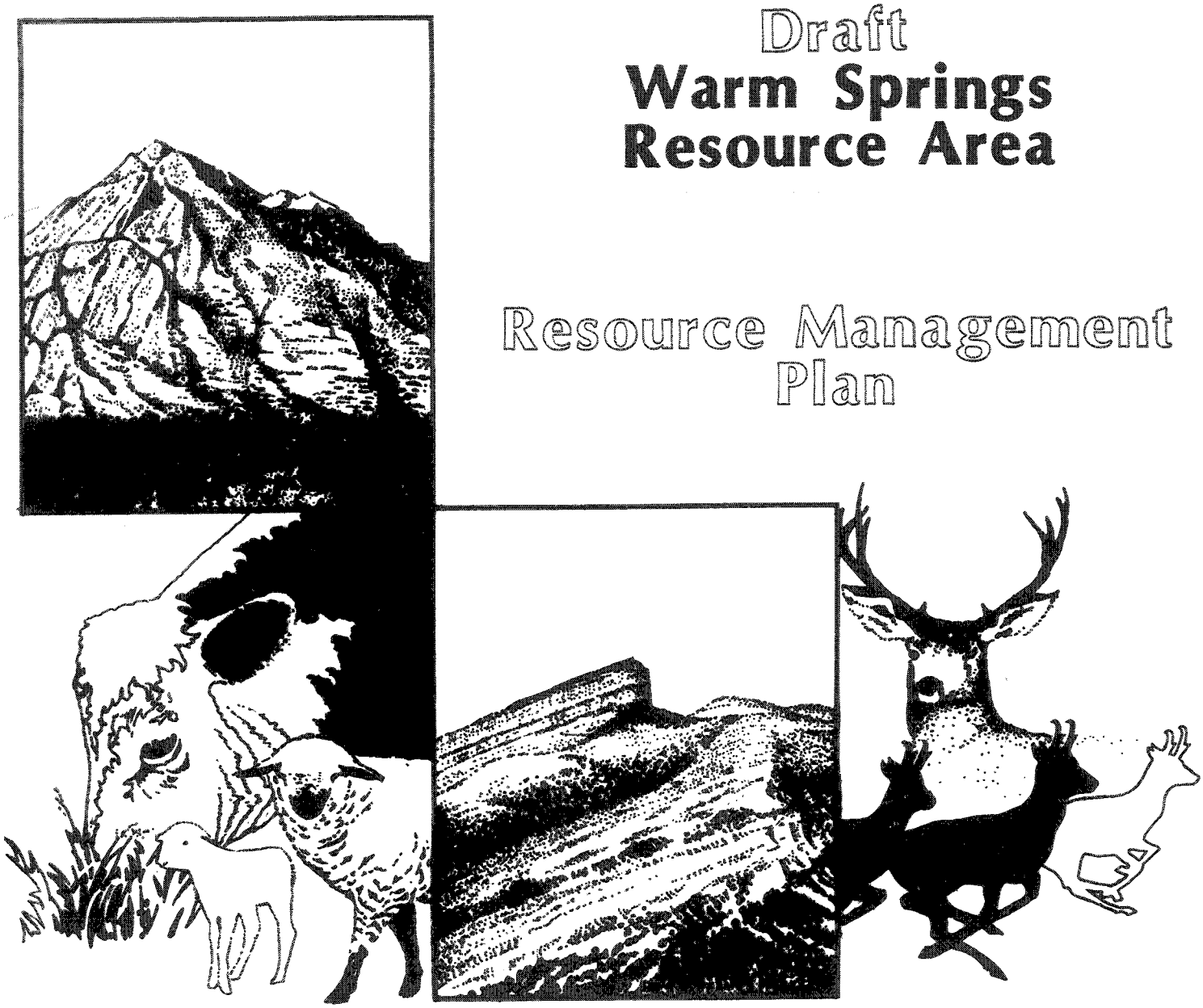
Draft
Warm Springs Resource Area

Resource Management Plan



Environmental Impact Statement

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


WARM SPRINGS
RESOURCE AREA
N
U T A H
SALT LAKE
VERNAL
FILLMORE
SEVIER DRY L.
RICHFIELD
CEDAR CITY
SAN RAFAEL
10 0 10 20 30 40 MILES

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
RICHFIELD DISTRICT OFFICE
150 EAST 900 NORTH
RICHFIELD, UTAH 84701

IN REPLY
REFER TO:
1792.15 WS

Dear Reader:

Herewith submitted for your review and comment is the Draft Resource Management Plan (RMP) and Environmental Impact Statement (EIS) for the Warm Springs Resource Area (WSRA), Millard County, Utah. The RMP/EIS assesses the impacts of implementing four alternative plans for future management of the public land resources in the WSRA. We invite your comments on the merits of the alternatives discussed and the adequacy of the statement. Please make your comments as specific as possible.

Comments may be submitted in writing or verbally. April 11th commences a 90-day public comment period which will conclude on July 11, 1986. Verbal comments may be presented at an open house which will be held from 3 to 7 p.m. on May 12, 1986, at the Resource Area Office, 15 East 500 North in Fillmore, Utah. Please address written comments to:

Mr. Wayne T. Kammerer
Bureau of Land Management
Richfield District Office
150 East 900 North
Richfield, Utah 84701

All comments received by July 11th, 1986, will be responded to in the Final RMP/EIS, scheduled for distribution in October 1986. Please retain this copy of the Draft RMP/EIS, since the final RMP/EIS may be published in an abbreviated format and refer to the contents of this document.

We appreciate your interest and invite your continued involvement in the management of your public lands.

Sincerely,

Donald L. Pendleton
District Manager

Warm Springs Resource Area

Draft Resource Management Plan

Environmental Impact Statement

April 1986

Prepared by
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
RICHFIELD DISTRICT

State Director
Utah State Office

Abstract: This Resource Management Plan/Environmental Impact Statement describes and analyzes the impacts of four alternatives for managing the public lands in the Warm Springs Resource Area in Millard County, Utah. The alternatives recommend levels of grazing for livestock, wildlife, and wild horses and provide overall management prescriptions to guide the multiple-use management of all resources. Future recreation and special management area designations are also recommended. Alternative D is BLM's preferred alternative.

Comments: Comments are requested from all interested or affected agencies, organizations, and individuals. Comments must be received not later than July 12, 1986.

For Further Information contact:

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WARM SPRINGS RESOURCE AREA RMP/EIS
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ACEC: Area of Critical Environmental Concern
AMP: Allotment Management Plan
APD: Application for Permit to Drill
AUM: animal unit month
BIA: Bureau of Indian Affairs
BLM: Bureau of Land Management
BRRA: Beaver River Resource Area
CCC: Civilain Conservation Corps
CEQ: Council on Environmental Quality
CFR: Code of Federal Regulation
EA: Environmental Assessment
EIS: Environmental Impact Statement
EMT: emergency medical technician
EPA: Environmental Protection Agency
F: Fahrenheit
FS: Forest Service
FWS: Fish and Wildlife Service
FLPMA: Federal Land Policy and Management Act
gpm: gallons per minute
HMA: Herd Management Area
HMP: Habitat Management Plan
I: Interstate
IMP: Interim Management Policy
IPP: Intermountain Power Project
KGRA: Known Geothermal Resource Area
KGS: Known Geologic Structure
LR: land report
Mbf: thousand board feet
MFP: Management Framework Plan
MSA: Management Situation Analysis
m.s.l. mean sea level
NAAQS: National Ambient Air Quality Standards
NEPA: National Environmental Policy Act
NORA: Notice of Realty Action
ONA: Outstanding Natural Area
ORV: off-road vehicles
P.L.: Public Law
PRIA: Public Rangelands Improvement Act
PSD: Prevention of Significant Deterioration
RMP: Resource Management Plan
RNA: Research Natural Area
ROD: Record of Decision
R&PP: Recreation and Public Purpose Act
RPS: Rangeland Program Summary
SCS: Soil Conservation Service
SRMA: Special Recreation Management Area
T&E: threatened and endangered
UDWR: Utah Division of Wildlife Resources
USDA: United States Department of Agriculture
USDC: United States Department of Commerce
USDI: United States Department of the Interior
VRM: visual resource management
WSA: Wilderness Study Area
WSRA: Warm Springs Resource Area

SUMMARY

INTRODUCTION

This Resource Management Plan/Environmental Impact Statement (RMP/EIS) is being prepared to provide a framework of goals and objectives for future public land management in the Warm Springs Resource Area (WSRA). The RMP process is used by Bureau of Land Management (BLM) managers to allocate resources and select appropriate uses for public (BLM) lands. The RMP establishes practices and sets up systems to monitor and evaluate the status of resources and effectiveness of management.

The RMP process focuses effort on significant multiple-use problems and concerns. Public participation (see Chapter 5) and an interdisciplinary approach are key elements of the process. Through these elements, information was gathered about public land resources and uses in the WSRA to provide the basis for sound resource management decisions.

The purpose of this action is to review, update, and revise the resource management and grazing programs in the WSRA. The objectives are to maintain and/or improve condition, management, and /or use of the WSRA public land resources.

The WSRA is located in the Richfield District and covers the southern two-thirds of Millard County in west-central Utah. Its eastern border is the forested Pavant Range. It is characterized by broad arid valleys between several relatively small mountain ranges which rise steeply from the Great Basin valley floor. Most people live in the Pavant Valley near Fillmore where precipitation is higher, and most farmlands are located.

Elevations range from 4,400 feet in Tule Valley to 9,650 feet on Notch Peak in the House Range Mountains. Average annual precipitation on public lands varies from 6 inches in Pine Valley to 14 inches near Fillmore. Major vegetation types include sagebrush, saltbush, greasewood, winterfat, and other desert shrubs; pinyon-juniper; and grasslands. The large barren and sometimes inundated floor of Sevier Dry Lake (27 miles long by up to 12 miles wide) lies in the center of the area. Wildlife species using the area include mule deer, antelope, sage grouse, chukars, raptors, and several other small game and non-game species. Wild horses are also found in the area.

Land uses include livestock grazing, mining, electric power transmission, and oil, gas, and geothermal exploration. Recreational uses include hunting, camping, horseback riding, hiking, ORV use, rockhounding, and sightseeing.

The WSRA office in Fillmore administers grazing on over 2 million acres of public lands. Of the total 3.1 million acres in the resource area, 71 percent are BLM, 11.5 percent private, 8.9 percent State, 8.5 percent National Forest, and less than 1 percent Paiute Indian (Kanosh Band) lands.

THE PLANNING PROCESS

The WSRA RMP/EIS is being done at this time for two reasons:

1. The existing management framework plan (MFP) is outdated and in need of revision. Preparation of the RMP, in accordance with BLM policy, has been determined preferable to amendment of the MFP.

2. The WSRA was scheduled to complete a court mandated grazing environmental impact statement (EIS). It was decided that it would be appropriate to make it part of an RMP rather than do it separately.

BLM's RMP planning process involves nine interrelated actions which integrate National Environmental Policy Act (NEPA) requirements for environmental analysis.

This first phase of the process, identification of issues, was conducted in 1983 when preplanning analysis and public scoping were conducted to identify the major uses, conflicts, and concerns regarding public lands in the WSRA. Range Management: the allocation of forage to domestic livestock, wildlife, and wild horses and management of the forage resource was identified as the only planning issue. Management concerns, regarding each public land resource and BLM program, were also identified: what areas should receive special management designations; what oil and gas leasing categories should be in effect; what off-road vehicle (ORV) designations should be implemented; what transportation and utility corridors designations should be made; how should forest, recreation, and wildlife resources be managed; what is the optimum number of wild horses; and what level of fire management is proper?

Next, planning criteria or guidelines were identified to determine information needs, formulate management alternatives, and evaluate the effects of alternatives. They were published and distributed for public review in July 1983.

Then, information was gathered to facilitate decisions relative to the issue and concerns, especially those with potentially significant impact.

That information was recorded in the Analysis of the Management Situation. Existing resource capabilities and demands were defined. Future demands and resource capabilities, to meet the demands, were estimated.

The interdisciplinary team then formulated alternative plans to resolve the planning issue and management concerns. The four alternatives developed were responsive to the planning criteria and NEPA requirements. They range from resource or economic production to resource protection. The alternatives, completed in September 1985 and distributed for public review and comment, are described in Chapter 2.

The probable effects of implementing the alternative plans were then analyzed. The result of that analysis is Chapter 4 of this RMP/EIS.

All information and analysis, developed up to this point in the planning process, were the basis for selection of the preferred alternative. The Area Manager selected Alternative D (see Chapter 2) as the preferred RMP alternative for the WSRA. His selection was reviewed by the Richfield District Manager and approved by the Utah State Director.

After evaluation of public comments on this draft RMP/EIS, the Area Manager will select a proposed plan, subject to review by the District Manager and approval by the State Director. The proposed plan will be presented in the final RMP/EIS, scheduled for publication in September 1986. That will be followed by a 30-day public comment and protest period.

Implementation of the approved plan will follow final approval by the State Director. Thereafter, information will be gathered regarding progress toward the goals and objectives established in the RMP. Monitoring and evaluation will be conducted to indicate if the plan warrants amendment or revision. Standards for monitoring and evaluation include periodic review (least every 5 years) of the RMP.

PLANNING ISSUES

This first phase of the planning process for the WSRA RMP was accomplished in 1983. The WSRA interdisciplinary staff, with public participation, identified the major uses, conflicts, and concerns regarding public land management in the resource area. Through this process, one planning issue and several management concerns were identified.

The planning issue identified is Range Management: the allocation and management of public rangeland forage resources.

ALTERNATIVES ANALYZED

The alternatives analyzed were developed by the interdisciplinary team to provide the BLM manager a reasonable array of management options. In accordance with applicable laws, regulations, and policies, they include alternatives which favor resource protection and commodity production, in comparison to the No Action Alternative.

The Alternatives analyzed are: (A) No Action—Continuation of Existing Management (and levels of resource uses); (B) Protection—Preservation of Natural Resource Values; (C) Production—Increased Consumptive Use and Commodity Production; and (D) Preferred Alternative (a composite of the above alternatives). For a comparative summary of the alternatives, see Summary Table 1.

Elimination of Livestock Grazing was considered but dismissed from analysis in any alternative. An alternative to eliminate livestock grazing on public lands in the WSRA would not meet the NEPA requirement for "reasonable" alternatives.

ENVIRONMENTAL CONSEQUENCES

Vegetation

Overall, an increase in vegetation productivity and key plant species would occur under all alternatives except C over the long term. Long-term declines in overall productivity and key plant species would occur on 32 allotments under Alternative C. No adverse impact to the existing populations of sensitive plant species would be expected under any alternative. No vegetation species or plant community would be irretrievably lost under any of the alternatives.

Range Management

Under all alternatives except C, there would be an expected long-term increase in livestock forage

SUMMARY

SUMMARY TABLE 1

Alternative Comparision

Resource	Alternative A No Action	Alternative B Protection	Alternative C Production	Alternative D Preferred Alternative
VEGETATION				
Forage Allocation (AUMs)				
Livestock				
Initial Use	87,733	132,617	150,589	133,634
5-Year Adjustment	87,733	96,845	150,589	99,265
Long-term Allocation	100,919	110,500	Unknown	108,100
Big Game				
Antelope				
Total	684	3,318	229	2,106
Competitive with Livestock	276	657	66	797
Mule Deer				
Total	827	1,320	384	1,388
Competitive with Livestock	96	301	38	169
Elk				
Total	--	209	--	--
Competitive with Livestock	--	117	--	--
Bighorn Sheep				
Total	--	250	--	--
Competitive with Livestock	--	140	--	--
Wild Horses				
Total	2,992	3,487	840	1,680
Competitive with livestock	2,178	2,645	555	1,040
RANGE MANAGEMENT				
Allotments Monitored Annually (ea)	63	63	63	63
Change in Kind of Livestock	Case-by-case	Up to 31 allotments (from sheep to cattle)	Case-by-case	Case-by-case
Change in Season of Use	Case-by-case	Two allotments	Case-by-case	Same as Alt. A, except two allotments monitored
Range Improvements				
Structural (ea)	None	Spring Devel 5 Wells 4 Pipeline (mi) 73.5 Fence (mi) 44 Cattleguards 15	Same as Alt. B	Same as Alt. B
Nonstructural (ac) (veg. treatment)	None	27,600	41,800	14,000
Allotment Management Plans (ea)				
Revise/Update	10	10	10	10
Develop	None	39 I 5 M (3 AMPs/year)	39 I 5 M (5 AMPs/year)	39 I (2 AMPs/year)

SUMMARY TABLE 1 (continued)

Resource	Alternative A No Action	Alternative B Protection	Alternative C Production	Alternative D Preferred Alternative
WILDLIFE				
Populations (ea)				
Mule Deer				
Yearlong	95	245	41	95
Winter	1,408	2,464	650	2,464
Antelope	700	2,994	175	1,861
Elk	--	70	--	--
Bighorn Sheep	--	150	--	Possible introduction
Wildlife Improvements				
Fence (mi)	--	365	--	0.5
Water Developments (ea)	--	80	--	67
Water Control (water flow)	--	2	--	--
Special Management Designation Areas (#/ac)	--	1/2,500	--	1/2,500
WILD HORSES				
Populations (ea)				
Conger HMA	50	125	30	60
King HMA	30	75	20	30
Sulphur HMA	85	126	20	50
Burbank HMA	30	20	--	--
RECREATION				
Special Recreation Management Areas (SRMAs)				
SRMAs (ea)	1	2	2	1
Additional SRMAs if not wilderness	--	3	3	1
Special Management Designation Areas (#/ac)	--	5/26,080	--	5/21,097
ORV Designations				
Open (ac)	2,226,755	1,752,249	2,226,755	2,155,728
(percent)	100	79	100	97
Limited (ac)	--	400,686	--	52,917
(percent)	--	18		1
Closed (ac)	--	73,820	--	18,110
(percent)	--	3	--	1
Cultural Resources	Protected	Same as Alt. A	Same as Alt. A	Same as Alt. A
LANDS				
Land Tenure Adjustments	Disposal action requests would be considered if in compliance with the MFP.	Five tracts (239 ac) would be disposed of. All other lands would be retained in Federal ownership.	Same as Alt. B	Same as Alt. B

SUMMARY TABLE 1 (continued)

Resource	Alternative A No Action	Alternative B Protection	Alternative C Production	Alternative D Preferred Alternative
Rights-of-Way (R/W) Corridors	Decisions on a case-by-case basis. Location within existing major R/W wherever possible.	Existing major R/Ws would be designated as corridors. New R/W would be restricted to these corridors wherever feasible. Special management designation areas and VRM class II areas would be R/W avoidance areas.	Same as Alt. A	Same as Alt. B
Special Management Designation Areas (ac)	None	Pavant Butte 2,500 Tabernacel Hill and The Cinders 8,550 Notch Peak 9,000 Crystal Peak 640 Fossil Mtn. 1,920 Wah Wah Mtn. 5,970	None	Same as Alt. B, except Tabernacle Hill (3,567 ac.) would not include The Cinders.
MINERALS				
Leasables				
Category 1 (ac) (percent)	2,169,427 97.4	2,045,044 91.9	Same as Alt. A	2,145,358 96.3
Category 2 (ac) (percent)	6,321 0.3	112,097 5.0		55,670 2.5
Category 3 (ac) (percent)	26,840 1.2	45,447 2.0		25,727 1.2
Category 4 (ac (percent)	24,167 1.1	24,167 1.1		-- --
Locatables				
Mineral Withdrawal (ac) (percent)	3,567 0.2	26,660 1.2	3,567 0.2	21,677 1.0
Saleable				
Free-Use Areas (ea)	16	Same as Alt. A	Same as Alt. A	Same as Alt. A
WATERSHED/SOILS				
Channel Erosion Studies (ea)	7	15	7	14
Gully Plugs	--	15	15	15
Water Bars	--	6 to 15	6 to 15	6 to 15
Seasonal Restrictions on ORV use (No. of allotments)	--	11	--	11
Livestock Kind, Season of Use, or Allocation Change. (No. of allotments)	--	2	--	2

SUMMARY TABLE 1 (concluded)

Resource	Alternative A No Action	Alternative B Protection	Alternative C Production	Alternative D Preferred Alternative
WATER RESOURCES				
Water Quality Monitoring (No. of sources annually)	10	10	10	10
FOREST RESOURCES				
Forest Lands Not Available for Management of Forest Products (ac)	15,610	Same as Alt. A	Same as Alt. A	Same as Alt. A
Forest Lands (woodlands) Managed to Enhance Other Uses	205,059	Same as Alt. A	Same as Alt. A	Same as Alt. A
FIRE MANAGEMENT				
Full Suppression (ac)	2,226,755	2,015,555	Same as Alt. B	Same as Alt. B
Limited Suppression (ac)	0	up to 211,200	Same as Alt. B	Same as Alt. B
Prescribed Fire	up to 21,697	up to 49,297	up to 63,497	up to 55,697

Footnote: New AMPs to be developed under Alternative D combine some Allotments under one plan.

allocation over and above the current average licensed use. The long-term forage available under Alternative C would be expected to decline below current average use on 32 allotments. This would occur in Alternative C if all permits were activated to full active preference levels annually.

Wildlife

Under Alternative A, antelope numbers would moderately increase in the short and long term, and mule deer numbers would remain the same. Elk would not be affected. Bighorn sheep do not exist in the resource area. Raptor populations could experience short-term decreases. No long-term impacts would be expected. Upland game populations would remain static. Riparian habitat would remain in fair to poor condition, except at Pruess Lake where condition would improve from fair to good. Bald and golden eagle and ferruginous hawk populations and other sensitive bird and mammal species would not be significantly impacted. The potential to establish the peregrine falcon could be jeopardized.

Under Alternative B, antelope numbers would increase by over 300 percent. Mule deer numbers would increase 158 percent yearlong and 75 percent winter. Elk would increase from 0 to 70 head. Bighorn sheep would be reintroduced, and numbers would go from 0 to 150 animals. Raptor and upland game populations would increase. Riparian habitat would improve to the next higher condition class on Pruess Lake, Lake Creek, South Tule Spring, Crafts Lake, the Sevier River, and Meadow Creek. The bald and golden eagle populations would increase. Peregrine falcons would be reintroduced on Pavant Butte. All sensitive species would be beneficially impacted.

Under Alternative C, antelope numbers would decrease by 75 percent. Mule deer numbers would decrease overall by approximately 54 percent. Elk would not be affected. Bighorn sheep do not exist in the resource area. Raptor populations could be adversely affected. Upland game populations would remain static. Riparian habitat would remain in fair to poor condition, except at Pruess Lake where it would improve from fair to good. Bald and golden eagle populations would remain unaffected. The potential to establish the peregrine falcon would be jeopardized. Sensitive species could be adversely impacted.

Decline in range condition would decrease available food prey species for all raptors. Poor condition grassland and riparian habitat would adversely impact ground nesting birds and riparian related bird and mammal species. All sensitive bird and mammal species would be adversely impacted by this alternative, and short- and long-term populations would decrease.

Under Alternative D, antelope numbers would increase approximately 166 percent. Mule deer number could increase 75 percent in the winter and remain static yearlong. Elk would not be affected. Bighorn sheep could be transplanted into the resource area. Raptor and upland game numbers would increase. Riparian habitat would improve to the next higher condition class on Pruess Lake, Lake Creek, South Tule Spring, Crafts Lake, the Sevier River, and Meadow Creek. Bald and golden eagle populations would increase. Peregrine falcons would be established on Pavant Butte. All sensitive species would be beneficially impacted.

Wild Horses

Alternatives A and D would not impact wild horses. Mitigation would be required under Alternative B. Under Alternative C, injury and loss of life to individual horses could occur because of fencing of allotments in these Herd Management Areas (HMAs) over both the short and long term. See Summary Table 1 for population numbers.

Recreation

Alternative B would have the greatest positive impact on recreation resources, followed by alternatives D, A, and C. Alternative B would increase wildlife populations and subsequent hunting opportunities by 75 percent for deer and 328 percent for antelope. It would also eventually provide opportunity for elk and bighorn sheep hunting in the resource area. Under Alternative D, deer numbers would increase by 75 percent, and antelope would increase by 166 percent. Wildlife populations would remain at current levels under Alternative A and decrease under Alternative C. Under Alternative B, the primary recreation resources in the WSRA would have special management designations including SRMA. Alternative D would provide the same designations and protective actions as Alternative B except for the Cinders and portions of the Wah Wah Mountains. Under alternatives A and C no special management designations would be made, but most significant recreation resources in the WSRA would be designated as SRMAs. Under alternatives B and D, additional portions of Crystal Peak, Notch Peak, and the Wah Wah Mountains would be protected by oil and gas Category 3 restrictions

not proposed in alternatives A and C. Alternative B would be the most restrictive to ORV use followed by Alternative D. Alternatives A and C would have no ORV restrictions. No significant impacts to or from ORV activities would be expected regardless of the alternative, due to current and anticipated low use.

Impacts to visual resources would be caused by vegetation treatment projects. Alternative A would, therefore, receive the least amount of impact with no projects planned, followed by alternatives B, D, and C.

In terms of protecting significant recreation resources from visual damage, alternatives B and D would, in order, provide the greatest protection of visual resources from disturbance.

Under Alternatives C, overutilization of forage would damage vegetation and soils and degrade visual values in affected areas. Alternatives B and D would improve range conditions and subsequent visual resources. ORV restrictions in alternatives B and D would minimize potential visual impacts from ORV use. Alternatives A and C would provide no ORV use restrictions.

Lands

Under Alternative A, land tenure adjustments would be made on a case-by-case basis. No special management designations would be made. Under alternatives B, C, and D, five tracts of land (approximately 240 acres total) would be available for sale, and right-of-way corridors would be designated. Six areas would receive special management designations under alternatives B and D, thereby protecting special values present.

Minerals

The overall opportunity for oil and gas exploration and development under Alternative A would be excellent; 97 percent of the resource area is in Category 1, the least restrictive leasing category. The remaining 3 percent of the resource area is in categories 2, 3, and 4. Oil and gas exploration would be restricted there, but potential for the resource is speculative to very low, and no significant effect on activity or demand would be expected. Alternative B would increase acreages in protective leasing categories (mostly category 2 seasonal restrictions) and would leave 92 percent of the area in Category 1. Alternative C would be the same as Alternative A. Under Alternative D, the area in Category 2 would increase, Category 3 would decrease, no Category 4 would be designated, and 96 percent of the WSRA would be Category 1. Moreover, no significant impact on oil and gas exploration or development would be expected under any alternative.

Areas withdrawn from mineral entry would be the greatest under Alternative B followed by D. Even under these alternatives, little or no change or impact on locatable mineral activity or potential for development would be expected. No significant effect on non-energy solid leasables or saleable minerals would be expected under any alternative.

Watershed and Water Resources.

No significant impact to water rights or uses would occur under any alternative. Livestock overutilization of forage on portions of two allotments under Alternative A and 32 allotments under Alternative C would adversely affect watershed and water quality over the long term.

No long-term overutilization would be expected under alternatives B or D.

Little or no impact from ORV use is expected under any of the alternatives.

Proposed watershed protection measures (vegetation treatments, gully plugs, water bars, erosion monitoring, etc.) would provide beneficial impacts to watershed.

The alternative most beneficial to watershed values would be Alternative B, followed by D, A, and C.

Under alternative A, livestock overutilization of forage on two allotments would result in increased runoff and sediment yield that could degrade water quality. The same thing would occur under Alternative C, but on 32 allotments instead of two. The impact would last into the long term. Alternatives B and D would not affect watershed and water resources. Little or no impact from ORV use is expected.

Soils

Under Alternative A, severe overutilization of forage could occur on portions of two allotments. Under Alternative C, severe overutilization of forage from grazing would occur on portions of 32 allotments. This would increase erosion in the affected areas. No significant impacts to soils from grazing would be expected under alternatives B and D. No significant impacts from ORV use would be expected under any alternative.

Overall Alternative B is most beneficial to soils, followed by D, A, and C, in order of decreasing protection.

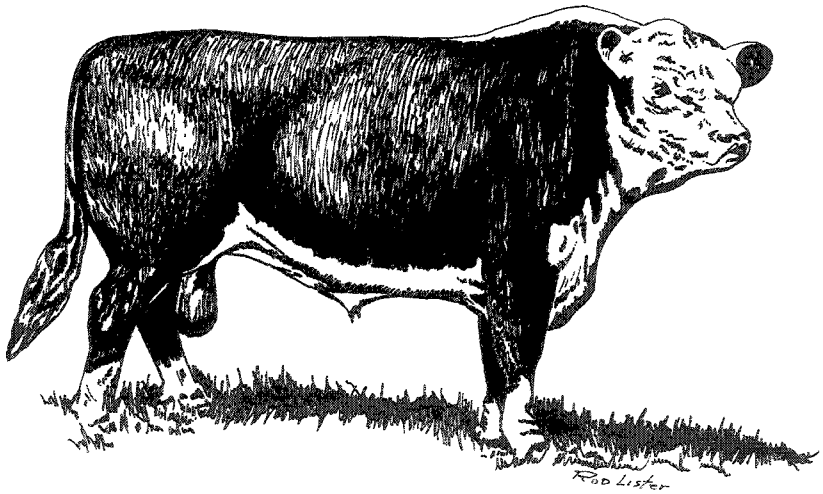
Under Alternative A, livestock overutilization of forage on two allotments would result in increased erosion in those areas. The same thing would occur under Alternative C, but on 32 allotments instead of two. The impact would last into the long term. Alternatives B and D would not affect soils. Little or no impact from ORV use is expected.

Fire Management

Under Alternative A, continued full suppression of wildfire would protect all 2,226,755 public land acres in the resource area. Prescribed burns to improve vegetation and watershed would continue. Under alternatives B, C, and D, continued full suppression of wild fire would protect 2,057,355 acres. Through development and implementation of a Fire Management Activity Plan, up to 169,400 acres could be identified for limited suppression. Prescribed burns to improve vegetation and watershed values would continue.

Economics

Under Alternative A, there would be potential for increase in net cash cattle ranch income in the long term. Sheep operations would experience declines in income on some allotments. Under Alternative B, there would be increases in AUMs and net cash incomes for cattle operations; however, some sheep operations could be eliminated, causing financial hardships to the operators. Under Alternative C, production would be maximized with resultant increases in AUMs and net cash incomes in the short term. In the long term, reductions in available forage would require adjustments in herd sizes or purchase of feed which would negatively affect net incomes. None of the alternative mineral, wildlife, or wild horse actions proposed would be expected to have a significant effect on local or regional employment or income. Under Alternative D, net cash income would increase in varying degrees in both the short and long term.



CHAPTER 1
PURPOSE AND NEED

In accordance with Bureau of Land Management (BLM) policy, prescribed by Federal regulation (43 CFR 1601.0-b), resource management plans (RMPs) must be prepared for each BLM-administrative subdivision or resource area. For the specified subdivision, the RMP establishes (in writing) allowable uses, goals, objectives, and management actions intended for the area. It also identifies constraints and actions needed to achieve the land and resource management goals and objectives.

The planning process requires development of reasonable alternative management plans for the BLM land manager to chose from. An environmental impact statement (EIS) must then be prepared to analyze the environ-mental consequences of implementation of each alternative plan. This is the purpose of this RMP/EIS for the BLM's Warm Springs Resource Area (WSRA). The plan selected and implemented, as a result of this process, will govern management of all natural resources on the 2.2 million acres of public lands in the resource area. The plan will remain in effect until it is determined to be out dated. For analysis purposes in this document, it is assumed the plan selected will be in effect for 20 years.

This chapter will briefly describe the resource area and the purpose and need of this RMP/EIS. Following that will be an overview of BLM's planning process and the land management issues and concerns identified by BLM and the public during that process. Alternative plans to resolve those issues and concerns were developed and are the subject of Chapter 2.

Chapter 3 presents a description of the resources and programs of the WSRA. Chapter 4 describes the effects expected from implementation of each alternative. Chapter 5 reviews the consultation and coordination with the public, government agencies, and other organizations that has been a part of this RMP/EIS process.

INTRODUCTION

Setting

The WSRA, part of the Richfield District, BLM, is administered from the Area Office in Fillmore, Utah (see Figure 1-1). The resource area covers the southern two-thirds of Millard County. From the Pavant Mountains on the east, it extends approximately 100 miles west to the Nevada border. The area is about 50 miles from north to south and contains over 3.1 million Federal, State, and private acres. It is located in the Basin and Range Physiographic Province. The Province and resource area are characterized by north-south trending blockfaulted mountain ranges and sedimentary basins. A series of seven volcanic lava fields occur in the Black Rock Desert on the eastern edge of the resource area. Landforms in these fields include lava flows, cinder cones, pit craters, and caulderas.

