Sincerely,

KAREN E. EGAN

RESPONSE TO COMMENT 61 KAREN EGAN

[Comment page 1]

1 See the response to comment 44-6.

COMMENT 62

15 West 1200 South
Bountiful, Utah 84010
December 2, 1988

Manager
San Rafael Swell
Resource Area
c/o Moab District Office
Moab, Utah 84532

Dear Manager:

Please consider the following suggestions in your effort to develop a management plan for the San Rafael Swell:

1
- There should be a balance; an offering of "variety of experience and use" in allocating the resources of the swell.
- The Swell, as one of the west's exciting recreation resource areas, needs to be balanced with use of areas in the west.

2
- Not all of the high quality scenic resources of the west should be allocated to wilderness. An adequate amount should be available to the majority of the fee and taxpaying user-public who use vehicles to access areas of beauty and interest.
- Some of the San Rafael Swell should be off limits to vehicles, but some of equal high scenic quality should be accessible by vehicle. Some of similar quality should be experienced while traveling in or on vehicles.

My friends and I have been driving through, riding in, camping, hiking, and helping to clean up the San Rafael Swell for 22 years. My first trip there was in 1966. When we are on a solitude-type hike, we don't want to have our quiet experience ruined by the sounds of vehicles or other noises and scenes of civilization. When we are on a social hike, trailbike ride, or touring caravan, we don't mind seeing other people enjoying the area unless they are abusing the resources.

When we are on an adventure-exploring type hike or trailbike ride, we hope to see only our own group. We use vehicles as a means to see the area and often turn them off, then explore the area on foot. Sometimes-- if it's safe and not damaging to the resources--we like to explore on the trailbikes and enjoy the added challenge of riding them in difficult terrain.

The San Rafael Swell is large and diverse enough to offer a variety of outdoor recreation experiences--all in high quality scenic resource areas. Please ensure that your management plan reflects these kinds of "serve-all-of-the-public" concepts. Thank you.

Sincerely,

Stan Elmer

RESPONSE TO COMMENT 62 STAN ELMER

[Comment page 1]

1 See the response to comment 83-1.

2 See the responses to comments 3-24 and 44-6.

COMMENT 63

TODAY IS SEPT 8

Jim Dryden BLM
Price, UT attn RMP

Dear JIM :

I have looked over your San Rafael Management Plan. I do not speak governemnt gobbledegook, so please do not be bothered by my non-BLM style.

1 I do not consider mining a threat to the desert. Not with the d current price of uranium and gold does not seem to be overabundant in your area, so let's not waste time with it.

2 The machines must run someplace in your desert because they are backed by the machine sellers and the wheelchair adbocates. Try to keep them out of the water and off the hiking slickrock. You have one sand dune area reserved for them. They beolong in such places. This spring I was camped for ahike in Black Dragon Canyon where I noticed my favorite dragon pictograph was removed. This sort of thing is only possible when a machine can drive up and remove it. I was a bit disturbed by a motorcycle tr tearing over the cliff slickrock at the entrance to the canyon. On the north sie side up on the rim. When my dogs thrrate threatened him as he drove through my camp spot he explained why he was touring in such a dangerous spot. He wanted to prove it could be done on a motorcycle. He did not have te the dragon on his bike, but such people must have stolen it. Keep the motorcycles out of hiking areas. The next day twenty hikers took off for a wild hike with motorcycle skid marks to guide their way. The two don't go very well together.

I also met several parties of horse hunters trying to kill some big animals down around Mexican Bend. They seemed to think perhaps my dogs dressed in red backpacks might be elk bdcause they had seen nothing else on four feet. It makes me nervous to have some city boob check me and the dogs out with a rifle scope and a loaded rifle. There is very little left to shoot except cows and burrow in your desert, so killing the las tof the cloven hoofs seems a bit stupid. This may not be your business, but I am sure u ypu can discourage hunting if you stop horsebacking. Nobody is going to go clomping into the Lower Black Box unless it pays with a chance to kill for fun.

3 My real concern is cows. Keep them out of the water, not just out of places where they may step on the tourist's kids. That desert won't even feed a wolf much less a cow, but they make an w awful mess of the water and bring in every sort of biting fly nobody needs. Get all of the cows out of the D San Rafael and Muddy Rivers. From the top to the bottom. The few bucks somebody makes from them will be more than offset by recreation dollars and increased people use. If cows must be put out there use tank trucks to water them the way I see sheep being places on the desert where there is no drinking water. A tank tsuck can water cows up where the grass may be worth eating and the scenery is not canyon. Hikers are going to go to a small area where water is available. Cows are in no way cmpatable with the poisoned water and bugs they bring along, not to mention scenic destruction. The San Rafael is hardly pasture land.

4 Please mark the old historic trails. Put an occasional sign up so somebody like me can find them. The area has several mentioned in the books and the idea of following them by foot or car or whatever makes sense seems very attractive. I am sure I won't be the only one interested in doing this. Guessing at where they might be by looking at ending points seems a waste of time. Get them marked at some vital points. And please make some literature available. I could not find anything on the book you have through a library search.

All the best,

Art Foran

Art Foran
Lump Gulch 355
Clancy, MT 59634

RESPONSE TO COMMENT 63 ART FORAN

[Comment page 1]

1 The comment is acknowledged.

2 See the responses to comments 15-12 and 20.

3 The comment is acknowledged.

4 BLM appreciates the suggestion. Specific items to implement the plan, such as the placement of directional and informative signs and displays, would be accomplished by activity planning, which would occur after the proposed RMP is approved.

NOTE: This comment was accompanied by several color snapshots which are not reproduced here.

COMMENT 64

December 6, 1988

Mr. Jim Dryden
Bureau of Land Management
900 N. 700 E.
Price, Utah 84501

Mr Dryden,

I am writing to provide public comment in response to management plan alternatives which are currently being considered for the San Rafael area. As a lifelong resident of this area, I would favor the no change alternative. If it is determined that this cannot be the case and that more intensive management is to be our local contribution to the national debt, I would favor only those alternatives which allow resource development and public access through the use of off-road vehicles.

My perception of governmental land management practices over the last 10 years or so is to buy the tunnel vision approach of the high pressure groups who

RESPONSE TO COMMENT 64 DALE GRANGE

[Comment page 1]

1 See the response to comment 23-15.

2 See the responses to comments 44 and 83-1.

want to lock up every available acre through regulation and legislation. We cannot nor should we want to return this state to its 1846 condition.

I feel that the San Rafael area can be used sensibly by everyone without group discrimination under current regulations. Specifically, alternatives which allow off-road recreation allow the beauty of the area to be seen and appreciated. Some of my most memorable experiences while growing up were of off-road exploring in the San Rafael with my father. I am anxious to these areas with my son. My view is that the beauty and uniqueness of this area is of no worth to those who cannot get there to see it.

Those of us who intend to stay in this area, recognize the need to allow future development of our natural resources. Restrictive policies which discourage this, cloud the future for us and our children.

Thank you for the opportunity to comment.

Respectfully,

Dale Strange

532 Windsor

Price, Utah 84501

COMMENT 65

Jim Dryden SRRA
BLM
900 N 700 EAST
PRICE Utah 84501
Attention RMP

Dear Sir

I would like to comment on the developement of the new management plan for the San Rafael Resource Area.

Plan F, will ruin and disrupt the economics of rural Utah, the changes you have chosen will hurt our programs
1 very much, for we depend on the spring grazing. Without it we would have to cut our cattle number almost to nothing.

Plan F also wants more wildlife, the wildlife on our range are so crowded that they are coming down into the fields, last year there was a total of 6 deer on our farm, this year there are 15.

RESPONSE TO COMMENT 65

CHRIS S. GUYMON

[Comment page 1]

1 See the response to comment 34-1.

I would like to see some water
developement, if there was to be a
pond built in a certian spot which
I have found it would fill up probably
every year and make use of some
1 feed that doesn't get touched.
I do not feel that you have
given our range a true elouduation.

Sincerly
Orlin S. Thayer
P.O. Box 92
Huntington Utah 84528

COMMENT 66

Jim Dryden SRRA
BLM
900 N. 700 East
Price, Utah 84501
Attention RMP

Dear Sir,

I would like to comment on the development of a new management plan for the San Rafael Resource area.

Plan F, the preferred plan, appears to me to be very detrimental to the economic well being of rural Utah.

1 The livestock industry is the backbone of rural Utah. Plan F is unfairly evaluating the soil issue. The livestock industry is being blamed for problems caused by ever increasing number of a variety of wildlife and OHV users.

The damage wildlife does to private property as well as public lands has been ignored hoping the problem would just go away not solved realistically.

I would like to see water development implemented in to the new management plan as well as a truer evaluation

RESPONSE TO COMMENT 66 VEE GUYMON

[Comment page 1]

1 See the response to comment 34-1.

of wildlife numbers and the damage they cause. The multiple use concept should remain. The economic well-being of rural Utah should be the most important issue.

Sincerely,
Vii Guymon
P.O. Box 92

December 6, 1988

COMMENT 67

Mr. Jim Dryden
Area Manager
Bureau of Land Management
900 North 700 East
Price, UT 84051

Dear Mr. Price:

Subject:"Use of ORVs in the San Rafael District"

Having returned one year ago from a five-year hiatus in Indiana, I am very concerned about the degradation that has occurred in the quality of many of Utah's public lands. In Utah County the situation is, by admission of the County Commissioners, out of control. Even though there are laws limiting where ORVs may legitimatly be used, they are violated continuously, and little can be done because the enforcement resources are simply not there. The base of Mt. Timpanogos is severely scarred from uncontrolled use of ORVs, as are parts of Provo Canyon. ORV operators even, illegally, cross the Provo River damaging the banks and the riverbed. The sad part about it is that those who do the damage are not held accountable for rectifying their predation.

Do ORV owners actually have the right to damage public lands to the detriment of other users, especially when my tax dollars are subsidizing that use? Would you, as a policymaker, allow them to damage your private property without being responsible for reparation? And if the damage could not be repaired, would you have allowed them there in the first place?

Informally, I queried a few of my colleagues and neigbors as to the reasons that they enjoyed experiencing areas such as the San Rafael area (including some who are ORV owners). Here are the most frequently cited reasons:

1. To enjoy nature, especially those aspects that are not available to experience during daily life at home;

2. To experience the renewal that comes from breathing clean air; and from escaping from the noise, crowds, and pressures which are a part of everyday life for the majority of Utahns;

3. To enrich one's life by observing an environment which has not been altered by man's encroachment.

These reasons seem inconsistent with the operation of ORVs on public lands. ORV operators only hear the sounds of their own engines; they could hardly be observing nature; they are disrupting

any serenity that is present; and, worst of all, they are altering the environment forever.

1 Finally, the idea that some portion of the area can be designated for ORVs and other portions restricted from their use sounds nice. But who is going to enforce those regulations? There is much evidence in Utah that ORV operators go where they wish, usually with impunity.

I have heard the argument that only a few ORV owners are to blame, but that reasoning is hardly compelling. If their are five crimes per month in your neighborhood, are the consequences any different for the victims if they are committed by one or several persons? Similarly when I see an ORV-created trail turned to an ugly wash by erosion, the number of ORVs it took to effect that destruction is irrelevant. Moreover, since most people I know do not view such degradation as desirable, one wonders about our ability to manage public land.

In light of these points, I urge you to consider the legacy to future generations of opening up sensitive areas to predation by ORVs.

Sincerely,

James V. Hansen
Professor of Computer and Information Systems
Marriott School of Management
566 TNRB
Brigham Young University
Provo, UT 84602

RESPONSE TO COMMENT 67 JAMES V. HANSEN

[Comment page 2]

1 See the response to comment 44-6.

COMMENT 68

Dec. 3, 1988

Dear Jim Dryden,

This letter is concerning the Draft Resource Management Plan / Environmental Impact Statement for the San Rafael Swell. As the draft is proposed I am in support of Alternative F. However, there are some real concerns which need to be thought through carefully before some of the management changes that are concidered are put into effect. 1

I would like you to know right off that there is no one who enjoys the San Rafael Swell more than myself. No one has anymore respect for it than I do because of what it has to offer — its history, its beauty, its vegetation, its pristine nature etc. There is no place else like it in the entire world and I want to do all I can to preserve it and protect those things essential for its very existence. There is also probably no one who spends more time than myself on the Swell. I have studied the Swell for years. I am a native of Emery County. I am also a livestock man with grazing permits on two allotments in the area. The

RESPONSE TO COMMENT 68

A. LEE JEFFS

[Comment page 1]

1 The comment is acknowledged.

observations I've made and the opinions I have are completely unbias and as fair as possible to everyone and all concerns.