The resource area is part of the Great Basin hydrologic region and has an internal drainage pattern. Runoff from 17 perennial and numerous intermittent streams flow into the area where it is used for irrigation, infiltrates subsurface aquifers, or collects in broad depressed basins where it eventually evaporates. The largest basin, Sevier Dry Lake, covers over 200 square miles of the resource area center. The West Desert mountains (elevations up to 9,650 feet on Notch Peak) rise abruptly to heights 3,000 to 5,000 feet above the surrounding deserts (4,400 feet elevation in Tule Valley).

The climate is characterized by limited precipitation, low humidity, clear skies, and large temperature variation daily (fluctuations up to 35 degrees Fahrenheit [F]) and annually (from -32 degrees F in winter to 107 degrees F in summer). Annual precipitation ranges from over 16 inches in the Wah Wah and House Range mountains to about 8 inches in the Black Rock Desert and 6 inches in the Desert Experimental Range in Pine Valley. Climatic variations correlate to differences in elevation. The broad lower elevation basins are characterized by aridity; the mountains are cooler and receive more moisture. Sagebrush-grass and salt-desert shrub are the two major plant communities in the WSRA. Stands of pinyon-juniper trees are within both communities. Understory vegetation is generally very sparce, because of extreme competition for soil moisture. Where precipitation is greater in the House Range and Wah Wah mountains, sufficient moisture supports small areas of mixed conifer forest.

A large majority of land is in Federal ownership (see Table 1-1). Land uses in the WSRA include livestock grazing, farming, electric power transmission, mining, and geothermal and oil and gas exploration. Recreational uses include hunting, horseback riding, sightseeing, rock hounding, and off-road vehicle (ORV) use. It provides year-long habitat for pronghorn antelope, mule deer,

TABLE 1-1
Warm Springs Resource Area Acreages

		Acres	Percent of Total
Public/BLM Administered		2,226,755	71.0
Private		361,964	11.5
State of Utah		279,289	8.9
USFS Administered			
Fishlake N.F.	211,355		
Desert Experimental Range	55,625		
Total		266,980	8.5
Paiute Indians			
Kanosh Band		1,102	Less than 0.1
Total		3,136,090	100.0

raptors, sage grouse, several small game and non-game species, and wild horses.

The population of Millard county (approximately 13,500) is low in density (2 per square mile). The majority of the population in the WSRA portion of the county live in the Pavant Valley agricultural area (Fillmore [the county seat], Holden, Meadow, and Kanosh).

PURPOSE AND NEED

The RMP's purpose is to provide a framework of goals and objectives for future public land management in the WSRA. The RMP addresses all public land resources in the WSRA and updates and consolidates information last evaluated in 1972.

The RMP will identify allowable resource uses, levels of use or production to be maintained, and general management practices. It will also identify support actions and need for more detailed or specific plans.

The RMP must meet requirements of the Federal Land Policy and Management Act (FLPMA). Policy goals defined in this Act state that:

1. National interest will be best realized if public lands and their resources are periodically and systematically inventoried, and their present and future uses are projected through a land use planning process, coordinated with other Federal and State planning efforts;

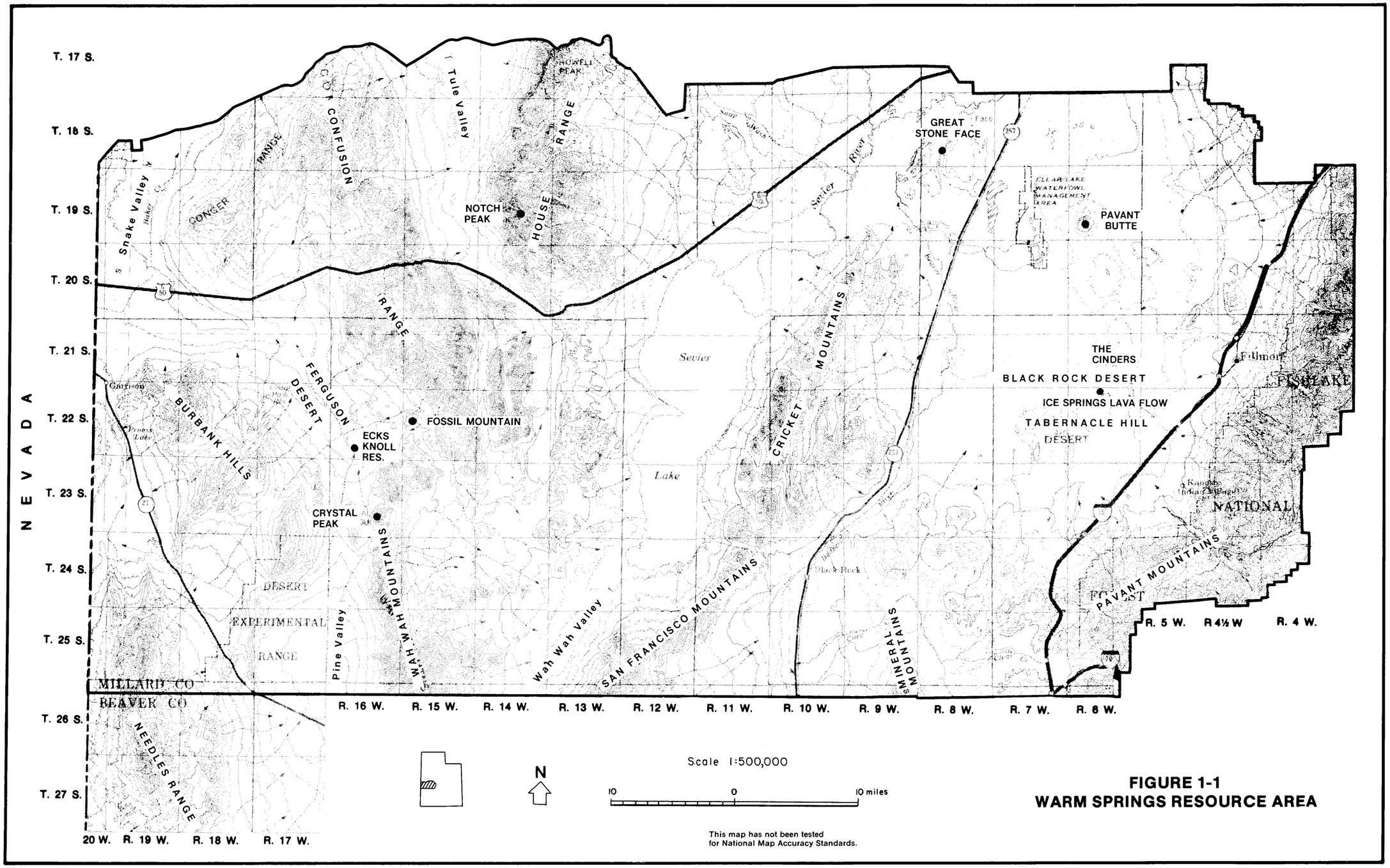


FIGURE 1-1
WARM SPRINGS RESOURCE AREA

2. Public lands are to be managed in a manner that protects the quality of scientific, scenic, historical, ecological, environmental, and archaeological values; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use;

3. Management is to be on the basis of multiple-use and sustained yield, unless otherwise specified by law;

4. Plans, for the protection of Areas of Critical Environmental Concern (ACEC), should be promptly developed; and

5. Public lands are to be managed in a manner that recognizes the nation's need for domestic sources of minerals, food, timber, water, and fiber from these lands.

The Act calls for an interdisciplinary approach and public involvement in planning and decision-making on multiple resource management of public lands. The National Environmental Policy Act (NEPA) of 1969 requires preparation of an EIS on major Federal actions. Preparation and implementation of an RMP is, by definition, a major Federal action. Preparation of this RMP/EIS is in conformance with the Council on Environmental Quality (CEQ) NEPA regulations. Livestock grazing management alternatives analyzed herein are responsive to the court ruling on the 1973 suit filed against the BLM by the National Resource Defense Council et al.

The WSRA RMP/EIS is being done at this time for two reasons:

1. The existing management framework plans (MFP) are outdated and in need of revision. Preparation of the RMP has been determined preferable to amendment of the MFPs.

2. The WSRA was scheduled to complete a court mandated grazing EIS. It was decided that it would be appropriate to make it part of an RMP rather than do it separately.

Preparation of RMPs and their associated EISs is guided by BLM planning regulations found in Title 43 of the Code of Federal Regulations, Subpart 1600 (43 CFR 1600) and CEQ regulations found in 40 CFR 1500.

THE PLANNING PROCESS

BLM's RMP planning process involves nine interrelated actions which integrate NEPA requirements for environmental analysis. Public participation and an interdisciplinary approach are also emphasized to insure issue orientation and comprehensive analysis. The nine actions in sequential order are:

Identification of Issues

This first phase of the process was conducted in 1983 to identify the major uses, conflicts, and concerns regarding public lands in the WSRA. The WSRA interdisciplinary staff and the public provided input to identify planning issues and management concerns. Range Management: the allocation and management of the forage resource was identified as the only planning issue. Management concerns, regarding each public land resource and BLM program, were identified. Issues and concerns are further discussed later in this chapter.

Development of Planning Criteria

Next, planning criteria or guidelines were identified to: (1) determine the information needed to deal with the issues and concerns; (2) formulate management alternatives for resolving the issues and concerns; and (3) evaluate the effects of alternatives. Based on law and BLM regulation and policy, these criteria were developed by the BLM interdisciplinary team. They were published and distributed for public review in July 1983.

Inventory and Data Collection

Based on the planning issue, management concerns, and planning criteria, BLM personnel gathered and inventoried relevant resource data from 1983 to 1985. Much of this data has been summarized from studies (e.g., range utilization, condition, and trend studies) ongoing previous to this period. Priority was given to gathering of information to facilitate decisions relative to the issue and concerns, especially those with potentially significant impact.

Analysis of the Management Situation

Next, the interdisciplinary team (see List of Preparers) prepared descriptions and analyses of each WSRA resource and program. Existing resource capabilities and demands were defined. Future demands and resource capabilities, to meet the demands, were estimated. This effort, completed in August 1985, focused on the plan-

ning issue and management concerns and provided the basis for the next two actions.

Formulation of Alternatives

The interdisciplinary team then formulated alternative plans to resolve the planning issue and management concerns. The four alternatives developed were responsive to the planning criteria and NEPA requirements. They range from resource or economic production to resource protection. The alternatives, completed in September 1985 and distributed for public review and comment, are described in Chapter 2. They provide the BLM manager with a range of reasonable comprehensive plans for management of the public land resources.

Estimation of the Effects of Alternatives

The probable effects of implementing the alternative plans were then analyzed. The results of that analysis is Chapter 4 of this RMP/EIS. The documentation of probable impacts gives the decisionmaker and the public insight to consequences of trade-offs between the alternative plans.

Selection of the Preferred Alternative

All planning issues, criteria, information, and analysis, developed up to this point in the planning process, is the basis for selection of a preferred alternative. The Area Manager has selected Alternative D (see Chapter 2) as the preferred RMP alternative for the WSRA. His selection was reviewed by the Richfield District Manager and approved by the Utah State Director.

Selection of the Resource Management Plan

After distribution of this draft RMP/EIS and evaluation of any public comments hereon, the Area Manager will select a proposed plan, subject to review by the District Manager and approval by the State Director. The proposed plan will be presented in the final RMP/EIS, scheduled for publication in September 1986. The proposed plan will also be distributed for public review and comment. Publication of availability of the final RMP/EIS by the Environmental Protection Agency (EPA), begins a 30-day public protest period and the final approval sequence.

Monitoring and Evaluation

Implementation of the approved plan follows final approval by the State Director. Thereafter, information is gathered regarding progress toward the goals and objectives established in the plan. This provides an indication of the effectiveness of plan decisions and prescriptions. It also indicates if the plan warrants amendment or revision. Standards for monitoring and evaluation include periodic review (at least every 5 years) of the RMP.

Public Participation

Public comment is invited on the adequacy of this draft RMP/EIS. The final RMP/EIS will include changes and responses to the public comments. Persons, who participated in the planning process and have an interest which is, or may be, adversely affected by implementation of the RMP proposed in the final document, may protest approval. Protests may only raise issues which were submitted for the record during the planning process. As indicated above, protests must be filed within 30 days after the EPA Notice of Availability of the Final RMP/EIS.

PLANNING ISSUE AND MANAGEMENT CONCERNS

This first phase of the planning process for the WSRA RMP was accomplished in 1983. The WSRA interdisciplinary staff, with public participation, identified the major uses, conflicts, and concerns regarding public land management in the resource area. Through this process, one planning issue and several management concerns were identified.

The planning issue identified is Range Management: the allocation and management of public rangeland forage resources.

- How should available forage be allocated for use by domestic livestock, wildlife, and wild horses?
- What would be the effect of these uses on the vegetation resource?
- Should there be any changes in class of livestock or season of use?
- What areas are suitable for land treatment?
- Should any allotments be modified (boundaries, consolidations, etc.)?

- What structural rangeland improvements should be constructed?

Management concerns focus on use conflicts, requirements, or conditions that cannot be resolved administratively but do not meet the criteria for a planning issue. Management concerns were identified for each resource and activity or program in the WSRA. Those concerns by program are:

Lands

- Which lands should be retained in Federal ownership and which should be disposed of?
- Which lands should be designated rights-of-way corridors?
- Which lands should be given special management designations, such as Area of Critical Environmental Concern (ACEC)?

Minerals

- Have the proper oil, gas, and geothermal leasing categories been applied to the public lands.
- Are existing withdrawals adequate or necessary?

Forest Resources

- What areas have potential for woodland product harvest and what quantities should be authorized for removal?
- What areas should be protected from forest product harvesting?

Fire Management

- What areas should be designated as (1) limited suppression, (2) prescribed burn, and (3) full suppression?

Wildlife

- What habitat areas are suitable for vegetation treatment?
- What structural habitat improvements should be constructed?
- How should riparian areas be managed?
- Are there areas with special biological values that should have special management designations?

Wild Horses

- What is the optimum population of each herd management area (HMA)?

Watershed

- Are there watersheds or recharge areas that need improvement or protection from other resource uses?
- Do riparian or wetlands need special management?

Recreation

- What ORV designation (open, closed, or restricted) should be applied to public lands in the resource area?
- What areas should be special recreation management areas (SRMAs)?
- What areas offer potential for recreational facilities?

The alternatives presented in Chapter 2 present different solutions or answers to the above planning issue and management concerns.

WILDERNESS

Five wilderness study areas (WSAs) are in the WSRA: Notch Peak (51,130 acres); Howell Peak (24,800 acres); King Top (84,770 acres); Conger Mountain (20,400 acres); and Wah Wah Mountain (42,140 acres) (see Figure 1-2). Designation of

these and all other WSAs in Utah is analyzed in the Utah Statewide Wilderness EIS. Designation of any of these WSAs by Congress would constitute an amendment of the WSRA RMP. For description of the WSAs and analysis of the potential impacts from designation or non-designation, see the Utah Statewide Wilderness Draft EIS (U.S. Department of the Interior [USDI], BLM, 1986).

PLANNING CRITERIA

The second phase of the planning process was determination of pertinent planning criteria or guidelines for planning actions, resolution of conflicting uses, and other decisionmaking. The planning criteria define appropriate standards or rules by which to judge decisionmaking, analysis, and data collection during the remainder of the planning process. The criteria, developed by the interdisciplinary team, were published and distributed for public comment in July 1983. Moreover, the criteria are founded in legislation, BLM regulation and policy, and the local WSRA public participation process. The planning criteria developed for the WSRA are as follows:

Legal Criteria

Legislative mandates require that public lands be managed in a manner which will:

- Protect food and habitat for fish and wildlife and the quality of scientific, cultural, recreational, ecological, air, water, soil, vegetation, and scarce paleontological and mineral resources.
- Conserve and protect threatened, endangered, and sensitive plant and animal species.
- Identify base floodplains and protect and enhance wetlands and riparian habitat.
- Comply with State and Federal pollution control laws.
- Be consistent with the principals of multiple use and sustained yield.
- Be consistent with other Federal, State, and local government plans or goals.
- Maintain wilderness study areas in a condition suitable for designation as wilderness by Congress.
- Recognize that the public lands are an important source of the Nation's mineral and energy resources, some of which are critical and strategic.

Range Management Criteria

Forage will be allocated to livestock, wildlife, and wild horses in a manner (amount, location, and season of use) that will sustain or improve the rangeland resource, subject to the following considerations:

- Existing range condition and capability of the vegetation and soil resources to sustain grazing use.
- Present and projected demand for livestock forage.
- Present and future need for wildlife forage (projected in cooperation with Utah Division of Wildlife Resources [UDWR]).
- Numbers of wild horses needed to sustain viable herd populations.
- Potential land treatments (e.g., chaining, seeding, spraying, burning) will be evaluated, based on the following considerations: need for additional forage and habitat for livestock and/or wildlife; potential for treatment success; need in order to reverse downward range trend and improve soil/vegetation condition; and the impacts to other resource values and users.
- Potential structural range improvements will be based on the following considerations: necessity in order to maintain or improve range conditions; need to improve distribution of grazing animals; contributed funds; and physical capability of the land to support development.
- Economic evaluation of potential public rangeland improvements will be based on the following: comparative costs of improvement alternatives; relative cost/benefit ranking of alternative improvements; and contributed funds.

Lands Criteria

Land withdrawal decisions will be based on the following considerations:

- The need to protect resource values.
- Effects on use and management of adjacent public lands.
- Effects on public and potential public land users.

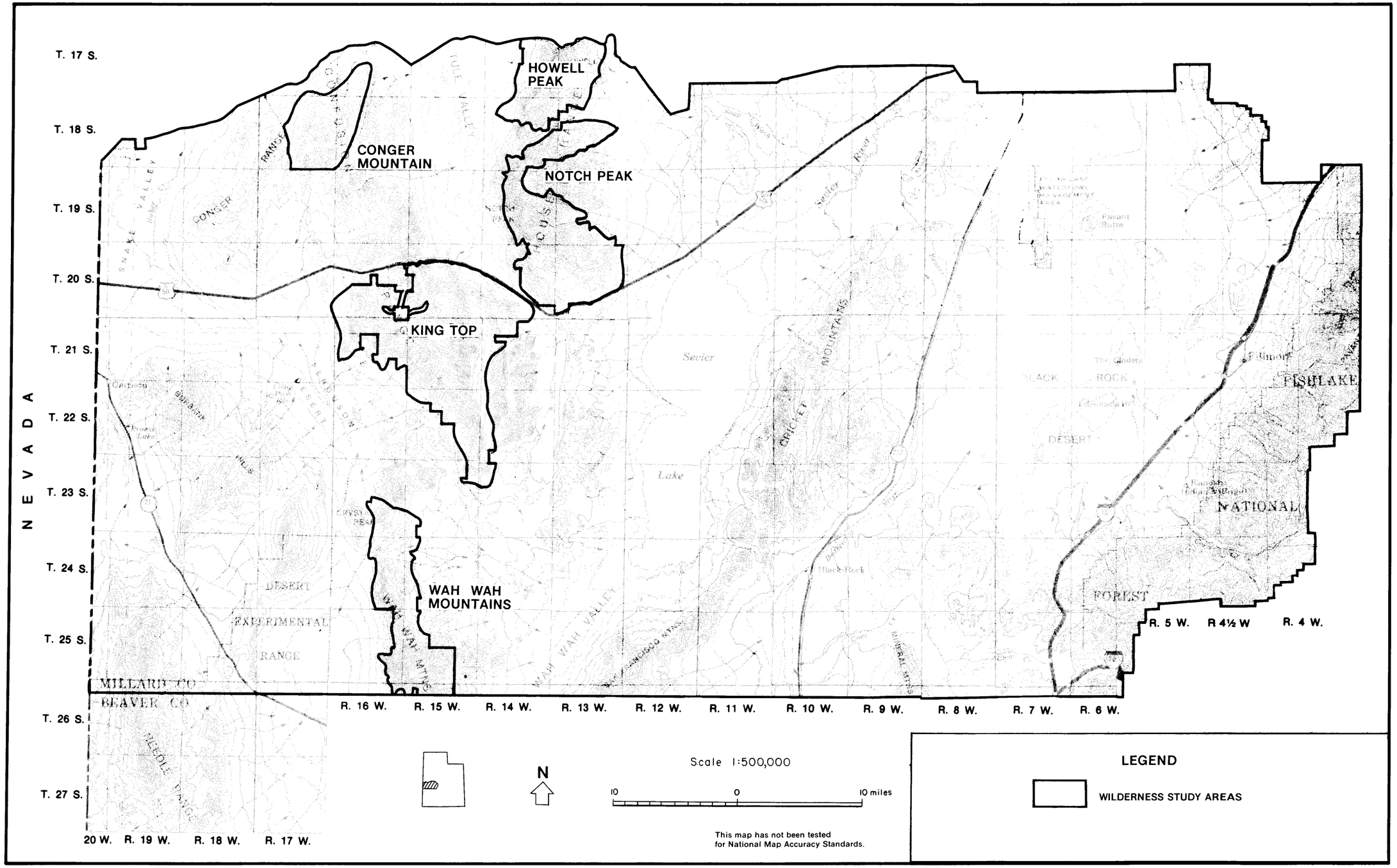


FIGURE 1-2
WILDERNESS STUDY AREAS

- Conformance with other Federal, State, and local plans, policies, and regulations.

Acquisition of easements and development of new roads on public lands will be dependent on:

- The amount of public land involved and the significance of affected resource uses, values, and management needs.
- Public need.
- Suitability of alternative access routes.
- The physical characteristics (soils, slope, etc.) of the affected area.

Designation of rights-of-way corridors will be based on:

- Present and projected demand for rights-of-way.
- Physical limitations of placement facilities.
- Existing rights-of-way
- Land use policies, plans, and/or laws of local, State, and Federal agencies and Indian tribes.
- Economic efficiency.
- Effect on other land uses and resource values on adjacent areas

Recreation and public purposes leases, right-of-way, sales, exchanges, and other use decisions will be in conformance with the following policies:

- Each parcel will be managed to best serve the public interest.
- Important public objectives, community, and economic development needs will be recognized.
- Land use plans and goals of Federal, State, and local governments and Indian tribes will be considered.
- Compliment compatability with existing and potential public land uses and adjacent private, State, and Federal land uses.
- Public lands will be made available for other uses (e.g., commercial, agricultural, or residential) if non-Federal lands are not reasonably available or suitable.

Minerals Criteria

Exploration and development of leasable and saleable mineral commodities will be encouraged and permitted, when surface protection measures are included that protect other resource values and users. Decisions will consider the following:

- Present and projected public demand for mineral resources.
- Effects on other public land users, resource values, and adjacent private, State, and Federal land uses.
- Conformance with other Federal, State, and local government and Indian tribe land-use plans and goals.
- Potential for rehabilitation of disturbed lands.

  Capability of private and State lands to meet the demand for mineral commodities.
- Ability of BLM to enforce appropriate mitigating measures.

Public lands shall remain open and available for mining claim location and development subject to:

- The prevention of unnecessary or undue degradation of public lands.
- Congressionally or administratively approved withdrawals from mineral development.

Forest Resources Criteria

Forest resource management decisions will be based on the following considerations:

- Site sustained yield capability.
- Public demand for forest products.
- Impacts of harvest operations on other resources and users.
- Accessibility and proximity to population centers.
- Availability of forest products from other Federal, State, and private lands.

Fire Management Criteria

Decisions on fire management methods and practices will be subject to the following considerations:

- Protection of resources and uses on public lands, as well as adjacent Federal, State, and private lands.
- Existing State and Federal air quality standards.
- Hazards to the public.
- Need for modification and improvement of vegetation communities for watershed, live-

stock grazing, and wild horse or wildlife habitat purposes.

- Potential for vegetation improvement through fire manipulation.

Wildlife Criteria

Wildlife habitat management plan (HMP) and improvement decision will be subject to the following considerations:

- Forage requirements of present, potential, and objective big game management goals, as determined in cooperation with UDWR.
- Water source development opportunities.
- Condition and potential for improvement of riparian areas.
- Condition and potential for improvement of chukar partridge and sage grouse habitat.
- Potential for successful reintroduction of native wildlife species.
- Cost and potential for success of wildlife habitat improvements.

Wild Horses Criteria

Wild horse management actions will be subject to the following considerations:

- Populations necessary to maintain viable herds.
- Public lands used by wild horse herds when Public Law (P.L.) 92-195 was passed (Dec. 15, 1971).
- Private landowner requests for removal of wild free-roaming horses from private lands.
- Ability to manage herds in a truly wild and free-roaming state.

Watershed and Water Resources Criteria

Resource use and land activities shall be permitted subject to the following considerations:

- Downstream water quality and quantity requirements.
- Existing surface and subsurface water quality and quantity.
- Susceptibility to erosion of the affected sites.
- Reclamation potential of the affected sites.
- Coordination with other Federal, State, and local laws and regulations.

Recreation Criteria

RECREATION

Decision regarding recreational facilities and special recreation use (identified as SRMAs) will be based on:

- Existing and projected public demand for facilities and recreational area.
- Public safety of users.
- Effects on other resource values and uses on public lands and adjoining Federal, State, and private lands.
- Plans and goals of other Federal, State, and local government agencies.

OFF-ROAD VEHICLE

Public lands will be designated for ORV use and subsequently managed based on the following considerations:

- Capability of soils and vegetation to withstand ORV use.
- Impacts on other resources and users.
- Safety of the public.
- Public demand for different types of ORV use areas.

INTERRELATIONSHIPS WITH OTHER AGENCIES

BLM-administered lands in the WSRA are interspersed with private- and State-owned lands. The U.S. Forest Service (FS) administered lands adjoin the east perimeter of the resource area; their Desert Experimental Range is in the western portion. This land ownership pattern necessitates close coordination between land management agencies and private landowners to accomplish common goals and avoid resource use conflicts. Table 1-2 identifies interrelationships between BLM management programs and other agencies.

TABLE 1-2

Interrelationships of WSRA Resource Management Programs
With Other Agencies

Agency	Jurisdiction/Relationship With BLM
FEDERAL AGENCIES	
Department of Agriculture	
Forest Service (FS)	Management of surface resources (except administration of mineral leases and mining claim recordation and adjudication) with portions of the Fishlake National Forest, which borders the WSRA on the east and northeast. BLM manages subsurface minerals. Whiskey Creek Allotment, a cooperative allotment, contains BLM land in two pastures. BLM licenses livestock grazing, conducts forage studies, and makes recommendations to the Fishlake Forest on management of public lands. The Fishlake National Forest administers livestock grazing on this allotment.
Soil Conservation Service (SCS)	Research, testing, evaluation, and interpretation of the soils environment. BLM administers use of areas studied.
Environmental Protection Agency (EPA)	Provides environmental policy and guidance through CEQ. Oversees EIS process. BLM administers lands which may contain mine tailings or other hazardous wastes. BLM prepares EISs to conform with EPA/Council on Environmental Quality (CEQ) guidelines.
Department of the Interior	
Bureau of Indian Affairs (BIA)	Coordination of use of lands in the southeast corner of the WSRA.
Bureau of Reclamation (BOR)	Planning for flood control structures and powersites withdrawals on public lands. BLM administers other uses of BOR withdrawals.
Fish and Wildlife Service (FWS)	Section 7 consultation regarding threatened and endangered species. BLM administers land uses to protect these species. FWS would issue a biological opinion if impacts are identified to endangered species involved in the action. BLM authorizes predator control on planning area allotments. The actual control work is done by the FWS under an on-going predator control program.

TABLE 1-2 (continued)

Agency	Jurisdiction/Relationship With BLM
Geological Survey (GS)	Research, testing, evaluation, and interpretation of the geologic environment (including hydrology). BLM administers use of lands and streams studied.
Bureau of Land Management (BLM) House Range Resource Area; Cedar City District, Beaver River Resource Area; Ely District, Nevada, Schell Resource Area.	These resource areas administer grazing use in some areas of the WSRA and conversely the WSRA administers grazing in allotments that extend into those resource areas.
National Park Service (NPS)	For information purposes, the NPS administers areas immediately west of the resource area (Lehman Caves National Monument), as well as areas 70 miles to the east and south.
STATE OF UTAH	
Department of Community and Economic Development	
Division of State History	State Historic Preservation Officer makes determinations regarding cultural significance. BLM administers cultural resources on public lands.
Department of Natural Resources	
Division of Lands and Forestry	Administers State resources. BLM often administers access to State lands.
Division of Oil, Gas, and Mining	Oil, gas, and mining operations on public lands are subject to State, as well as Federal regulations. BLM has primary jurisdiction of Federal mineral resources.
Division of Water Rights	Administers water rights (right to use water). BLM manages water resources on public lands.
Division of Wildlife Resources (UDWR)	Administers wildlife resources and hunting of wildlife. BLM manages the habitat used by the animals.
LOCAL GOVERNMENTS	
Paiute Indian Tribe	Indian tribal councils administers Indian allocated lands.

TABLE 1-2 (concluded)

Agency	Jurisdiction/Relationship With BLM
Six County Association of Governments	The organization includes Millard County representatives and promotes development, tourism, commerce, and economic growth in the member counties.
Millard County	County has a master plan which includes zoning for the county. County maintains county roads. Sheriff has law enforcement responsibilities. BLM administers public lands within the zoned area; contacts sheriff when needed.
Cities of Fillmore and Delta	The cities have jurisdiction over municipal facilities, and many residents use public lands for their livelihood or for recreation.

CHAPTER 2
ALTERNATIVES

INTRODUCTION

This chapter describes the alternative plans to be analyzed and briefly compares the probable environmental consequences of each. The affected environment is described in Chapter 3, and Chapter 4 presents a full description of the probable environmental consequences. The alternatives analyzed constitute an array of different approaches to management of the public land resources in the Warm Springs Resource Area (WSRA). The alternatives were developed by the WSRA interdisciplinary staff during the fifth phase of the planning process (see Chapter 1) for this Resource Management Plan (RMP).

The analysis of the management situation and all other previously developed information formed the basis for formulating alternatives. In accordance with applicable laws, regulations, and policies, the alternatives, studied in detail, include alternatives that favor resource protection, in comparision to the No Action Alternative under which the current direction and intensity of management would continue. Likewise, an alternative is included that is more commodity and production oriented.

Four alternatives are discussed and analyzed in this draft RMP/EIS. A newsletter describing the alternatives was distributed to the public in November 1985. The alternatives are:

- Alternative A: No Action—Continuation of Existing Management.
- Alternative B: Protection—Preservation of Natural Resource Values.
- Alternative C: Production—Increased Consumptive Use and Commodity Production.
- Alternative D: Preferred Alternative (a composite of the above alternatives).

The elimination of all livestock, wildlife, and/or wild horse grazing in the WSRA were dismissed as planning issue alternatives because they did not meet the requirement of "reasonable" as directed by the Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) regulations (1978). Such actions in the WSRA would be neither practical or feasible. Alternatives analyzed do consider, however, elimination of livestock grazing or relocation of wild horses in selective areas.

The alternatives analyzed are described in detail below. The first part of the discussion describes the alternatives' objectives. Then, management practices and policies common to all alternatives are discussed. Following that, each alternative is described in sequence. A comparison of the probable environmental consequences of implementing the alternative RMP follows those descriptions.

All alternatives are in conformance with and recognize the constraints and resource protection and multiple use mandates of the Federal Land Policy and Management Act (FLPMA). No action would be taken under any alternative which violates legislative mandates or Department of the Interior (USDI) or Bureau of Land Management (BLM) regulations or policies.

ALTERNATIVE OBJECTIVES

Alternative A: No Action

Objective: Continue current direction and level of management intensity and levels of resource uses.

Alternative B: Protection

Objective: Protection and enhancement of the natural values of the WSRA. Trade offs would favor wildlife habitat, watershed, scenic and undeveloped/dispersed recreation. Commodity/consumptive uses (livestock grazing, mineral development, motorized recreation, etc.) would be restricted if there were significant risk of diminishment of such resource values.

Alternative C: Production

Objective: Increase the level of use of public land resources within the WSRA. Encourage and facilitate increased livestock use, energy and mineral production, etc.

Trade-offs would favor consumptive uses (livestock grazing, energy and mineral production, off-road vehicle [ORV] use) over wildlife habitat protection/production, scenic and ecological values, and nonmotorized/non-developed recreation.

Alternative D: Preferred Alternative

Objective: Provide variety and balance in use of the resources of the WSRA. Where possible, increase or improve resources for both consump-

tive use (e.g., forage for livestock grazing) and nonconsumptive (e.g., recreational sightseeing, hiking, etc.) or natural resource use (e.g., habitat for wildlife and wild horses). Energy and mineral rights-of-way, and permit policies would encourage resource use and development, while insuring protection of other natural values. Trade-off objectives would be to balance utilization of the various resources in harmonious combinations.

For a concise comparison of the alternatives, see Summary Table 1.

MANAGEMENT COMMON TO ALL ALTERNATIVES

Resource allocations and management practices, currently in effect in the WSRA that are in compliance with BLM policy and directives and would not change regardless of which alternative is chosen, are enumerated below. These management practices will be unaffected by decisions regarding the planning issue and management concerns. These should be considered a part of each of the above alternatives.

The practices enumerated have been developed from laws, regulations, and policies currently in effect and previous WSRA land use plans.

Air Quality

As activities or projects on public lands are proposed, special air quality protection stipulations will be imposed if potential sources of major pollutant emissions would occur. Grants of rights-of-way and permits will be in conformance with the area's Environmental Protection Agency (EPA) Prevention of Significant Deterioration (PSD) Class II air quality goals, which allow deterioration associated with moderate well-controlled growth. Applications will be subject to technical review, which may result in stipulations regarding pollutant emissions.

Soils

Soil resource management objectives will continue to be maintenance of productivity and minimization of erosion. Soil surveys contain an inventory of soils in the resource area. From these data, evaluations will be made to define the potential and/or limitations of each soil type. Soil loss will be kept within acceptable limits. BLM and non-BLM initiated projects will be analyzed independently for impact on the soil resource. Such analysis will consider the susceptibility of the soil to erosion, potential for seeding success or reclamation, and compatibility of the project to engineering, physical, and chemical properties of the soil.

Range Management

GRAZING AND NON-GRAZING AREAS

Grazing would continue to be administered on all existing allotments (encompassing 2,056,830 acres or 92 percent of the public land acres). Areas, presently unallotted for livestock use, would remain unallotted. These areas include unsuitable ranges and small, scattered land tracts where livestock grazing has not been a historic use.

ALLOTMENT CATEGORIZATION

Allotments would be categorized in accordance with Table 2-1 under all alternatives. See Figure 2-1 for allotment locations. Adjustments in categories and/or priorities would be made in accordance with BLM policy as management situations or allotment conditions change.

MONITORING AND LICENSING OF INTERMINGLED STATE AND PRIVATE LANDS

Livestock use, on intermingled State and private lands within allotment boundaries, will be monitored and licensed under exchange of use. All transfer applications will be thoroughly analyzed on the basis of all available range study data to insure the transfer would not result in over obligation of forage resources.

PREDATOR CONTROL

Predator control will continue in accordance with the Richfield District Animal Damage Control Plan, prepared jointly with the U.S. Fish and Wildlife Service (FWS) and reviewed annually.

EXISTING ALLOTMENT MANAGEMENT PLANS (AMPs)

Management systems, prescribed in ten existing AMPs, will be followed. Plans will be maintained, updated, and monitored for adjustments as necessary, in accordance with BLM policies and regulations.

MAINTENANCE OF EXISTING RANGE IMPROVEMENTS

Existing structural type range improvement maintenance is the responsibility of the permittees. Collection of fees for maintenance of water

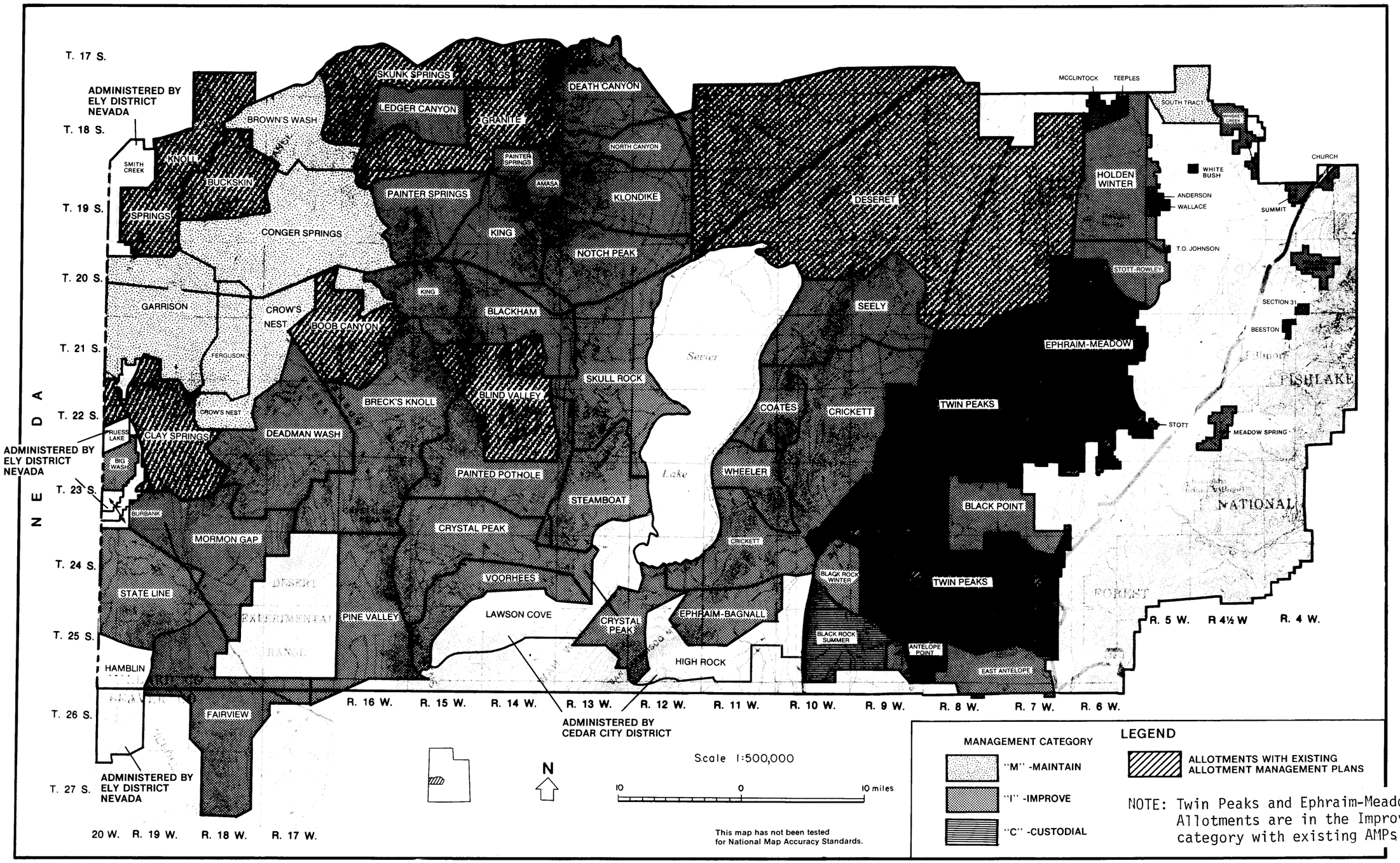


FIGURE 2-1
LIVESTOCK GRAZING ALLOTMENTS WITH M I C CATEGORIES AND EXISTING AMP ALLOTMENTS

TABLE 2-1

Warm Springs Resource Area
Allotment Categorization (M I C)

Allotments within the WSRA have been categorized in accordance with MIC criteria provided in WO Instruction Memo 82-292 (Final Grazing Management Policy) based on the WSRA range staff's evaluation of the allotments.

Custodial (C) Category Criteria

- Present range condition is not a factor.
- Allotments have low resource production potential and are producing near their potential
- Limited resource-use conflicts/controversy may exist.
- Opportunities for positive economic return on public investment do not exist or are constrained by technological or economic factors.
- Present management appears satisfactory or is the only logical practice under existing resource conditions.

Based on the above criteria, the following ten allotments have been placed in the Custodial category.

Allotment Name	Allotment Number	Public Land Acres
Anderson	5776	513
Beeston	5780	480
Black Rock Summer	5786	3,351
McClintock	5793	1,600
Section 31	5794	440
Stott	5795	160
T. O. Johnson	5760	160
Teeples	5798	920
Wallace	5791	900
White Bush	5770	80
Total		8,604

Improve (I) Category Criteria

- Present range condition is unsatisfactory.
- Allotments have moderate to high resource production potential and are producing at low to moderate levels.
- Serious resource-use conflicts/controversy exists.
- Opportunities exist for positive economic return from public investments.
- Present management appears unsatisfactory.

TABLE 2-1 (continued)

Based on the above criteria, the following 39 allotments have been placed in the Improve category.

Allotment Name	Allotment Number	Public Land Acres
Amasa	4300	4,782
Antelope Point	5777	2,895
Big Wash	5797	4,489
Black Point	5782	20,600
Black Rock Winter	5778	8,806
Blackham	4325	30,788
Breck's Knoll	4306	69,393
Church	5799	1,253
Coates	5781	19,229
Crickett	5779	90,205
Crystal Peak	4311	61,893
Deadman's Wash	4316	51,915
Death Canyon	4314	27,279
East Antelope	5796	16,404
Ephraim-Bagnall	6211	17,299
Ephraim-Meadow	5774	71,357
Fairview	6236	55,068
Holden Spring	5783	2,880
Holden Winter	5784	33,984
King	4324	48,035
Klondike	4322	32,700
Ledger Canyon	4321	17,811
Meadow Spring	5773	2,731
Mormon Gap	4397	46,606
North Canyon	4328	19,611
Notch Peak	4329	34,588
Painted Pot-Holes	4330	38,432
Painter Springs	4331	33,486
Pine Valley	4398	40,565
Seely	5787	46,208
Skull Rock	4334	50,023
Stateline	6238	33,045
Steamboat	4336	29,109
Stott-Rowley	5789	15,145
Summit	5769	1,872
Twin Peaks	5785	179,869
Voorhees	6220	26,958
Wheeler	5790	17,522
Whiskey Creek	5792	5,001
Total		1,309,836

TABLE 2-1 (concluded)

Maintain (M) Category Criteria

- Present range condition is satisfactory.
- Allotments have moderate or high resource production potential and are producing near their potential (or trend is moving in that direction).
- No serious resource-use conflicts/controversy exist.
- Opportunities may exist for positive economic return from public investments.
- Present management appears satisfactory.

Based on the above criteria, the following 14 allotments have been placed in the Maintain category.

Allotment Name	Allotment Number	Public Land Acres
Blind Valley	4303	39,940
Boob Canyon	4304	30,025
Brown's Wash	4302	26,112
Buckskin	4307	21,898
Clay Springs	4312	37,026
Conger Springs	4313	70,425
Crows Nest	4305	25,358
Deseret	5775	270,117
Ferguson	4317	18,672
Garrison	4319	44,408
Granite	4320	48,801
Knoll Springs	4323	34,116
Skunk Springs	4338	37,061
South Tract	5788	4,591
Total		708,550

facilities (e.g., springs, pipelines, wells) will continue. Fees for maintenance will be determined annually by the Area Manager and the WSRA representatives to the Richfield District Grazing Advisory Board. Nonstructural range improvement maintenance is the responsibility of BLM.

IMPLEMENTATION PROGRAM

BLM personnel in cooperation with affected permittees will develop or update AMPs on Priority Improve (I) category allotments identified in each alternative to implement the grazing management program. If BLM personnel and permittees fail to reach an agreement, a grazing system that protects resources will be implemented by decision of the Area Manager. Permittees would, however, have the right to appeal any such decision.

Livestock grazing levels and recommended patterns of use will be specified in the individual AMPs, as will BLM's and range users' responsibilities for developing and maintaining rangeland improvements and monitoring programs. Each AMP will be implemented by the Area Manager and livestock permittee as it is completed.

Details of the selected alternative(s) will be further refined and specifically matched to resource conditions during preparation of AMPs. Site-specific rangeland improvements would be evaluated and proposed at this stage of planning.

MONITORING PROGRAM

The priority I and Maintain (M) allotments outlined in the selected alternative will be monitored to determine if management objectives are being met. Four primary studies basic to rangeland evaluation will be used: (1) actual grazing use; (2) vegetation utilization; (3) trend; and (4) climate analyses. These studies will be conducted according to BLM Technical References 4400-1 through 4. In addition, studies, including ecological range site condition, will be established to monitor priority riparian and aquatic habitat and key watershed areas.

Data from these studies will be evaluated to determine management effectiveness and to assist in making necessary adjustments. Evaluations will be made prior to implementation of each step of a phased adjustment to determine whether the total amount of adjustment should be modified (either increased or decreased) (43 CFR 4110.3-3(a)and (b)). Management will be modified if evaluations determine that specific allotment objectives are not being achieved. Administrative modifications could include changes in livestock patterns of use, livestock numbers, periods of use, rangeland improvements, or a combinations of these.

IMPLEMENTATION SCHEDULE

Within 5 months of publication of the final RMP/Environmental Impact Statement (EIS), the Richfield District Manager and WSRA Manager will issue the Record of Decision (ROD)/Rangeland Program Summary (RPS). This document will summarize, by allotment, management decisions and planned actions.

The priority for implementation of the grazing management program will follow the guidelines stated in the BLM Grazing Management Policy (IM 82-292). Generally, decisions for allotments in the M Category will be made within 9 months, Custodial (C) Category within 12 months, and I Category within 17 months after publication of the final RMP/EIS. Allotments in the I Category will have priority for development or revision of AMPs to resolve identified problems. M and C Category allotments will be second and third priority, respectively. The same priority will apply to appropriation of funds for rangeland improvements. Donated funds would affect priority of construction of improvements.

GRAZING ADMINISTRATION PRACTICES

The selected management options from the alternative(s) will be administered and managed using standard BLM operating procedures. Each livestock permittee will be issued temporary grazing authorizations or term permits through the BLM WSRA office. These will specify the allotment, proposed forage use, period of use, numbers and kinds of livestock.

Livestock grazing will be monitored and supervised by BLM throughout the year in cooperation with the permittees. Marking of livestock (preferred methods are ear tagging or dye marking) may be required to monitor livestock movement and proper stocking levels. Permittees will be required to request, in writing, any desired changes in use prior to the grazing period, since such changes could be inconsistent with management objectives. Grazing use outside the limits of the selected alternative(s) and without prior authorization will be considered trespass. Should trespass occur, BLM will take action to ensure it is eliminated and that payment is made for vegetation consumed and/or damage done. BLM will also make adjustments in the grazing management program during drought or other emergencies.

The action described in the Monitoring section of this chapter will be used to adjust grazing use. Administrative adjustments could be made to:

1. Authorize the movement of livestock from one pasture to another ahead of schedule if forage were lacking in the first pasture and available in the second.

2. Reduce livestock numbers temporarily if forage production were less than normal.

3. Increase livestock numbers on a temporary non-renewable basis if there were an abundance of available forage.

4. Adjust livestock use to limit utilization of key plant species to a predetermined level. Livestock use could be increased, decreased, or eliminated from an allotment to control utilization of key plant species. Rangeland condition, competition between big game and livestock, amount of available forage and water, and time of year will be considered in any decision to move livestock. Such adjustments will be designed to accomplish grazing management objectives.

STANDARD DESIGN, CONSTRUCTION, AND OPERATION FEATURES

All range improvements will be designed and constructed to minimize environmental impact while maximizing function and cost effectiveness. Prior to the installation of any range improvements, an environmental assessment (EA) will be prepared, analyzing the alternatives for the development. In addition, a benefit/cost analysis of the various alternatives will be completed to determine the most cost effective format for each range improvement. The EA and cost/benefit analysis will then be used to assist in the development of the final project design.

The following procedures would apply to the construction of all management facilities and vegetation manipulations:

1. New roads or trails construction or project sites will not be built if existing roads and/or trails can be used.

2. All areas of proposed surface disturbance, due to construction of range developments, will be inventoried for archaeological features. All archaeological sites, identified by the inventory, will be avoided or adequate mitigation taken. If cultural remains are encountered during construction, operation will be temporarily discontinued until BLM evaluates the discovery and determines the appropriate action.

3. Wildlife escape devices will be installed and maintained in all water troughs.

4. Cost/benefit analysis will be completed prior to installation of management facilities or land treatments.

5. Areas where vegetation treatments occur will be rested from livestock grazing for a period of two growing seasons to allow recovery and re-establishment of key forage species.

6. Only approved chemicals will be used for vegetation treatments and the control of noxious or poisonous plants. All chemical applications will be carried out in compliance with USDI regulations and Utah pesticide laws.

7. Land treatments on crucial wildlife ranges will be designed to provide appropriate mitigation measures, including adequate cover for wildlife.

Lands

LAND TENURE ADJUSTMENTS

Prior to any adjustment in land tenure on the 2,226,755 acres of public land in the WSRA, compliance with the existing land use plan will be determined. Once this is done, prescribed procedures to reach decisions on proposed disposals will be followed. Procedures followed will be as defined in the BLM Manual and regulations, in accordance with the type of land tenure adjustment.

Generally, each procedure involves a land report/environmental assessment (LR/EA), which assesses the impacts the disposal action would have on public values and resources. These values include wildlife, threatened and endangered (T&E) species, cultural resources, environmental quality, minerals, the interest of the grazing permittees, the adjacent landowners, and the local community. The LR/EA also addresses the regulations' specific criteria for each type of land action. Public lands, to be disposed of by sale, must meet the criteria established by FLPMA Section 203 (exchanges), Section 212; Recreation and Public Purposes (R&PP) Act of 1926, as amended; 43 CFR regulations; and BLM manuals and directives.

When an LR/EA determines that a parcel is suitable for sale or exchange and would benefit the public, a Notice of Realty Action (NORA) will be published in the *Federal Register* and a local newspaper for 3 weeks. State and local government officials, appropriate Congressional committees and representatives, adjacent land

owners, and interested parties will be notified by a direct mailing of the NORA.

The NORA will detail the proposed realty action including restrictions that will be placed on any title, deed, or lease issued. The disposition of grazing rights, minerals, or surface use rights and the fair market value of the parcel of public land will be defined. The NORA will preceed a public comment period of 45 days.

Regulations do not allow land disposals or long-term rights-of-way in wilderness study areas (WSAs). If not designated, the areas would be returned to multiple-use management.

Under all alternatives, the U.S. Forest Service (FS) Desert Experimental Range (55,625 acres) would remain withdrawn by Executive Order from all forms of appropriation under public land laws, including mining.

Public water reserves around each spring on public lands in the resource area have been or will be delineated on BLM records.

RIGHTS-OF-WAY CORRIDORS

FLPMA states, "Utilization of rights-of-way in common shall be required to the extent practical." The utilization of existing corridors, whether or not designated, will be standard procedure.

Rights-of-way will be processed on a case-by-case basis, generally in the order received. Major linear rights-of-way will be located within existing or designated corridors wherever feasible.

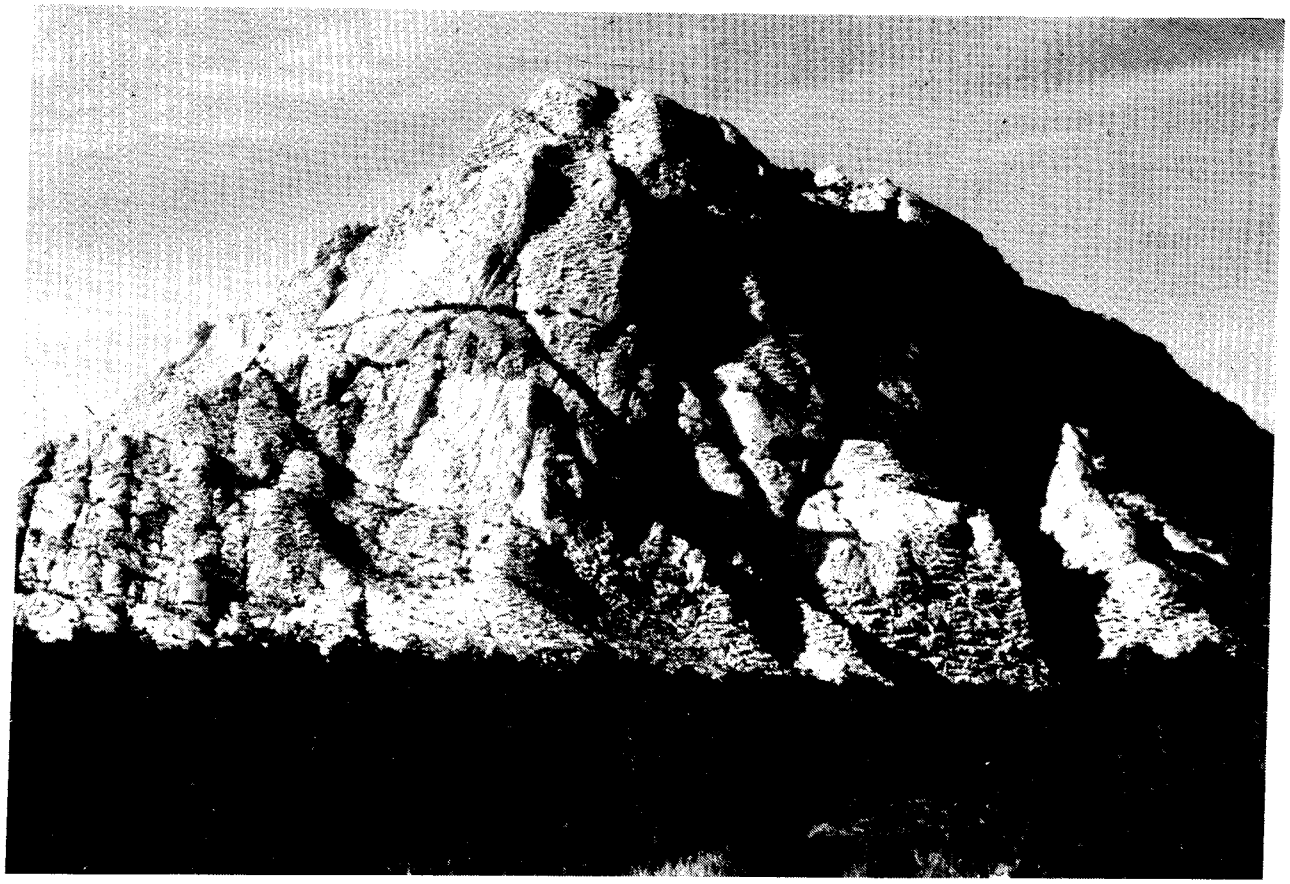
SPECIAL MANAGEMENT DESIGNATIONS

Any areas identified through the land use planning process as needing special management designation, including Areas of Critical Environmental Concern (ACEC), will be designated and managed in accordance with pertinent BLM policy, regulations, and legislation.

Minerals

OIL AND GAS

Cancelled, expired, or otherwise terminated oil and gas leases will be re-offered for lease if the



Crystal Peak

lease area has not had a change in status which prevents leasing. Since there are no Known Geologic Structures (KGS) in the resource area, the leases will be offered through the simultaneous leasing program, in which a lottery is used to determine which applicant is successful in obtaining the lease. Appropriate environmental protection stipulations will be attached, as necessary, at the time of issuance of the lease. Applications for Permits to Drill (APD) will be processed within the required time frames. Additional site-specific stipulations, as appropriate, will be added to the approved APDs. Notices of Intent to Conduct Geophysical Exploration Operations will be processed within the required time frames. Appropriate stipulations will be attached at the time of approval to protect other resource values.

GEOTHERMAL

Existing geothermal leases, which are cancelled, expire, or are otherwise terminated, will continue to be offered by competitive sealed bids. Appropriate environmental protection stipulations will be attached to the lease at the time of issuance. Geothermal Drilling Permits (GDP) will be processed within the required time frames upon approval of Plans of Operations for geothermal exploration, development, and production. Appropriate environmental protection conditions of approval and stipulations will be applied to GDPs and Plans of Operations at the time of approval.

LOCATABLE MINERALS

Location of mining claims by claimants is a nondiscretionary action on all public lands which are open to location. Locatable mineral activity is regulated under 43 CFR 3800. These regulations provide guidance to prevent unnecessary or undue degradation of public lands. Notices and Plans of Operations will be required for mining activities, and through involvement with the claimants, mitigating measures will be developed to protect other resource values.

SALEABLE MINERALS

Sales permits will be processed on a case-by-case basis, with appropriate mitigating measures and stipulations attached to protect other resource values. No permits would be issued for areas in oil and gas leasing Category 3 and 4 areas.

SOLID NON-ENERGY LEASABLE MINERALS

Prospecting permits will be processed, and appropriate environmental protection stipulations attached. Leases will be issued and mining plans evaluated in order to define appropriate stipulations to protect other resource values.

Forest Resources

Forest harvest and associated activities will be planned to minimize visual impacts and disruption to wildlife. Cutting areas, woodland sales, and vegetation treatments will be designed in recognition of visual resource management (VRM) class management objectives and to provide adequate cover for wildlife. Harvest activities may be restricted due to wet soil conditions to prevent soil compaction or rutting. Harvesting on slopes exceeding 45 percent will be restricted to minimize surface disturbance.

On public lands, no clearing will be done within a 100-foot buffer strip on each side of live streams. Selective partial harvest methods may be allowed within this strip. The actual width of the strip may vary, depending upon the aspects of specific sites (e.g., slope, soil condition, and understory vegetation).

No forest lands in the WSRA are suitable for full intensive or restricted management. Timber resource and woodland areas on the Wah Wah Mountains and Crystal Peak (6,610 acres) and Notch Peak (9,000 acres) would be forest lands not available for management of forest products to protect ecological, primitive recreation, and visual resource values. All other woodland areas in the WSRA (205,059 acres) would be forest areas managed to enhance other resource values and uses.

WILDLIFE

Fish and wildlife habitat will be evaluated on a case-by-case basis as part of overall project planning. Such evaluation will consider potential effects on the proposed project and the sensitivity of fish and wildlife habitat in the affected area.

Some existing fences may be modified if they have a significant adverse effect on big game. New fences built will allow passage of big game. Water developments generally will not be constructed for livestock where significant competition for forage would result (e.g., big game winter range). Whenever possible, water will be provided in allotments (including rested pastures) during seasonal periods of need for wildlife. New water developments will specifically address this need.

Vegetation treatments will be designed to minimize impacts to wildlife habitat and improve it whenever possible. The Utah Division of Wildlife Resources (UDWR) will be consulted in advance on all vegetation treatment projects. Animal damage control programs will be coordinated with the FWS.

RIPARIAN AND WETLAND AREAS

Management actions within riparian areas, wetlands, and floodplains will include measures to preserve, protect, and, if necessary, restore natural functions (as required by Executive Orders 11988 and 11990). Riparian and wetland management objectives will be to minimize degradation of stream banks, loss of riparian habitat, and identification of water requirements (instream and intermittent flows for riparian habitat maintenance, wildlife, livestock, etc.). Riparian habitat needs will be considered when developing livestock grazing systems and pasture designs. Surface-disturbing activities in riparian and wetland areas will be constrained and/or mitigated, in accordance with the referenced Executive Order and BLM policy and regulations.

THREATENED, ENDANGERED, AND SENSITIVE PLANTS AND ANIMALS

No activities, jeopardizing the continued existence of T&E and sensitive plant or animal species, will be permitted on public lands in the WSRA. The FWS will be contacted prior to implementing projects that may affect habitat for T&E species. In addition, UDWR would be contacted regarding any T&E animals. If a "may affect" situation is determined through the BLM biological assessment process, formal consultation with the FWS will be initiated according to Section 7 of the Endangered Species Act of 1973, as amended.

Mid-winter bald eagle surveys will continue to be conducted in cooperation with UDWR and the National Wildlife Federation. The WSRA will cooperate with UDWR in peregrine falcon reintroduction on Pavant Butte.

MONITORING AND INVENTORY

Wildlife habitat will be monitored to determine seasonal habitat use and identify areas in need of habitat improvement. Monitored areas will include big game yearlong and winter ranges, riparian areas, sage grouse strutting/nesting areas, wetlands, T&E and sensitive species habitat, raptor winter and nesting habitat, and non-game species habitat. These data will be the basis for site-specific management decisions.

As funds are available, inventories will be conducted to locate important wildlife habitat. Priority will be given to riparian habitat and T&E and sensitive species inventory.

Deer winter range surveys, range rides, and pellet group counts will continue in cooperation with the UDWR and the Fishlake National Forest. Input will be made to the Interagency Big Game Committee on management of two pronghorn antelope herds, six deer herd units, and one or two elk herd units. Powerlines will continue to be monitored for impacts to raptors.

Wildlife management, in cooperation with the UDWR, Fishlake National Forest, other BLM districts and resource areas, and other Federal Agencies, will continue.

Wild Horses

Three complete herd management areas (HMAs) (Conger Mountain, King Top, and Burbank Hill) are in the resource area. In addition, the northern portion of the Sulphur HMA, managed by the Cedar City District, is located in the southwest portion of the WSRA.

Wild horses have been, and will continue to be, managed in accordance with provisions of the Wild Horse and Burro Act of 1971 and subsequent legislation. The 1977 Wild Horse Capture Plan would continue to be followed.

Status of wild horse herds have been monitored on a regular basis since 1976. Weekend surveillance patrols will be made annually during the spring foaling season to reduce harassment of wild horses during this critical period. Wild horse populations will be monitored on an annual basis by ground or aerial surveys, depending on availability of funds.

Vegetation studies, established in crucial wild horse areas in 1977, will continue. The percent utilization of key forage plants used by wild horses will continue to be determined each year. Trend plots, established in these areas, will be monitored over 6-year intervals to determine key forage plant trends. Due to lack of opportunity, no water developments for wild horses are proposed under any alternative.

Wild horses would be captured by BLM personnel at water sources or in temporary corrals, where wild horses would be driven with aid of a helicopter. Captured wild horses would be transported from trap sites to a holding corral in Delta, Utah. Those wild horses would be blood tested to check for disease, vaccinated, wormed, branded, and then adopted to individuals willing and able to provide proper care. After 1 year, upon approval by a certified veterinarian, title to the wild horse would be given to the person adopting it.

Watershed and Water Resources

Water quality and quantity will be managed to comply with State and Federal water quality

standards. Proposed activities will be reviewed and mitigating measures developed to prevent degradation of the water resources. Actions will be designated to protect and enhance the resources. Measures to keep soil loss within acceptable levels, implementing low runoff programs on large-scale disturbances, and reclamation of all abandoned surface disturbances will be enforced. Exploration holes will be properly plugged to prevent ground water contamination. Established watershed studies will be read each year. Water rights for all public land water sources will be obtained and protected to ensure the continuation of water-dependent programs and to protect Federal investments. Additional water sources are developed whenever possible through cooperation with the FS and quit-claim deeds of oil and gas exploration wells.

Watershed monitoring will be conducted on channel erosion studies and water quality on water sources.

Drill pad sites would be reseeded, as would areas burned by range fires (if determined to be necessary by an emergency fire rehabilitation team). Livestock grazing would be suspended for two growing seasons on reseeded areas to aid in seeding establishment.

Site approval would be required for periodic cross-country motorcycle races and other activities posing potential surface disturbance to watersheds.

Waters would be appropriated prior to project construction, and appropriations prepared for State adjudication areas. Through cooperative agreements with the FS, additional water would be made available wherever possible. Water rights to test wells drilled by oil and gas companies would be secured wherever possible.

Recreation

Special recreation use permits will continue to be processed. Recreation resources will be individually evaluated as part of project level planning. Such evaluation will consider the significance of the proposed project and the sensitivity of recreation resources in the affected area. Stipulations will be attached, as appropriate, to assure compatibility of projects with recreation management objectives.

All identified significant historic, archaeologic, and cultural sites will be protected in accordance with applicable policies, regulations, and legislation.

VISUAL RESOURCES

Visual resources will be evaluated as part of activity and project planning. Stipulations will be attached, where possible, to protect visual resources and mitigate visual impacts.

The WSRA public land acreages in each VRM class are as follows: Class I, 0 acres; Class II, 28,484 acres; Class III, 106,180 acres; Class IV, 2,092,091 acres; and Class V, 0 acres for a total of 2,226,755 acres.

WILDERNESS STUDY AREAS

Wilderness Study Areas (WSAs) will continue to be managed in compliance with the Interim Management Policy (IMP) until Congress decides on designations. The USDI prohibition on issuing new leases for oil and gas in WSAs will continue until Congress decides on designation, unless the Secretary rescinds the prohibition. Wilderness designation is a separate action being considered and analyzed in the Utah Statewide Wilderness EIS. Designation of any of the five WSAs in the WSRA would constitute an amendment of this RMP. Any area designated would be managed in accordance with the BLM Wilderness Management Policy and enabling legislation.

ALTERNATIVE A: NO ACTION—EXISTING MANAGEMENT

Range Management

FORAGE ALLOCATION

Under the No Action Alternative, the WSRA would continue to license livestock use up to active preference. Temporary increases in licensed use may be permitted if excess forage were available, based on monitoring and field investigations.

For analysis purposes, it is assumed that initial and final stocking rates would remain at current average licensed use on each allotment. The objective would be to maintain current levels of livestock use and rangeland conditions.

See Appendix 1 for forage use by allotment under this alternative. Total animal unit months (AUMs) of forage use on BLM lands in the WSRA would be as found on Table 2-2.