I have seen some drastic changes on the Swell over the years at the hands of man as well as in nature. I want you to know that I am in favor of multiple use. God gave us this land to use. He didn't give it to us to abuse or misuse or not use, but we need to use it at a pace for it to maintain itself and we need to be prudent and thoughtful and constantly watchful for anything that would or might be detrimental to its fragile nature.

It would be my guess that you will recieve many letters concerning the DRMP/EIS from uninformed or misinformed people. It would be a sad thing for judgements to be made with regard to misguided people's opinions.

I will be one of the first to admit that there are livestock grazing problems on parts of the Swell due in part to the ranchers neglect and also bureau management oversights.

Wildlife and livestock are a

natural part of the environment in the Swell, and it has been for hundreds and thousands of years. The trails used by livestock have been there long before the domesticated animals arrived. A lot of people could learn a whole lot by watching and studying a cow. A cow will not build a trail where it will wash out — no animal will. A person on an ORV on the otherhand has no regard whatsoever for the land and the devastation he causes by his ignorance of basic environmental concerns. The map presented by alternative F shows entirely too much area to be open to ORV use. I've concluded in my impartial observations that there is more destruction in the Swell on Easter weekend just by the ORV users than there is during the rest of the year. One motorized vehicle (when driven off the maintained designated roads) causes more damage in 30 minutes to the terrain in most places on the Swell than 30 cows could in their lifetime. An ORV track across most of the area can be seen for years and causes places for more and faster soil erosion than any

2

RESPONSE TO COMMENT 68 A. LEE JEFFS

[Comment page 3]

2 See the response to comment 44.

number of livestock or wildlife trails. An animal track on the otherhand would be hard to find within a few days after it is put there. I implore you to concider this very thoughtfully. It is a harsh and rugged environment out there, but in just as many ways its condition is very fragile — its geological make-up as well as its ecosystem.

I agree that something needs to be done as soon as possible to manage the Swell correctly for its best utilization potential and the DRMP/EIS is a good start. We all need to keep in mind that changes down the road must be made in order for the Swell to maintain its beauty and use possibilities. We cannot give-in to those few greedy people who would want to rape the land of its very nature, and take from it those short-term financial gains or so-called devasting recreational activites. Everyone ~~out~~ ought to have the opportunity to see and appreciate the Swell for what it is and what it has to offer. A few should not destroy it for the

rest of us, whether it be the ORV users, the wildlife managers, the livestock men and women, the economic developement councils, or whomever. We need to keep in mind also that this area is still based on the agricultural benefits derived within and many people's very existence depends on their use of the Swell as a livestock grazing area. Proper management of the individual allotments is a must and will sustain the people as well as maintain the Swell.

As far as my two grazing allotments are concerned (McCarty Canyon and Fullers Bottom), I would like to remind you that there is no fence on the boundary between the McCarty Canyon and the Salt Wash allotments. Cattle are free to roam at will between the two. This causes a management problem at times. Also, the McCarty Canyon allotment has a limited water supply and can vertually be used at only certain times of the year, when there is an adequate water supply. Often times, the ORV

users leave my gates open or tromp down the fences in places which also causes problems with proper management practices. This also happens on the Fullers Bottom allotment. The Fullers Bottom allotment could have and probably should have at least two more cattle guards put in. That would make a big difference in livestock control.

One final comment — If there is anyway I can help you as management officials in any way, I would much appreciate the opportunity to do so.

A. Lee Jeffs
161 So. 200 E.
Castle Dale, Utah 84513

COMMENT 69 Page 1 of 2

Clay Johnson
PO Box 31
Jensen UT 84035

James Dryden
San Rafael Resource Manager
Bureau of Land Management
900 North 700 East
Price, UT 84501
Attn: Resource Management Plan

Sir,

1. I'm especially concerned with the lack of balance in your ORV designations in the plans. Even assuming you believe ORV activities off road are an environmentally sound use of public lands, certainly the conflicts identified in the E.O.s and CFR regulation concerning ORVs, and the guidelines given, indicate at least an even distribution curve of ORV non-use, partial use and unrestricted (off road) use areas. Simple fairness would also seem to favor this approach.

1 I would suggest as example: 20% closed to ORVs (300,000 acres), 60% limited to existing designated roads or trails (900,000 acres), and 20% open to off-road activities, (300,000 acres). Closed areas should include Horseshoe Canyon, Barrier Reef + Flat Tops, all land within ½ mile each side of the Green River except existing designated access points, all land within ½ mile San Rafael + Muddy Creeks where not presently roaded. WSA's should be limited to designated roads only.

2 Grazing should be eliminated from riparian areas, wetlands, and "bottoms".

3 2. Oil + gas leasing should be limited to N.S.O. (non-waivable) in all WSA's, and all other areas closed to ORV use, and within 1 mile of Rivers. Mining + minerals leasing should be disallowed in the same areas.

3. I support Wild + Scenic River status of the highest applicable degree for every inch of river in the resource area.

RESPONSE TO COMMENT 69 CLAY JOHNSON

[Comment page 1]

1 See the response to comment 44.

2 See the response to comment 7-1.

3 See the responses to comments 6-2 and 6-5.

Johnson letter

Page 2 of 2

4. ACEC's, T&E areas, relict biota, cultural sites, and riparian + wet lands must not suffer the integrity of ORV's, leasing, grazing, or mining. recreation too must be monitored to avoid damage from excess use.

4 5. Eliminate chaining and pitting as management practices. if PJ or sage is to be altered, use only fire. This is much less destructive of cultural sites and other factors in the ecosystem. With world concerns for deforestation and its cumulative effects, should we be removing PJ forests at all?

In summary, I believe past (and continuing) mismanagement, non management, and abuse by BLM, admittedly often under political pressure (which nevertheless should not prevent you from doing the right thing) has already degraded enough of our public land in Utah. Every single bit remaining should be preserved from industry + mechanization, for the future. Non-consumptive and non-altering uses only should be allowed.

Although my personal preference would be to declare all land in San Rafael closed to grazing, mining, leasing, ORV's, and other extractive, consumptive, or destructive uses, I am willing to compromise as far as the Utah Wilderness Association's Conservationists Plan. That is more than generous.

Clay

RESPONSE TO COMMENT 69

CLAY JOHNSON

[Comment page 2]

4 The proposed RMP does not prescribe any land treatments (draft RMP/EIS, page 2-43).

COMMENT 70

December 7, 1988

BLM
Attn: Jim Dryden
900 North 700 East
Price, Utah 84501

Jim:

In regards to the San Rafael Resources Area Management Plan, I would like to encourage you to adopt the "no change" alternative.

I have enjoyed this area for the past 25 years and feel that my children deserve the opportunity to do the same.

1 Off Highway vehicle use is of extreme importance to my family and feel that proper use of off highway vehicles can be an asset to the area. Damage can be held to a bare minimum through proper administration and usage.

Thank-you for hearing my point of view.

Sincerely,

Dale Johnson
2654 West Gordon Creek Rd.
Price, Utah 84501

RESPONSE TO COMMENT 70 DALE JOHNSON

[Comment page 1]

1 The comment is acknowledged.

COMMENT 71

December 5, 1988

Mr. Jim Dryden, San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Sir:

I would like to state my concern for the Draft Resource Management Plan which is being proposed by the Bureau of Land Management. It is our desire that we continue much as we have in the past using the San Rafael area as a muliple use area and not as a single use or as a wilderness area which will restrict the uses of the area to a narrow or limited number of people.

The economic viability of livestock people would be seriously hampered if there are changes in the uses of livestock in the San Rafael area. This would result in serious implications as far as the economic well being of the communities of Emery County are concerned. These communities are already impacted from other problems and any changes that livestock reductions might bring would only facilitate and magnify the already serious problem.

1 As a holder of a sheep allotment in this resourse management area it is my desire that the Bureau of Land Management implement Plan A and continue to administer the land for multiple use.

Respectfully,

Gale Jorgensen

Gale Jorgensen, Permittee
Georges Draw Allotment

RESPONSE TO COMMENT 71 GALE JORGENSEN

[Comment page 1]

1 See the response to comment 34.

COMMENT 72

December 2, 1988
Castle Dale, Utah

Bureau of Land Management
900 East 700 North
Price, Utah 84501

Dear Sirs,

1 I am apprehensive about any resource plan that would place any limitation on multiple use of public lands. This has been a successful program and should not be abandoned without great care.

Rural communities depend upon the multiple use of the federal land which is near by. It would impact these communities if limitations are placed on any of these uses.

Wilderness use alone could not make up for the loses that would come from the other uses which would be eliminated. You cannot take millions of acres of Utah land and place limited used upon it and expect the small communities of Southern Utah to not be adversly effected.

It is our hope that this will be a most serious consideration and not glossed over thoughtlessly.

Respectfully,

John L. Jorgensen

RESPONSE TO COMMENT 72 JOHN L. JORGENSEN

[Comment page 1]

1 See the response to comment 34-1. As noted in the draft RMP/EIS (page 1-6, Planning Criteria from FLPMA, BLM is required to "use and observe the principles of multiple use and sustained yield" in developing the RMP. BLM believes this requirement has been met.

COMMENT 73

December 6, 1988
Box 834
Castle Dale, Utah 84513

Mr. Jim Bryden, San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Sir:

1 As a permittee in the San Rafael Swell area, I strongly protest any proposals for future additional limited use of grazing land permits.

The sheep industry has been struggling for its survival only to be threatened by additional defeats at the hands of a few close minded individuals.

We feel it is unfortunate that such dictatorial individuals who have no interest in an area and who know little about the people or their concerns should have such a powerful voice as to totally overpower the better judgement of decision makers on all levels.

Rationality of sensible minds tell us that there is a need for continued use of the San Rafael Swell area by the livestock industry if rural Utah is to continue to maintain a liveable standard.

Sincerely Yours,

Justus Ray Jorgensen

Justus Ray Jorgensen

RESPONSE TO COMMENT 73

JUSTUS RAY JORGENSEN

[Comment page 1]

1 See the response to comment 7-1, paragraph 1.

COMMENT 74

Sir,

1 The BLM's preferred Alternative is nothing more than a means, through ACECs, special permits, scenic corridors etc. to control the area in a Wilderness-like way if Congress doesn't do your dirty work for you.

We suggest you leave it as is.

Don and Bonnie Keele

RESPONSE TO COMMENT 74 DON AND BONNIE KEELE

[Comment page 1]

1 The comment is acknowledged.

COMMENT 75

Dec. 6 1988

Bureau of Land Management.
P.O. Drawer AB
Price, Utah 84501

Gentlemen;
In response to the proposed "wilderness Area" within the San Rafael Region. I would like to express my opposition
1 to such a proposal because it would cripple my cattle operation, which is a major source of income for me and my family in Green River, Utah.

Respectfully,
Hilda King
Dean King
King Land and Livestock
Green River, Utah

RESPONSE TO COMMENT 75

DEAN AND HILDA KING

[Comment page 1]

1 See the response to comment 3-24.

12-5-88, COMMENT 76

Gentlemen,

I just thought I'd wright and express my present vieews regarding the San Rafael Swell area, and say that, even though the only parts of that area that I've seen, (other than pictures), are from Interstate 70, and Highway 24, the scenery from those highways is outstanding. I've also seen pictures of the rest of the area, so:

1 With that in mind: I think that the whole area, (cherry-stemmed for Interstate 70), should be designated as a National Park.