RANGELAND MONITORING AND EVALUATION

All allotments are currently covered under the WSRA Monitoring Plan. Five or more years of actual use, utilization, trend, and climate data is available on 24 allotments. Three or more years of

TABLE 2-2
Total Forage Use on BLM Lands
Warm Spring Resource Area

	Total Use[1] (AUMs)	Use Competitive With Livestock (AUMs)
Livestock	87,733	
Big Game		
Antelope	684	276
Mule Deer	827	96
Wild Horses	2,992	2,178
Total	92,236	2,550

[1]Average Licensed Use: For analysis purposes, it is assumed that average annual use would continue. Active preference would remain at 149,009 AUMs.

data is available on the remaining 39 allotments (see Appendix 2). In the past, needs for adjustments have been determined from the analysis/evaluation of this data, and adjustments made where data indicated use exceeded grazing capacity. This process would continue under the No Action Alternative.

Appendix 3 presents a summary by allotment of range condition, trend, key species, utilization, proper use, land ownership, and other grazing information.

CHANGE IN KIND OF LIVESTOCK/SEASON OF USE

Requests for change would be considered and approved if feasible, if not in direct conflict with other resources or uses, and environmental analysis indicated the change would be consistent with good rangeland management.

RANGE IMPROVEMENTS

Structural Improvements

Maintenance of existing structure type facilities (fences, cattleguards, etc.) have been assigned to the operators (see Appendix 4). Water facilities, covered under cooperative agreements, would continue to require the operators to contribute specific fees/AUM to cover maintenance costs.

Non-Structural Improvements

Existing seeding/chaining areas would be maintained as funds permitted if they were determined to facilitate management (e.g., livestock distribution, utilization, etc.). No new vegetation treatments are expected unless requested and partially funded by the permittee.

ALLOTMENT MANAGEMENT PLANS

Existing AMPs on ten allotments would be followed and updated and monitored as necessary. No additional AMPs are scheduled.

Lands

LAND TENURE ADJUSTMENTS

Disposals, via exchange, state selection, R&PP Act, public sale, and desert land entry, would be considered if they were in compliance with the MFP, met the criteria for the respective method of disposal, as well as all other legal mandates. Processing of cases would be subject to manpower and budget constraints.

RIGHTS-OF-WAY CORRIDORS

Rights-of-way decisions would be made on a case-by-case basis. Wherever possible, location would be within the designated rights-of-way corridor or adjacent to the existing major rights-of-way listed below:

- Sigurd to Nevada Transmission Line (designated corridor)
- IPP to Nevada Transmission Line
- IPP to California 500-kV Transmission Line
- U.S. Highway 50&6
- Interstate Highway 15
- State Highway 21
- Snake Valley County Road
- State Highway 257

SPECIAL MANAGEMENT DESIGNATIONS

No designations have been made to date. No designations would be made under this alternative. (Note: Decision on wilderness designation by Congress is a separate action addressed in the Utah Statewide Wilderness EIS.)

Minerals

OIL AND GAS

Oil and gas and geothermal lease activities would be managed under the existing leasing categories (see Table 2-3). WSAs would continue to be managed under the BLM IMP until Congress decides on designation. Four WSAs (Wah Wah Mountains, Notch Peak, King Top, and Howell Peak) have areas with categories 3 and 4 designations. If these WSAs are not designated as wilderness areas, these lands would revert to management under the appropriate leasing categories.

GEOTHERMAL

See Management Common to All Alternatives section.

TABLE 2-3
Existing WSRA Oil and Gas Leasing Categories

Area	Acreage	Category
Wah Wah Mountains	7,840	3
	9,120	4
Meadow Creek	121	2
Pavant Butte	2,500	3
Tabernacle Hill	3,567	4
Crystal Peak	320	3
Fossil Mountain	1,920	3
Great Stone Face	160	3
Sunstone Knoll	130	3
Millard County Landfill	10	3
Painter Springs	160	3
Pruess Lake	760	3
South Tule Spring	320	4
Clear Lake Waterfowl	640	3
	6,200	2
Gunnison Bend Massacre	40	3
Devils Kitchen	40	3
Tabernacle Hill Petroglyphs	40	3
Swasey and Notch Peak	12,280	3
	11,160	4
Category Totals		
Category 1 (Standard Stipulations)	2,169,427	
Category 2 (Special Stipulations)	6,321	
Category 3 (No Surface Occupancy)	26,840	
Category 4 (No Leasing)	24,167	
Total	2,226,755	

LOCATABLE MINERALS

With the exception of the areas presently withdrawn from mineral location, all areas within the resource area would be open for locatable mineral development. The only area presently under withdrawal is the Tabernacle Hill Protective Withdrawal withdrawn under Public Land Order 6310 and contains 3,567 acres.

Twenty mining claims are located within the Tabernacle Hill withdrawal. These claims total 2,204 acres, and some are superimposed (cover the same areas). Therefore, the actual acreage under claim in the Tabernacle Hill area is 1,804 acres. Validity examinations conducted for these claims, recommended that they be declared invalid for no discovery of a valuable mineral deposit. Follow through with this action would continue. The Tabernacle Hill Protective Withdrawal will expire on July 21, 1987. Under current management direction, it is anticipated that a long-term or permanent withdrawal for this area would be applied for prior to expiration of the current withdrawal.

SALEABLE MINERALS

The WSRA would continue to dispose of saleable mineral material on a case-by-case basis. Free-use permits, for areas presently occupied for this purpose, would continue to be issued as they expire.

SOLID NON-ENERGY LEASABLE MINERALS

Open leasing status for non-energy solid leasable minerals would continue on all public lands in the WSRA. Prospecting permits for potassium have been issued for 132,811.98 acres in the Sevier Lake and Wah Wah Valley hardpan areas. The area within the Tabernacle Hill Protective Withdrawal would remain open to leasing for solid leasable minerals; however, there is no potential for solid non-energy leasables in the area.

Forest Resources

The WSRA would continue to issue permits on a demand basis for firewood, Christmas trees, pinenuts, and fence posts on the 141,221 acres of pinyon-juniper suitable for harvesting.

Within the WSAs, restrictions on activities that could impair suitability for wilderness designation would continue until Congress makes designation decisions on each. Forest resources on Notch Peak and in the Wah Wah Mountains (15,610 acres total) would not be available for management or harvest of forest products. In other areas, woodland products would be subject to sale under applicable standard stipulations, and management would be to enhance other resource values and uses.

Wildlife

FORAGE ALLOCATION

Forage would continue to be provided to maintain current big game numbers (see Appendices 5 and 6). Current big game populations in the WSRA are as follows: pronghorn antelope—701; mule deer yearlong—95, and winter—1,408. Current numbers were derived from aerial census, population monitoring, and professional experience, by joint decision with UDWR and BLM.

PRONGHORN ANTELOPE HABITAT AND USE

The management objective would continue to be to maintain black sagebrush habitat for pronghorn. The following actions would be taken:

- Existing pronghorn water sources maintenance on a priority basis as funds allow.
- Continuation of the present habitat monitoring program.
- Protection of general fawning habitat through seasonal restrictions on permitted activities.

- Identification of critical habitat.

MULE DEER HABITAT AND USE

The condition of critical deer winter ranges would be evaluated and monitored.

ELK HABITAT AND USE

Public land elk use in the WSRA would be documented when encountered. No forage allocation for elk would be made.

DESERT BIGHORN HABITAT AND REINTRODUCTION

No action regarding desert bighorn sheep would be anticipated.

RAPTOR HABITAT AND USE

Winter and nesting raptor populations would be monitored.

UPLAND GAME BIRD HABITAT AND USE

Habitat use and distribution of upland game species would be documented.

RIPARIAN/AQUATIC HABITAT AND USE

The Pruess Lake Habitat Management Plan (HMP) would be implemented. The riparian habitat at Crafts Lake and the temporary riparian habitat created by flooding of the Sevier River and Lake would be monitored.

Wild Horses

No formal allocation of forage to wild horses has been made. Wild horses would continue to use forage presently allocated to livestock and wildlife.

Wild horses would be captured and removed periodically to maintain present population numbers in each HMA: Conger—50; King—30; Sulphur (WSRA portion)—85; and Burbank—30) (see Appendix 7, Table 1). If more wild horses were trapped than needed to be removed, only the better quality, viable wild horses would be released.

Watershed and Water Resources

WATERSHED PROTECTION

Range sites that must stay in good or better condition to maintain soil loss within acceptable limits would continue to be identified.

Fire Management

All fires on public lands would be suppressed with whatever combination of manpower and equipment judged necessary to handle the incident. Controlled prescribed fires would be used to convert vegetation types for livestock and wildlife benefits in areas identified as suitable for treatment.

Recreation

RECREATION MANAGEMENT

Tabernacle Hill would be managed as a Special Recreation Management Area (SRMA) (3,567 acres) under the existing recreation management plan.

All other recreation resources would be managed as part of the Warm Springs Extensive Recreation Management Area.

OFF-ROAD VEHICLES

No ORV designations have been made in the WSRA. For analysis purposes, it is assumed that all public lands (2,226,755 acres) in the WSRA would remain open to ORV use.

VISUAL RESOURCE MANAGEMENT

Visual resources would be evaluated as a part of activity and project planning. Stipulations would be attached, as appropriate in accordance with the affected area's VRM class, to protect visual resources and mitigate visual impacts.

ALTERNATIVE B: PROTECTION

Range Management

FORAGE ALLOCATION

Forage allocations would be consistent with the indicated grazing capacity based on at least 5 years of monitoring (utilization, climate, and actual use) and 2 years of trend studies. This data is presently available on 24 of the 63 total allotments. Wildlife/big game and wild horses would be given priority in forage allocation and use on identified ranges. Initially, forage would be provided for potential mule deer, antelope, elk, bighorn sheep, and wild horse numbers. Livestock would be allocated all remaining available forage. Big game would have priority in allocation of increased forage resulting from vegetation treatments or range improvements. The objective would be to provide forage for potential big game

and wild horse numbers and improve range condition on all poor and fair condition ranges. Initial forage allocations by allotment would be as shown in Appendix 1.

Under Alternative B, total forage allocations on BLM lands in the WSRA is shown on Table 2-4.

TABLE 2-4
Initial Forage Allocations
Under Alternative B

	Total Use (AUMs)	Use Competitive With Livestock (AUMs)
Livestock	132,617	
Big Game		
Antelope	3,318	657
Mule Deer	1,320	301
Elk	209	117
Wild Horses	3,487	2,645
Total	141,201	3,860

RANGELAND MONITORING AND EVALUATION

All allotments would be monitored. Initially, special emphasis would be placed on I category allotments where less than 5 years of data is available.

CHANGE IN KIND OF LIVESTOCK/SEASON OF USE

Change in kind of livestock from sheep to cattle could be affected on up to 31 allotments (see Appendix 3) if competition prevented achievement of management objectives for pronghorn antelope and/or bighorn sheep. Any other change would be analyzed and permitted only if it benefitted or would not negatively affect wildlife and/or wild horses.

RANGE IMPROVEMENT

Structural Improvements

Installation, of planned rangeland improvements (see Appendix 4) on I and M allotments, would be accelerated to improve livestock distribution and more uniform forage utilization. Priority for new range improvements on public lands would favor those areas and improvements that would benefit wildlife and wild horses.

Non-Structural Improvements

Big game would be given priority in allocation of increased available forage resulting from vegetation treatment projects. Projects would be designed to primarily benefit wildlife. Areas treated would be those shown in Table 2-5. Approximately 27,600 acres or two-thirds of the potentially suitable areas (41,800 acres) would be treated. One-third of the area would be retained for wildlife cover. All suitable areas would be treated, based on availability of funds and favorable cost/benefit ratios.

ALLOTMENT MANAGEMENT PLANS

Existing AMPs on ten allotments would be followed and updated and monitored as necessary. No additional AMPs are scheduled.

Lands

LAND TENURE ADJUSTMENTS

The only lands identified for disposal (see Figure 2-2) are the following tracts which are suitable for sale under one or more of the criteria defined in Section 203 of FLPMA:

- Tract 1—T. 23 S., R. 19 W., Sec. 17, S½SE¼, NE½SE¼, SE¼NE¼; 160 acres.
- Tract 2—T. 19 S., R. 19 W., Sec. 35, NE¼NE¼; 40 acres.
- Tract 3—T. 22 S., R. 6 W., Sec. 3, Lots 9, 10, 11; 20.36 acres.
- Tract 4—T. 19 S., R. 4 W., Sec. 4, Lot 11; 12.05 acres.
- Tract 5—T. 18 S., R. 4 W., Sec. 33, Lot 5; 6.79 acres.

All other public lands would be retained in Federal ownership. Disposal of any other public lands would require an amendment of the RMP.

RIGHTS-OF-WAY CORRIDORS

Existing major rights-of way would be designated as corridors (see Table 2-6). New rights-of-way would be restricted to these corridors wherever feasible. Special management designation areas and VRM Class II areas (approximately 47,000 acres total) would be right-of-way avoidance areas.

SPECIAL MANAGEMENT DESIGNATIONS

Areas which would receive special management designation are listed below along with the management prescription for each:

- Pavant Butte: ACEC (2,500 acres) with mineral withdrawal and Category 3 for oil and gas leasing. Close to motor vehicles

TABLE 2-5

WSRA Acres Suitable for Vegetation Treatments
or Seeding and Estimated Production

	Public Land[a]		Estimated Production[c]	
Allotment	Acres Suitable	Acres Suitable[b] with Limitations	Before Treatment	After Treatment
Black Point	3,800	0	190	633
East Antelope	3,300	10,400	685	1,980
Ephraim-Meadow	0	560	26	77
Twin Peaks	11,200	12,300	1,175	3,559
Unallotted (S.W. of Kanosh	0	240	0	0
Totals	18,300	23,500	2,076	6,249
Grand Total	41,800		Increase	4,173

[a]Portions within these acreages may not be suitable due to stoniness, rock outcrops, or slope.

[b]It is estimated that 75 percent of these areas are suitable.

[c]Estimated current production is 20 acres/AUM. Estimated production after treatment would be 6 acres/AUM.

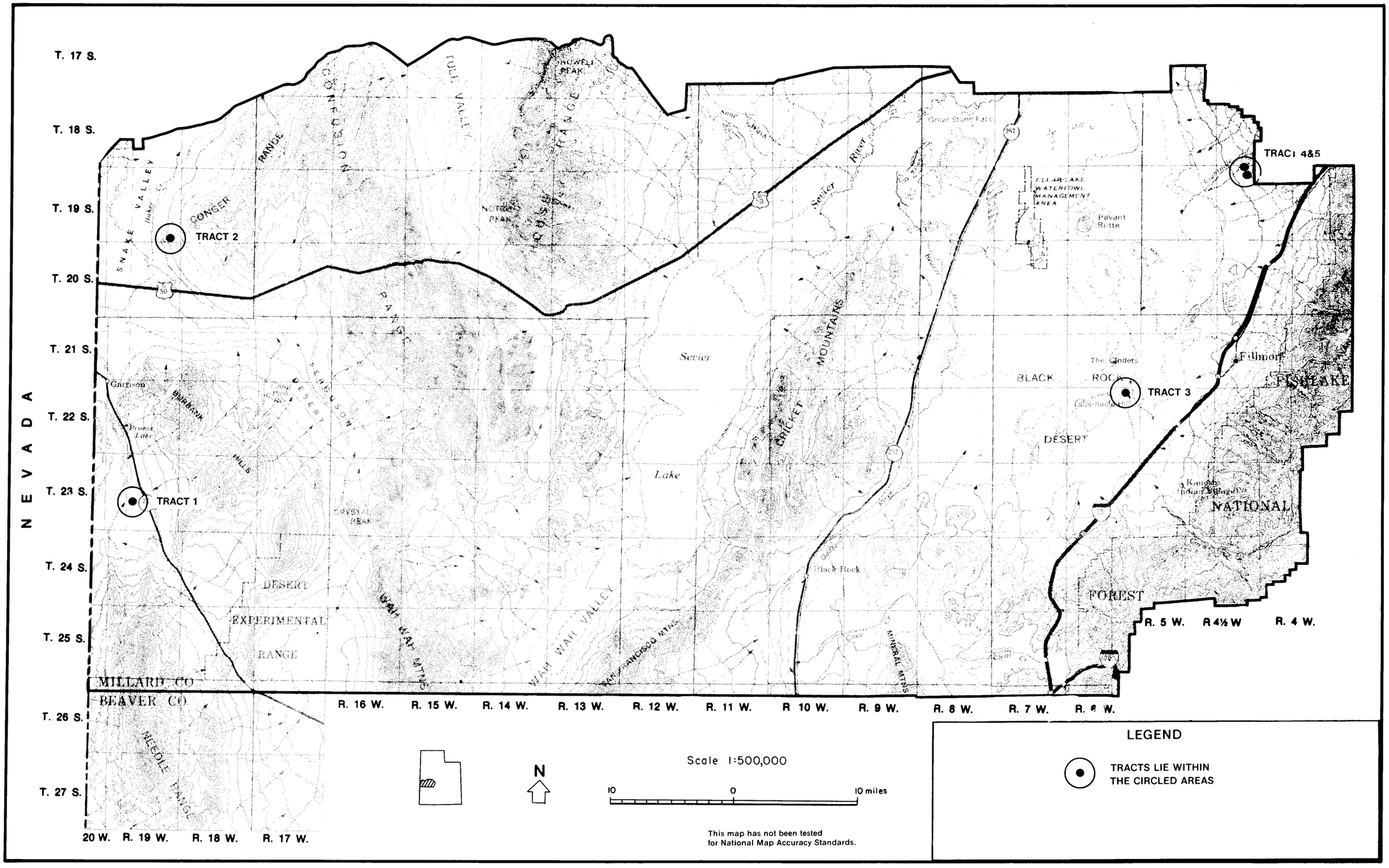


FIGURE 2-2
LAND DISPOSAL SITES

TABLE 2-6

Right-of-Way Corridor Specifications

Name	Width (ft)	Specifications	Terms[a]
Sigurd to Nevada Transmission Line	1,500	Available for all utility uses	4, 7
IPP to Nevada Transmission Line	1,500	Available for all utility uses	4, 7
IPP to California 500-kV Transmission Line	1,500	Available for all utility uses	4, 7
U.S. Highway 50&6	2,000	Available for all uses	1, 2, 3, 5, 8
Interstate Highway 15	3,000	Available for all uses	5, 6, 8
State Highway 21	2,000	Available for all uses	1, 2, 3, 5, 8
Snake Valley County Road	2,000	Available for all uses	1, 2, 3, 5
State Highway 257 and Union Pacific Railroad	2,000	Available for all uses	1, 2, 3, 5, 8

[a]Terms:

1. The road or highway within the right-of-way corridor shall be used to the maximum extent possible for construction and maintenance of new rights-of-way.

2. Roads that are needed for construction of a new right-of-way shall be temporary and fully rehabilitated.

3. All land disturbed by new rights-of-way except authorized new access roads shall be rehabilitated to as close to natural conditions as possible.

4. Transmission line rights-of-way shall be adjacent to each other or as close as possible.

5. Buried telephone cable lines shall be close to existing roads and highways and generally within the road right-of-way.

6. New rights-of-way shall be limited to below the surface of the ground uses only.

7. Existing transmission line access roads shall be used, and only tee roads to new tower sites shall be constructed for new rights-of-way.

8. All rights-of-way must comply with the applicable Visual Resource Management Class guidelines.

and cooperate with UDWR and FWS in development of a peregrine falcon reintroduction plan.

- Tabernacle Hill and the Cinders Volcanic Field: ACEC (8,550 acres) with mineral withdrawal and Category 3 for oil and gas leasing on the cinders; continue Category 4 on Tabernacle Hill; develop recreation facilities; acquire State section; limit ORV use; restrict rockhounding and shooting.
- Notch Peak: If not designated as wilderness, nominate 9,000 acres for National Natural Landmark, withdraw from mineral entry and place in Category 3 for oil and gas leasing. Close to motor vehicles and plan to develop recreational support facilities.
- Crystal Peak: If not designated as wilderness by Congress, nominate for National Natural Landmark, withdraw 640 acres from mineral entry, and continue Category 3 for oil and gas leasing. Close to vehicular traffic; develop management plan; interpretational materials and facilities if required.
- Fossil Mountain: Historic site (1,920 acres) with continued classification as Category 3 for oil and gas leasing. Develop interpretational materials.
- Wah Wah Mountains: Designate a Research Natural Area (5,970 acres). Acquire State Section 32; designate Category 3 for oil and gas leasing; designate as a retention-acquisition and right-of-way avoidance area; restrict harvesting of woodland products; close to ORVs; and develop a management plan in coordination with Nature Conservancy to preserve the area's integrity and ecological values.

Minerals

OIL, GAS, AND GEOTHERMAL LEASING

Leasing categories would be assigned to protect riparian areas, unique surface features, important wildlife habitat, and other resource values. Alternative B oil and gas and geothermal leasing acreages would be as shown in Table 2-7.

LOCATABLE MINERALS

The following areas would be withdrawn from mineral entry: Crystal Peak (in the event the area is not designated as wilderness by Congress), 640 acres; Pavant Butte, 2,500 acres; Notch Peak (in the event the area is not designated as wilderness by Congress), 9,000 acres; Tabernacle Hill and the Cinders, 8,550 acres; Wah Wah Mountains, 5,970 acres for a total of 26,660 acres.

All remaining public lands in the WSRA (2,200,095 acres) would remain open to mineral entry.

TABLE 2-7
Oil and Gas Leasing Categories
Under Alternative B

Area	Acreage	Category
Wah Wah Mountains	14,930	3
	9,120	4
Meadow Creek	121	2
Pavant Butte	2,500	3
Tabernacle Hill and The Cinders	3,567	4
	5,017	3
Crystal Peak	640	3
Fossil Mountain	1,920	3
Great Stone Face	160	3
Sunstone Knoll	130	3
Millard County Landfill	10	3
Painter Springs	160	3
Pruess Lake	760	3
South Tule Spring	320	4
Clear Lake Waterfowl	640	3
	6,200	2
Gunnison Bend Massacre	40	2
Devils Kitchen	40	2
Tabernacle Hill Petroglyphs	40	2
Swasey and Notch Peak	18,400	3
	11,160	4
Lake Creek Riparian	160	3
Crucial deer winter range	9,200	2
Crucial raptor nesting area	96,456	2
Category Totals		
Category 1 (Standard Stipulations)	2,045,044	
Category 2 (Special Stipulations)	112,097	
Category 3 (No Surface Occupancy)	45,447	
Category 4 (No Leasing)	24,167	
Total	2,226,755	

SALEABLE MINERALS

Material sales would be conducted in conformance with oil and gas and geothermal leasing categories to provide protection for other resource values.

NON-ENERGY SOLID LEASABLES

Non-energy solid leasable mineral activity would be in conformance with oil and gas and geothermal leasing category restrictions and areas withdrawn from locatable mineral entry as identified above (160,031 acres total).

Forest Resources

On approximately 11,830 acres of crucial/critical wildlife ranges and riparian areas, only selective removal of woodland products would be allowed.

Individual permits would be issued on demand for fuel wood, posts, Christmas trees, and pine nuts on the remaining 129,391 acres of pinyon-juniper suitable for harvesting operations.

Wildlife

The objective would be to achieve potential big game numbers and improve big game habitat currently in poor or fair condition (see appendices 5, 6, and 8). Potential big game numbers are based on prior stable populations for mule deer where available, carrying capacity of the forage habitat as determined on the Desert Experimental Range, and by professional experience in cooperation with UDWR.

FORAGE ALLOCATION

Wildlife capacity would be increased through habitat development and managing livestock grazing (change in kind of livestock, season of use, reduction of use, etc.) for optimum wildlife habitat improvement. The forage allocation to big game can be found on Table 2-4. Long-term big game populations in the WSRA would be as follows: pronghorn antelope, 2,994; mule deer yearlong, 95 and winter, 2,464; elk, 70; and desert bighorn sheep, 150.

PRONGHORN HABITAT AND USE

Black sagebrush habitat type within suitable use areas would be designated as critical pronghorn habitat. Kind of livestock would be changed from sheep to cattle if competition prevented attainment of wildlife objectives. Up to 31 allotments where forage use conflict exist could be affected (see Appendix 5).

Black sagebrush habitat, approximately 326,452 acres, would be maintained or improved to a good condition. Black sagebrush would be monitored in all livestock and wildlife vegetation studies.

On suitable pronghorn habitat, 26 water sources would be developed to achieve a maximum of 2 miles between waters. The potential changes in kind of livestock on 31 allotments would require construction of up to 365 miles of fence. See Appendix 9 for other wildlife habitat improvements.

During May and June, restrictions on conflicting activities (ORV use, right-of-way permits, oil and gas exploration and development, etc.) would be adopted in critical antelope fawning areas. Areas would be determined annually, based on herd distribution.

MULE DEER HABITAT AND USE

Critical deer winter range conditions would be monitored. Livestock use would be restricted in areas where competition limited achievement of management objectives for mule deer. Proper ratios between cover and forage would be maintained by removing juniper without damaging the forage resource. Critical deer winter range would be protected from conflicting uses. The unallotted 6-Mile tract would be fenced to exclude livestock.

Year-long deer herds would be expanded in the West Desert through habitat development and transplants of desert deer.

ELK HABITAT AND USE

The colonizing elk herds on the Pavant Plateau and Needle Mountains would be monitored to define their use of public lands. If competition with livestock became evident as the herds expand, a suitable forage allocation of 117 AUMs for elk would be made, and livestock allocations and management adjusted as necessary.

DESERT BIGHORN HABITAT AND REINTRODUCTION

In the West Desert of the WSRA, mountainous areas would be evaluated to determine suitability for reintroduction of desert bighorn sheep. Suitable areas would be prioritized. To prevent competition with domestic sheep, change in kind of livestock to cattle would be made a priority in identified bighorn reintroduction areas. In cooperation with UDWR, HMPs, including forage allocation (see Appendix 8) and monitoring plans, would be developed for reintroduction.

RAPTOR HABITAT AND USE

Winter raptor populations would be monitored to delineate bald eagle critical winter habitat and protection stipulations. Raptor habitat use would be monitored and correlated with range condition and trend, livestock class and management, and prey availability. Crucial wintering habitat would be designated.

Raptor nesting populations would be monitored with emphasis on sensitive and T&E species. A 0.25-mile radius around all active and inactive nests would be designated as crucial nesting habitat. Crucial raptor nesting areas (four) would be managed (Category 2 oil and gas leasing, ORV designations, permits, etc.) to prevent significant disturbance to nesting raptor from March 1 through June 30.

Pavant Butte would be designated an ACEC (2,500 acres) to protect this historic peregrine

falcon nesting and reintroduction site. In cooperation with UDWR, a peregrine falcon reintroduction plan would be developed.

UPLAND GAME BIRD HABITAT AND USE

Condition and potential of chukar and sage grouse habitat would be evaluated to determine areas where improvements are need to increase populations and improve habitat and distribution. Up to 54 water sources would be developed for chukars.

Sage grouse strutting grounds would be inventoried to establish a 2-mile radius buffer zone around each ground. Sagebrush manipulation would be prohibited within that zone.

RIPARIAN/AQUATIC HABITAT AND USE

The Pruess Lake HMP would be implemented. Livestock management, permits, 0.5 mile of fence, and oil and gas leasing restrictions would be taken to improve the aquatic habitat condition of Lake Creek and the riparian habitat conditions of Lake Creek, Pruess Lake, South Tule Spring, Craft's Lake, the Sevier River, and Meadow Creek. The management opportunities for Craft's Lake would be inventoried and evaluated. A HMP would be developed for public lands adjacent to the Clear Lake Waterfowl Management Area for cooperative habitat management.

Riparian and waterfowl habitat would be placed in Category 3 for oil and gas and geothermal leasing. All riparian areas would be closed to ORV use.

Spring and summer grazing on Lake Creek, around Pruess Lake, and on the Sevier River would be eliminated where potential for permanent riparian habitat exists.

Wild Horses

Forage would be allocated to sustain increased wild horse numbers as shown in Appendix 7, Table 2. Total forage allocation would be 3,487 AUMs for 346 wild horses: Conger HMA, 125; King HMA, 75; Sulphur HMA, 126; and Burbank HMA, 20. Livestock use would be curtailed or eliminated on crucial wild horse areas if competition limited wild horse management objectives.

Surveillance, especially during foaling periods, would be increased to insure wild horses are not harassed or captured and removed.

Selective removal of wild horses would be initiated to leave better breeding stock on the HMAs. Colorful wild horses (studs) with good conformation would be introduced to the herds to make wild horses captured for removal more adoptable.

Watershed and Water Resources

WATER PRODUCTION

Waters would be appropriated as described in Management Common to All Alternatives. Springs proposed for appropriation are Sawtooth, Trap, Amasa, Tunnel, James, Black, Rocky Knoll, Mud, Needle Point, Side, North Knoll, Unnamed, and Mud Lake.

WATERSHED PROTECTION

An activity plan would be developed for installation of 15 gully plugs on six grazing allotments as follows: Amasa, 3; Black Point, 2; Clay Springs, 3; Meadow Spring, 1; South Tract, 2; and Twin Peaks, 4. Six to 15 water bars would be established on 2 miles of road in Amasa Allotment.

Seven new channel erosion studies would be established on the following allotments: Clay Springs, Conger Spring, Deadman, Deseret, Mormon Gap, North Canyon, and Notch Peak. All channel erosion studies would be monitored each year. On 11 allotments susceptible to critical wind erosion (Anderson, Deseret, Ephraim-Meadow, Holden Winter, King, Lawson Cove, McClintock, Skunk Spring, Stott-Rowley, Twin peaks, Wallace), ORV would be seasonally restricted. Livestock grazing season of use would be changed on two allotments (Stott-Rowley and Ephraim-Meadow) to protect watershed values.

Fire Management

Full suppression would remain in effect within 2 miles of sage grouse strutting grounds, capitalized investment areas, areas adjoining private lands, and lower elevation West Desert livestock and big game ranges. The following areas could be designated fire management or modified suppression areas: Areas suitable for vegetation manipulation and pinyon-juniper vegetation type areas on West Desert mountain ranges.

Recreation

RECREATION MANAGEMENT

Tabernacle Hill, Pavant Butte, Fossil Mountain, Notch Peak, and Wah Wah Mountains would be managed as SRMAs. Fossil Mountain would be designated a historic site. Pavant Butte (2,500 acres) and Tabernacle Hill and the Cinder (8,550 acres) would be designated as ACECs.

Notch Peak would be nominated for designation as a National Natural Landmark with mineral withdrawal of 9,000 acres. Crystal Peak (640 acres) would be designated as an National Natural Landmark. The Wah Wah Mountains would be designated a Research Natural Area (5,970 acres). See Lands, Special Designations, above, for description of management prescriptions for each area.

OFF-ROAD VEHICLES

Public lands in WSRA planning area would be designated the following ORV categories:

- Open: 1,752,249 acres.
- Limited to existing and/or designated roads and trails: 400,686 acres—critical deer winter range, 9,200 acres; sage grouse strutting/nesting (seasonally), 10,000 acres; crucial raptor nesting, 96,456 acres; high erosion potential, 276,480 acres; and Tabernacle Hill and the Cinders, 8,550 acres.
- Closed: 73,820 acres—Crystal Peak, 640 acres; Pavant Butte, 2,500 acres; Notch Peak (if not designated as wilderness by Congress), 42,140 acres; Wah Wah Mountains (if not designated as wilderness by Congress), 28,000 acres; Fossil Mountain (if not designated as wilderness by Congress), 360 acres; and Lake Creek, 180 acres.

VISUAL RESOURCE MANAGEMENT

Surface disturbing activities would not be permitted if VRM objectives within VRM Class II areas would be exceeded after proposed mitigation.

ALTERNATIVE C: PRODUCTION

Range Management

FORAGE ALLOCATION

Forage used by livestock would be maximized. Requested livestock use would be licensed up to existing active preference or indicated grazing capacity, whichever is greater. Increases (to indicated capacity) over current active preference would be implemented in phases only when at least 5 years of monitoring data and 2 years of trend data were available that indicated grazing capacity exceeded active preference. Forage allocations for wildlife and wild horses would provide for viable populations. Initial forage allocations by allotment would be as shown on Appendix 1. Objectives would be to provide for increased livestock grazing use.

Under Alternative C, total initial forage allocations on BLM lands in the WSRA would be found on Table 2-8.

TABLE 2-8
Initial Forage Allocations
Under Alternative C

	Total Use[1] (AUMs)	Use Competitive With Livestock (AUMs)
Livestock	150,589	
Big Game		
Antelope	229	66
Mule Deer	384	38
Wild Horses	840	555
Total	152,042	659

RANGELAND MONITORING AND EVALUATION

Same as Alternative B.

CHANGE IN KIND OF LIVESTOCK/SEASON OF USE

Change in kind of livestock to accomodate operator need(s) would be allowed if economically advantageous to the operator, and an EA indicated such conversion was in accordance with BLM policy and regulations.

RANGE IMPROVEMENTS

Structural Improvements

Installation of planned rangeland improvements (see Appendix 4) on I and M allotments would be accelerated to accommodate increased livestock use through improved distribution and more uniform forage utilization.