Wilderness area designation is better for some places, but others, (such as the San Rafael), are better designated as a National Park, as they are still protedted, yet tourists can still drive to them to visit them.

One or two roads should be paved into the park, (if designated), and--do to the size of the area--at least two consessions should be built inside the park. With two more near Interstate 70.

All other roads however should be left as they are.

The park should iglude "something for everyone", tourists, campers, hikers, backpackers, river runners, and even a few 4-wheelers, and off road vehickles, although there should be more controls on 4-wheelers, and off road vehickles, (restrict them to a few designated areas, and have a permit system for example).

I'm an avid hiker and camper myself, and really enjoy doing both in our national parkd, (along with touring that is), and we'll never have enough of them. Thank you.

sincerly,

your friend,

Randy Long,

RESPONSE TO COMMENT 76 RANDY LONG

[Comment page 1]

1 See the response to comment 15-10.

12-1-88 COMMENT 77

Dear Jim Dryden
I was to your meeting of 11-30-88 Castle Dale Utah
I am quite impressed as to the direction that you people are taking.
There has been a lot of improvements over the last 4 decades.
Soils, vegation & Wildlife & livestock are a big consern to a lot of people in this area
1 But the numbers of wildlife that were given after you left are greatly unde what are really out there.
The widlife, forage, & water are very very sensitive environment and I would like to see them taking a lot better care of.

thanks
Jim Majors
Box 36 Huntington, Utah
84528

RESPONSE TO COMMENT 77 JIM MAJORS

[Comment page 1]

1 BLM believes the management identified in alternative F, along with those changes in ORV designations in the proposed RMP, adequately addresses the needs of wildlife.

COMMENT 78

Lee McElprang
P.O. Box 448
Huntington, Utah 84528

1 I would like to comment on the use of Public Lands. I favor the multipal use aspect of Public Lands. I personally think that the public lands are big enough for everyone to use, look at, or otherwise enjoy.

I think the stockmen and the wildlife people should work together to dewelop and enhance these areas to make it a better place for all concerned.

Sincerely,

Lee McElprang

Lee McElprang

RESPONSE TO COMMENT 78 LEE McELPRANG

[Comment page 1]

1 The comment is acknowledged.

COMMENT 79

Lorie McElprang
P.o. Box 448
Huntington, Utah 84528

December 6, 1988

Dear Mr. Dryden,

I would like to tell you my feelings about the use of Public Lands, especially concerning cattle grazing. I definitly believe multipal use is the best for the rangeland in rual Utah.

I am associated with many people who run cattle in this area who are also sportsmen and enjoy hunting wild game in these areas. Many of them also enjoy camping while they hunt, check the rangeland,check on their livestock or just enjoy the beauty in these areas.

1 I think to say that the rangeland is overgrazed by cattle is a case of misjudgement. Do the people who wish to do away with grazing privileges realize where the beef they put on their tables come from. Do they realize that if the beef cattle have no place to graze this would greatly increase the price of the beef they buy aswell as decreasing the quality of it.
Do they realize that wildlife does not help pay taxes, keep schools open or keep grocery stores in business.

I feel if the BLM, The Fish and Game people, also the stockmen work together they would find there is plenty of ground for everyone to enjoy, whether it be to hunt on, to look at, to camp on or to graze cattle on thereby not infringing on the rights of others.

Wildlife causes much damage to the property owners fences and crops, so do some inconsiderate people with recreation vehicles. I agree there are some serious problems, but I feel they can be worked out if we all work together.

Sincerely,

Lorie McElprang

Lorie McElprang

RESPONSE TO COMMENT 79

LORIE MCELPRANG

[Comment page 1]

1 See the response to comment 7-1, paragraph 1.

DON A. NICHOLS (CPL)
THREE PARK CENTRAL, SUITE 900
1515 ARAPAHOE STREET
DENVER, COLORADO 80202
(303) 893-3520
EVE - 756-6148

COMMENT 80

September 6, 1988

Mr. Jim Dryden
San Rafael Resources Area Manager
900 North 700 East
Price, UT 84501

Re: Comments on Draft Resource Management Plan/EIS
San Rafael Resource Area

Dear Mr. Dryden:

The above-mentioned draft failed to note the existence of a sizeable glass sand deposit that exists in T21S, R11E; T22S, R11E; & T23S, R12E.

Please be advised that the mentioned area contains significant quantities of what appears to be a high quality glass sand. At present mining claims have been located and an evaluation is underway with the goal of determining the deposit's commercial nature in the near term.

1 Existing site-specific mine regulation should be the means to combine any mining of glass sand with other objectives of the BLM. To limit activity in a regional manner, such as suggested in the draft RM Plan/EIS is not consistent with uncertain location and the nature of mineral economics. Mineral deposits are found where they occur and become valuable by market forces. The BLM should allow itself the ability to adjust to these factors by not making such a detailed and inflexible plan as this proposal.

Yours very truly,

Don A. Nichols

Don A. Nichols

BS/DAN/bac

cc: Red Ledge Minerals Co.
Robert Steele

RESPONSE TO COMMENT 80

DON A. NICHOLS

[Comment page 1]

1 Glass sand has been added to the list of locatable minerals occurring in the planning area. A description of its occurrence has been included in the final EIS (chapter 3, Locatable Minerals).

SAN RAFAEL RANCHES
68 SOUTH MAIN STREET, No. 800
SALT LAKE CITY, UTAH 84101

Telephone (801) 531-8300

COMMENT 81

December 8, 1988

James W. Dryden, Area Manager
San Rafael Area
Bureau of Land Management
900 N. 700 E. Street
Price, UT 84501

RE: THE SAN RAFAEL RESEARCH MANAGEMENT PLAN (RMP) -- PREPARATION OF A GRAZING ENVIRONMENTAL IMPACT STATEMENT (EIS) FOR THE SAN RAFAEL RESOURCE AREA (SRRA)

1. It is suggested that the principal of prior use be followed in making the adjudication of the many uses now being considered whereas beginning in 1934 the only use which was recognized was THE GRAZING USE BY LIVESTOCK -- CATTLE, SHEEP, GOATS, AND HORSES.

1 2. Where the demand for the use of the public lands exceeded the availability of livestock forage then a reduction was applied in proportion to the recognized prior use demand.

3. Now among the numerous uses which are being studied it is suggested that the livestock grazing use be considered above all other uses in fixing the area and the demand for use by one or all of the livestock classifications.

It is further suggested that mining of elements or other uses of the resources existing upon and within the public lands be considered.

The next use should be the harvesting of timber.

It is believed that there will be found little or no interference with livestock grazing even after the demand for mining and timber harvesting be recognized and allowed along with grazing, because there will be little or no competition with the livestock use which is concurrently made of the same area by all three uses.

2 4. WILD LIFE. It is submitted that big game be given consideration for grazing use of the public lands along with the livestock use for which a demand is found. It is believed that there will be very little conflict where big game is considered as a qualified demand for the use of forage of each given competing area.

RESPONSE TO COMMENT 81

MILTON A OMAN

[Comment page 1]

1 See the response to comment 47-9.

2 See the responses to comments 15-60 and 47-3.

3 5. It is submitted that there is no competition for the use of these lands which will, in any substantial way interfere with the granting of livestock use as it has heretofore been determined to exist for the use of these public lands in the eleven western states -- and there is no public land in any of the other states within the nation which deserve recognition.

6. It may be recognized that some scientific studies including insect and any other form of life found to exist in the public lands which is worthy of a consideration in arriving at the location of the grazing and other uses enumerated above. No doubt, insect life may be found in very isolated locations which are significant enough to require study and determination.

7. MILITARY. Where a significant military demand is made in competition with the livestock, timber, and mining uses that the military take precedence over said three other uses with payments to be made for the elimination or reduction of these other three uses.

8. RECREATION. Recreation uses of the public lands ought to be recognized. Practically all of such use will be a winter recreation use, such as skiing and boating, hiking, camping, and hunting of animals recognized by the wild life divisions within various states according to laws and regulations promulgated by the state.

4 Recreation uses which destroy or which substantially injure forage and other plants required or which contribute in a material way to the grazing by livestock should be eliminated from consideration.

The OFF-ROAD VEHICLE use of the public lands should be eliminated. Such uses have been found to be so in conflict with livestock grazing as to be worthy of no competing demand.

INCOME PRODUCING USES. Each of the three uses enumerated for use of the public lands -- grazing, mining, and timber produce income which is significant in a nation, the budget of which does not seem to be capable of balancing. Not only are millions of dollars generated from the said three uses, but they each produce products which are needed in the economy of this country -- feed and fiber to come from the animals which graze the lands, and a very real production is needed to assist in the growth and refinement of the products brought continually available in the mining and timber operations. Practically no income is produced by any of the other proposed uses of these public lands.

Respectfully,

Milton A. Oman

Milton A. Oman

MO/ls

RESPONSE TO COMMENT 81 MILTON A OMAN

[Comment page 2]

3 See the response to comment 47-9.

4 See the introduction to the response to comment 44.

P-III Associates, Inc.
Cultural Resource Consultants

COMMENT 82
2212 South West Temple, Suite 21
Salt Lake City, Utah 84115
(801) 467-5446

December 7, 1988

Mr. James Dryden
San Rafael Resource Area Manager
900 North 700 East
Price, Utah 84501

Attn: RMP

Dear Mr. Dryden:

I have several comments on the Resource Management Plan (RMP) for the San Rafael.

1. This plan appears to be biased in terms of off-road vehicle use and animal grazing. An insufficient number of acres are set aside for Areas of Critical Concern (ACEC's), particularly for relict plant sites and cultural resources. I am opposed to any off-road vehicle activity, mining, mineral exploration or other surface disturbances in the ACEC's and the Wilderness Study Areas (WSA's).

2. This plan makes a multitude of unfounded assumptions concerning the nature, quantity and distribution of cultural resources within the area. There are numerous professional cultural resource reports and publications in the San Rafael area and throughout the state of Utah that provide detailed statistical estimates on the density and distribution of cultural resources in central Utah. Why is it that these documents were
1 not specifically used to provide a basis for your assumptions and estimates? Also, these professional publications repeatedly demonstrate that cultural resources are not distributed across the resource area in a random nature, but rather are clustered around water sources and other areas suitable for prehistoric habitation. Off-road vehicle and other recreational use of the planning area are not randomly distributed across the area either and, in fact, there is a direct conflict between off-road vehicle use and cultural resources since the same areas that were suitable for prehistoric habitation and occupation are frequently areas that are utilized by off-road vehicle recreational users. Buckhorn Wash is a prime example. It seems that your estimates for loss of cultural resources are far too low.

3. Assuming, however, that your estimates are correct, and that "only" approximately 7000 sites will be lost in the next 10 to 15 years, what efforts are you going to undertake to protect the remaining sites? In other words, if you are asking archeologists as well as the general public to accept a loss of almost 7000 nonrenewable resources in the next 10 to 15 years (10% of your estimated total), you should present your program for insuring the preservation of the other 63,000 resources you estimate are present in the planning area. Please explain in detail how your cultural

RESPONSE TO COMMENT 82 P-III ASSOCIATES, INC.

[Comment page 1]

1 See the response to comment 95.

resource program will differ in the future, i.e., an increase in archeological staff, an increase in law enforcement staff, installation of monitoring devices, increases in funding, etc., to demonstrate that if these loss rates must be accepted by the general public and the archeological profession, that all remaining sites will be suitably protected and preserved. In fact, please contrast this with your existing program to demonstrate how preservation of cultural resources will be improved in the future over the current situation which now allows sites to be damaged and destroyed without proper protection and preservation. 1

I appreciate the opportunity to comment on this plan.

Sincerely,

Alan R. Schroedl
Senior Consultant

COMMENT 83

12-6-88

B.L.M.
900 N. 700 E.
Price, Utah 84501
attn: San Rafael Resource Area

Jim Dryden:

I would like to express my feelings on the draft management plan for the San Rafael Resource Area. Having been an active desert explorer all of my life, I cherish the opportunity to explore and enjoy the San Rafael area. The history of the area and the early development and mining are of special interest to me. Discovering a new site or structure from the past is always very rewarding.