Non-Structural Improvements

Proposed vegetation treatment projects would be completed on about 41,800 acres to increase useable forage by 4,173 AUMs. This increase would be allocated first to livestock use; other uses would be secondary. Those AUMs would be used to restore suspended preference, maintain current preference, and/or increase active preference. AUMs in excess of livestock needs would be allocated to big game. All allocated areas suitable for treatment (see Table 2-5, Alternative B), would be treated, based on availability of funds and favorable cost/benefit ratios.

ALLOTMENT MANAGEMENT PLANS

The WSRA would continue to evaluate, monitor, and update the ten existing AMPs. Management

plans would be prepared on a priority basis on the 39 I and five M category allotments that do not have AMPs at a rate of approximately five per year.

Lands

LAND TENURE ADJUSTMENTS

Same as Alternative B.

RIGHTS-OF-WAY CORRIDORS

Same as the No Action Alternative.

SPECIAL MANAGEMENT DESIGNATION

Same as the No Action Alternative.

MINERALS

OIL, GAS, AND GEOTHERMAL

Same as the No Action Alternative.

LOCATABLE MINERALS

Same as the No Action Alternative.

SALEABLE MINERALS

The resource area would be inventoried for suitable sand, gravel, and lava rock deposits, unencumbered by mining claims or other existing rights to identify and establish community saleable mineral pits.

Three locations southwest of Flowell, Utah, could be established as community pits for lava rock. The preferred location for a pit is Lot 7, Section 35, T. 21 S., R. 6. W. Alternate sites could be Lot 10, Section 35, T. 21 S., R. 6 W. and SE¼SW¼, Section 26, T. 21 S., R. 6 W.

NON-ENERGY SOLID LEASABLES

Same as the No Action Alternative.

Forest Resources

Green wood cutting areas would be established in the Cove Fort area. Access to facilitate harvesting would be developed. Woodland areas would be inventoried to identify areas suitable for commercial fuel wood or Christmas tree harvesting. Tracts for harvesting would be offered as demand required.

On the 141,221 acres of pinyon-juniper suitable for harvest, individual permits for dead wood fuel, posts, Christmas trees, and pine nut harvesting would be issued on demand.

Wildlife

FORAGE ALLOCATION

Viable big game populations would be maintained: pronghorn antelope, 175; and mule deer yearlong 41 and winter 650. Viable population numbers are equal to the minimum population that occurred within each herd unit during the past 35 years. These numbers were adjusted by percentages from the current populations and apportioned to allotments.

PRONGHORN HABITAT AND USE

Pronghorn habitat condition would be monitored by interpretation of livestock data. No new waters would be developed specifically for pronghorn.

MULE DEER HABITAT AND USE

Same as No Action Alternative.

ELK HABITAT AND USE

Same as No Action Alternative.

DESERT BIGHORN HABITAT AND REINTRODUCTION

Same as No Action Alternative.

RAPTOR HABITAT AND USE

Same as No Action Alternative.

UPLAND GAME BIRD HABITAT AND USE

Same as No Action Alternative.

RIPARIAN/AQUATIC HABITAT AND USE

Same as No Action Alternative.

Wild Horses

Wild horse numbers would be reduced to the minimum necessary to maintain viable herds on the Conger Mountain, King Top, and Sulphur HMA. Wild horses on the Burbank Hill HMA would be removed. Forage would be allocated for 30 wild horses on the Conger Mountain HMA, 20 on the King Top HMA, and 20 on the north portion of the Sulphur HMA (see Appendix 7, Table 3).

Watershed and Water Resources

WATER PRODUCTION

Same as Alternative B.

WATERSHED PROTECTION

Gully plugs and water bars would be installed and vegetation treatments would be as described in Alternative B.

Fire Management

Same as Alternative B.

Recreation

RECREATION MANAGEMENT

Tabernacle Hill and Pavant Butte would be managed as SRMAs. The following areas would also be managed as SRMAs to protect and enhance recreation values: Fossil Mountain, Notch Peak, and Wah Wah Mountains.

All other recreation resources would be managed as the Warm Springs Extensive Recreation Management Area. No areas would receive special management designation.

OFF-ROAD VEHICLES

All 2,226,755 public land acres in the WSRA would be designated as open to ORV use.

VISUAL RESOURCE MANAGEMENT

Surface disturbance would be mitigated where practical, but activities would be allowed to proceed even if VRM objectives were exceeded, except in any areas designated VRM Class I in actions subsequent to this RMP.

ALTERNATIVE D: BALANCED USE

Range Management

FORAGE ALLOCATION

The objectives of management would be to utilize key forage species as shown in Appendix 2, maintain good condition rangeland, and improve poor and fair condition rangeland. Forage allocations would be consistent with indicated grazing capacity based on at least 5 years of monitoring data and 2 years of trend studies. Adjustments in livestock use could be made in 1987 on up to 24 allotments currently having the required data. Adjustments, if necessary, would be made on the remaining allotments as the required data became available. Forage resources would initially be allocated as follows:

1. Objective big game numbers.
2. Objective wild horse numbers.
3. Balance of indicated capacity to livestock up to preference.
4. Forage in excess of the above equitably to all uses.

See Appendix 1 for initial forage allocations under this alternative.

Under Alternative D, total initial forage allocations on BLM lands in the WSRA are shown on Table 2-9.

TABLE 2-9
Initial Forage Allocations
Under Alternative D

	Total Use[1] (AUMs)	Use Competitive With Livestock (AUMs)
Livestock	133,634	
Big Game		
Antelope	2,106	797
Mule Deer	1,388	167
Wild Horses	1,680	1,040
Total	138,808	2,004

RANGELAND MONITORING AND EVALUATION

Monitoring would continue as in the No Action Alternative. Emphasis would be placed on I category allotments with limited data.

CHANGE IN KIND OF LIVESTOCK/SEASON OF USE

Same as No Action Alternative.

RANGE IMPROVEMENTS

Structural Improvements

Range improvements, deemed environmentally acceptable and having a favorable cost/benefit ratio, would be installed as funds become available. Emphasis would be placed on improving livestock distribution to insure more uniform forage utilization patterns. Priority would be given to I and M category allotments with opportunity for improved livestock distribution. See Appendix 4 for proposed rangeland improvements by allotment.

Non-Structural Improvements

Along the eastern edge of the WSRA (primarily in I category allotments), approximately 14,000 acres of the land suitable for vegetation treatments would be treated. Priority would go to allotments demonstrating greater need for improvement in livestock forage and watershed condition. Treatment would increase available forage by 1,633 AUMs.

ALLOTMENT MANAGEMENT PLANS

The ten existing AMPs would continue to be updated, monitored, and evaluated as necessary. Priority for development of new AMPs would be

as follows: Breck's Knoll, Pine Valley, Deadman Wash, Mormon Gap, Antelope Point, Black Rock Winter, and East Antelope in Category I; and Black Rock Summer in Category C. One AMP would cover Antelope Point, Black Rock Winter, East Antelope, and Black Rock Summer. Plans would be developed on these allotments and the remaining I Category allotments at a rate of approximately two plans per year.

Lands

LAND TENURE ADJUSTMENTS

Same as Alternative B.

RIGHTS-OF-WAY CORRIDORS

Same as Alternative B.

SPECIAL MANAGEMENT DESIGNATION

Areas selected for special management designations are listed below:

- Pavant Butte: ACEC (2,500 acres) with mineral withdrawal and continuation of oil and gas leasing Category 3. Close to motor vehicles and cooperate with UDWR and FWS in development of a peregrine falcon reintroduction plan.
- Tabernacle Hill: ACEC (3,567 acres) with mineral withdrawal and Catgory 3 for oil and gas leasing; develop recreation facilities; acquire State section; limit ORV use; restrict rockhounding and shooting.
- Notch Peak: If not designated as wilderness, designate 9,000 acres an National Natural Landmark and place in Category 3 for oil and gas leasing.
- Crystal Peak: Outstanding Natural Area and withdraw 640 acres from mineral entry if not designated as wilderness by Congress.
- Fossil Mountain: Historic site (1,920 acres) and continued classification as Category 3 for oil and gas leasing.
- Wah Wah Mountains: Designate a Research Natural Area (5,970 acres). Acquire State Section 32; designate Category 3 for oil and gas leasing; designate as a retention-acquisition and right-of-way avoidance area; restrict harvesting of woodland products; close to ORVs; and develop a management plan in coordination with Nature Conservancy to preserve the area's integrity and ecological values.

Minerals

OIL, GAS, AND GEOTHERMAL LEASING

Oil and gas leasing categories would be as on Table 2-10.

TABLE 2-10
Oil and Gas Leasing Categories
Under Alternative D

Area	Acreage	Category
Wah Wah Mountains	5,970	3
Lake Creek	180	3
Notch Peak[1]	9,000	3
Pavant Butte	2,500	3
Tabernacle Hill	3,567	3
Crystal Peak[1]	640	3
Fossil Mountain[1]	1,920	3
Great Stone Face	160	3
Sunstone Knoll	130	3
Millard County Landfill	10	3
Painter Springs	160	3
Pruess Lake	760	3
South Tule Spring	90	3
Clear Lake Waterfowl	640	3
	6,200	2
Gunnison Bend Massacre	40	2
Devils Kitchen	40	2
Tabernacle Hill Petroglyphs	40	2
Critical Deer Winter Range	7,765	2
Crucial Raptor Nesting Area	41,585	2
Category Totals		
Category 1 (Standard Stipulations)	2,145,358	
Category 2 (Special Stipulations)	55,670	
Category 3 (No Surface Occupancy)	25,727	
Category 4 (No Leasing)	0	
Total	2,226,755	

[1] If not designated as wilderness by Congress.

LOCATABLE MINERALS

The following areas would be withdrawn from mineral entry: Crystal Peak (in the event the area is NOT designated as wilderness by Congress), 640 acres; Pavant Butte, 2,500 acres; Notch Peak (in the event the area is not designated as wilderness by Congress), 9,000 acres; Tabernacle Hill, 3,567 acres; Wah Wah Mountains (in the event the area is not designated as wilderness by Congress), 5,970 acres for a total of 21,677 acres.

SALEABLE MINERALS

Same as Alternative B.

NON-ENERGY SOLID LEASABLES

Same as Alternative B.

Forest Resources

Same as Alternative B.

Wildlife

Management would be to achieve objective numbers of big game.

FORAGE ALLOCATION

Habitat development and livestock grazing management would be undertaken to achieve objective numbers of big game. Populations would be: pronghorn antelope, 1,861; and mule deer yearlong, 95 and winter, 2,464. Objective numbers of big game were jointly agreed upon by BLM and UDWR. Data used to set these objectives includes prior stable populations when available, potential of the forage resource, and other known resource conflicts and limiting factors.

PRONGHORN HABITAT AND USE

Management objectives for black sagebrush habitat would be to improve condition of habitat in poor to fair and fair to good condition through better distribution and management of grazing use.

- Good condition class present acreage is 35,880; objective acreage would be 118,000.
- Fair condition class present acreage is 180,152; objective acreage would be 153,452.
- Poor condition class present acreage is 110,440; objective acreage would be 55,000.

Twenty-six water sources (guzzlers, reservoirs, etc.) would be developed in habitat more than 2 miles from existing water sources as funds permitted.

Monitoring to better define pronghorn suitability requirements would be planned and initiated.

When requested by the livestock permittee, change in kind of livestock and/or season of use on critical habitat would be evaluated. As a result of this evaluation which would consider all resource uses, a determination would be made as to whether change in class of livestock would be allowed in order to achieve pronghorn habitat management objectives.

MULE DEER HABITAT AND USE

Condition of critical deer winter range would be monitored and livestock managed to prevent degradation. Proper ratios between cover and forage area would be maintained. Conflicting use of critical deer winter ranges would be restricted. Management objectives would include utilization of all suitable winter range.

West Desert yearlong deer habitats would be inventoried and monitored, and crucial habitat identified. Habitat development would be undertaken to establish and expand yearlong deer herds where feasible.

ELK HABITAT AND USE

Same as No Action Alternative.

DESERT BIGHORN HABITAT AND REINTRODUCTION

Mountainous areas would be evaluated to determine suitability for bighorn sheep reintroduction. If suitable areas were found, analysis would be made to determine conflicts with existing land uses and potential for reintroduction.

RAPTOR HABITAT AND USE

Same as Alternative B.

UPLAND GAME BIRD HABITAT AND USE

Same as Alternative B, except a 2-mile buffer zone would be established around active sage grouse strutting grounds. Up to 41 water sources would be developed as funds allowed..

RIPARIAN/AQUATIC HABITAT AND USE

The Pruess Lake HMP would be implemented. Measures, such as fencing, the installation of spawning structures, revegetation, etc., would be taken to improve the aquatic and riparian habitat conditions of Lake Creek (including 0.5 mile of fence), Pruess Lake, South Tule Spring, Craft's Lake, the Sevier River, and Meadow Creek. The management opportunities for Craft's Lake would be inventoried and evaluated.

Protective oil and gas and goethermal leasing category restrictions would be placed on Meadow Creek, Pruess Lake, the area around Clear Lake Waterfowl Management Area, and South Tule Spring (potential least chub aquatic habitat) to protect habitat and wildlife values.

Wild Horses

Wild horse numbers would be maintained at the levels shown in Appendix 7, Table 4. Selective removal of wild horses would be initiated to leave better breeding stock. Colorful studs with good form would be introduced to improve herds and

make wild horses more adoptable. Total forage allocation to wild horses would be 1,040 AUMs for a total population of 140 horses: Conger HMA, 60; King HMA, 30; and Sulphur HMA, 50. The Burbank herd (30 wild horses) would be captured, removed from the HMA, and relocated. HMA Plans would be developed for each HMA following RMP approval.

Watershed and Water Resources

Same as Alternative B; however, the livestock season of use on two allotments (Stott-Rowley and Ephraim-Meadow) would be monitored and adjustments made to season-of-use and/or reduction in livestock, whichever proves necessary.

Fire Management

Same as Alternative B.

Recreation

RECREATION MANAGEMENT

The Tabernacle Hill and the Wah Wah Mountains would be managed as a SRMA. Protective oil and gas leasing categories would be in place to preserve recreational, archaeological or historical values in the following areas: Great Stone Face, Gunnison Bend, Devil's Kitchen, Tabernacle Hill Petroglyphs, Sunstone Knoll, Painter Springs, Pruess Lake, Meadow Creek. Pavant Butte, Tabernacle Hill, Notch Peak, Crystal Peak, Fossil Mountain, and the Wah Wah Mountains would receive special management designations as outlined under the Lands section.

OFF-ROAD VEHICLES

The public lands in WSRA would be designated the following ORV categories:

- Open: 2,155,728 acres.
- Limited to existing and/or designated roads and trails: 52,917 acres — Tabernacle Hill (designated roads), 3,567 acres; critical deer winter range, 7,765 acres; Raptor nests, 41,585 (seasonal March 1 to June 30).
- Closed: 18,110 acres — Notch Peak (if not designated as wilderness by Congress), 9,000 acres; Crystal Peak (if not designated as wilderness by Congress), 640 acres; Pavant Butte, 2,500 acres; and Wah Wah Mountains, 5,970 acres.

VISUAL RESOURCE MANAGEMENT

Same as No Action Alternative

COMPARATIVE SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Table 2-11 summarizes and compares the major environmental consequences of the alternatives. See Chapter 4 for a detailed discussion of the impacts of each alternative.

TABLE 2-11

Comparative Summary of Environmental Consequences

Resource	Alternative A: No Action	Alternative B: Protection	Alternative C: Production	Alternative D: Preferred Alternative
VEGETATION Productivity	At current levels of use, 48 of the 63 allotments would increase in overall forage productivity by an average of 5 percent over the long term. Thirteen allotments would remain the same or slightly decline in productivity. Two allotments (Stott-Rowley and Antelope Point) would decline substantially in forage production (by as much as 80 percent) over the long term.	Initially, 22 allotments would be substantially overstocked and productivity could decline on these allotments. Proper stocking level adjustments would be expected to increase productivity on all 63 allotments over the long term. Forage productivity would be expected to increase an average of 15 percent on the 39 I and 14 M category allotments managed under AMPs.	If proposed levels of livestock use (active preference or higher) were sustained over the long term, 32 allotments would substantially decline in forage productivity (by as much as 80 percent) Ten allotments would remain relatively static in productivity and 21 allotments would improve in productivity over the long term.	Initially, 22 allotments would be substantially overstocked and productivity could decline on these allotments. Proper stocking level adjustments would be completed within 5 years Following these adjustments, forage productivity would be expected to increase on all 63 allotments over the long term. On the ten allotments with existing AMPs and 37 allotments with proposed AMPs, productivity could increase by an average of 15 percent.
Composition	Vegetation composition would change little or not at all on 61 allotments. The composition of key species on these 61 allotments would remain stable or slightly improve. The two remaining overstocked allotments (Stott-Rowley and Antelope Point) would incur a loss of key plant species and subsequent decline in range condition.	The vegetation composition of key desert shrub species would increase significantly, especially on up to 31 West Desert sheep allotments that could be converted to cattle. The composition of key species on the remaining 32 allotments would stablize and improve over the long term. A shift in composition from tree species to forage species (grass and browse) would occur on 27,600 acres of treated areas (primarily on three allotments).	Of the 63 allotments, the composition of key plant species would increase on 21 allotments, remain approximately the same on ten allotments, and substantially decline on 32 allotments. Of the 32 declining allotments, 19 overstocked sheep allotments (759,694 acres) would be largely converted from salt desert shrub communities to grass. Thirteen allotments (748,188 acres) overutilized by cattle would decline in key grass species and increase in brush composition dominance. Compositon would shift from tree/brush species to primarily grass species on 41,800 acres of treated range in three allotments. However, on two of these allotments (24,000 acres), vegetation could revert to trees and other undesirable species as overutilization continued.	The composition of key species would be expected to stabilize and/or increase in all 63 allotments over the long term. This would primarily result from stocking level adjustments with the first 5 years of plan implementation and the long-term scheduling and completion of up to 37 allotment management plans. Vegetation composition would change from tree/brush species to key grass and forb species on the proposed 14,000 acres of vegetation treatment in three allotments.
RANGE MANAGEMENT Livestock Use	Present grazing use would continue at the average licensed use level of 87,733 AUMs. Two allotments (Stott-Rowley and Antelope Point) could decrease by 80 percent in long-term useable forage. The other 61 allotments would be expected to provide a relatively stable base of forage over the long term. Projected long-term available livestock forage would be about 100,919 AUMs for all allotments.	Initial allocation would be 132,617 AUMs and further adjustments (within 5 years) made as monitoring indicates. Overall long-term available forage would be approximately 110,500 AUMs or about a 22,767 AUM increase above current average use. All grazing use could be allocated for cattle if 31 sheep operations converted kind of livestock.	Initial grazing allocations for livestock would be 150,589 AUMs. At this level of use, 32 allotments would be substantially overallotted and could decrease in available forage by as much as 80 percent over the long term. The remaining 31 allotments would be expected to increase slightly. The long term available forage would be expected to be below current licensed use.	Initial allocation would be 133,634 AUMs and further adjustments made (within 5 years) as monitoring indicates. Overall, long-term available forage would be approximately 108,100 AUMs or an increase of approximately 20,367 AUMs above current licensed use.
Livestock Operations	There would be no major impacts to existing livestock operations by continuing present management and levels of permitted use.	There could be significant impacts to sheep operations on the West Desert if conversion of 31 allotment from sheep to cattle was implemented. This would require major changes in marketing, methods of operation, and ranch lifestyles.	Ranch operations that run livestock on the 32 allotments that would be substantially overstocked would have to adjust to long-term losses in forage productivity. Up to an 80 percent loss in available livestock forage could be expected over the long term.	There would be no major impacts to livestock operations over the long term.
WILDLIFE Pronghorn Antelope	Gradual improvement in habitat condition and a slight increase in antelope numbers (701 animals at present) could occur in both the short and long term.	Improving habitat condition would allow antelope numbers to increase moderately in the short term and significantly (up to 2,994 animals) in the long term.	Maximum use of forage by livestock would reduce that available to antelope and reduce populations to 175 animals. Habitat condition would decline in the long term.	In the long term, critical habitat would gradually improve. This would allow antelope population increases up to 1,861 animals.
Mule Deer	Populations would be expected to remain at present levels (95 yearlong and 1,408 winter animals).	Critical mule deer habitat would remain static or improve, allowing population numbers to increase. Mule deer numbers would increase to 245 yearlong and 2,464 winter animals.	Long-term deer herd populations in the resource area could decline to 41 yearlong and 650 winter animals over the long term.	The good quality of winter deer habitat would be maintained or improved slightly. Available forage and population numbers would increase (95 yearlong and 2,464 winter animals).

TABLE 2-11 (continued)

Resource	Alternative A: No Action	Alternative B: Protection	Alternative C: Production	Alternative D: Preferred Alternative
Elk	Elk use of WSRA ranges would continue to be slight. No adverse impact to the species or the habitat would be expected.	In the long term, elk numbers could increase to 70 head on public lands in the WSRA.	Same as Alternative A.	Same as Alternative A.
Desert Bighorn Sheep	None exist in the WSRA. No change would occur.	Bighorn sheep would be introducted to suitable areas, allocated 140 AUMs of forage, and the population could reach 150 animals.	Same as Alternative A.	Bighorn sheep number could be introduced into the WSRA.
Raptors	No long-term effects on raptor populations would be expected.	Restriction on ORV use and oil and gas operations would be imposed to protect raptors during critical nesting periods. Raptor numbers could increase in the long term.	Same as Alternative A.	Same as Alternative B.
Upland Game	Upland game populations would be expected to remain static in the short and long term.	Habitat improvement and protections would allow sage grouse and chukar numbers to increase in the long term.	Same as Alternative A.	Same as Alternative B.
Riparian Habitat	Riparian habitat conditions would remain in fair to poor condition, except at Pruess Lake where condition would improve from fair to good.	In the long term, riparian habitat condition would be expected to improve to the next higher condition class at Pruess Lake, Lake Creek, South Tule Spring, Crafts Lake, the Sevier River, and Meadow Creek.	Same as Alternative A.	Same as Alternative B.
Threatened and Endangered Species	The potential to establish the peregrine falcon could be jeopardized. Ferruginous hawk reproduction could be affected. Bald eagle and other raptor populations would be unaffected.	The peregrine falcon would be reintroduced on Pavant Butte. Bald eagle and other raptor populations would be unaffected.	Same as Alternative A.	Same as Alternative B.
WILD HORSES	Wild horses in four HMAs would be managed to maintain the total current population of 195 head. Wild horse average actual use would continue at 2,992 AUMs of forage from BLM lands. Trapping of excess horses would occur. If more horses were trapped than needed to be removed, only the better quality horses would be released.	Wild horses would be allocated 3,487 AUMs of forage from BLM lands and managed to maintain an average population of 346 head on four HMAs. Studs of the desired type introduced to increase diversity of the gene pool. Proposed livestock fence construction would have to be mitigated, or it could cause injury and loss of life to wild horses.	Wild horses would be allocated 840 AUMs of forage from BLM lands and managed to maintain an average population of 70 head on three HMAs. Wild horses would be removed from the Burbank HMA. Limited livestock fencing could cause injury and loss of life to wild horses in three HMAs.	Wild horses would be allocated 1,680 AUMs of forage from BLM lands and managed to maintain an average population of 140 head on three HMAs. Studs of desired type introducted to increase diversity of the gene pool. Wild horses on the Burbank HMA would be removed to eliminate conflict with livestock and wildlife.
RECREATION	Hunting would remain at current levels. No special management designations would be made. Cultural resources would not be impacted. The entire resource area would remain open to ORV use. No significant impact on visual resources would be expected.	Wildlife populations would increase along with subsequent hunting opportunities (deer by 70 percent and antelope by 328 percent). The primary recreation resources (5) would receive special management designations. There would be no significant impact to ORV use. This alternative would improve range condition and, therefore, visual resources. Cultural resources would not be affected.	Wildlife populations would decrease along with hunting opportunities (deer hunting decrease of 50 percent and antelope decrease of 75 percent). No special management designations would be made. This alternative would result in no significant impact on ORV use. Grazing overutilization would degrade visual resources. Cultural resources would not be affected.	Wildlife populations would increase along with subsequent hunting opportunities (deer by 75 percent and antelope by 166 percent). Special management designations (5) would be made as in Alternative B, except The Cinders would not be designated. This alternative would improve range condition and, therefore, visual resources. There would be no significant impact on ORV use. Cultural resources would not be affected.
LANDS	Land tenure adjustments would be made on a case-by-case basis. One designated right-of-way corridor exists now. No special management designations would be made.	Five tracts of land (239.2 total acres) would be identified for disposal and be available for sale. Right-of-way corridors would be designated, and major right-of-way applications would be restricted to these designated corridors where feasible. Six areas would receive special management designations.	Land tenure adjustments would be the same as Alternative B. Right-of-way corridors and special management designations would be the same as Alternative A.	Land tenure adjustments and right-of way corridors would be the same as Alternative B. Special management designation would also be the same as Alternative B with one exception: the Tabernacle Hill ACEC would be smaller in size with The Cinders eliminated from designation.

TABLE 2-11 (continued)

Resource	Alternative A: No Action	Alternative B: Protection	Alternative C: Production	Alternative D: Preferred Alternative
MINERAL	The overall opportunity for oil and gas exploration and development would be excellent. 97 percent of the resource area is in leasing Category 1. Little or no change in locatable mineral activity would be expected. The area under withdrawal would be 3,567 acres.	No significant impact to oil and gas exploration and development would be expected. The area in Category 1 would be reduced to 92 percent of the resource area. Little or no change in geothermal, locatable, nonenergy solid leasable, and saleable mineral activity would be expected. The areas under withdrawal would be 26,660 acres.	Same as Alternative A.	The acreage in Category 1 under this alternative would be 96 percent of the public lands. The area under withdrawal would be 21,677 acres. No significant effect on oil, gas, and geothermal or nonenergy solid leasable activity would be expected. No impact to locatable and saleable mineral activity would be expected.
WATERSHED AND WATER RESOURCES	Livestock overutilization of forage on two allotments would result in increased runoff and sediment yield that would degrade water quality and watershed values. Little or no impact from ORV use would be expected.	No long-term overutilization would occur. Little or no impact from ORV use would be expected. Vegetation treatments could improve watershed values on up to 27,600 acres.	Livestock overutilization of forage on 32 allotments would result in increased runoff and sediment yield that would degrade water quality and watershed values. Little or no impact from ORV use would be expected. Vegetation treatments could improve watershed values on up to 41,800 acres.	Same as Alternative B except vegetation treatments could improve watershed values on up to 14,000 acres
SOILS	Livestock overutilization of forage on two allotments would increase erosion in those areas. Little impact from ORV use would be expected.	No long-term overutilization would occur. Little imoact from ORV use would be expected.	Livestock overutilization of forage on 32 allotments would result in increased erosion in those areas. Little impact from ORV use would be expected.	No long-term forage overutilization would occur. Little impact from ORV use would be expected.
FIRE MANAGEMENT	Full suppression would continue on all 2,226,755 acres. There would be prescribed fires to maintain previous treatment areas. No significant impacts would be expected.	Full suppression would continue on 2,015,555 acres. Limited suppresssion on up to 211,200 acres and prescribed fire use would be defined in the Fire Management Plan. No significant impacts would be expected.	Same as Alternative B.	Same as Alternative B.
ECONOMICS	There would be no predictable change in net cash income to cattle and sheep operations under this alternative in the short term. Over the long term, there could be some change in forage availability, resulting in a change in net cash income, but the change is not expected to be significant. No significant change in the value of hunter days and no significant economic impact on mineral-related activities would be expected.	Initially, small cattle operations would benefit from a 77 percent increase in forage use and net cash income. Medium and large cattle operations would benefit to a lesser degree. The economic effect of change in kind of livestock from sheep to cattle could be significant to affected operators. Over the long term, small cattle operators would benefit the most, followed by medium and large cattle operations. Increased hunting activity would slightly benefit economics, but not significantly either locally or regionally.	In the short term, small cattle operations would benefit the most, followed by sheep operations then large and medium cattle operations. In the long term, most operations would experience economic impacts due to decreases in available forage. The value of hunter days would decrease substantially under this alternative. None of these changes or mineral related actions would be expected to significantly affect local or regional economies.	Initially, small cattle operations would benefit the most, followed by sheep operations then medium and large cattle. Over the long term, all sizes of cattle and sheep operations would realize increases in net cash income. None of the increases would be expected to be significant in local or regional economies. Increased hunting activities would benefit the economy but not to a significant degree. No significant effect on mineral related expenditures or incomes would be expected.

CHAPTER 3
AFFECTED ENVIRONMENT

INTRODUCTION

This chapter describes the affected environment of the Warm Springs Resource Area (WSRA). It provides the basis for evaluating impacts of the preferred alternative and other alternatives discussed in Chapter 2. Descriptions presented here are commensurate with the significance of impacts expected under the preferred or other alternatives and discussions required by law (e.g., threatened and endangered species [T&E] species). The effects of the alternatives on the environment here described are presented in Chapter 4.

The primary source for information presented in this chapter is the WSRA Management Situation Analysis (MSA), developed earlier in the planning process. Unless otherwise indicated, that is the source document for information and analysis presented here.

None of the alternatives would have significant effects on climate, air quality, sociology, topography, or geology; however, these are briefly discussed to describe the area's setting.

SETTING

Climate and Air Quality

The WSRA climate is typical of the Great Basin; characterized by limited precipitation, low relative humidity, rapid evaporation, high frequency of clear skies, and large daily and annual ranges in temperature. Rapid evaporation is an important climatic characteristic.

Annual precipitation in the resource area ranges from 6 to 30 inches per year. The highest values (20 to 30 inches) occur in the Pavant Mountains in the eastern portions of the resource area. Secondary maximum values, about 16 inches, are found in the House Range and Wah Wah mountains. By contrast, annual precipitation is about 6 inches in the Pine Valley. Maximum rainfall occurs in the late summer and early fall thunderstorm season. In the spring, low pressure systems originate in the Pacific Ocean, move through the Great Basin, and result in a secondary precipitation peak. Utah is the second driest state in the union (Nevada is first).

Representative temperature distributions have been recorded at several locations. Those locations and their respective elevations above mean sea level (m.s.l.) are: Deseret, 4,540 feet; Clear Lake Refuge, 4,600 feet; Fillmore, 5,252 feet; Kanosh, 5,016 feet; Black Rock, 4,900 feet; Cove Fort, 5,700 feet; Garrison, 5,275 feet; and the Desert Experimental Range, 5,252 feet. Data from these sites show seasonal extremes ranging from low winter values of -32 degrees Fahrenheit (F), to summer highs of 107 degrees F. Large diurnal variation in temperatures (from 30 to 35 degrees F) are common because of low relative humidity.

The length of the growing season closely correlates with elevation. High elevations generally have shorter growing seasons because of lower minimum nighttime temperatures. The shortest growing season (20 days) occurs in the higher elevations of the Pavant Mountains. Elevations in this area reach 10,215 feet above m.s.l. The length of the growing season increases significantly as elevations decrease. In the Black Rock Desert, the frost-free period is generally between 140 and 160 days. Further west in the resource area, the growing season decreases; an influence of higher terrain. This area generally has a growing season lasting 80 to 120 days (Environmental Applications, 1981).

Air quality in the resource area has been designated as Class II by the U.S. Environmental Protection Agency (EPA). This classification permits moderate deterioration, normally accompanying well-controlled growth. The nearest Class I area (extremely limited air quality degradation permitted) is Capitol Reef National Park, approximately 70 miles to the east.

Emissions inventory data (Utah Bureau of Air Quality, 1983) indicates that the resource area is little affected by air pollution. There is, however, concern over possible future West Desert air and visibility degradation from the Intermountain Power Project (IPP), currently under construction near Delta. Presently, suspended particulates, sulphur oxide, nitrogen oxide, and hydrocarbons are very low and are far below the maximum allowed under the National Ambient Air Quality Standards (NAAQS). During summer, long periods of intense sunshine cause strong vertical air turbulence, resulting in good pollution dispersion potential. In the winter, high pressure systems dominate the area causing stable meteorological conditions and periods of relatively poor pollution dispersion potential.

Unimpaired visibility is an important value of the resource area. Panoramas of Great Basin block-faulted mountains, rising steeply from sagebrush covered plains, are greatly enhanced by the generally excellent clarity of the air. The resource

area is near the center of the area with the highest visual range (70+ miles) in the United States (EPA, 1979).

Topography and Geology

All of the resource area and the western one-third of the State lies in the Great Basin physiographic province. This topographic region is not a single basin, but consists of block-faulted mountains and intermontane basins in approximately equal proportions. The landforms consist of arid desert lowland without external drainage, and north-south trending isolated mountain ranges. The mountains are short ranges, rising abruptly to heights of 3,000 to 5,000 feet above the surrounding desert floor. Over 150 mountain ranges are found throughout the Basin and Range province. Many intermontane basins exhibit internal drainage where runoff collects into depressed valley basins and eventually evaporates from desert playas (Thornbury, 1965). During his expeditions of 1843 and 1845, John C. Fremont originally designated this topograhic region as the "Great Basin" because he recognized the unique internal drainage pattern. The eastern portions of the resource area show recent evidence of volcanism, including such landforms as lava flows, caulderas, cinder cones, and pit craters.