I am greatful that I have had the opportunity to experience these things and feel that ALL others should have the same opportunity. The elderly, the young, the handicapped and especially my children should be allowed to follow in my tracks and enjoy the area as I have.

1 The multiple use policy of the past seems to provide the fairest compromise to all users of the PUBLIC LAND. Off Hiway vehicle use is a legitimate use of public land and should be allowed to continue. To lock-out motorized vehicle travel is to lock-out people. I don't feel that the intent of multiple use land is to lock-out certain tax payers and yet allow unrestricted access to others. Hikers and horseback riders already enjoy an advantage given to them by Nature. There are endless miles of slick rock, canyons, and mesas that can only be explored by foot or horse. Why then should you lock-up other areas that offer easily traveled terrain and deprive those members of the public the opportunity to enjoy the area from an off hiway vehicle?

RESPONSE TO COMMENT 83

ALAN J. PETERSON

[Comment page 1]

1 BLM is a multiple-use agency; ORV use is only one of the many uses that occur on public land. The impact analysis in the final EIS (chapter 4) was used to determine the levels of restriction on ORV use that would be required in order to protect resource values in the various portions of the planning unit.

Remember that an off-hiway vehicle of any type is just a machine. But it is owned and driven by a mom, a dad, a grandma, a grandpa or a child. Members of society wanting to enjoy and use PUBLIC LAND just like the people who hike or horseback. Don't discriminate on the grounds of the type of track left behind. Acknowledge the fact that each form of recreation is cherished by the individual that performs it.

2 In summary, I would like to urge the B.L.M. to adopt the "no change" alternative and continue to manage the San Rafael Resource Area as a true multiple use area. This would allow legitimate activities and development by all users. Current policys and permits must be working or the area wouldn't be of such great value at the present time.

Thank you for allowing my feelings to be heard and I hope that you will consider them with an open mind.

Alan J. Peterson

Alan J Peterson

RESPONSE TO COMMENT 83 ALAN J. PETERSON

[Comment page 2]

2 See the response to comment 34.

COMMENT 84

December 7, 1988

BLM
Attn: Jim Dryden
900 North 700 East
Price, Utah 84501

Jim:

I would like to express my views concerning the San Rafael Resource Area.

1 I encourage you to adopt the "no change" alternative. Access to Public Lands should be open to all people. Off Highway vehicle use is a legitimate use of the land and should be allowed to continue.

The current multiple use permits and regulations seem to be the fairest for all users.

Sincerely,

Mackae Potter
Great Outdoors Stores G.M.

RESPONSE TO COMMENT 84 MACKAE POTTER, GREAT OUTDOOR STORES

[Comment page 1]

1 See the response to comment 34.

COMMENT 85

Jim Dryden, San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price UT 84501
Attention: RMP

23 Nov. 1988

Dear Mr. Dryden,

I would like to comment on the San Rafael Area draft RMP/EIS. I will address my comments to the livestock management issue and the effect the preferred alternative F will have on the grazing use in the San Rafael Area.

1 The Goals of the RMP list livestock grazing and minerals use in forth priority, subservient to protection of critical watersheds and scenic resources, critical wildlife habitat, and vegetation and culture resources. Where no conflict with these priorities occur, livestock grazing and minerals use will be maintained. As productive multiple uses (generating revenue for BLM and to the economy), and uses participated in by a large cross section of Emery County residents, I feel livestock grazing and minerals use should be a higher priority and should be given more consideration. It is true that Utah Power and Light and the Coal Mining Industry contribute more to the economy, but the social structure and community stability is dependent on agriculture and the livestock industry. There is currently a large effort in USDA to improve the viability of agriculture and the dependent rural populations and economies. In addition, one of the objectives in the BLM enabling legislation (FLPMA) is to stabilize the rural economies dependent upon the livestock industry. The proposed change in season of grazing use will have a devastating effect on the livestock industry and the local economy of Emery County.

2 The RMP has identified 43 allotments to change season of use from spring to late fall or winter because they exceed the critical soil loss threshold. On 16 of these allotments, and additional 25% reduction in numbers is recommended because of winter use conflicts with wildlife. I do not think this change is justified on the basis of reducing soil erosion. The justification given for this change (page 4-89, "Removing livestock during the high runoff period would decrease surface disturbance and allow for increases in plant density which would reduce runoff") is not accurate. The watershed literature cited in appendix N to support the elimination of spring grazing show that there is no spring runoff on the desert ranges (Lusby 1979). Runoff and sedimentation come from the intensive summer thundershowers. The soil disturbance from spring grazing is stabilized by this time by the microphytic crusts that form and protect the soil from erosion.

3 In addition, plant density and vegetative cover are probably greater now in a lower ecological condition than when these ranges were at their potential. The decline in ecological condition and resultant change from cool season bunch grasses to galetta grass (a low growing rhizomatous sod forming warm-season grass) probably increased vegetative cover. The great increase in broom snakeweed that currently occupies vast areas of the San Rafael Resource Area has probably increased total vegetative cover beyond what existed in the climax stage. The protective vegetative cover is probably greater now than at any other time.

4 Impact of Grazing on Sedimentation

I do not disagree that spring use is detrimental to these desert ranges. Spring grazing has reduced the cool season grass component of the salt desert shrub community, resulting in shift to warm season grasses and a subsequent decline in ecological condition. However, I disagree with the rational that

RESPONSE TO COMMENT 85 MIKE RALPHS

[Comment page 1]

1 The goals of the preferred alternative were selected by an interdisciplinary team with public input throughout the planning process. BLM believes these goals meet the present public demands.

Based on the best available information, BLM believes the proposed elimination of spring grazing on these allotments may, in fact, reduce sediment and salinity. However, no changes can be made to the present situation without 5 years of monitoring. At this time (1989), it is not known whether the allotments are exceeding the SCS critical soil loss threshold. This would be determined on an allotment-by-allotment basis in conjunction with current monitoring methods. If it is determined that the allotments are exceeding the SCS critical soil loss threshold, and the rangeland trend is down, grazing seasons may be changed, herd numbers reduced, grazing systems implemented, or other agreements may be entered into to provide some pretection for these areas. On allotments exceeding the threshold, but in an upward trend, management would not be changed as long as the areas are improving and heading toward the individual site goals (appendix N).

Before any reductions or changes in management occur, 5 years of rangeland monitoring data are required. Permittees will be invited to assist in rangeland monitoring. If changes are needed on an allotment, range use agreements will be pursued.

All available information would be evaluated by an interdisciplinary team and the the 3-Cs initiated with all interested parties, before any action would be taken. Monitoring would continue (see the response to comment 84). The management objectives of the proposed RMP were selected by an interdisciplinary team with public input throughout the planning process. BLM believes that these objectives meet the present public demands.

2 See the response to comment 48-4.

3 See the response to comment 85-4.

4 BLM believes that ecological status is presently the best available method of determining the critical soil loss threshold (see the response to comment 84-1). When BLM finds and accepts a better method, it would adopt the new method and modify the critcal soil loss threshold.

SCS [1978] developed the information used to determine the ecological status required to maintain enough vegetative cover not to exceed the soil loss tolerance (appendix N). The thresholds presently in place would be updated and adapted to specific areas as more information is obtained.

Based on the average slope of critical soils areas, 20 percent slope was chosen for a broad analysis during the RMP process. When individual allotments are analyzed, the actual slope of each area would be used.

The geomorphological breaks used in the Badger Wash study and the Price River drainage study would be considered when actual allotment analysis is done, as would the revised SCS soil loss information.

the ecological condition can be used to determine the critical soil loss threshold, which is the justification for the change in season of use. Furthermore, I submit that removal of spring grazing would not measurably reduce sedimentation and down stream salinity.

I feel a major error was made in determining the ecological condition of a site that is required to not exceed the Critical Soil Loss Threshold (Appendix table N-3). An average slope of 20% was used in determining the ecological condition necessary to not exceed the critical threshold. Because soil erosion potential is based primarily on steepness of slope, the actual slope must be used. Studies conducted at Badger Wash and the Price River drainage break the geomorphology into 3 categories: gravely bench-top pediments; relatively flat valley bottoms; and steep dissected mancos shale hills (Lusby et al 1979, Schumm and Gregory 1982). There is little slope and resulting erosion from the bench tops, flats and valley bottoms. Most of the erosion comes from the bare clay badland slopes. Almost all sites with less than 10% slope do not exceed the Critical Soil Loss Threshold in any of the ecological conditions (Mason 1978, revised by Peterson 1986). If the valley bottom sites contain inclusions of Mancos shale hills, they should be delineated as such and classified as a separate sites. The arbitrary assignment of a 20% slope causes the calculated soil loss to exceed the threshold, and triggers the management decision to change season of use. Therefore, most of the allotments listed for canceling spring grazing are unjustly classified.

Ecological condition, as it relates to vegetative cover, cannot be used as an accurate predictor of erosion on desert soils. Results from the studies quoted in the EIS to justify the management changes, show that there is not a direct relationship between vegetative cover and soil erosion. Lusby et al (1971) reported that although runoff and sediment declined when grazing was
6 removed at Badger Wash (an area similar to the Mancos Shale sites throughout the San Rafael Area), vegetative cover did not improve, even after 13 years without any grazing. The reduced runoff could not be attributed to improvement in vegetative cover or ecological condition. Using the same set of data, Branson and Owen (1970) found no significant correlation between sediment yield and plant cover or bare ground. Branson and Owen (1970) also reported that runoff was not significantly correlated with sediment yield. Runoff may have been high, but that did not necessarily mean that erosion was also high. Thin friable crusts form on the soil surface and protect the soil from raindrop splash and erosion in the high intensity summer thundershowers (Jackson and Julander 1982). This contradicts Lusby et al's (1979) assumption that runoff and sediment yield were directly related. Lusby et al (1979) could not run statistical analysis on sediment yield because of sampling difficulties. This sheds doubt on his conclusions that the high sediment yield on grazed watersheds was really meaningful. Lusby et al (1979) concluded that grazed watersheds had higher runoff and sediment yield than ungrazed watersheds. He speculated that spring grazing compacted the soil sooner than normal, thus reducing infiltration and increasing runoff and sediment yield. If Jackson and Julander's (1982) conclusion can be accepted even if there was soil compaction in the spring, the natural crusting of the soil would prevent sheet or rill erosion during the intense summer thundershowers on flat or low relief soils.

All of the studies quoted in the EIS agreed that steepness of slope is the
6 major factor determining erosion and sedimentation (Lusby et al 1979, Branson and Owen 1970, Jackson and Julander 1982, Schumm and Gregory 1986). The gravely bench tops and the valley floors produced very little sediment, unless gullies were cutting. The steep dissected mancos shale badlands produced most

RESPONSE TO COMMENT 85 MIKE RALPHS

[Comment page 2]

5 BLM is using the best available information and believes that its methodology and assumptions are valid. As new information is presented, BLM would re-evaluate its methods and move forward with the state of the art.

6 The BLM recognizes that variations in slope result in variations in erosion and sedimentation. As stated in the response to comment 85-4, as each site is evaluated, actual slope data would be used.

of the sediment and salt yield (Schumm and Gregory 1986). Rill erosion on slopes accounted for 80% of the sediment in the main channel (Jackson and Julander 1982). Lusby et al (1979) also stated that the steep slopes produced the most sediment. Natural erosion will be high on these raw clay slopes whether or not livestock are present or what the ecological condition is. As the slope increases above 10%, natural erosion is high and exceeds the critical soil loss threshold in all the ecological conditions (Mason 1978).

In their review of literature, Schumm and Gregory (1986) stated that the recommendation to "remove spring grazing when the soil surface is most susceptible to compaction in order to reduce runoff and sediment" should be restricted to only the high sediment producing areas that have steep slopes, saline soils and 8-15% vegetative cover. In reality, livestock make little use of these steep clay slopes. Ralphs et al (1988) reported that cattle grazed these steep slopes only in winter when snow covered the vegetation in the flats. Cattle graze mostly in the valleys and the gravely pediments where there is more and varied forage.

Therefore, the elimination of spring grazing on 43 of the allotments in the San Rafael Resource Area is not justified on the grounds that it will reduce sediment and salinity. Furthermore, ecological condition, as it relates to vegetative cover, cannot reliably be used as a measure of the soil loss
7 threshold on these desert soils. If the management objectives were changed to improve the ecological condition of these ranges for all multiple uses, then grazing systems and various strategies could be used to give periodic rest during the rapid growth period in spring.

Economic Impact

I feel the economic consequences of these decisions are underestimated in the draft EIS. BLM provides greater than 50% of all spring feed in Emery County (Table 50, p. 3-61). Of the 101 allotments on the Area, 75 have spring use. 43 allotments have been identified to eliminate spring use. Of the 139 livestock operators, 89 could be excluded from using spring range (p. 4-93). This would eliminate more than half of the current forage currently available in Emery County. The simplistic recommendation suggested as a worst case analysis was to substitute the hay normally fed in winter and feed it in the spring in lieu of the eliminated spring grazing on BLM. This recommendation simply will not work. Transfer of use is to fall and early winter. There is already an abundance of feed in the form of aftermath that cannot be utilized
8 at another time of the year. In addition, turning cattle out on BLM land at this time would be a hardship to most operators who are weaning and working their cattle during this period.

Cattlemen are reluctant to use desert range in the winter. The nutritional content of senescent forage and lowered digestibility of saltbrush is below the recommended levels of cows in their last trimester of gestation. In the past, cattle grazing out on BLM desert range over winter had only 50-60% calf crop. As the technology developed to harvest and store forage, most cattlemen pulled their herds off the deserts for the winter.

The most severe effect of changing season of use is the shortage of spring feed it would create. There is no potential for developing more spring feed on public lands. There is limited potential for developing early spring pasture on private land. Feeding hay in the spring (even if it was available) has its drawbacks. Hayland starts growth in April, thus requiring feeding in drylots rather than feeding out on the cropland as is customarily done to return manure and urea back to the land as fertilizers. Disease and scours can be serious when feeding and calving in confined conditions. Confined

RESPONSE TO COMMENT 85 MIKE RALPHS

[Comment page 3]

7 See the response to comment 85-2.

8 See the response to comment 48-5.

feeding generally results in underfeeding which causes reduced milk production and reduced weight gains in calves. Furthermore, cows will not eat dry hay once they have tasted green grass.

In our operation, we have very little alternative spring feed. There is some potential to develop early spring pastures. However, even if we fully develop all of our potential private land, the change in season of use will require a 30% reduction in the cows we run because of the lack of spring feed. If we are a typical operation, a 30% reduction in gross revenues from 64% of the permittees in the Area would reduce gross revenues of livestock operations in Emery County by more than $500,000. Variable costs would greatly increase if seeding to spring pasture is attempted. Loss of returns above variable costs from your preferred Alternative F will be much greater than the $221,900 projected in the EIS.

Many ranchers cannot afford to implement costly seedings. Since the majority of ranchers in the area are getting up in age, many will elect quit ranching. This would be a significant impact on the other Ag-related support industries, and subsequently affect the economy of the entire county. Energy and mining are the largest employers in the county, but agriculture and the livestock industry provides the stability to the county. I hope the BLM administrators will realize the full impact their decisions may have.

9 I applaud the approach BLM is taking to monitor these allotments intensively for 5 years to determine if these changes are necessary. Rather than making a sweeping administrative decision that would be catastrophic to the livestock industry in Emery County, BLM administrators have recognized the lack of data upon which to make sound decisions and are willing to evaluate each allotment on a case by case basis. I suggest that in addition to monitoring actual use and ecological trend during the next 5 years, BLM also measure directly the watershed variables that their decisions will be made upon. Furthermore, conflicts with wildlife on critical winter habitat should

10 be verified before the automatic 25% reduction in use is implemented. The economic consequences of any decision should accurately be assessed and weighed against the ecological consequences. Finally, the RMP would be more

11 acceptable to the ranching community if the priority of grazing was elevated and the focus was changed from reducing erosion and salinity to improving ecological condition for all multiple uses, including grazing.

12 I would recommend the BLM initiate the Coordinated Resource Management program as you evaluate the individual allotments and make consensus management decisions. Invite the SCS, Extension Service, Rancher representatives and perhaps the Forest Service to coordinate management and mitigate adverse impacts the decisions may have on individual ranchers and the economy of Emery County. This will bring cooperation rather than confrontation, and result in overall improvement in the range and the livestock industry.

Thank you for the opportunity to comment.

Sincerely,

Michael H. Ralphs
Range Scientist, USDA/ARS
Partner in Ralphs Family Ranch

RESPONSE TO COMMENT 85 MIKE RALPHS

[Comment page 4]

9 See the response to comment 48-5. Cover data would be collected in areas where needed. Other studies may be implemented in problem areas.

10 See the response to comment 48-5.

11 See the response to comment 85-1.

12 BLM supports the concept of a coordinated resource management plan.

NOTE: This comment was accompanied by a one-page list of references which is not reproduced here.

COMMENT 86

November 2, 1988

San Rafael Resource Area
900 North 700 East
Price, Utah 84501

Dear B.L.M.,

In reviewing your draft resource management plan, and environmental impact statement, I find the historical information in (3-7), (3-9), (3-15), (3-16) very educational.

1 I think all historical, scenic, geological and archaeological sites should be preserved for future generations to enjoy. these sites are not a renewable resource and should be protected.

I feel that wildlife is a renewable resource and should be harvested, and not allowed to expand to a point they infringe on other Bureau of Land Management programs. I therefore support alternative A and B.

2 Participation in programs administered by the Bureau of Land Management should be open to everyone regardless. This does not mean, reducing livestock grazing to make way for new wildlife programs.

Please send new update on geological and archaeological programs.

Sincerely yours

Vernell Rowley

P.O. Box 474
Huntington, Utah 84528

RESPONSE TO COMMENT 86 VERNELL ROWLEY

[Comment page 1]

1 The comment is acknowledged.

2 See the response to comment 23-15.

COMMENT 87

December 6, 1988

Mr. James Dryden
San Rafael Resource Area
Bureau of Land Management
900 N. 700 E.
Price, UT 84501

Dear Mr. Dryden:

I am a professor at the University of Utah and a 13-year resident of Utah. Like many of my colleagues, I highly value the natural environment of this state. (A recent U. of U. sponsored survey found this aspect to be the foremost reason why university employees remain here!) I also maintain, at relatively significant costs, a 4-wheel drive ORV that is an integral part of my lifestyle. However, I do not feel that this gives me unbridled privileges to roam and scar wilderness: my ORV is only used to help me ACCESS these places on foot, horseback, or boat. Let me add that as an ardent Indian rock art photographer/researcher, I feel that I have a legitimate purpose for entering remote regions: to help in the preservation (on film, at least) of rock art sites.

1 Needless to say, I was alarmed by media reports that the BLM is actively considering opening up essentially the entire San Rafael Swell to ORV use. In view of the fact that I recall reports pointing out the suitability of this region for National Park designation, I find it absurd that such a proposition could ever be considered by a responsible government agency. This area is

2 perhaps the heartland of the Barrier Canyon and early Fremont rock art styles, and I have visited dozens of rock art panels, many of which, particularly in the western Swell region, are largely unknown to the scientific community due to their inaccessibility. Many rock art and habitation sites, easily accessible to cars and ORVs have been vandalized in this area, and I fear a much greater rate of deterioration if the current BLM proposal is adopted. To encourage the defiance of the Antiquities Act is foolhardly, recognizing human nature.

On purely aesthetic grounds, I also strongly object to the uncontrolled use of ORVs in this region, as this greatly distracts from the wilderness "experience" hikers repeatedly travel to find. From my own experience, I have all but abandoned traveling to the eastern Swell region, where the drone from dirt bikes, even echoing into some of the finest slot canyons in the southwest, is often intolerable. Although I may not totally agree with the WSA boundaries suggested by the Utah Wilderness Coalition, I sincerely hope that reason will prevail and a balance between the short-term ORV use and the long-term benefits from hikers and potential National Park visitors will be struck.

Sincerely,

Kenneth Sassen
Research Professor
Department of Meteorology
University of Utah
Salt Lake City, UT 84112

RESPONSE TO COMMENT 87

KENNETH SASSEN

[Comment page 1]

1 See the response to comment 44-6.

2 See the response to comment 15-107.

Mrs. Carma Sherman COMMENT 88
Box 279
Huntington, Utah 84528

December 8, 1988

Mr. Jim Dryden, Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

REGARDING: San Rafael Swell Management Plan

1 In studying your proposed management plan, I wish to make the following comment: "I believe you are headed in the right direction in trying to control grazing and limiting the number of livestock to better match the amount of forage available. With this much land, it would be foolish to abolish grazing completely, but we do need to limit the numbers and cut back or be able to tell the cowmen and sheepmen that they cannot go on at all in a bad year when there has not been any rain and there is no water or grass. That is a completely different issue than the one that really needs to be addressed at this time. This issue is OFF ROAD VEHICLES.

2 I BELIEVE THAT THE ENTIRE SAN RAFAEL SWELL AREA SHOULD BE DESIGNATED TO "LIMITED TO EXISTING ROADS ONLY." The Fishlake National Forest has made this change and it seems to be working well. There is so much difference that crossing the boundary between the Fish Lake and the Manti LaSal is as evident as leaving paved road for dirt road. I believe it could be accomplished without too much trouble by posting the area, increasing patrols, and making fines for people not complying high and making sure that the word gets out about the size of the fines. That in itself would do alot to make people comply.

One other comment I wish to make, I have walked thru the San Rafael from Huntington to I-70 on the main road, with side trips into the various canyons or up washes as I wished to during the hike and I must state that ORV's have made more of an impact on the land in one season that cows or sheep have made in many years. When they leave the road and ride up a draw or straight up a hill, they leave a trail of torn-up soil that the next thunder shower washed into a ditch and the next one after that can turn into a gully. The red hills of the San Rafael do not look better with gullies running straight down from top to bottom.

God gave us this beautiful land to appreciate and enjoy. I hope that He gave us brains enough to manage it.

Sincerely,

Carma Sherman

RESPONSE TO COMMENT 88 CARMA M. SHERMAN

[Comment page 1]

1 See the response to comment 7-1.

2 See the introduction to the response to comment 44.

COMMENT 89

Bureau of Land Management
900 North 700 East
Price Utah 84501

Dear Sirs:

I have a cattle grazing permit on the North end of the east side of the San Rafael Swell.

1 I am adposed to having this area turned into wilderness.

Will you please consider my request?

Sincerely—

Betty Smith

RESPONSE TO COMMENT 89 BETTY SMITH

[Comment page 1]

1 See the response to comment 3-24.

COMMENT 90

-jim Dryden San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 east
Price, Utah 84501
Attention - RMP

Dear sirs;

1 We as livestockmen, of Emery County do favor alternative A leaving the usage management plans as they are

We ~~th~~ and other people including recreationalist, environmentalists, outfitters, and a great lot of ~~th~~ other people have found this to be the best through the years this alternative utilizes the public lands as it ~~[illegible]~~ should be, Cattle ~~[illegible]~~ foraging the feed and people enjoying the scenery

If it wasn't for the ranchers maintaining, constructing and otherwise improving the ponds, springs + troughs the Wildlife would

RESPONSE TO COMMENT 90

DUDLEY SHASEY

[Comment page 1]

1 See the response to comment 34.

suffer greatly for lack of water and feed being that:
The cattle also fertilize, cultivate & loosen up soils for the native forages to have a higher and sustained yields. because of better availability of moisture & fertilizers

Also the stockmen having cattle or sheep ~~and~~ on the range is advantageous for recreationalists & sitseers. For the simple reasons being that the stockmen know the roads are when to tell whomever when ever a road needs to be fixed & also when asked by these people ~~where~~ directions so they don't get lost. and also when in need these people get help from the stockmen

2 In summarizing if the cattle & sheep & ect. where excluded from

RESPONSE TO COMMENT 90 DUDLEY SWASEY

[Comment page 2]

2 See the response to comment 7-1, paragraph 1.

2 the rangelands there would be a lot of lasting ill effects on the enviroment, wildlife, forage and in some ~~ways~~ respects the people who enjoy the public lands as they should be for the Public!!.