Sociology

Millard County (population 13,500) has a low population density (2 per square mile). In the WSRA portion of the county, most of the population is centered along Interstate (I) 15 in the eastern portion of the planning unit. The only population centers in the western portion of the resource area are the small farming settlements of Garrison and Eskdale, located near the Nevada border.

Historically, population expansion by Utah's Mormon pioneers was a planned successive movement along the Wasatch Front lowlands and high plateaus. Settlement along the "Mormon Corridor" from Salt Lake City to the Pacific Coast is exemplified by the communities along I-15 (Meinig, 1965). Today, these communities function as retail centers with agrarian economic bases (Murphy, 1974). Fillmore, 150 miles south of Salt Lake City, was originally established as the territorial capital of the Utah territory. Today it is the Millard county seat.

Eskdale was settled in the 1950s by the Order of Aaron, a religious sect modeled after Hutterite communes of the Midwest (Roylance, 1982). The community consists of about 100 individuals and is self-supporting, operating a dairy, orchard, school, and machine shops.

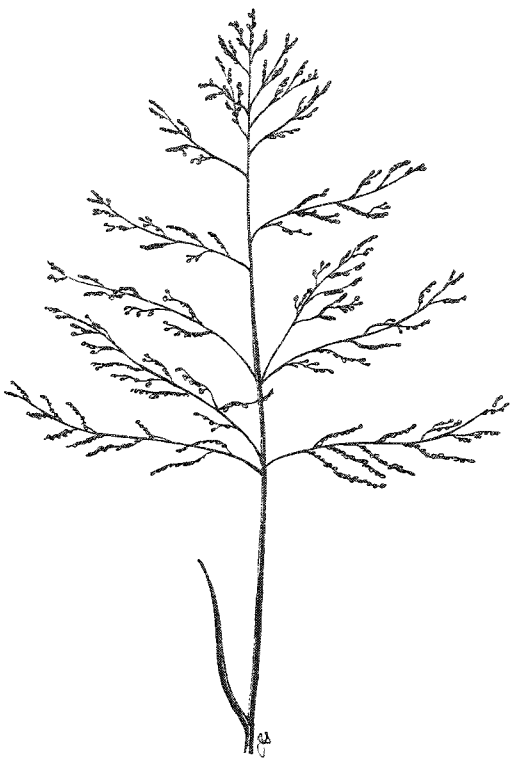
Communities in the WSRA have been culturally homogenous. Residents value their small-town way of life, community spirit and solidarity, access to the outdoors, air quality, and aesthetic and recreational opportunities as important lifestyle advantages. They regard the area as a good place to live and raise a family. Most would probably not consider relocating for alternative employment opportunities. Generally, livestock operators accept the multiple use concept for surrounding public lands. "Opportunity to earn a living" and "appearance" were considered significant local community disadvantages needing improvement (Department of the Air Force, 1981a).

Other major interest groups using resource area lands are conservation and recreation organizations with State and national affiliation. Of these groups, preservation-oriented organizations show the most concern for aesthetic values, the block-faulted mountain ranges, scenic quality, and limited recreation development. Rockhound groups value the area for mineral collecting and geologic sightseeing.

The Kanosh Band of the Paiute Indian Tribe has approximately 44 members located on an 80-acre tract 1-½ miles northeast of Kanosh. The band leases its water rights to nearby cattle ranchers. At the time of European contact, the Southern Paiutes occupied an area encompassing what is now Southern Utah, Northern Arizona, Southern Nevada, and Southeastern California. Eventual pioneer encroachment on Indian lands caused the Southern Paiutes to be located on five reservations; one of which was at Kanosh.

When established in 1929, the original reservation at Kanosh contained 4,280 acres. In 1954, the Kanosh Band was terminated from Federal trust status. Following termination, they sold their tribally-owned lands. In 1980, the band was reinstated to Federal trusteeship and granted reservation lands (Department of the Air Force, 1981b). Near Cove Fort, 1,102 acres of WSRA public lands were granted to the band (*Federal Register*, September 13, 1984). The band plans to use the newly acquired lands for livestock grazing, tourist oriented commercial development, and possible geothermal development (U.S. Department of the Interior [USDI], Bureau of Indian Affairs [BIA], 1982).

Alkali sacaton



VEGETATION

Major Plant Communities

The WSRA is situated along the east-central edge of the Great Basin Desert. The two major plant communities of the Great Basin Desert are the salt-desert shrub and sagebrush-grassland, which are dominated by shadscale (*Atriplex confertifolia*) and big sagebrush (*Artemesia tridentata*), respectively. Together, these two plant communities account for nearly 82 percent of the total vegetation cover in the resource area.

SALT-DESERT SHRUB COMMUNITIES

The salt-desert shrub communities comprise nearly 65 percent of the vegetation cover in the WSRA (see Figure 3-1). These communities include saltbush and greasewood plant associations that occupy vast areas in the lower elevation basins and playas of the West Desert. They are an important rangeland type as far as providing winter forage for sheep and cattle and year-round forage for antelope and wild horses.

Vegetation of the salt-desert shrub ranges is characteristically sparse. These plant communities are largely dominated by shrubs and half-shrubs of the goosefoot (*Chenopodiaceae*) family. Some of the most important species are shadscale (*Atriplex confertifolia*), fourwing saltbush (*Atriplex canescens*), greasewood (*Sarcobatus vermiculatus*), winterfat (*Ceratoides lanata*), green-molly (*Kochia americana*), and spiny hopsage (*Grayia spinosa*). Several shrubs of the *Composite* family are also prominent members of the salt-desert shrub communities, including budsage (*Artemesia spinescens*), black sagebrush (*Artemesia arbuscula nova*), snakeweed (*Gutierrezia sarothrae*), horsebrush (*Tetradymia* spp.), and low rabbitbrush (*Chrysothamnus viscidiflorus* spp. *stenophyllus*).

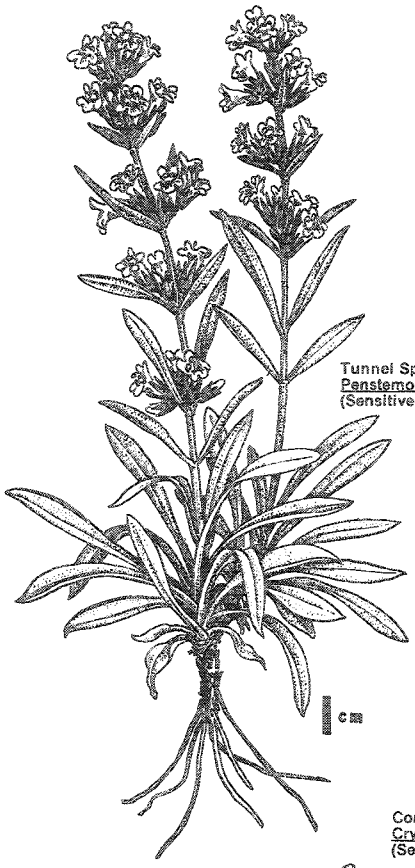
Cool season grasses prevalent in the salt desert shrub ranges include Indian ricegrass (*Oryzopsis hymenoides*), squirreltail (*Sitanion hystrix*), Sandberg bluegrass (*Poa sandbergii*), and needle-and-thread grass (*Stipa comata*). Important warm season grasses are galleta (*Hilaria jamesii*), alkali sacaton (*Sporabolus airoides*), and sand dropseed (*Sporobolus crytandrus* (Blaisdell and Holmgren, 1984).

Forbs frequently observed throughout the salt-desert shrub ranges include globemallow (*Sphaeralcea* spp.), phlox (*Phlox* spp.), Indian paintbrush (*Castilleja* spp.), daisy (*Erigeron* spp.), and buckwheat (*Eriogonum* spp.). Native annuals seldom comprise more than a small fraction of the total cover, but three exotic species, cheatgrass (*Bromus tectorum*), Russian thistle (*Salsola kali*), and halogeton (*Halogeton glomeratus*) are found throughout these ranges. These species are especially abundant on poor and/or disturbed range sites (Blaisdell and Holmgren, 1984).

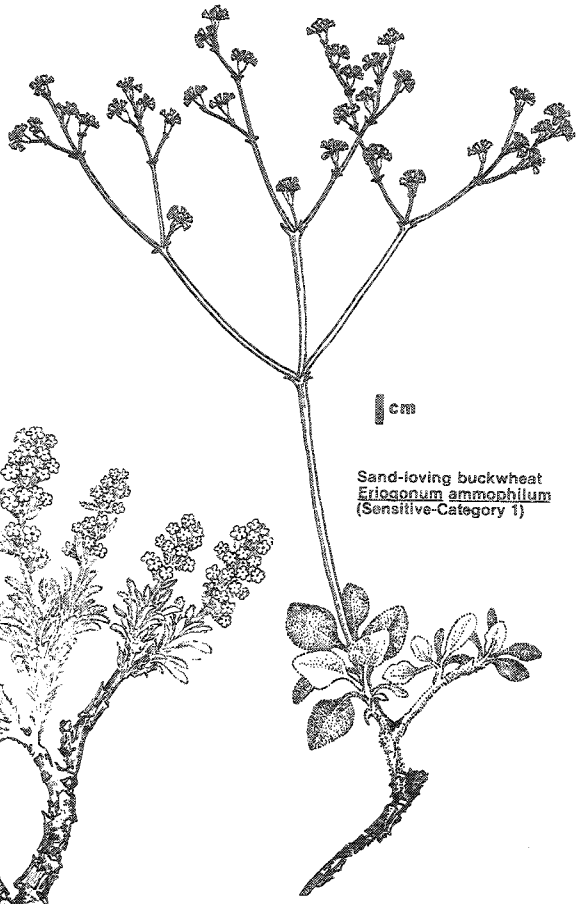
The composition of the salt desert shrub communities has changed during the last 140 years, since the introduction of sheep on the West Desert ranges. Winter sheep use has affected the structure of these communities. Grazing has caused an increase in the grass (herbaceous forage) component over the shrub component, which is more heavily utilized as a source of winter forage.

SAGEBRUSH-GRASSLAND COMMUNITIES

The sagebrush-grass range communities occupy nearly 17 percent of the resource area. These vegetation communities dominate the benches, alluvial terraces, and upland foothills of the resource area. They often form a mid-vegetation zone between the desert shrub valley floors and upland pinyon-juniper sites.



Tunnel Spring Beard Tongue
Penstemon concinnus
(Sensitive-Category2)

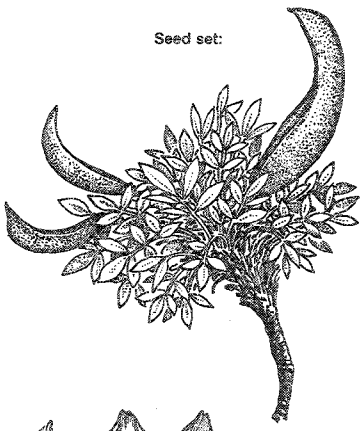


Sand-loving buckwheat
Eriogonum ammophilum
(Sensitive-Category 1)

Compact Catseye
Cryptantha compacta
(Sensitive-Category 2)

Jones Globemallow
Sphaeralcea caespitosa
(Sensitive-Category 2)

Seed set:



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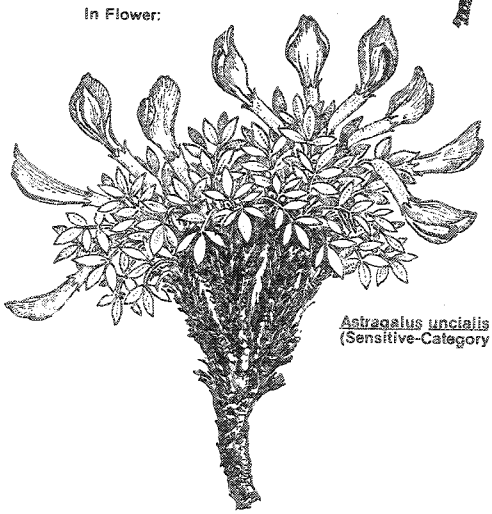
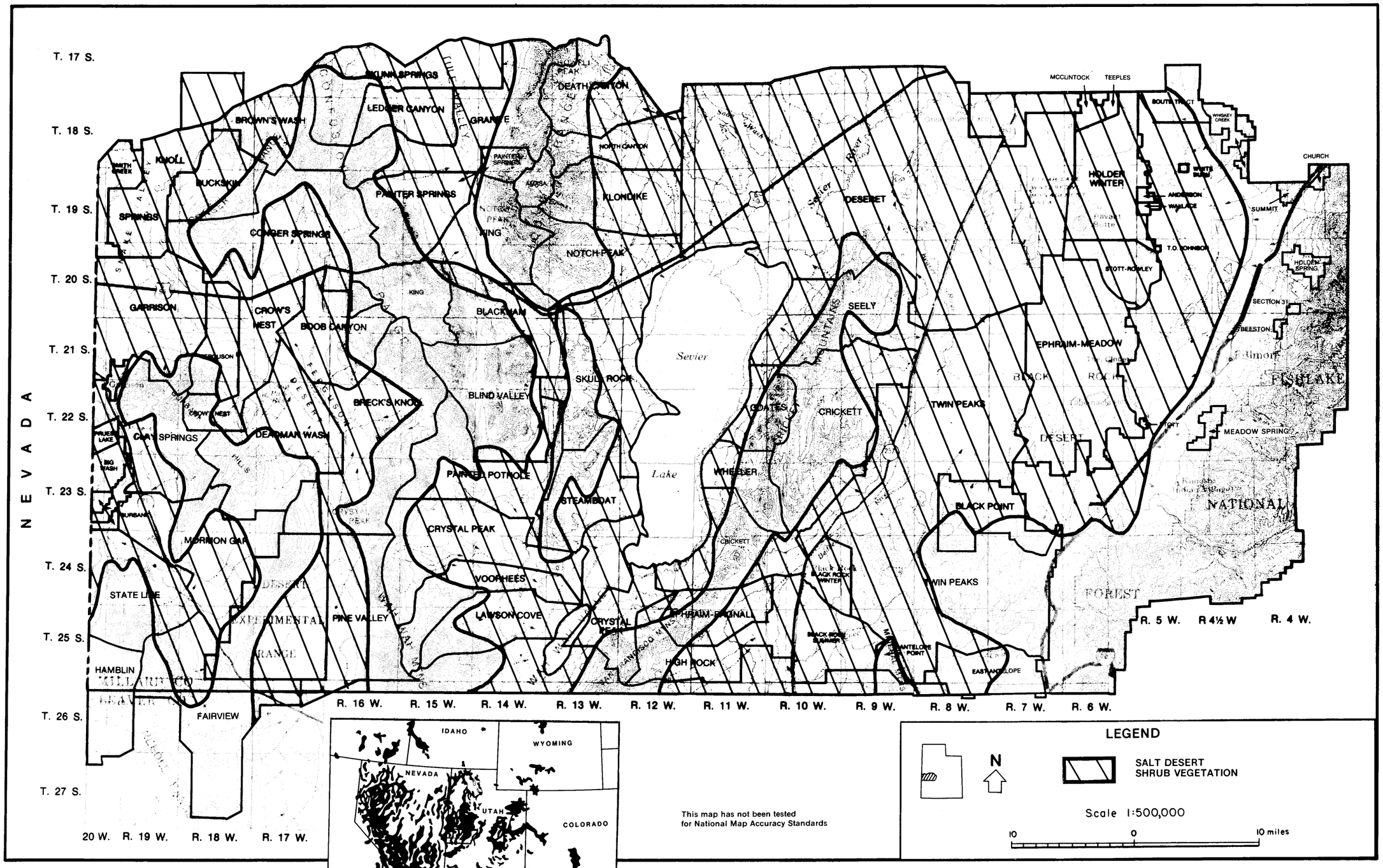


Astragalus uncialis
(Sensitive-Category 2)



Managing Intermountain Rangelands—Salt-Desert Shrub Ranges James P. Blaisdell Ralph C. Holmgren

FIGURE 3-1
DISTRIBUTION OF SALT DESERT SHRUB VEGETATION

The native sagebrush-grasslands are dominated by woody shrubs, particularly several varieties of big sagebrush. On some sites, big sagebrush can account for 70 percent or more of the brush species present. Other dominant shrubs, generally in the higher mountain foothill zones, include bitterbrush (*Purshia*), mountain mahogany (*Cercocarpus*), and snowberry (*Symphoricarpos*).

Usually, stands of big sagebrush inhabit well-developed soils that can also sustain a vigorous understory of herbaceous (grass and forb) species. Principal grasses present are species of wheatgrass (*Agropyron*), fescue (*Festuca*), bluegrass (*Poa*), bromegrass (*Bromus*), needlegrass (*Stipa*), squirreltail (*Sitanion*), ricegrass (*Oryzopsis*), and wildrye (*Elymus*). Common forbs present in varying amounts are yarrow (*Achillea*), locoweed (*Astragalus*), segolily (*Calochortus*), larkspur (*Delphinium*), daisy (*Erigeron*), buckwheat (*Eriogonum*), lupines (*Lupinus*), penstemons (*Penstemon*), phlox (*Phlox*), Indian paintbrush (*Castilljia*), and death-camas (*Zigadenus*) (Blaisdell et al., 1982).

Because of their location (along the foothills and benches) and general productivity, the sagebrush zones provide important forage for livestock and wildlife, particularly during the spring/fall transitional seasons. They are sites preferred by cattle for their variety of grasses. Domestic sheep and deer utilize the forbs and shrub species.

Competitive uses by grazing animals in these sagebrush communities has led to changes in plant composition on some sites. Heavy grazing use by cattle, often repeated each spring/summer, has led to diminishing plant reproductive vigor of several key grasses. Some annual grass (cheatgrass) and weed species, along with deep-rooted undesirable shrubs (rabbitbrush, broom snakeweed, junipers), have encroached on these sites.

OTHER MAJOR PLANT COMMUNITIES

The third major vegetation type in the resource area is pinyon-juniper, often found on rockier mountain sites. On the drier sites (elevations 4,000-7,500 feet), the pinyon-juniper woodlands are often dominated by Utah juniper (*Juniperus osteosperma*), which may comprise 80 percent or more of the overstory species. However, on the wetter sites (elevations 5,000 to 8,000 feet), pinyon pine may form nearly pure stands as the dominant species. The most common pinyon species encountered in the eastern foothill region of the area is *Pinus edulis*, while the mountain ranges of the West Desert contain singleleaf pinyon (*Pinus monophylla*), an endemic species of the Great Basin Region.

Pinyon-juniper types are frequently associated with big sagebrush communities and, therefore, can occupy or invade some of the most productive soil associations. On sites where pinyon-juniper trees have formed a dense canopy, understory vegetation is usually sparse. In the eastern foothills of the resource area where precipitation is higher, these "closed" vegetation communities often respond well to treatment (chaining or prescribed burning). These practices, followed by rangeland seedings, have enhanced overall forage productivity on sites as much as four-fold.

Other important vegetation communities in the resource area account for only a very small fraction of the total area. Mountain shrub, subalpine conifer, and aspen communities occupy sites in the upper reaches of the House Range and Wah Wah mountains. Riparian and wetland vegetation (associated with springs, seeps, ephemeral streams, and lake bed playas) are important communities, but are very limited in area and distribution. These types are further discussed in the Forest Resources and Wildlife sections.

Vegetation Inventory/Rangeland Studies

The vegetation types in the WSRA have not been formally mapped in detail, since range surveys were completed in the early 1960s. The majority of the vegetation data available has come from two sources.

The first source of vegetation information is from research conducted at the Desert Experimental Range, located in the southwest region of the WSRA. This research station, established in 1933, has provided a variety of detailed information from studies on the effects of livestock and big game grazing (primarily winter sheep and antelope) on desert shrub ecosystems. Collectively, these studies have provided information that is used in the resource area regarding:

1. Evaluations of key forage plant species used by grazing animals to determine diet overlap between animals.
2. Methods of evaluating range condition and trend on desert shrub ranges.
3. Pasture management techniques and rangeland requirements for rest from livestock use.

The second major source of vegetation information is from grazing monitoring studies conducted by the WSRA range staff. Monitoring studies (including actual use, climate, utilization, and trend) have been established on all 63 grazing allotments. Several studies were established as

early as 1967. The majority of studies involving utilization have been initiated in the last 6 years (1980-1985). The monitoring studies (utilization and trend) completed to date are summarized in Appendix 2.

The utilization studies have formed the basis for determining the indicated (estimated) carrying capacity for all 63 allotments. Average utilization is determined annually for each allotment through measurements in the field. One to three key species are sampled, depending on the site evaluated (native range or seeding) and the kinds of grazing animal use. The percent of vegetation removed from each key species is estimated to the nearest 20 percent. This recorded estimate of utilization is compared to what is considered "proper use" for the key plant species on the site. (The criteria used in establishing proper use factors for key species is summarized in Appendix 10.) In order to compute an indicated (estimated) capacity, the average observed utilization, the proper use factors, and actual use grazing records are used.

Range Condition

The data needed to determine ecological range condition for range sites in each allotment is presently not available. Range sites, as described in the Soil Conservation Service (SCS) National Rangeland Handbook (1976), have not been fully mapped on the West Desert ranges of Millard County. Consequently, ecological condition ratings have not been completed.

Range condition estimates have been determined for each allotment, based on existing utilization and trend study data and the professional judgement of the WSRA range staff. The mapping of vegetation types, used in determining condition, was done in conjunction with ocular reconnaissance forage surveys completed prior to 1963.

Range condition, as estimated in the WSRA, is based primarily on observations of the amount, productivity, and vigor of key forage species within the various plant communities. The guidelines used in determining range forage condition, specifically for salt desert shrub ranges, were those outlined from studies done at the Desert Experimental Range. The descriptions of condition classes (excellent, good, fair, and poor) were condensed, summarized, and used from studies by Blaisdell and Holmgren (1984). A description of these condition classes is presented in Appendix 11.

TABLE 3-1
Range Condition[1]

	Acres	Percent
Excellent	100,371	5
Good	803,061	40
Fair	889,732	44
Poor	234,065	11
Total Federal Acres	[2]2,027,229	100

[1] Based on analysis of existing utilization and trend data and the professional observations and judgement of the WSRA range staff using the Condition Class Rating Guides described in Appendix 11.

[2] The total number of Federal acres in the 63 grazing allotments administered by the WSRA. Acreage of the four allotments administered by the Ely District, Nevada, are not included in this table.

Table 3-1 shows the cummulative acreages for each condition class in all 63 allotments. The condition class ratings for individual allotments are shown in Appendix 12).

Range Trend

Trend is the change in vegetation and soil characteristics as a direct result of environmental factors, primarily climate and grazing use. Indicators of trend (e.g. plant vigor, severity of grazing use, changes in plant composition, soil movement, etc.) are the same and recognizable across numerous sites or habitats.

There have been 229 permanent trend plots established in 52 allotments in the resource area (see Appendix 2). One hundred and thirty-nine of these plots were established between 1967 and 1976 and have been read at various intervals since. Of the 139 plots, 55 show improving trend, 44 indicate a static trend, and 40 a downward trend. The remaining 90 trend plots were established more recently, between 1980 and 1984, and are read every 3 years. Initial trend readings from these plots indicate 18 improving, 69 static, and three declining.

The 229 trend plots are scattered throughout the grazing allotments and provide a good overall representation of range trend. Eleven allotments, however, do not have permanent trend plots established, but apparent trend (observed over 1-2 years) has been estimated in these allotments. Appendix 2 indicates which allotments do not have trend plots.

Summarized in Table 3-2 is the estimated range trend (including observed and apparent) for all

TABLE 3-2
Range Trend[1]

	Acres	Percent
Improving	575,858	28
Static	1,237,310	61
Declining	214,061	11
Total	2,027,229	100

[1] Includes estimates of observed trend on 52 allotments and apparent trend on 11 allotments, administered by the WSRA. Acreage of the four allotments administered by the Ely District, Nevada, are not included in this table.

Federal range in the 63 grazing allotments. Appendix 12 shows the trend acreages for each allotment.

Threatened, Endangered, and Sensitive Plant Species

No federally-listed T&E plant species have been identified in the WSRA.

Five plant species, found in the resource area, are listed as sensitive (undergoing candidate status review as endangered by the U.S. Fish and Wildlife Service [FWS]). These species are *Astragalus uncialis*, compact catseye (*Cryptantha compacta*), sand-loving buckwheat (*Eriogonum ammophilum*), tunnel spring beardtongue (*Penstemon concinnus*), and Jones globemallow (*Sphaeralcea caespitosa*). Of these species, only sand-loving buckwheat is presently listed as a Candidate species—Category 1 by the FWS. That indicates there is substantial data to support its recommendation as T&E. The other species are presently Candidate species—Category 2. More data is needed to make a biological assessment as T&E.

Shown in Table 3-3 are these sensitive (candidate) species, their current status, and identified habitat. This table also lists other endangered and sensitive plants that are likely to occur in the resource area, and those located in adjacent counties/resource areas that may potentially occur in the WSRA.

Poisonous Plant and Noxious Weed Species

Halogeton (*Halogeton glomeratus*) is the only poisonous plant that poses a major threat to livestock in the resource area. This species is quite prevalent throughout the West Desert ranges and has attributed to considerable sheep loss in the past 20-40 years. Only in recent years have operators been able to greatly reduce losses through more careful and effective management of herds on their winter/spring ranges.

Other poisonous species found in the WSRA include horsebrush *Tetradymis* spp.), death camas (*Zigadenus* spp.), locoweed (*Astragalus* spp.), and whorled milkweed (*Asclepias subverticillata*). There have been few reports of livestock poisonings directly attributed to these species.

There has been concern over a recent infestation of Scotch thistle (*Onapordum acanthium*), a very competitive noxious weed. The infestation is presently localized between Fillmore and Cove Fort, where it has established in cultivated fields and along road sides. Although not presently widespread, this species has the potential to infest substantial areas of public range, particularly the more productive ranges and important riparian stream communities.

RANGE MANAGEMENT

Grazing Permits and Licensing

Presently, 96 permittees graze livestock on allotments containing approximately 2,056,830 acres of public rangeland in the resource area. This represents 92 percent of the public lands within the resource area. Far less that the 2,056,830 acres of public land are actually grazed by livestock, due to waste areas, rough inaccessible slopes, and limited water supplies. The 8 percent of public range not within allotment boundaries is largely comprised of Sevier Dry Lake.

Of the 96 permittees, 53 have cattle permits, 41 have sheep permits, and two have dual use permits (sheep and cattle). Twenty-eight permittees presently use more than one allotment.

The agricultural centers for the majority of these livestock operations are located primarily north and east of the resource area. Many of the largest sheep operations are from Salt Lake, Utah, Sanpete, and Wasatch counties. The cattle operations, most of which consist of small cow/calf herds, are primarily based in eastern Millard County and the two West Desert communities of Garrison, Utah, and Baker, Nevada. Table 3-4 shows the comparative size of the livestock operations in the WSRA.

Grazing Allotments

At the present time, all or portions of 73 allot-

TABLE 3-3

Threatened, Endangered, and Sensitive Plant Species
WSRA

Species	Common Name	Status[a]	Habitat Description[b]
Known Populations in the WSRA:			
Astragalus uncialis	--	BLM Sensitive FWS Category 2 Federal Register Nov. 83.	Elevation 4,650 ft. Atriplex confertifolia in and near small wash areas. Old lake shores, gravel. Millard County, Nye County (Nevada).
Cryptantha compacta	Compact catseye	BLM Sensitive FWS Category 2 Federal Register July 84.	Elevation 5,000 to 6,500 ft.; Sevy Dolomite Formation gravelly loam, open slopes and ridges, outcropping covered with shallow soil layer; desert shrub and grassland community. Millard County.
Eriogonum ammophilum	Sand-loving buckwheat	BLM Sensitive FWS Category 1 Federal Register Nov. 83.	Elevation 5,270 ft. Quaternary Alluvium, sandy soil; mountain shrub community. Millard County
Penstemon concinnus	Tunnel spring beardtongue	BLM Sensitive FWS Category 2 Federal Register Nov. 83.	Elevation 5,500 to 7,500 ft.; Sevy Dolomite formation, gravelly soil; p-j woodland. Beaver and Millard counties.
Sphaeralcea caespitosa	Jones globe mallow	BLM Sensitive FWS Category 2 Federal Register Nov. 83.	Elevation 5,000 to 6,500 ft.; Sevy Dolomite, rocky calcareous soil, mixed shrub, p-j, and grass community. Beaver and Millard counties.
Populations Likely to Occur in the WSRA (Not Verified):			
Cuscuta warneri	Warner's dodder	BLM Sensitive FWS Category 2 Federal Register Aug. 85.	Elevation 4,700 ft. This species is dependent upon a host species (Phyla cuneifolia) that has been identified near Flowell, Utah. Millard County.

TABLE 3-3 (concluded)

Species	Common Name	Status[a]	Habitat Description[b]
Frasera gypsicola		BLM Sensitive FWS Category 1 Federal Register Aug. 85.	Habitat description unavailable.
Trifolium andersonii var. *friscanum*	Frisco clover	BLM Sensitive FWS Category 1 Federal Register Aug. 85.	Habitat description unavailable.
Known Populations in Adjacent Resource Areas/Counties That May Occur in WSRA:			
Penstemon tidestromii	Tidestrom beardtongue	BLM Sensitive FWS Category 2 Federal Register July 84.	Elev. 5,600 to 8,200 ft. variety of substates, desert shrub, snowberry, and juniper communities. Juab County.
Townsendia aprica	Last Chance townsendia	Endangered Federal Register Aug. 1985.	Elevation 6,500 to 8,000 ft. Arapian shale, scattered lava boulders in sandy soil; mixed p-j grassland community. Sevier County.

[a]USDI, FWS, 1983; USDI, FWS, 1984; USDI, FWS, 1985.

[b]Welsh and Thorne, 1979.

TABLE 3-4
Livestock Operators by Herd Size
Warm Springs Resource Area

	Livestock Operations		
	Number of Operators[1]	Average Herd Size	Estimated Aggregate Herd/Flock Size[2]
Cattle			
1-99 Cows	28	40	960
100-499 Cows	18	233	3,360
500 and up Cows	3	1,530	3,680
Sheep			
1-2,000 Ewes	23	1,050	15,330
2,001-4,500 Ewes	12	2,570	45,990
4,501 and up Ewes	2	3,000	11,680

[1] Includes two duel operations. Also, a single operation may have more than one permittee.
[2] Based on 8,000 cattle and 73,000 sheep that graze public lands in the WSRA.

ments are in the resource area (see Figure 2-1). Ten allotments are licensed and administered by other BLM offices. There are four allotments along the Nevada border (Burbank, Hamblin, Pruess Lake, and Smith Creek) managed by the Ely District, Nevada. Six allotments (Hansen, Hardpan, High Rock, Lawson, Cove, Smithson and Wells) are managed by the Cedar City District, Utah (only the High Rock and Lawson Cove allotments are depicted on Figure 2-1).

Of the total of 63 allotments administered by the WSRA, 43 are individual allotments, while 20 are used by more than one operator. Thirty-two cattle allotments, 27 sheep allotments, and four dual use (cattle and sheep) allotments are in the resource area.

Currently, ten allotments are actively managed under existing Allotment Management Plans (AMPs). The majority of these AMPs are fully implemented with prescribed grazing systems, pasture fences, water developments, and some rangeland seedings completed. The Boob Canyon, Clay Springs, Deseret, and Knoll Springs are all cattle allotments with implemented AMPs. Sheep allotments under AMPs are the Blind Valley, Buckskin, Granite, and Skunk Springs allotments. Ephraim-Meadow and Twin Peaks allotments are presently managed for dual use.

In addition to these ten AMPs, the Garrison Allotment is managed under an AMP in conjunction with the Smith Creek Allotment by the Ely District Office, Nevada.

Allotment information (regarding land ownership, grazing preference, kind of livestock, season of use, etc.) has been summarized for all 63 allotments in Appendix 3.

Livestock Season of Use

Although livestock operations fluctuate greatly, it is estimated that, on the average, nearly 8,000 cattle and over 73,000 sheep are grazed on public ranges in the resource area annually. Most grazing use is by sheep and cattle in the West Desert during the late fall, winter, and early spring months. Several allotments, including the large Deseret Allotment (270,117 public land acres), have authorized summer cattle grazing, and a few have spring or fall seasons. Figure 3-2 shows the approximate percentages of livestock use by season in the resource area.