In conclusion we do ~~really~~ very much favor the alternative A. For not only our interests ~~of~~ but for the interests of all residents on our great Country,

Sincerely yours
Dudley Swasey
Sid T. Swasey

Swasey's Shorthorn Ranches
Box 438
Fillmore, Ut 84523

COMMENT 91

TATTON INSURANCE AGENCY
P.O. Box 888 - 854 East 1st North
Price, Utah 84501
Telephone (801) 637-1848

12-8-88

Bureau of Land Management

Gentlemen:

1 The purpose of this letter is to advise you I do support the "no change alternative" for the San Rafel Resource Area.

I feel a strong heritage to this part of the country and want my children to enjoy the area the same way my family has for many years.

Thanks,

Richard Tatton

RESPONSE TO COMMENT 91

RICHARD TATTON

[Comment page 1]

1 See the responses to comments 34 and 35-28.

Nov. 6,1988 COMMENT 92

Jim Dryden, Area Manager
Bureau of land Management
900 North 700 East
Price, Utah 84501

Dear Mr. Dryden,

We aew writing concerning the proposed resource management plan for the San Rafael area. We cannot and donot concur with any of the proposed alternatives.

1 Initially, we want to comment on the a maps and the text. The maps are unreadable. At the bare minimum, label the major features on the maps.Why are the Muddy Creek and the San Rafael River not marked on them?The text was very hard to read. It would have been easier to read if the entire text had been kept together. The charts should have put at the end of each section.

2 With proposed plan, alternative F, the B.L.M. fails to meet its responsibility to manage the land in a pristine, primitive manner. Sids Mountian W.S.A., Mexican Mtn.W.S.A., San rafael Reef W.S.A. etc., all need to be managed in a manner so as not to disqualify them from wilderness status. ORV use SHOULD be closed in all of the WSAs during the wilderness inventory.These potential wilderness areas have been identified, yet the B.L.M. has failed to consider managing them according to wilderness standards. This is illustrated on the map of ORV use designations, the map of standard surface uses and the map illustrating the extent of riparian habitat throughout the area.

3 Actively hiking in the San Rafael Sweel , ne ar and in Ernies Canyon, Little Wild Horse, several unnamed canyons near the Swell and near Buckskin Wash, we have encountered scars of ORV and ORV use. The BLM is designated to keep ORV use to restricted areas, NOT the entire Swell.

4 The BLM claimsthe pictograph panel in Black Dragon Canyon is of 'world class' quality.Yetthis canyon has vehicle tracks everwhere, litter and uncleaned firescars everywhere also. Is this the BLMs idea of protection of world famous pictograph sites?

ORV use is a recognizable recreational use on BLM lands. The B.L.M., however needs to restrict this use to only certain areas, that do not compromise the scenic beauty and the natural fragility

5 of the area. We feel that the BLM has failed to restrict the A.T.V.

RESPONSE TO COMMENT 92 KIM TENNYSON AND DAMIAN FAGAN

[Comment page 1]

1 See the response to comment 15-7.

2 See the response to comment 44-3.

3 See the response to comment 44-6.

4 BLM recognizes that special management is needed to protect this site. ACEC designation would limit travel to the access road and close the area to campfires.

5 See the response to comment 44-6.

5 motorcycle crowd. None of the plan alternatives address this issue. The San Rafael Resource area contains many wild and beautiful areas, so WHY can the B.L.M. not protect these areas MORE with LESS ORV use. The area certainly needs it.

Thank you for your time.

Sincerely,

Kim Tennyson
Damian Fagan

Kim Tennyson
Damian Fagan
P.O.Box 1254
Moab, Ut 84532

COMMENT 93

December 5, 1988

Mr. James Dryden
San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

RE: San Rafael Resource Management Plan

Dear Jim:

I am more in favor of your suggested plan (Alt. F) with some additions and changes.

1 First, I will address ORV's (Off Road Vehicles). I think they should be restricted from operating on the main thoroughfares through the San Rafael. I think they should be allowed to run on lateral roads, like to the Wedge, to Swasey Leap, Swasey Cabin, Black Box, etc. I think they should include bicycles because they do as much damage as the motorized three and four wheelers. I think there should be some designated areas for them to ride and play such as Sand Dunes and Mussentuchet. Bicycles should be licensed like other ORV's.

2 I think cattle grazing should be permitted and if any group wants to take the place of cattle grazing they should buy the cattle grazing rights. There should be a balance between wildlife and cattle grazing. I love to see the antelope and other wildlife on the San Rafael, but their numbers will have to be controlled. If anyone wants larger herds than the area can support without hindering cattle herds the DWR or sportsmen should buy cattle grazing permits or cut the number of antelope. This should also apply to all wildlife on the RMP area.

3 I am in favor of protecting all archaeological and paleontological sights and providing adequate access to them for all people to be able to get to them to see them.

4 I am in favor of keeping roads open to any area, where roads are now, that serve any useful purpose. I believe roads must be

RESPONSE TO COMMENT 93 CLYDE THOMPSON

[Comment page 1]

1 See the responses to comments 15-19, 15-20, and 51-2.

2 See the response to comment 35-27.

3 BLM recognizes public visitation as a proper use of some cultural resource sites (draft RMP/EIS, page 2-45). There is no need to have access to all sites by all people. Many sites in the planning area are widely dispersed lithic scatters, which have no public interpretive value. Improved access to the Pictographs ACEC is identified in alternatives D and F (draft RMP/EIS, pages 2-47 and 2-49).

Page 2
Mr. James Dryden
December 5, 1988

4 open to travel to any area where any noxious weeds may threaten beneficial plants or grazing of cattle or wildlife.

I think roads should be maintained in accordance to their use.

I think the BLM does a very good job of managing the San Rafael and should be commended for their job in the past and hope they are allowed to continue without a lot of interference from outside forces. I hope the cattlemen, DWR, the general public, the environmental groups, local government, and the powers over the local BLM can work together and keep in mind this area does belong to everyone.

We need to mine copper. We need to make steel.
We need oil wells and gas for our automobiles.
We need jobs in our coal mines and cows on the range.
We need good living wages, not designated wilderness change.
We need minerals and pastures and desert access,
Recreation and camping, good roads, and the rest.
While ski trails are wrecking pristine mountain slopes
Herds that need grazing are prevented by dopes
Who insist that animal, vehicle, or scent
Shall enter the desert without their consent.
Our rivers and mountains and desert terrain
Are meant to be everybody's outdoor domain.
Backpackers and hikers should soon understand
That all people should visit the vast desert land,
Not only those of the tree hugger mold,
But those that are working and those that are old.

Let's take care of our great land (San Rafael). Keep it multiple use, protect its (our) resourses, use wise management and everyone can enjoy it for thousands of years to come.

Sincerely,

Clyde Thompson

Clyde Thompson, Chairman
Emery County Commission

RESPONSE TO COMMENT 93 — CLYDE THOMPSON

[Comment page 2]

4 See the response to comment 37-2.

COMMENT 94

707 5th Ave.
Salt Lake City, UT 84103
December 5, 1988

Jim Dryden, Area Manager
Bureau of Land Management
900 North 700 East
Price, UT 84501

Dear Mr. Dryden:

I am writing about the ORV problem in the San Rafael Swell. First of all, I should begin by saying that I am a newcomer to Utah. I moved here in 1986 and a large part of my reason for coming here was the unparalleled wilderness opportunities the state provides.

In the two years I have been here I have visited the Swell four times and it is becoming one of my favorite areas. Therefore, it is especially painful for me to witness the spreading devastation brought about by mechanized vehicles in the fragile environment of the Swell.

Just last week, I was camped at the west edge of the Reef at the mouth of North Temple Wash and spent two days hiking North Temple Wash, Farnsworth Canyon and Wild Horse Canyon. All of these canyons and the areas west and east of the Reef showed many signs of vehicular abuse. Now, I'm not talking about the dirt roads in the area nor about tracks in the bottom of washes. I'm talking about motorcycle and ATV tracks running up and down and across ridges and slopes and through cryptogamic soil. I have enclosed a picture that is representative of what I'm talking about. Even in the narrows of Wild Horse and Farnsworth there were motorcycle skid marks on the sandstone. (And these were motorcycles and not mountain bikes; the tracks were too wide for mountain bikes.)

1 I have to admit that I was shocked to see a signed BLM motorcycle trail to the west of the Reef and north of Temple Mountain. I was more shocked when I dropped over the pour off in Farnsworth Canyon and found that the motorcycles had been into that canyon; from the map at the motorcycle trailhead I had expected Farnsworth to be out of bounds for motorcycles as it was signed as a footpath. I would have been even more shocked, and angry, if the calm and solitude of the canyon had been blasted by a motorcycle's roar; it must be quite a treat to hear that echoing off the canyon walls.

This is not the only time I've seen evidence of ORV abuse in the Swell. Last March I was camped in a wash on the San Raphael River a couple of miles west of the campground in Cottonwood Draw. A large group of people were camped about a half mile away. (No one was camped in the campground because it was a sea of mud.) The group had many children and about three four-wheeled ATV's. The kids spent hours racing the ATV's up and down the ridges along the river. I'm sure they would have been just as happy on a prepared track; for that kind of mindless racing in

RESPONSE TO COMMENT 94 DEBORA THREEDY

[Comment page 1]

1 An EA has been completed for the Temple Mountain motorcycle trail, which is an approved trail.

circles they don't need to be tearing up the wilderness.

In short, I can identify two serious conflicts arising from ORV use in the San Rafael Swell. First, the noise generated by motorized vehicles is incompatible with a wilderness experience, especially in the canyons of the Reef which magnify the sounds so as to destroy the canyon's peace even when the vehicles are not in the immediate neighborhood.

Secondly, and more importantly, the vehicles are destroying a fragile environment. The tracks I saw were not new tracks; they had been there for some time and they would be there for some time to come. Moreover, it is clear that ORV users can not be relied upon to act responsibly; the tracks I saw were all within a reasonable distance of established dirt roads. It seems like every ORV rider feels entitled to carve a new path out of the wilderness. If this continues, in no time at all the Swell will look like an empty lot, with tracks everywhere and the vegetation dead and dying and the soil all chewed up and eroding away.

2 In conclusion, I urge you to close the proposed wilderness areas in the Swell to ORV use and in any event to prohibit ORV's from entering any of the canyons in the Swell unless there is an existing dirt road running through the wash.

Very truly yours,

Debora Threedy

Debora Threedy

RESPONSE TO COMMENT 94 DEBORA THREEDY

[Comment page 2]

2 See the response to comment 44-6.

NOTE: A color snapshot accompanied this letter but is not reproduced here.

Betsy L. Tipps
P.O. Box 665
Salt Lake City, Utah 84110

COMMENT 95

November 30, 1988

Mr. James Dryden
San Rafael Resource Manager
Bureau of Land Management
900 N., 700 E.
Price, Utah 84501

Dear Mr. Dryden:

Thank you for the opportunity to respond to the draft of the San Rafael Resource Management Plan (RMP). I offer the following comments:

1 The plan appears to cater to off-road vehicle (ORV) use at the expense of other resources (e.g., bighorn sheep habitat, peregrine falcon habitat, desert soils, plant and animal life, cultural resources). Alternative F, the Bureau's preferred alternative, permits the vast majority of the San Rafael to remain open for ORV use and fails to adequately address the needs of the non-ORV community and the impacts of ORVs on fragile desert soils, plant life, wildlife, cultural resources and the wilderness experience. ORVs directly impact soils, plants, animal habitat, and cultural resources by running over them. In addition, ORVs considerably accelerate erosion of the fragile desert soils, which directly affects plant and animal life and cultural resources in yet another manner. The noise ORVs emit and the tire tracks they leave damage the feeling of solitude and the wilderness experience for non-ORV campers, hikers, climbers, backpackers and river runners. Areas currently frequented by ORV users also show other objectionable and offense forms of abuse such as trash discarded any where that is convenient, fire rings not cleaned up, trees stripped of branches for firewood and petroglyphs defaced and shot up. Buckhorn Wash, is a tragic example of the kind of abuse that can happen without strict controls on ORVs.

The RMP is inconsistent with 43 CFR 8340 regarding ORV guidelines in that the land will not be adequately protected. ORVs should be limited to designated, existing roads and trails, and to small designated areas specifically "sacrificed" for this purpose. The plan should specifically state which roads and trails will be open for ORV use. The "sacrifice" areas should be selected so as to limit conflicts with plant and animal life and cultural resources. ORVs should be closed out of all Areas of Critical Environmental Concern (ACECs) and all Wilderness Study Areas (WSAs). I also oppose the BLM plan to create 22 miles of new motor vehicle access into the heart of the Sids Mountain Wilderness Study Area.

RESPONSE TO COMMENT 95

BETSY L. TIPPS

[Comment page 1]

1 See the response to comment 44-6.

I am also disappointed at the small number of acres designated as ACECs. The planning area has many locations that rival the splendor, beauty and grandeur of our National Parks; some of these areas are so outstanding that it is difficult to find words to adequately describe them. The San Rafael Resource Area is full of geologic wonders and national treasures that deserve to be protected for our generation as well as for future generations. I urge you to consider the creation of ACECs covering
2 the San Rafael Swell, the Green River Corridor (both sides) and the Horseshoe Canyon WSA. ACECs should also be established to protect The Black Box, Limestone Cliffs, Mendu Country and Labyrinth Canyon. Within the San Rafael ACEC, the WSAs (Sids Mountain, Mexican Mountain, the San Rafael Reef, Crack Canyon, Muddy Creek and Devils Canyon) should be protected through added stipulations such as no ORV use, no oil and gas leasing, no mining, etc. As currently drafted, the RMP provides very weak protection of almost all ACECs. All ACECs and WSAs should be closed to ORVs and all mineral and mining operations. The provision to waive "No Surface Occupancy" stipulations at the lessee request should be stricken. Grazing should be reduced to allow the range to rejuvenate.

Although I do not oppose grazing, I believe that livestock numbers should be reduced throughout the planning area through the retirement of permits. Livestock should be gradually removed from bighorn sheep habitat and other environmentally sensitive areas such as riparian zones and locations with threatened and endangered plant species.

I applaud the BLM's proposal to create several ACECs to protect cultural resources and relict plant plant sites. These ACECs should be maintained (Bowknot Bend, Flat Tops, Dry Lake Archaeological District, Temple Mountain and Tomsich Butte Historical District, Copper Globe historic mine, Swasey Cabin historic site and four prehistoric pictograph sites (Lone Warrior, Black Dragon, Head of Sinbad and Muddy Rochester). However, I note with great concern that there are no ACECs to protect paleontological resources and that there is only one ACEC to protect a
3 large area containing prehistoric sites (Dry Lake Archeological District). The ACEC protecting the Highway I-70 Pictographs and the Rochester site amounts to 40 acres and probably contains only four prehistoric sites. It seems doubtful that the types, functions, ages, cultural affiliations and the diversity of environmental settings of sites contained in the Dry Lake area are representative of all sites in the planning area. Also, there are other petroglyph panels in the planning area that are equally important and equally as impressive as those being protected. Why are these not included in ACECs? Additional ACECs for cultural resources should be designated that include examples of sites from all cultures, ages, types/functions and environmental settings present in the study area. These ACECs should be closed to all surface disturbance (mining, ORVs etc.). There are several professional cultural resource reports pertaining to the area that can be scrutinized to select archeologically sensitive areas to establish as ACECs. The RMP itself states that sites located along the Wasatch Plateau at Ferron Creek, Muddy Creek, Willow Creek, Last Chance Creek, Quitchupah Creek and the Molen Reef.

RESPONSE TO COMMENT 95 BETSY L. TIPPS

[Comment page 2]

2 See the responses to comments 3-36, 44-4, 44-6, 15-69, 15-72 and 15-75.

3 See the responses to comments 44 and 15-110.

4 The plan estimates that there are 18 sites per square mile or 70,000 cultural resource sites in the area covered by the plan. The plan does not indicate how these numbers were calculated. The available literature written by cultural resource professionals indicates that this number could be too high by a factor of as much as 2 times. If this is the case, the 6000+ sites expected to "fall through the cracks" and be damaged or destroyed in the next 10-12 years without being recorded or mitigated is about 20%; this is not acceptable. Even if the plan is correct in estimating that 70,000 cultural resources exist, the loss of more than 6000 sites in 10-12 years is about 10%, which is also unacceptable. At that rate, all sites would be damaged or destroyed in less than 150 years. Six thousand plus sites, the estimated number to be lost in 10-12 years, is more than four times the total number of sites currently known. This represents a tremendous loss of an important cultural resource base. The plan itself even acknowledges the importance of the resource base: The information that could be gained from cultural resources in the planning area is not available elsewhere" (p. 3-42). Loss of such a large number of sites is not acceptable and does not meet the spirit or the intent of cultural resource legislation that mandates government protection. Cultural resources are non-renewable. Once destroyed, they are gone, forever.

5 Furthermore, I disagree with the assertion in Appendix U (page 237) that only 1 in 10 sites will be impacted by motorized recreation. The number will probably be considerably higher, but even allowing 1 in 10 sites to be damaged or destroyed by ORVs is far too many for only a 10-12 year period. Contrary to the Federal Land Policy and Management Act short-term benefits seem to be outweighing long-term benefits in this case.

6 The plan states that in accordance with cultural resource preservation law, that all areas subject to surface disturbance that have not been previously inventoried for cultural resources must be inventoried before the ground disturbing activity begins. Unless a complete inventory of the planning area is conducted, which would be prohibitively expensive, a cultural resource inventory of all areas subject to ground disturbing activities cannot be accomplished under Alternative F. ORVs will continue to damage uninventoried cultural resources and the indirect effects of mining and mineral production will also affect unrecorded cultural resources. The plan acknowledges this fact: cultural resources will continue ". . . to deteriorate because of the indirect effects of permitted activities [such as mining, mineral exploration/production] and because the direct effects of such unlicensed activities as dispersed recreation [such as ORVs] are not controlled." It further states that "Cultural sites are used as campsites, trampled, driven over with vehicles, dismantled for fuelwood, enhanced for better photographs and otherwise disturbed" but does not indicate any intent to control or lessen these impacts. The plan contradicts itself in saying that all areas subject to surface disturbance will be inventoried if they have not already been but makes no provision for these wide-scale surveys necessary to record sites that will be disturbed by ORVs. A simple solution that will do much to reduce these impacts is to restrict ORVs to designated existing roads and small

RESPONSE TO COMMENT 95 BETSY L. TIPPS

[Comment page 3]

4 See the response to comment 13-8.

5 See the response to comment 15-102.

6 See the response to comment 15-106 and comment 44.

designated sacrifice areas that can be inventoried prior to use as ORV areas.

7 The plan repeatedly states that sites will be protected, but does not provide any indication of how this will be accomplished. The specific procedures for protecting these sites should be specified. The funding is clearly insufficient ($44,000.00 per year to monitor and protect an estimated 70,000 sites, the majority of which have yet to be found).

8 Finally, the plan states one of the criteria for selecting the 20% of the known sites for the conservation category is lack of conflict with other current surface uses. I object to the use of this criterion. Sites should be selected based on condition and research potential, not because they happen to be located in areas that no one wants to use for other purposes. To select sites in such a manner will guarantee a non-representative sample. Areas that are undesirable now were probably undesirable to the prehistoric peoples and may contain fewer sites or extremely ephemeral sites that offer little information potential. This criterion should be stricken from the plan.

Thank you again for this opportunity to comment. I request that you place me on the mailing list to receive a copy of the revised plan. Thank you very much.

Sincerely,

Betsy L. Tipps

Betsy L. Tipps

RESPONSE TO COMMENT 95 BETSY L. TIPPS

[Comment page 4]

7 Site-specific details would be completed in activity plans developed after the RMP is final (draft RMP/EIS, page 2-8).

Cost projections do not include activity plans (draft RMP/EIS, volume 2, page 99). The costs of implementing the cultural resources standard operating procedures for the activities of other programs were included in the costs of managing the other programs, not in the costs of managing cultural resources.

8 See the response to comment 15-108.

COMMENT 96

Jim Dryden, Area Manager
Bureau of Land Management
900 North 700 East
Price, Utah 84501

Dear Jim,

As a frequent visitor to the BLM's San Rafael Resource Area I felt compelled to write when I heard you were accepting comments regarding Off Road Vehicles (ORV's) and proposed mining in this unique area.

Though most of my time is spent in the Cedar Mountain area I have traveled throughout most of the San Rafael and it is from these experiences that I draw most of my opinions and feelings regarding the Resource Area.

It is my sincere belief that there is a major problem with ORVs throughout a major portion of the area. I have seen extensive abuse of the landscape from the irresponsible use of "Four Wheelers" and "Dirt Bikes," abuse that I feel will scar the area for at least the remainder of my lifetime. I myself own a 4wd vehicle but I use it responsibly by maintaining my routes over established roads.

Specifically I have seen considerable abuse by ORVs along the San Rafael River where it seems the locals have enjoyed parading their jeeps through the shorelines, attempted skating over river ice, and playing games such as "Tag," "Follow the Leader," and "King of the Mountain" with no regard whatsoever to the lasting damage they inflicted upon the landscape and watershed. Though these acts were witnessed along the San Rafael I have also observed similar abuse throughout the resource area.

1 I'm not demanding that ORVs be banned from the resource area. My only request is that a portion of the area be protected by Wilderness Designation and the in the remaining areas I feel it would only be fair to demand that ORVs be limited to designated roads and trails outside the proposed wilderness areas.

My justification is this: "Off Roaders" are generally concerned more with conquering demanding terrain than with enjoying the scenic beauty which they destroy in the process.

RESPONSE TO COMMENT 96

JOSEPH TREADWELL

[Comment page 1]

1 See the responses to comments 44-3 and 44-6.

There are all ready established off road areas where they are free to four wheel their brains out and not conflict with the natural resources. It is these areas where they should be allowed unlimited reign, not in areas such as the San Rafael where a minority are now defaring the landscapes natural beauty before it can be saved by the generations to follow.

Your Consideration is Appreciated,
Joseph Treadwell
Hunter/Conservationist

Nov. 22, 1988

COMMENT 97

Gary Vesperman
3123 Trueno Road
Henderson, NV 89014-3617

Dear Mr. Dryden:

I have received from the Southern Utah Wilderness Alliance their bulletin dated Nov. 7, 1988.

They reported that there has been much destruction by ORVs in the San Rafael Swell.

What is peculiar about this is that you BLM people claim that there haven't been any problems, and that we citizens are supposed to wander around the San Rafael Swell at our own expense and look for ORV-resource conflicts for you. 1

Now this summer, I joined the BLM volunteer patrol out of the BLM's Las Vegas office. The BLM provides the radio, safety instructions, jeeps, gas, and guides, and we volunteers go out and look for violations, put up signs, build fences, etc. We even go out on air patrol frequently.

I don't understand why you folks aren't working equally as hard patrolling Utah BLM land. Please provide an answer.

Thank you,

Gary Vesperman

RESPONSE TO COMMENT 97

GARY VESPERMAN

[Comment page 1]

1 The comment is acknowledged.

COMMENT 98

Ray Wareham
Box 55
Ferron, Utah 84523
Dec. 3, 1988

Bureau of Land Management
Moab District
Moab, Utah 84532

TO Whom It May Concern:

It is my opinion that the Taylor Grazing Act has been one of the best bills inacted for the benefit of all people of our nation. While it does allow grazing, mining, exploration for oil, gas, minerals, recreation and wildlife, it does not eliminate any segment of our population from enjoying it's beauty, history, and many opportunities and challenges.