Livestock Trailing

Numerous established livestock trailing routes are in the area; the majority are east-west sheep routes across the desert to the foothill divides. In recent years, the practice of trailing sheep has substantially diminished. Many operators chose to use trucks in order to decrease time, reduce injuries and losses, and improve efficiency. This is particularly true when moving to lambing grounds and shearing pens. Only about 10-12 operators continue to trail sheep on a regular basis.

Forage Demand and Indicated Carrying Capacity

Maximum allowable livestock use in the resource area is the active preference level of 149,009 animal unit months (AUMs) of forage. Approximately two-thirds or 99,389 AUMs of this forage

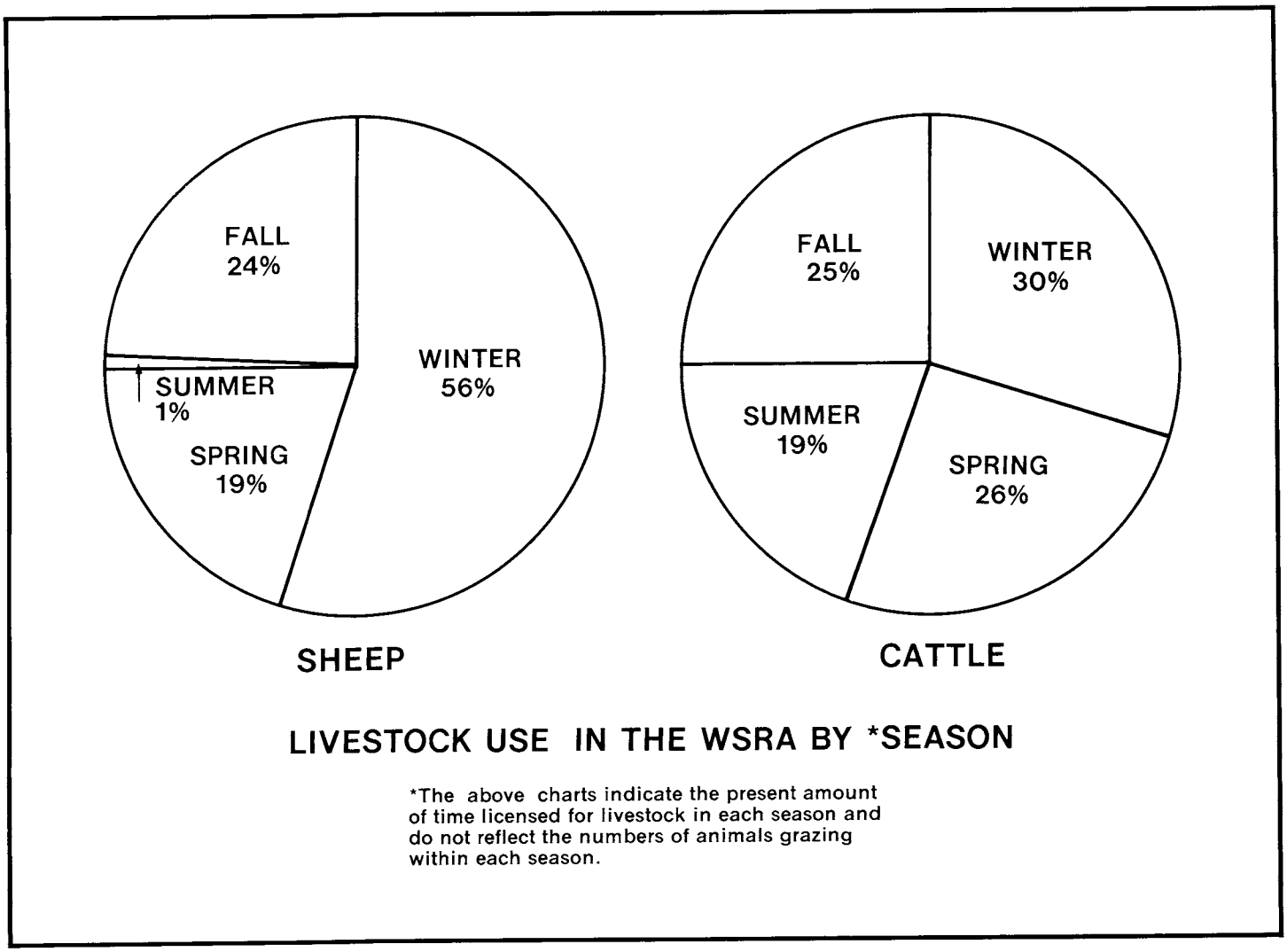


FIGURE 3-2
LIVESTOCK USE IN THE WSRA BY SEASON

demand is allocated for sheep and one-third or 49,620 AUMs for cattle. Actual licensed use has averaged approximately 87,761 AUMs on an annual basis from 1980-1984. This represents about 59 percent of the total active preference. Appendix 1 shows the active preference and average actual use on public lands for each allotment.

Current inventory information, based on utilization and long-term trend studies, indicates there is approximately 101,156 AUMs of competitive forage available for livestock, wild horse, and big game animal use.

As described in the Inventory/Vegetation section, the indicated capacity is the BLM's best estimate of the available competitive forage. Vegetation study data is based on those areas that are key areas for livestock grazing. Additional non-competitive forage is available to wildlife or wild horses. Also, there is additional forage not presently used by livestock, due to water limitations and topographic or annual weather restrictions.

Grazing Interrelationships

In evaluating the grazing of animals on the WSRA desert ranges, the major competitive uses of forage are between sheep and antelope and, even more directly, between cattle and wild horses. In considering competitive factors (e.g., overlap in seasons of use, key species, and habitat) these conflicts in forage used do not appear to be severe within the resource area.

Although competition between domestic livestock and antelope has been regarded as a cause of low antelope productivity, Smith and Beale (1980) concluded that this was not serious on the deserts of western Utah because many plants grazed by antelope provide little or no forage for livestock. Many annual forbs used by antelope in the spring/summer are ephemeral; therefore, not present in winter when the majority of livestock are on the range.

Species, such as, broom snakeweed and desert almond, are of value to antelope, but of minor importance to livestock. Conversely, winterfat, a key specie for livestock, and shadscale, a key specie for sheep, are largely ignored by antelope.

Despite these differences in forage preference, winter diets of antelope and sheep do overlap in the case of black sagebrush. Competition for this species can be severe, especially in drought years when new vegetation growth is limited. The overall diet overlap between antelope and sheep is approximately 50 percent (including the use on black sagebrush). See Appendix 13 for the methods used in determining diet overlap.

The interrelationship between wild horses and livestock, specifically cattle, indicates a much more direct overlap in diet. The key species that receive the most competitive use (100 percent diet overlap) are the higher quality perennial grasses (e.g., Indian ricegrass, needle-and-thread, and Galleta grass). There is some overlap between wild horses and sheep, but the competition is not severe and is comparable to the overlap between antelope and cattle.

Much wild horse winter use is on rougher foothills and desert mountain ranges. These areas are not easily accessible to winter cattle grazing or, and to a lesser degree, winter sheep grazing. The wild horse overlap occurs principally on lower ranges in the proximity of water sources.

The estimates of dietary overlap for all domestic and wild grazing animals are shown in Table 3-5.

TABLE 3-5
Estimates of Diet Overlap on Key Species for Grazing Animals in the WSA

	Percent		
Animal	Domestic Sheep	Cattle	
Antelope[1]	51	2	
Mule Deer[1]	20	8	Desert
		4	Eastern foothills
Elk[1]	No current competitive use	55	
Bighorn sheep[1]	Unknown	52	
Wild Horses[2]	67	100	

[1] For the method used to determine diet overlap between domestic livestock and big game animals. (See Appendix 13).

[2] Methods of determining diet overlap between livestock and wild horses are based on studies completed in the Ely District (Shell Resource Area), Nevada, 1978-79 and fecal analysis studies in the WSRA in cooperation with Colorado State University in 1977. The 100 percent diet overlap between cattle and wild horses is based on the key species of Indian ricegrass, needle-and-thread grass, and Galleta grass. The estimated 67 percent diet overlap between sheep and wild horses is based on competitive use for two of three key species (winterfat, Indian ricegrass, direct overlap; black sagebrush, no direct overlap).

Structural Range Improvements

WATER DEVELOPMENTS

Presently, 30 wells, 19 developed springs, nearly 117 miles of pipeline, and 92 reservoirs provide water for livestock, wild horses, and wildlife. Most opportunities for water development in the resource area have been completed. See Appendix 4 for a list of existing range improvements by allotment.

Despite these developments, providing reliable water sources remains one of the most difficult and important tasks in obtaining proper livestock distribution. Many existing wells, pipelines, and springs are reliable for the periods used. They do, however, require nearly annual inspection or maintenance. Existing reservoirs and stock water pits can remain dry throughout much of the grazing season, due to the limited and unpredictable amount and distribution of rainfall.

Snow, also unpredictable, is the most important water source on all winter sheep and some winter cattle allotments. Rougher, hilly portions of these allotments have no other water source and hauling is not practical. If snow is not available, most of these areas are not utilized. The result is heavy grazing use on areas easily serviced by hauling water or near permanent existing water facilities. The practice of hauling water for livestock began about 1950 and has helped reduce much of the heavy use around permanent water sources.

In addition to the developed water projects, several undeveloped springs/seeps, a few irrigation reservoirs and lakes, and approximately 20 small intermittent streams are available to livestock, wild horses, and wildlife (see Figure 3-3).

FENCING AND LIVESTOCK CONTROL STRUCTURES

Presently, over 460 miles of existing fenceline are on public lands in the WSRA. The majority of the fences consist of barbed wire along cattle allotment boundaries. Some sheep allotments have modified barbed wire fences. There is very little sheep-tight woven wire fencing. The majority of the sheep allotments remain unfenced due to conflicts with antelope migration, economic constraints, and the control of sheep bands by herders. Unfenced winter sheep allotments have boundaries that are posted or designated by topographic barriers.

In addition to allotment fencing, there are 60 cattleguards. Many connect fences on the most frequently used BLM and county roads in the West Desert.

Non-Structural Range Improvements/ Vegetation Treatments

Rangeland seedings have been established in several sagebrush and pinyon-juniper communities, following chaining, plowing, prescribed burning, or wild fire rehabilitation in these areas. Table 3-6 shows the type of treatment and acres treated for these areas.

TABLE 3-6
Vegetation Treatments in the WSRA

Method of Treatment	Acres Treated
Chained/Seeded	10,598
Plowed/Seeded	6,500
Prescribed Burned/Seeded	2,191
Wildfire Rehab./Seeded	2,408
Total	21,697

Areas suitable for treatment are limited in relation to total public lands in the resource area. Existing seedings have been primarily limited to the allotments along the eastern edge of the resource area. Presently, 21,697 acres has been treated and seeded on 11 allotments (Antelope Point, Black Point, Church, East Antelope, Holden Spring, Meadow Spring, South Tract, Summit, Twin Peaks, Whiskey Creek, and White Bush).

The majority of the treatment areas have been seeded with a mixture of perennial grasses. Crested wheatgrass has been very successful on many sites and has been the most important species in providing early spring forage. Russian wild rye and pubescent wheatgrass have also proven to be useful, in terms of providing spring forage and watershed cover. Available forage on these treatment projects has increased forage production up to 6 acres/AUM from 20 acres/AUM or greater. The majority of existing seedings are producing at between 6-10 acres/AUM; however, some seedings (Holden Spring and Meadow Spring allotments) have been reinvaded by sagebrush or juniper species and no longer produce at these levels.

It is estimated that 41,800 additional acres could be treated/seeded in the allotments where treatments have been completed. Approximately 18,300 acres are rated as suitable and 23,500 acres suitable with limitations (refer to Table 2-5 in Chapter 2). Figure 3-4 shows the existing vegetation treatment/seedings and those areas potentially suitable for treatment and suitable with limitations.

WILDLIFE

The WSRA provides habitat for mule deer, pronghorn antelope, elk; historical habitat for bighorn sheep and nesting peregrine falcon; riparian, raptor, and upland game habitat. Big game habitat, populations, and forage use in the resource area

are discussed below by species, herd unit, and grazing allotment. Then, discussions of raptors, upland game, T&E and sensitive species, and riparian habitat follows.

Antelope

Approximately 700 pronghorn antelope are in the WSRA with total forage needs of 894 AUMs. Portions of two antelope herd units, Unit 2 (West Desert) and Unit 4 (Southwest Desert), are within the resource area (Figure 3-5). Yearlong critical habitat occurs in both herd units: Herd Unit 2 contains 105,040 acres and Herd Unit 4 contains 221,412 acres (see Table 3-7).

Table 3-8 summarizes habitat condition, AUMs of forage, and current antelope numbers by allotment.

Estimates of yearlong current numbers are based on aerial inventory data. Population numbers were distributed to allotments by BLM and UDWR. Antelope herds generally move over several allotments during the course of a year; therefore, these numbers are proportionate estimates. Areas of critical yearlong antelope habitat are depicted on Figure 3-5.

TABLE 3-7
Critical Antelope Habitat in WSRA

Herd Unit	Acres	Percent	Condition[1]
Herd Unit 2	33,720	32	Good
	40,320	38	Fair
	31,000	30	Poor
Herd Unit 4	2,160	1	Good
	139,832	63	Fair
	79,420	36	Poor

[1] Condition based on abundance of preferred forage species for pronghorn as determined by Smith and Beale, 1980.

Mule Deer

Portions of six deer herd units occur within the WSRA. These are units 53, 54, 55, 56, 62B, and 62C (see Figure 3-6). Estimates of current numbers and forage needs are presented in Table 3-8.

All critical mule deer habitat within the WSRA (6,840 acres) occurs on the scattered tracts of public lands adjacent to National Forest Lands in the foothills of the Pavant Mountain Range and the Canyon Mountains (Figure 3-6). Critical winter range in the Southern Canyon Mountains in Unit 53 includes portions of two allotments, Summit and Whiskey Creek. The critical habitat covers 650 acres of public land and is in good condition.

In Unit 54 (Fillmore), critical winter habitat includes portions of two BLM allotments. The Church Allotment contains 1,100 acres and the Holden Spring Allotment includes 2,150 acres of critical winter range. The Church habitat is in fair condition and the Holden Spring habitat is in good condition. There are two tracts of BLM lands which contain critical winter range within Herd Unit 55 (Kanosh). The Meadow Spring Allotment has 2,700 acres of good condition habitat, and the unleased Six-Mile tract has 240 acres of fair condition critical winter habitat. Table 3-8 summarizes the acres of critical deer habitat and numbers of mule deer using allotments within the WSRA.

Elk

Elk have become established on the Pavant and Needle ranges (southwest Millard County and western Beaver County) (see Figure 3-7). The Pavant herd occasionally uses public lands, but no critical habitat for this herd occurs on the WSRA. The Needle Range herd is an expanding herd, using the Mountain Home Spring and peak

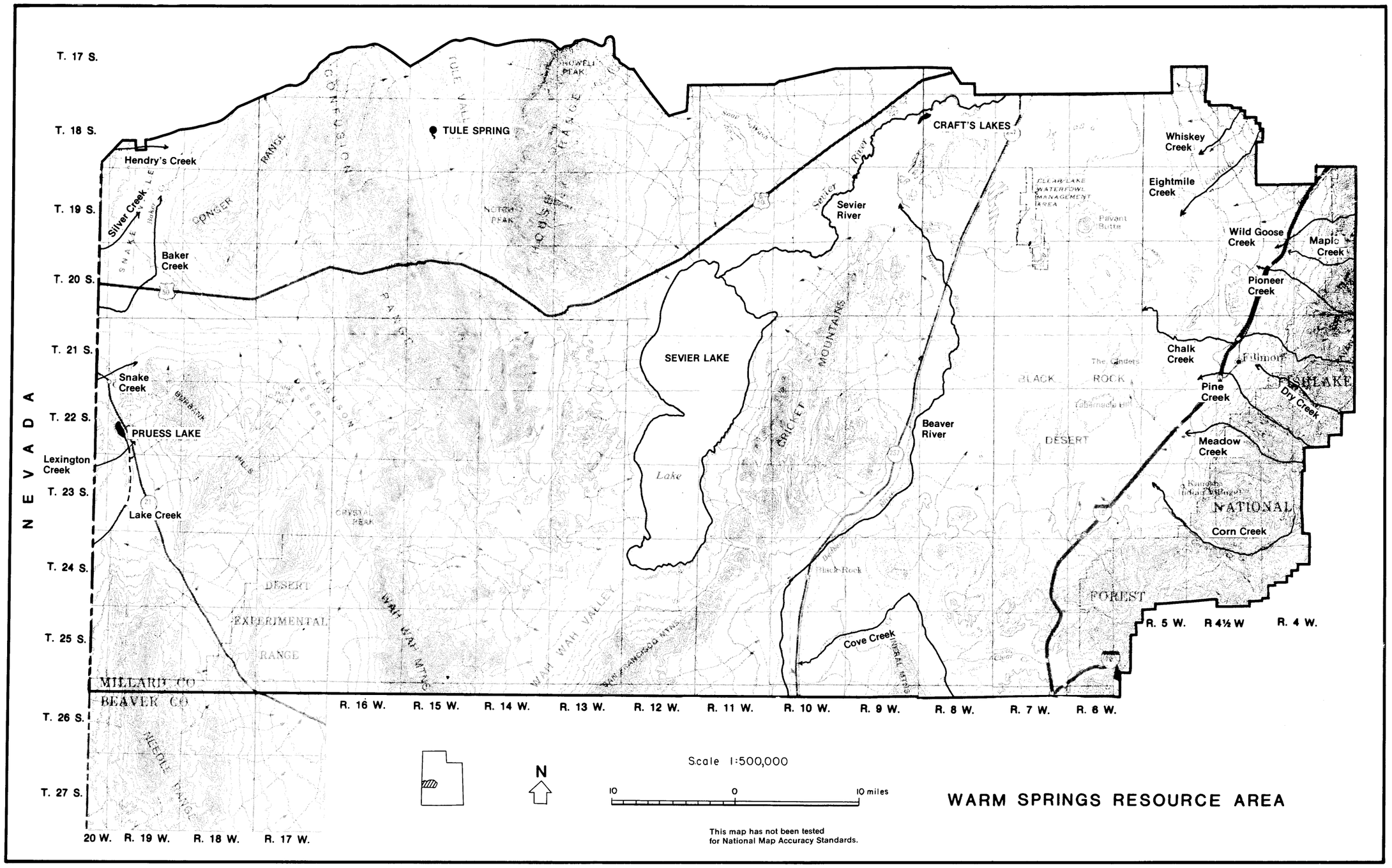


FIGURE 3-3
PERENNIAL STREAMS AND RIPARIAN HABITAT

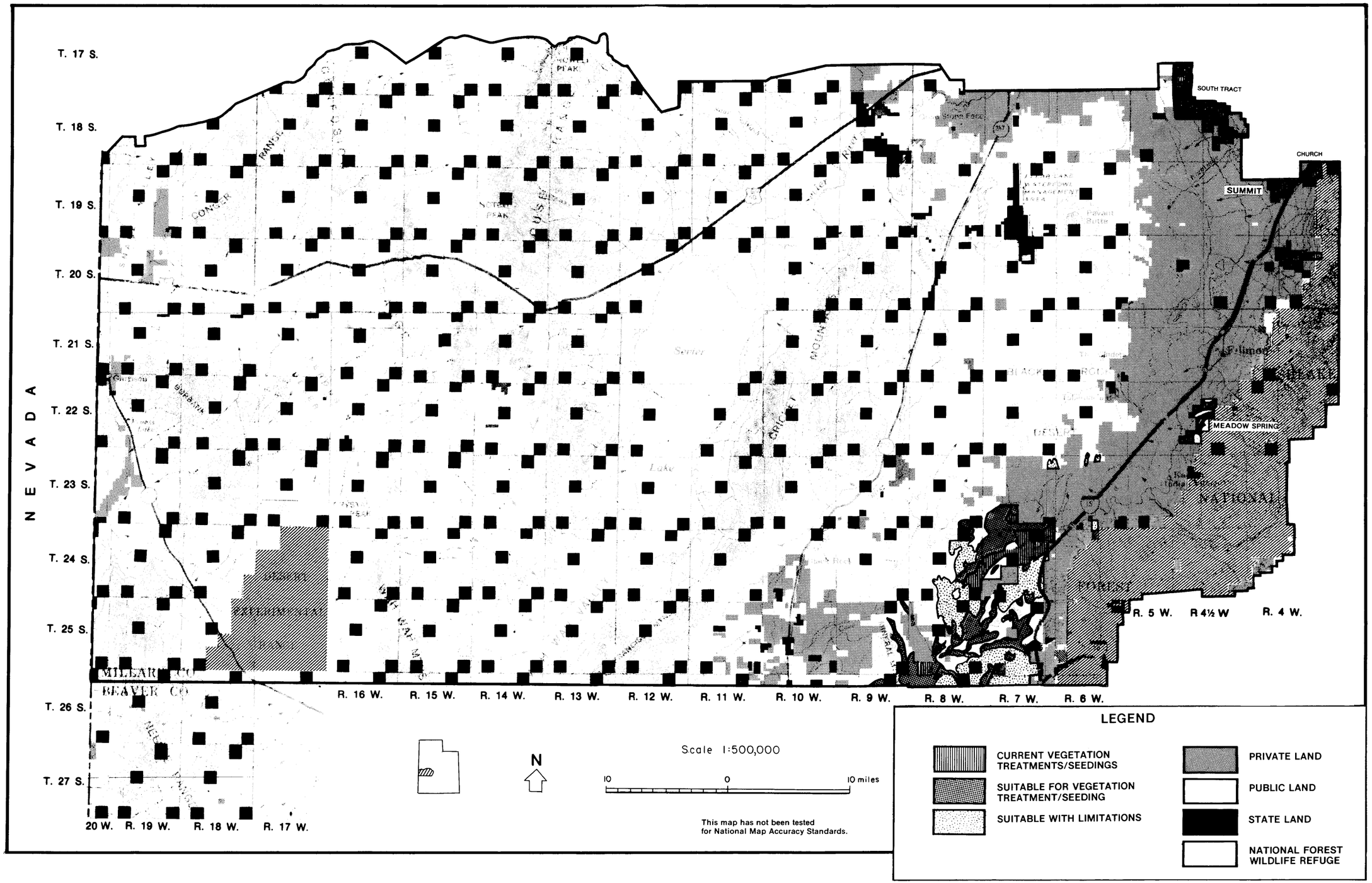


FIGURE 3-4
VEGETATION TREATMENTS/SEEDINGS (EXISTING AND POTENTIAL)

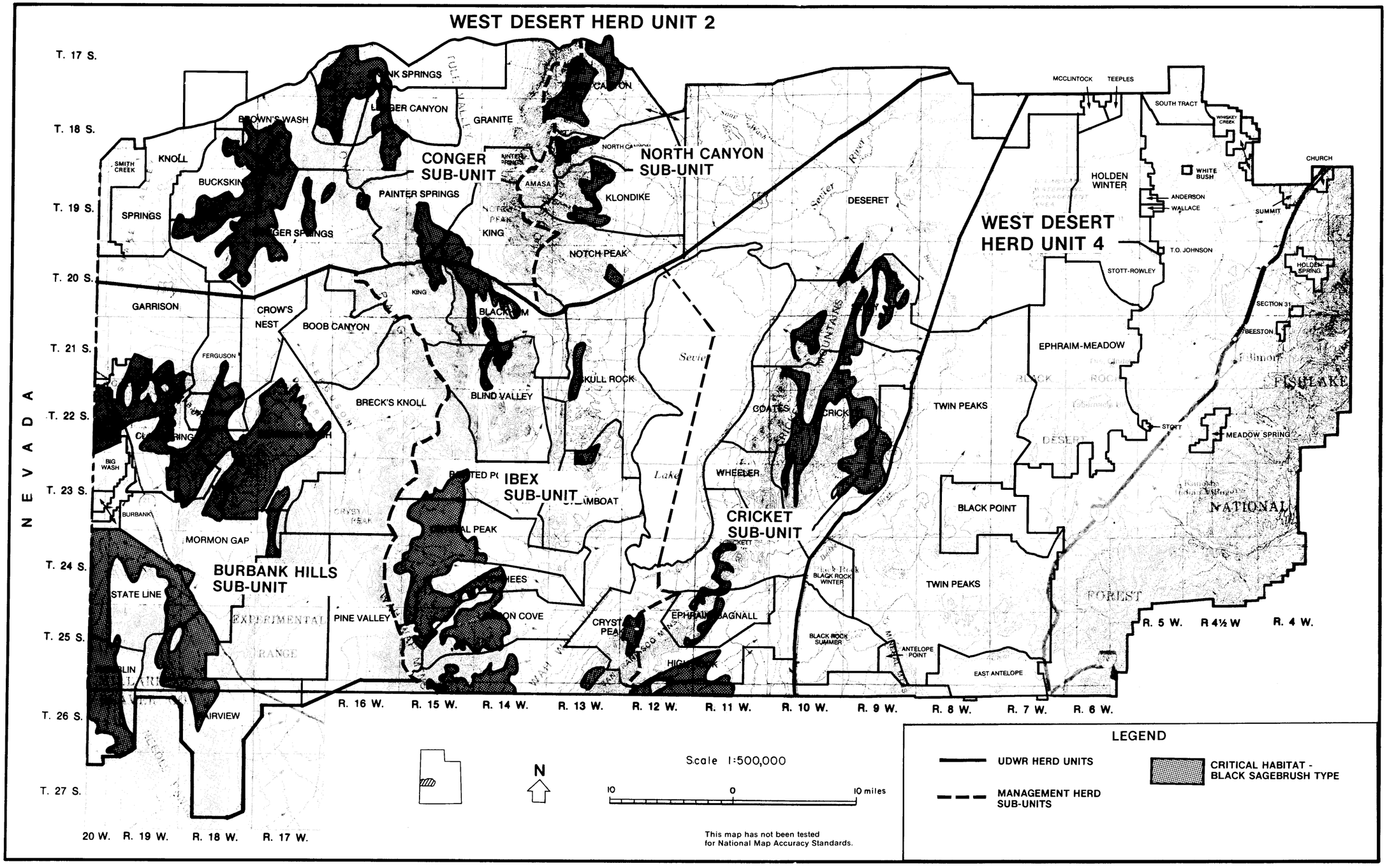


FIGURE 3-5
ANTELOPE HERD UNITS AND CRITICAL HABITAT

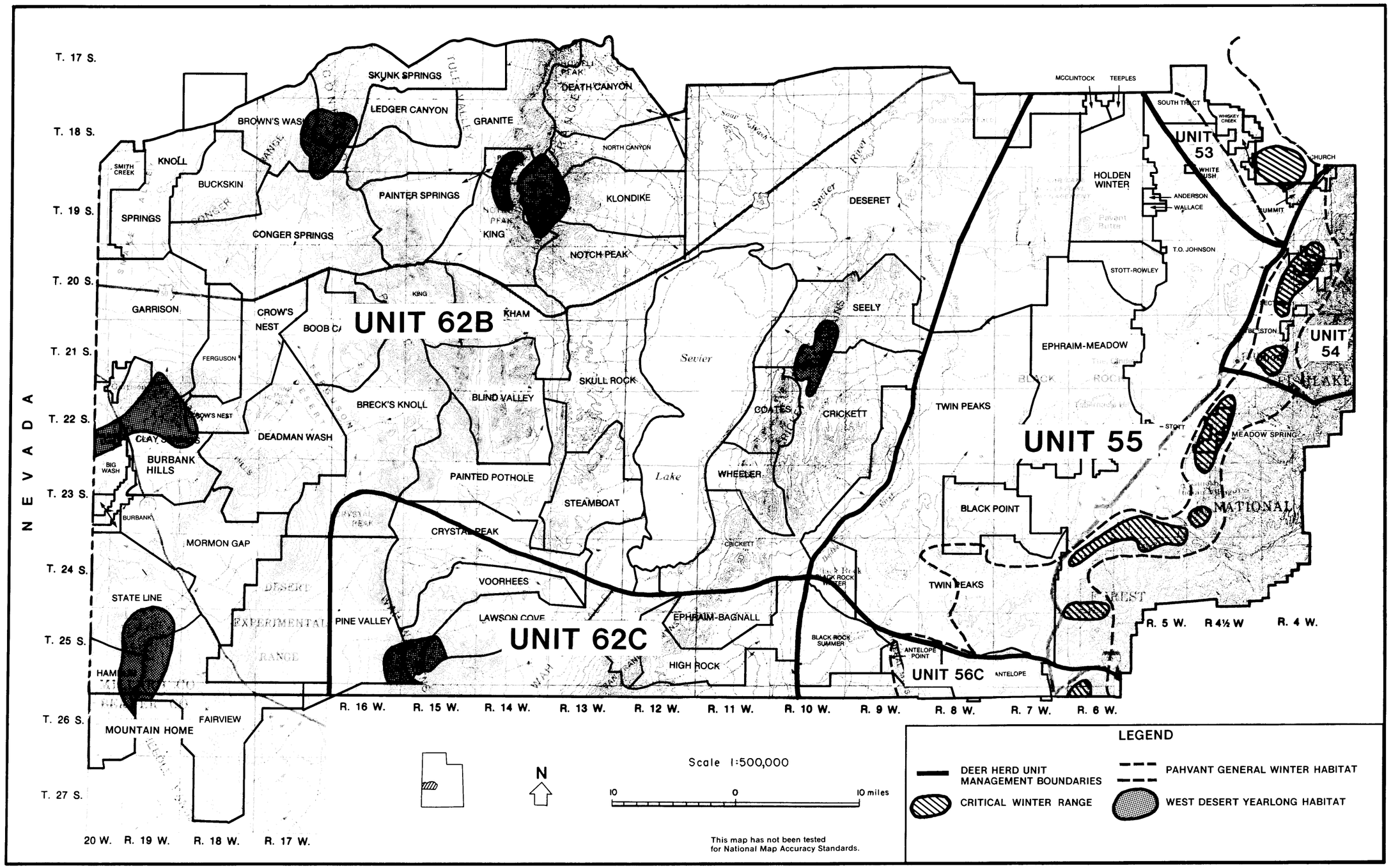


FIGURE 3-6
DEER HERD UNIT BOUNDARIES AND SIGNIFICANT DEER HABITAT

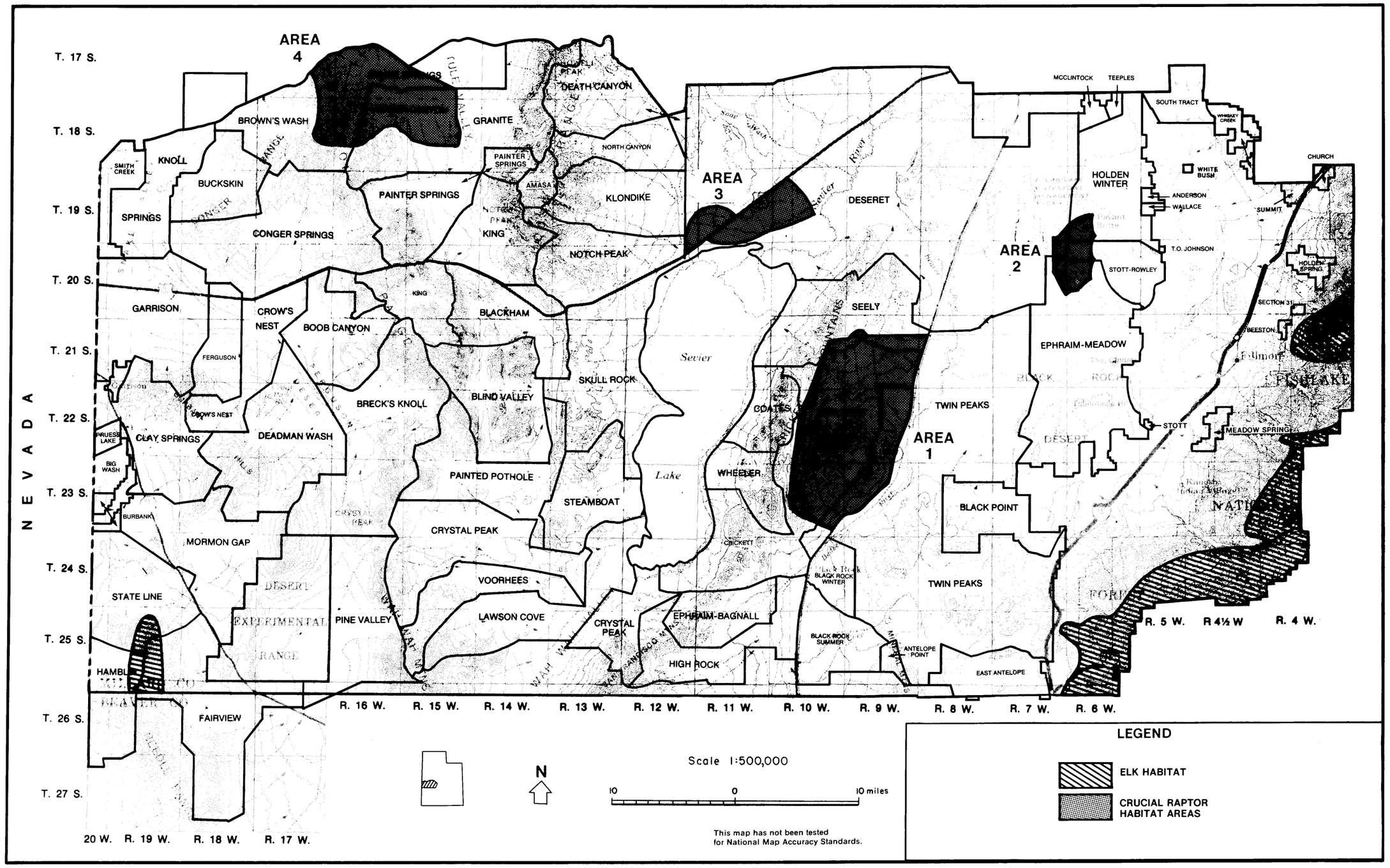


FIGURE 3-7
ELK HABITAT AND CRUCIAL RAPTOR HABITAT AREAS

TABLE 3-8

Wildlife Information By Allotment[a]