It is also protected for future generations in that it can not be sold or utilized for anyone's private use. The environment is also protected in so far as the land itself is concerned. To sum up the multiple use we all enjoy from our public land is very fair to everyone.

I would like encourage the multiple use of these lands with perhaps tighter security on pollution from industrial groups. Also improved grazing practices to protect the soil and natural beauty should be delt with by the B.L.M.

Some suggestions would be:

1 1. adjusted grazing seasons to protect the habitat for livestock and wild life
1 2. control of wild life as well as livestock
2 3. More policing of all users
3 4. water development to improve livestock and wild life distribution

4 I believe the B.L.M. ~~Division~~ Alternative Magagement Plan best covers what I have said and I believe all parties could live the use under this plan.

It is my opinion that multiple use is the best way to utilize and protect our Federal Lands for the benefit of our nation and Future generations to come. To lock up these lands and resources with wilderness would be to deny the use and beauty of these lands to all but a few backpackers and special interest recreation groups. Multiple use is the only practical way to manage these lands.

Yours truly,

Ray Wareham

Ray Wareham

RESPONSE TO COMMENT 98 — RAY WAREHAM

[Comment page 1]

1 Grazing seasons may be adjusted after 5 years of rangeland monitoring data are collected and analyzed. See the response to comment 35-27.

2 See the response to comment 15-41.

3 See the response to comment 49-1.

4 BLM appreciates the statement of support.

COMMENT 99 10/16/88

James Dryden, San Rafael Resource Area Manager
B.L.M.
900 North, 700 East
Price, UT 84501

Dear Mr. Dryden,

I believe that our national interest, as well as the long term interests of the residents of Emery, Sevier & Wayne Counties would be best served by a land management policy which offers maximum protection of the non-renewable resources and values of the area (soils, water, vegetation, cultural sites & wilderness). Therefore, out of the alternatives presented in your Draft Resource Management Plan, I feel that Alternative D is the most sensible. 1

Sincerely,

Leon Werdinger

Leon Werdinger
Box 463
Joseph, OR 97846

RESPONSE TO COMMENT 99 LEON WERDINGER

[Comment page 1]

1 See the response to comment 23-15.

COMMENT 100 12-6-88

Bureau of Land Management
900 N. 700 E.
Price, Utah 84501

To Whom it May Concern:
As a resident off Emery County, who has lived in Green River for more than fifty years, I would like to voice my opposition to any Wilderness designation - in the San Rafael Swell Area, or any other part of the state of Utah.

1

We already have more than our share of State and National parks, not to mention, large portions of private land which is open only to those who can pay. I refer to the Range Creek Area and to the Nash Draw Area. My father had a home stead on Hill Creek. That was Indian Reservation. I hunted the Wat Ridge area for thirty yrs. Now an Indian fence and a white man access fee blocks the way.

What I'm trying to say is, too many are being forced to give up God-Given rights, to too few. This is supposed to be the land of All the people. Thank you.

Sincerely
D. A. Wilcox

RESPONSE TO COMMENT 100 D. A. WILCOX

[Comment page 1]

1 See the response to comment 3-24.

COMMENT 101

12160 N. Bellaire St.
Thornton, CO 80241
November 23, 1988

Jim Dryden, San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price UT 84501

Dear Mr. Dryden:

I have recently completed reviewing both volumes of your agency's draft RMP/EIS for the San Rafael Resource Area. This letter is a formal comment on the report and the agency's "preferred" Alternative F as provided by the Federal Land Policy and Management Act of 1976, and the National Environmental Policy Act.

1 First, I want to state that I find your "preferred" alternative generally favorable. I agree with your limitations on livestock grazing (actual I prefer more) and the decreased acreage open to ORV's. Also, I am pleased by the apparent commitment to increase wildlife populations through the increase in their respective ranges and the limiting of livestock grazing, especially in spring and fall.

2 However, I have some deep concerns. Are the spring and fall livestock grazing restrictions realistic and enforceable, or is this just a paper shuffle? I also believe more emphasis

3 should be placed on preserving the area's rich cultural and wilderness resources.

4 In addition, I firmly believe that the agency should maintain the seven wilderness study areas as primitive areas (without livestock, development or machines) regardless of whether or not Congress includes them into the Wilderness Preservation System. We are simply and quickly running out of these primitive areas.

5 Alternative A, B, and E are totally unacceptable. Public opinion, uses, and future needs rule these out completely. I strongly urge the bureau to lean toward the objectives favored in Alternatives C and D. These values, through the generations, will prove to be the most enduring.

Americans are beginning to discover their public lands and have decided to start utilizing them. The national agencies having jurisdiction over them will feel the increasing

RESPONSE TO COMMENT 101 GARY AND JANET WOOLER

[Comment page 1]

1 The comment is acknowledged.

2 Federal laws and regulations provide the guidance and authority to adjust both grazing numbers and seasons as needed. The need for adjustments is based on monitoring.

See the response to comment 15-42.

3 See the responses to comments 44-10 and 3-24.

4 The RMP states how the WSAs would be managed if Congress released them from wilderness review without designating them as wilderness (draft RMP/EIS, page 1-3). Many of the WSAs would be covered by ACEC designations containing management prescriptions to maintain primitive recreation values.

5 The comment is acknowledged.

pressure. Local people may resent having to give up some of the privileges they have had historically in a country less populated and less recreation oriented; but these lands belong to all Americans, living and unborn, and their rights must be protected. Thank You.

Sincerely,

Gary M. Wooler

Janet E. Wooler

P.S. Please send me a copy of the Final RMP/EIS when complete.

December 6, 1988 COMMENT 102

Mr. Jim Dryden
San Rafael Resource Area Manager
Bureau of Land Management
900 North 700 East
Price, UT 84501

Dear Mr. Dryden,

I appreciate the opportunity to comment on the San Rafael Draft Resource Plan and Environmental Impact Statement. I support the BLM's preferred Alternative F with the following reservations:

I am concerned about the wildlife habitat management proposed under Alternative F. Although I am not a hunter, I enjoy watching wildlife and feel that they are an important part of public lands. I favor improvements in wildlife habitat and reasonable increases in wildlife numbers, provided that such improvements and increases do not come at the expense of agriculture. In Alternative F, the BLM seems to have crossed the line between a land management agency and a wildlife management agency. I refer to projected increases in bighorn sheep (300 animals), antelope (200 animals), deer (1700 animals) and elk (130 animals) shown in Table 11, pages 2-83 and 2-84. Even if
1 projected increases are never realized, your intentions to manage habitat for increased wildlife numbers are clear. The plan suggests that 25% of the livestock AUMs on 16 allotments may be transferred to wildlife to resolve livestock-wildlife conflicts. The BLM would not take permits away from rancher A and give them to rancher B simply because rancher B wanted more range. Why should the Division of Wildlife Resources (DWR) receive AUMs for wildlife without compensating permit holders? Why is it the BLM's responsibility to procure feed for animals managed by the DWR? Why would you require ranchers to stand the loss for wildlife habitat improvement? The DWR is shortsighted when they introduce and reintroduce antelope and bighorn sheep without first securing critical range. The DWR creates wildlife-livestock conflicts when they allow deer and elk populations to outgrow available spring feed. If the DWR needs BLM range for wildlife, they should buy permits like anyone else would. Most local ranchers are sportsmen who would work with the DWR and BLM to resolve conflicts if treated fairly. Taking valuable and needed AUMs away from ranchers without compensation is not fair treatment.

I am also concerned that wildlife habitat management proposed under Alternative F would aggravate wildlife problems on private land. Maps 73 and 74 identify critical deer and elk winter habitat. In many cases critical habitat either borders or is very close to private land. Local farmers complain that elk, and more commonly, deer damage to crops is a serious and growing problem. In the spring, hundreds of deer congregate on farmland

RESPONSE TO COMMENT 102 DENNIS WORWOOD

[Comment page 1]

1 The wildlife numbers shown in alternative F (draft RMP/EIS, table 1, page S-4) are not management objectives, but rather estimates of the numbers that would result under the alternative. BLM manages wildlife habitat; UDWR manages wildlife populations.

See the response to comment 35-27.

in or near Huntington, Straight, Rock, and Ferron Canyons. There are a growing number of 'agricultural' deer that feed year round on cropland. Many of these deer commute daily between public and private land. Examples include a young orchard in Ferron which lost an entire apple crop to deer in June of 1988, a corn crop in Molen that was destroyed by deer in 1988, and Utah Power & Light's Huntington and Hunter Research Farms, which both support year-round deer herds even though the Huntington Farm is surrounded by an 8-foot tall fence. One BLM permit holder provides 317 AUMs of deer feed on his private ground (88 deer x 12 months x .3 AUM/deer). He receives only 70 livestock AUMs for one month from his adjacent BLM allotment. Managing habitat to increase deer numbers will make matters worse. Creating deer habitat on allotments bordering private land will not solve the problem. It appears that the DWR and BLM have different agendas. The DWR recently held special hunts to reduce deer and elk populations in western Emery County, while Alternative F proposes to manage for increased deer and elk in the same area. I suggest that the BLM, Forest Service, DWR, ranchers, and wildlife and conservation groups work together to formulate a plan that will resolve conflicts on public and private land. Management options might include but are not limited to, animal removal by special hunts and transplants, development of deer habitat in areas removed from private land, and purchase of AUMs or land by the DWR and/or wildlife groups.

I am also concerned about possible changes in season of use proposed under Alternative F. I understand from conversations with BLM personnel that changing from spring to winter grazing was chosen as a worst-case example for your projected impacts scenario. However, I wish that other management options were discussed more fully. Changing season of use may be the only alternative in some situations. It may be acceptable to a few permit holders. However, many ranchers could not maintain present cattle numbers or even survive if season of use were
2 changed.

The term "changing season of use" is somewhat misleading. It implies that permit holders will receive winter use in exchange for spring use. Appendix I shows that actual season of use would change on only 15 allotments. On 31 allotments, grazers with more than one season of use would simply lose spring grazing without gaining any additional use. Losing spring BLM feed would leave many ranchers with no workable alternative. Feeding hay is not feasible, since it is not available, is too expensive, and would require confinement and its attendant disease problems. There is little private spring grazing land (since 92% of the county is government owned, there is little private land, period). Turning cattle on cropland would hinder farming operations and further reduce feed supplies. A study by the University of Nevada, Reno indicated that grazing alfalfa in May reduced total hay yields 25% compared to November grazing. I hope that changes in grazing season will be used judiciously, if at all.

RESPONSE TO COMMENT 102 DENNIS WORWOOD

[Comment page 2]

2 See the response to comment 7-1.

Although one stated objective is to reduce salinity in the Colorado River, It appears that range improvement is the real issue, since:

1. You do not know how much salt the area is losing (page 3-60) and
2. Erosion will not be measured directly, but will be gauged by range condition.

3 There are many practices that could improve range condition. Water development could help by improving livestock distribution and helping animals make more even use of the range resource. Water developments seem to be a good option, since 25 of the allotments suggested for change in season of use under Alternative F were identified for water development under Alternative B. Other range improvement practices such as seeding, fencing, rest rotation and deferred rotation deserve consideration. Some of these practices may not be economically feasible if considered by themselves, but may be practical if all benifits are weighed. For examle, livestock watering ponds can trap sediment and benefit wildlife. Range seeding creates feed for wildlife and livestock and improves soil cover. Although conflicts exist, livestock grazing, wildlife use, and erosion control can be complimentary resources. It is in the best interests of livestock men to improve range condition, and I hope that you will continue to work with them in that process.

I agree with the wild horse and burro management proposed under Alternative F.

I appreciate the willingness of the BLM staff, particularly Jim, Becky, and Dave, to meet with ranchers to explain the plan. My impression is that the Draft does not always fully convey your intentions, and that you are willing to work with stockmen toward resolution of conflicts. I look forward to working with you in the future.

Sincerely,

Dennis Worwood

Dennis Worwood
Box 323
FERRON, UT 84523

RESPONSE TO COMMENT 102 DENNIS WORWOOD

[Comment page 3]

3 See the response to comment 49-1.

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