Allotment	Big Game Species	Herd Unit	Current Population No. and Season	Forage Consumed (AUMs)	Diet Overlap (AUMs)	Critical Habitat Acres	Critical Habitat Condition	Number Raptor Nests	Crucial Raptor Habitat (Acres)
Amasa	Deer	62 B	15 YL	27	2				
Anderson	Deer	55	0						
Antelope Point	Deer	56	30 W	17	1				
Beeston	Deer	54	10 W	5	1				
Big Wash	Antelope	4	5 YL	6	3				
Black Point	Deer	55	0					1	
Black Rock	Deer	55	0					1	
Blackham Canyon	Antelope	4	5 YL	6	3	3,240	Fair		
	Deer	62 B	0						
Blind Valley	Antelope	4	5 YL	6	3	2,600	Poor	7	
	Deer	62 B	10 W	6	1				
Boob Canyon	Antelope	4	35 YL	45	1	520	Fair	3	
	Deer	62 B	0						
Breck's Knoll	Antelope	4	50 YL	54	1	4,950	Fair	6	
	Deer	62 B	0						
Brown's Wash	Antelope	2	40 YL	51	26	15,920	Fair		
	Deer	62 B	5 W	3	1				
Buckskin	Antelope	2	30 YL	38	19	7,880	Fair		
	Deer	62 B	0						
Burbank	Antelope	4	2 YL	3		0			
	Deer	62 C	0						
Church	Deer	54	25 W	14	1	1,100	Fair		
Clay Springs	Antelope	4	35 YL	45	1	10,360	Fair	2	
	Deer	62 B	20 YL	35	3				
Coates	Antelope	4	2 YL	3	2	1,200	Poor		
	Deer	62 B	5 W	3	1				
Conger Spring	Antelope	2	65 YL	83	42	24,600	Good	4	
	Deer	62 B	10 YL	18	4				
Crickett	Antelope	4	10 YL	13	7	30,280	Poor	25	41,500
	Deer	62 B	10 W	6	1				
Crow's Nest	Antelope	4	25 YL	32	1	7,440	Poor		
	Deer	62 B	10 W	6	1				
Crystal Peak	Antelope	4	10 YL	13	7	22,560	Fair		
	Deer	62 C	5 W	3	1				
Deadman's Wash	Antelope	4	45 YL	57	30	21,120	Fair	6	
	Deer	62 B	5 W	3	1				
Death Canyon	Antelope	2	10 YL	13	7	10,560	Poor		
	Deer	62 B	10 W	6	1				
Deseret	Antelope	2	8 YL	10	1			19	16,400
	Antelope	4	2 YL	3	0	900	Poor		
	Deer	62 B	0						
	Deer	55	0						
East Antelope	Deer	56	75 W	42	2			1	
Ephraim-Bagnall	Antelope	4	5 YL	6	1	2,500	Poor		
	Deer	52 C	0						
Ephraim Meadow	Deer	55	10 YL	18	1			29	3,900
Fairview	Antelope	4	50 YL	64	33	15,200	Fair	3	
	Deer	52 C	20 YL	35	7				
Ferguson	Antelope	4	20 YL	26	1	2,440	Fair	2	
	Deer	52 B	0						
Garrison	Antelope	4	15 YL	19	1	2,160	Good	3	
	Deer	62 B	5 W	3	1				
Granite	Antelope	2	10 YL	13	7	7,880	Fair	3	600
	Deer	62 B	5 W	3	1				
Hamblin	Antelope	4	5 YL	6		15,544	Fair		
	Deer	62 C	5 W	3					
High Rock	Antelope	4	5 YL	6					
	Deer	62 C	0						
Holden Spring	Deer	54	300 W	169	7	2,150	Good		
Holden Winter	Deer	55	0						
King	Antelope	2	15 YL	19	10	6,490	Poor		
	Deer	62B	15 W	8	2				
Klondike	Antelope	2	5 YL	6	3	5,280	Fair		
	Deer	62 B	0						
Knoll Springs	Antelope	2	10 YL	13	1				
	Deer	52 B	0						
Lawson Cove	Antelope	4	5 YL	6				2	
	Deer	62 C	0						
Ledger Canyon	Antelope	2	10 YL	13	7	4,000	Poor	7	1,600
	Deer	62 B	5 W	3	1				
McClintock	Deer	55	0						
Meadow Spring	Deer	55	438 W	246	10	2,700	Good		
Mormon Gap	Antelope	4	45 YL	57	31	7,760	Fair	1	
	Deer	62 B	0						
North Canyon	Antelope	2	5 YL	6	3	3,360	Fair		
	Deer	62 B	0						
North Peak	Antelope	2	0			5,280	Poor		
	Deer	62 B	0						
Painted Potholes	Antelope	4	10 YL	13	7	4,440	Fair	2	
	Deer	62 B	0						
Painted Spring	Antelope	2	10 YL	13	7	4,680	Poor		
	Deer	62 B	5 YL	9	2				
Pine Valley	Antelope	4	20 YL	25	1	2,160	Fair	2	
	Deer	62 C	0						
Pruess Lake	Antelope	4	2 YL	3		2,160	Fair		
	Deer	62 C	10 YL	18					
Section 31	Deer	54	15 W	8	1				
Seely	Antelope	4	5 YL	6	3	13,720	Poor	3	2,900
	Deer	62 B	5 YL	9	2				
Skull Rock	Antelope	4	5 YL	6	3	5,840	Poor	3	
	Deer	62 B	0						
Skunk Spring	Antelope	2	30 YL	38	19	9,120	Good		500
	Deer	62 B	20 W	11	3				
Smith Creek	Antelope	2	5 YL	6					
	Deer	62 B	0						
South Tract	Deer	53	15 W	8	1				
State Line	Antelope	4	10 YL	13	7	20,348	Fair		
	Deer	62 C	15 W	8	2				
Steamboat	Antelope	4	5 YL	6	3	1,920	Fair	8	
	Deer	62 B	0						
Stott-Rowley	Deer	55	0					3	1,900
Stott	Deer	55	0						
Summit	Deer	53	15 @	8	1	300	Good		
T.O. Johnson	Deer	55	0						
Teeples	Deer	55	0						
Twin Peaks	Antelope	4	5 YL	6	3	5,760	Poor	7	13,500
	Deer	62 B	0						
	Deer	55	300 W	169	41				
Voorhees	Antelope	4	5 YL	6	3	7,840	Poor		
	Deer	62 C	5 W	3	1				
Wallace	Deer	55	0						
Wheeler	Antelope	4	0			1,240	Poor		
	Deer	62 B	0						
Whiskey Creek	Deer	53	50 W	28	1	350	Good		
White Bush	Deer	53	0						
Unallotted 5-Mile	Deer	55	25 W	14	1	240	Fair		

[a]Populations and forage consumption (AUMs) on all ranges: public lands, State, and private.

of the Fairview Allotment in the WSRA. Herd size, area of use, and critical habitat have not been determined.

Desert Bighorn Sheep

Desert bighorn sheep were historical residents of the WSRA. The UDWR has planned future transplants to reestablish desert bighorn sheep in the West Desert. Potential mountain habitat on the WSRA needs to be studied in order to determine suitability and develop a priority for reintroduction. Potential critical habitat would be identified during this study.

Raptors

Significant raptor populations occupy the WSRA year-round. Golden eagles, prairie falcons, and marsh harriers nest and winter on the resource area. Ferruginous hawks and red-tailed hawks are also common nesting residents. Bald eagles and rough-legged hawks are common winter residents. American kestrals and Swainson hawks migrate through the area. The endangered peregrine falcon is an historic nesting species. Potential for reintroducing peregrine falcons in the WSRA exists.

Raptor nest locations are defined as crucial raptor habitat. In the WSRA, 156 nesting areas have been documented (Table 3-8). Some locations contain six or more nests, presumably used by the same nesting pair in different years. Based on a high density of raptor nests (especially golden eagle and ferruginous hawk), four crucial raptor habitat areas have been delineated (Figure 3-7). Table 3-9 summarizes use of the crucial raptor nesting areas, and Table 3-8 summarizes crucial acres by allotment. Total acres of each crucial raptor nesting habitat are as follows: Area 1, 45,800 acres; Area 2, 8,400 acres; Area 3, 15,400 acres; and Area 4, 2,700 acres. No rating of nesting habitat condition has been done.

Upland Game

Three species of upland game (chukar partridge, sage grouse, and ring-necked pheasant) occur in the WSRA. Figure 3-8 depicts their areas of use. No population estimates are available.

Five known historic sage grouse strutting grounds are in the resource area. The area around each active strutting ground within a 2-mile radius is designated as crucial nesting habitat. Considerable overlap between strutting grounds occurs within these 2-mile radii. The five areas are shown in Figure 3-8).

Swainson Hawks

TABLE 3-9
Number of Nest by Species
Within Crucial Raptor Habitat Areas

Area/Raptor	Number of Nests
Area 1	
Golden Eagle	9
Prairie Falcon	12
Ferruginous Hawk	7
Red-Tailed Hawk	1
Area 2	
Golden Eagle	1
Ferruginous Hawk	4
Red-Tailed Hawk	9
Peregrine Falcon	(historical) 1
Long-Eared Owl	1
Area 3	
Ferruginous Hawk	13
Area 4	
Golden Eagle	3
Prairie Falcon	2
Red-Tailed Hawk	1

Threatened, Endangered, and Sensitive Species

Two endangered animal species are or have been historically found in the WSRA. The bald eagle is a common winter resident and is found in all habitat types throughout the resource area. Juniper woodlands along the Pavant foothills are used as roosting areas. Tree groves near riparian areas and farm lands are also used as roosting sites. Most areas of the West Desert, particularly where winter sheep grazing occurs, are also used as feeding and roosting areas. No bald eagle critical habitat has been identified in the WSRA. Population size and long-term trend are not known, but the population fluctuates from winter to winter.

The endangered peregrine falcon historically nested on Pavant Butte and possibly other locations within the WSRA. Potential for re-establishing nesting exists and is under consideration by UDWR. Migrating peregrine falcons may also occasionally use the WSRA.

Sensitive species using the resource area include golden eagles, ferruginous hawks, Swainson's hawks, white-faced ibis, western snowy plovers, and long-billed curlews. Other sensitive species, such as the least chub and Clear Lake pocket gopher, could occur in the WSRA but have not been documented or inventoried. More information is needed on population size and habitat use areas. See Appendix 18 for FWS species list.

Riparian Habitat

Only limited riparian habitat occurs in the WSRA. That habitat is found on Lake Creek and Pruess Lake, south of Garrison, Utah; South Tule Spring in Tule Valley; in the Amasa Valley near Notch Peak; at the terminus of the Sevier River; and in the Pavant Range foothills along Meadow Creek. Pruess Lake sustains a small fishable population of channel catfish. Table 3-10 summarizes West Desert riparian habitats and their condition. Figure 3-3 shows their general locations.

WILD HORSES

It is USDI's policy (43 CFR 4700.0-6) that wild free-roaming horses be considered comparably with other resource values in developing resource management plans (RMPs). This includes providing sufficient forage to maintain a healthy population at the level determined desirable through the multiple-use planning system.

The WSRA contains three complete herd management areas (HMAs): Conger Mountain, King Top, and the Burbank Hills. In addition, the northern portion of the Sulphur HMA, managed by the Cedar City District, is located in the southwest corner of the resource area. The BLM estimates 1,350 to be the total number of wild horses currently using public lands in Utah. The 310 wild horses presently using the four HMAs in the WSRA represent approximately 23 percent of wild horses in the state. Each HMA is discussed below. Figure 3-9 delineates the HMA boundaries.

Conger Mountain HMA

This HMA contains about 147,000 acres: 14,080 acres are State lands and 132,920 acres are public lands. It includes parts of seven livestock grazing allotments (Skunk Springs, Conger Spring, Granite, Painter Springs, Buckskin, Ledger Canyon, and Brown's Wash), located in the northwest portion of the resource area. Five allotments (Ledger Canyon, Skunk Springs, Brown's Wash, Conger Spring, and Buckskin) contain 37,525 acres of crucial habitat for the 50 wild horses that now inhabit the HMA. Crucial habitat is defined as those areas that provide the three basic life requirements of food, water, and shelter. Summer

TABLE 3-10

Riparian Habitat Summary for WSRA

Name	Location	Allotment	Aquatic Condition	Riparian Condition	Size	Comment
Lake Creek	T22S R19W Sec. 29	Big Wash	Poor	Fair	0.25 mi.	High organic enrichment and sedimentation, high alkalinity.
Pruess Lake	T22S R19W Sec. 18, 19, 29	Clay Sp. Big Wash Pruess Lake	Fair	Fair	2,500 ac.-ft.	Approx. 340 acres with 4.5 shoreline miles, high turbidity, and nutrient loading from upstream grazing, livestock grazing on shoreline limits riparian vigor.
Crafts Lake	T18S R8W Sec. 7 T18S R9W Sec. 12,13	Deseret	Unknown	Unknown	190 acres	Lake is a desert playa that temporarily holds water.
Sevier Lake	R11W 20 S to R11W 23 S	Unallotted	Poor	Fair	92,000 acres	Lake is a desert playa that temporarily holds water.
Sevier River	T18S R8W	Deseret	Poor	Poor	27.3 mi.	Usually lacks water.
Meadow Creek	T22S R4W Sec. 18 S1/2	Meadow Sp.	Unknown	Unknown	1 mi.	May be dewatered for irrigation.
South Tule Sp.[a]	T17S R15W Sec. 15 NE1/4 NW1/4	Skunk Springs	Fair, static trend	Fair	20 ac.	Potential least chub transplant site.

[a]Forty-acre oil and gas category location: T. 17 S., R. 15 W., Sec. 15, S1/2 NW1/4NE1/4 and N1/2 SW1/4NE1/4.

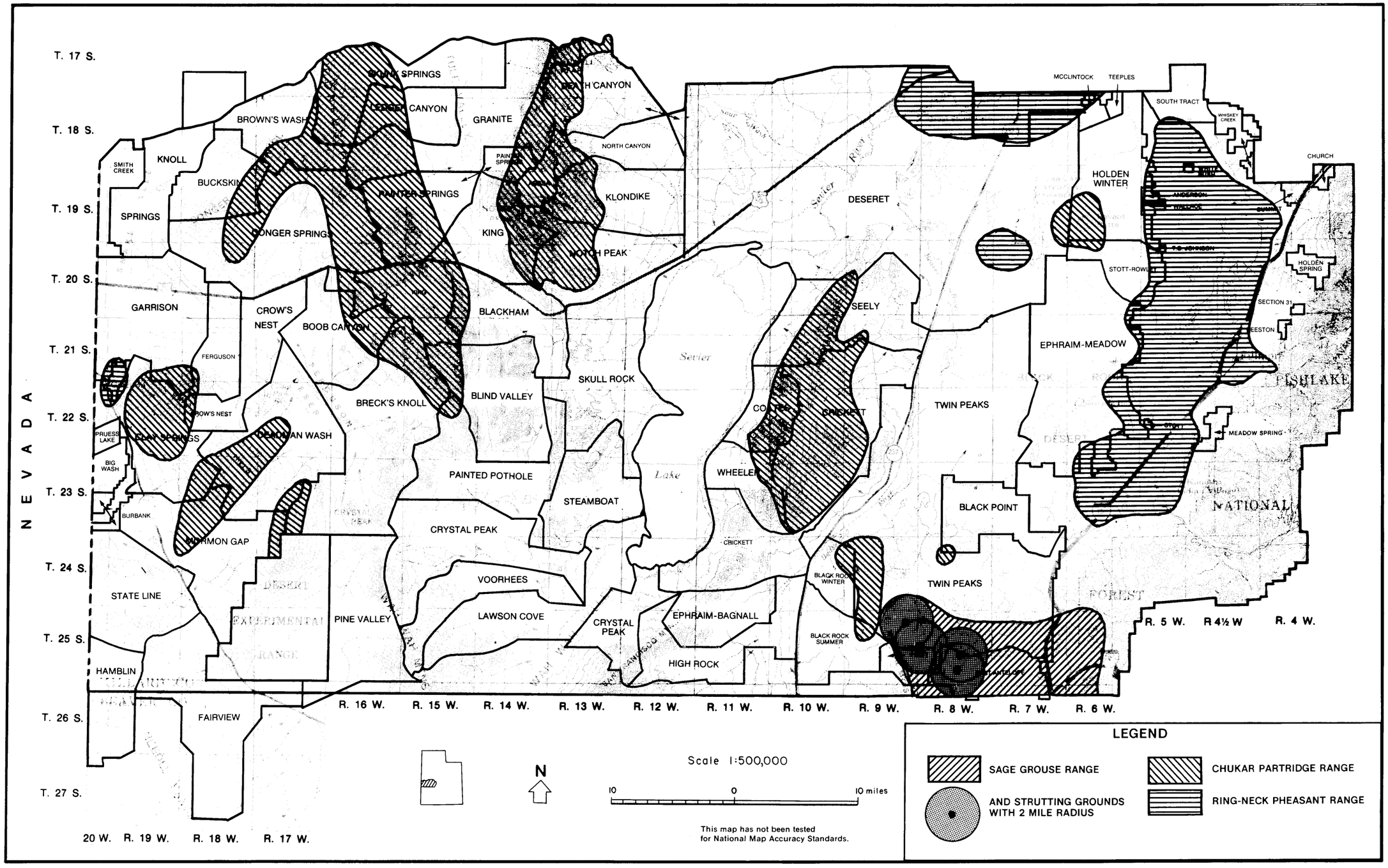
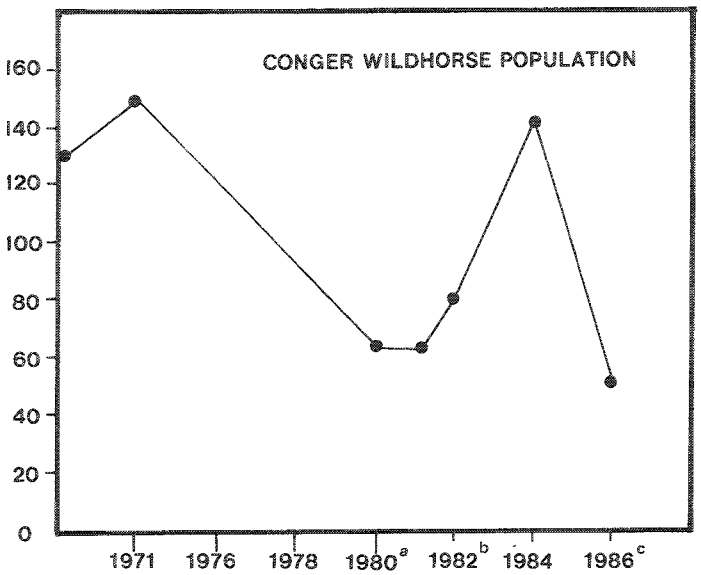
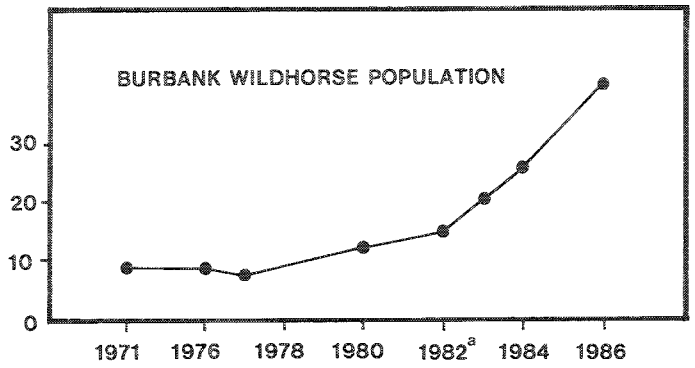


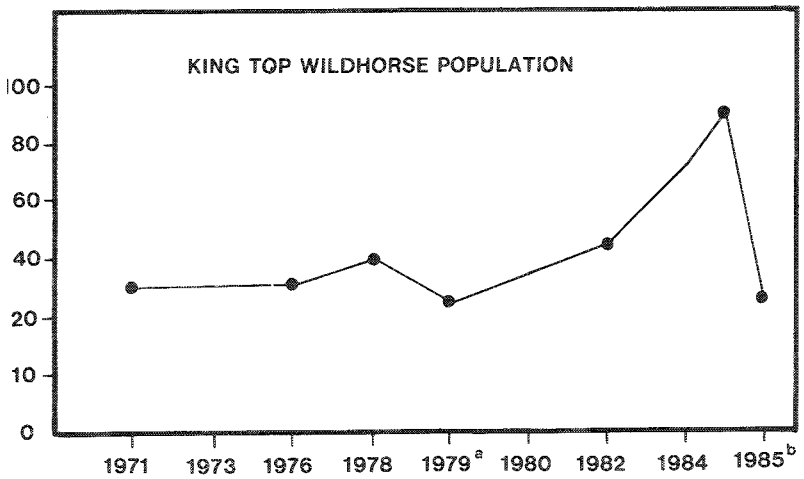
FIGURE 3-8
UPLAND GAME BIRD HABITAT



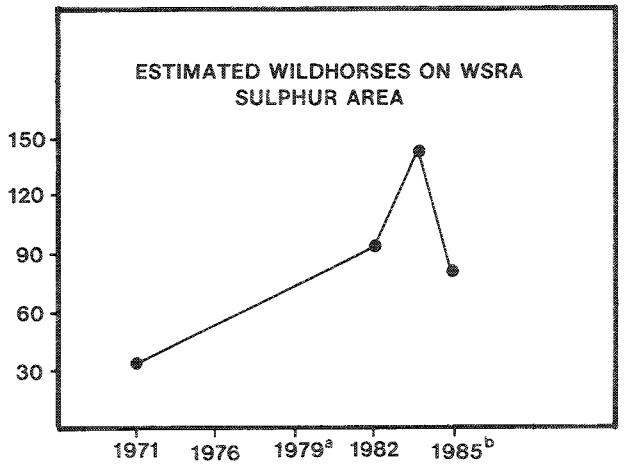
a. In 1980 one hundred eleven wild horses were removed.
b. In 1981 twenty one wild horses were removed.
c. In 1985 ninety wild horses were removed
Note: A total of 232 wild horses have been removed from the HMA since 1980.



a. In 1982 new horses moved into the area.



a. In 1979 fourteen wild horses were removed.
b. In 1985 sixty one wild horses were removed.



a. In 1979 twenty horses were removed.
b. In 1985 forty horses were removed.

FIGURE 3-9
WILD HORSE POPULATION CHANGES BY HERD MANAGEMENT AREA

use is limited to those areas where water is available and where steep, rugged topography provides isolation and protection from human activities. All of these allotments are grazed by sheep during the winter months. When snow accumulation is adequate for a water supply, the entire area can be used by deer, antelope, sheep, and wild horses. Range inventory information indicates that a viable herd of 60 could be maintained with no serious competitive forage conflicts with present numbers of livestock or wildlife.

The present range and wild horse conditions on the Conger Mountains HMA are considered good. Each wild horse consumes approximately 1 AUM of forage per month; therefore, a forage allocation of 720 AUMs is required annually to maintain a herd of 60 head. The summer and winter wild horse ranges overlap. Some areas are used during the winter that would not be used without snow. However, the majority of wild horse use within the HMA is between feeding areas, four springs, and two reservoirs.

Figure 3-10 shows herd population changes since the Wild Horse Act was passed in 1971. The herd is increasing at about 15 to 20 percent per year. In the past when the population exceeded 100 wild horses, they were trapped and reduced to approximately 50 head. This trapping is expected to occur approximately every 5 years. By reducing the herd to 50 head every 5 years, forage should always be adequate, even during drought periods as occurred in 1976, to satisfy the wild horse needs.

King Top HMA

This HMA contains approximately 149,567 acres (14,720 acres of State lands and 134,847 acres of public lands). It includes parts of six grazing allotments (King, Breck's Knoll, Boob Canyon, Painted Potholes, Blackham, and Blind Valley) in the western portion of the resource area. Four allotments (Breck's Knoll, Boob Canyon, Blind Valley, and King) contain approximately 66,308 acres of habitat crucial to approximately 30 wild horses that currently inhabit the HMA. All of these allotments are grazed in the winter by sheep or cattle. The livestock usually graze the lower elevations and wild horses the higher elevations. When snow is present, the wild horses will stay on the mountain tops through most of the winter. The present range and wild horse conditions on the King Top HMA are considered good. Wild horses in this HMA receive very little harassment.

Range inventory information indicates that a herd of 30 could be maintained with no serious competitive forage conflicts with livestock or wildlife. A forage allocation of 360 AUMs is required to maintain an optimum herd of 30 head. These AUMs would have to come from Boob Canyon, Breck's Knoll, Blind Valley, and King allotments. The summer and winter range are generally the same area. No known live water or springs are in the King Top HMA. In the past, four reservoirs have been utilized by wild horses. Presently, the herd uses Ecks Knoll Reservoir, and movement within the HMA is between feeding areas and this reservoir.

The herd is increasing at about 15 to 20 percent per year. In the past, when the population exceeded 30 wild horses, they were trapped and reduced to approximately 30 head. This trapping is expected to occur approximately every 5 years. By reducing the herd to 30 head every 5 years, forage should be adequate even during drought to satisfy the wild horse needs. Historic populations are shown in Figure 3-10.

Burbank Hills HMA

This HMA contains approximately 65,640 acres (6,400 acres of State lands and 59,240 acres of public lands); including parts of four grazing allotments (Mormon Gap, Deadman's Wash, Crows Nest, and Clay Springs) in the southwest portion of the resource area. These four allotments contain approximately 27,928 acres of habitat crucial to the 30 wild horses that inhabit the HMA. All four allotments are grazed by cattle in the winter. Deadman's Wash and Mormon Gap allotments also receive winter sheep use. Antelope are in the area yearlong, and a few mule deer use the area during winter. The present range and wild horse conditions on the Burbank Hills HMA are considered good. Wild horses in this HMA receive very little harassment.

Range inventory indicates that a herd of 20 could be maintained with no serious competitive forage conflicts with livestock or wildlife. A forage allocation of 240 AUMs is required to maintain herd of 20 head. The summer and winter ranges consist of the same area. There are times when excess snowfall forces the wild horses to move to lower ranges.

Until recently, this herd has remained stagnant at about nine wild horses. It is thought that wild horses migrated into this area from the Sulphur HMA. The population has increased to 30 head since 1980. Historic herd populations are shown in Figure 3-10. By reducing the herd to 20 head every 5 years, forage should be adequate to satisfy the wild horse needs even during periods

of drought. However, a dependable yearlong water source is not available in the HMA. The two reservoirs present are dry most of the time, and there are no springs; therefore, in summer, the wild horses trail from 5 to 7 miles to an irrigation ditch on private property for water. This presents a significant potential herd management problem during the majority of the year. During the remainder of the year, the wild horses stay in the mountainous portions of the HMA and use snow for their water needs.

Sulphur HMA

This HMA contains approximately 196,961 acres (2,501 acres of private land, 17,460 acres of State land, and 175,000 acres of public land) and contains portions of six grazing allotments in the southwest corner of the WSRA and the northwest portion of the Beaver River Resource Area (BRRA). Atchison Creek, Mountain Home, and Indian Peak are administered by the BRRA, and the State Line, Hamblin, and Fairview allotments are administered by WSRA. All of these allotments contain over 138,400 acres of habitat crucial to approximately 200 wild horses that inhabit the HMA.

Mountain Home Allotment has no livestock grazing. Atchison Creek, Indian Peak, and Hamblin allotments are grazed by cattle. Fairview and State Line allotments are grazed by sheep. The HMA is also used by elk, deer, and antelope.

The present range and wild horse conditions on the Sulphur HMA are considered good at this time. Current inventory information indicates that a viable herd of 130 could be maintained in the BRRA portion of the HMA and 50 head in the WSRA portion with no serious competitive forage conflicts with livestock or wildlife. A forage allocation of 2,160 AUMs is required to maintain an optimum herd of a 180 head. Provisions have been made to allocate 1,560 AUMs in allotments administered by the BRRA to support 130 head, and an additional 600 AUMs need to be allocated in allotments administered by the WSRA to support 50 head. Presently, 115 head reside in the BRRA portion of the HMA and 85 head in the WSRA portion.

Most summer use is around water holes at higher elevations. In winter when snow is deep, the wild horses are forced down on the lower benches or onto south-facing slopes that are free of snow. Wild horses use some areas not utilized by livestock, but on more accessible areas, they compete directly for forage with livestock. Numerous springs are located in the HMA. Mountain Home pipeline, developed for livestock, also provides water at two locations for wild horses. These water sources are dependable and provide water to horses and wildlife yearlong.

The herd is increasing at about 15 to 20 percent per year. In the past when the population exceeded 180 wild horses, they were trapped and the herd reduced to approximately 110 head. This trapping is expected to occur approximately every 5 years. By reducing the herd to 110 head every 5 years, forage should be adequate even during drought to satisfy the wild horse needs.

A capture and removal program took place during the summer of 1985. The herd on the Sulphur HMA was reduced to approximately 200 wild horses. Another capture is programmed for 1986 to reduce the herds to the optimum population total of 180 head. Historic herd populations are shown in Figure 3-10.

Some of these wild horses have markings similar to the Spanish horses originally released in America. Markings of these wild horses include striped legs, a dorsal stripe, dark-fringed ears, and mixed dark and light manes. These are characteristics that some have linked to the first horses brought to this country; however, it may be impossible to determine if these wild horses are related to the early Spanish horses.

Due to the possibility of a tie-back to the original wild mustangs, the BLM decided that the healthiest and most distinctively marked animals would be returned to the HMA if they were captured. Until the number of wild horses with these markings and the extent of their range is determined, wild horses with these markings will not be placed up for adoption.

RECREATION

The lava fields of the Black Rock Desert, Sevier Lake, old lake bed playas in Tule, Pine, and Wah Wah valleys, in combination with the rugged Wah Wah, King Top and House Range mountains, provide a wide variety of opportunities for dispersed recreation use throughout the WSRA. Several recreation resources (i.e., fossil beds, mountain peaks, etc.) are of national significance. The majority of recreation users are local residents pursuing rock hounding, hunting, and/or sightseeing. Isolation from major population centers, lack of any developments and publicity have resulted in low recreation use.

Five wilderness study areas (WSAs) are within the

resource area: Wah Wah Mountains, King Top, Notch Peak, Conger Mountain, and Howell Peak. These areas have been studied, and their wilderness values evaluated in the Utah Statewide Wilderness EIS. See that document for recommendations regarding wilderness designation for each WSA in Utah (see Figure 3-11).

Recreation Management Areas

The Tabernacle Hill Lava Field is the only area currently designated as a Special Recreation Management Area (SRMA) within the WSRA. The lava field contains a concentration of different volcanic features, which include a tuff ring, caldera, spatter cones, and a maze of lava tubes and pit craters. These features have served as a focal point of interest for families, scout groups, school groups, and individuals for many years. A recreation management plan has been developed for the area. Mineral activity, primarily in the form of annual assessment work and consisting of road building, pits, trenches, and road blocks to keep the public out, has resulted in disturbing some of the unique features. The area was temporarily segregated from mineral entry for 2 years followed by a 5-year withdrawal in 1982. It is anticipated that under current management direction, a long-term or permanent withdrawal for this area would be applied for prior to expiration of the current withdrawal.

Several areas within the WSRA contain unique recreation resources. They include Notch Peak, Fossil Mountain, Wah Wah Mountains, Crystal Peak, and Pavant Butte. The location of these areas, as well as Tabernacle Hill, are depicted on Figure 3-11. The following is a brief overview of these resources:

NOTCH PEAK

Notch Peak, the second highest peak in the House Range Mountains, is a West Desert landmark. The north face of the peak is a sheer 3,000-foot limestone cliff, and its distinct shape can be

Notch Peak

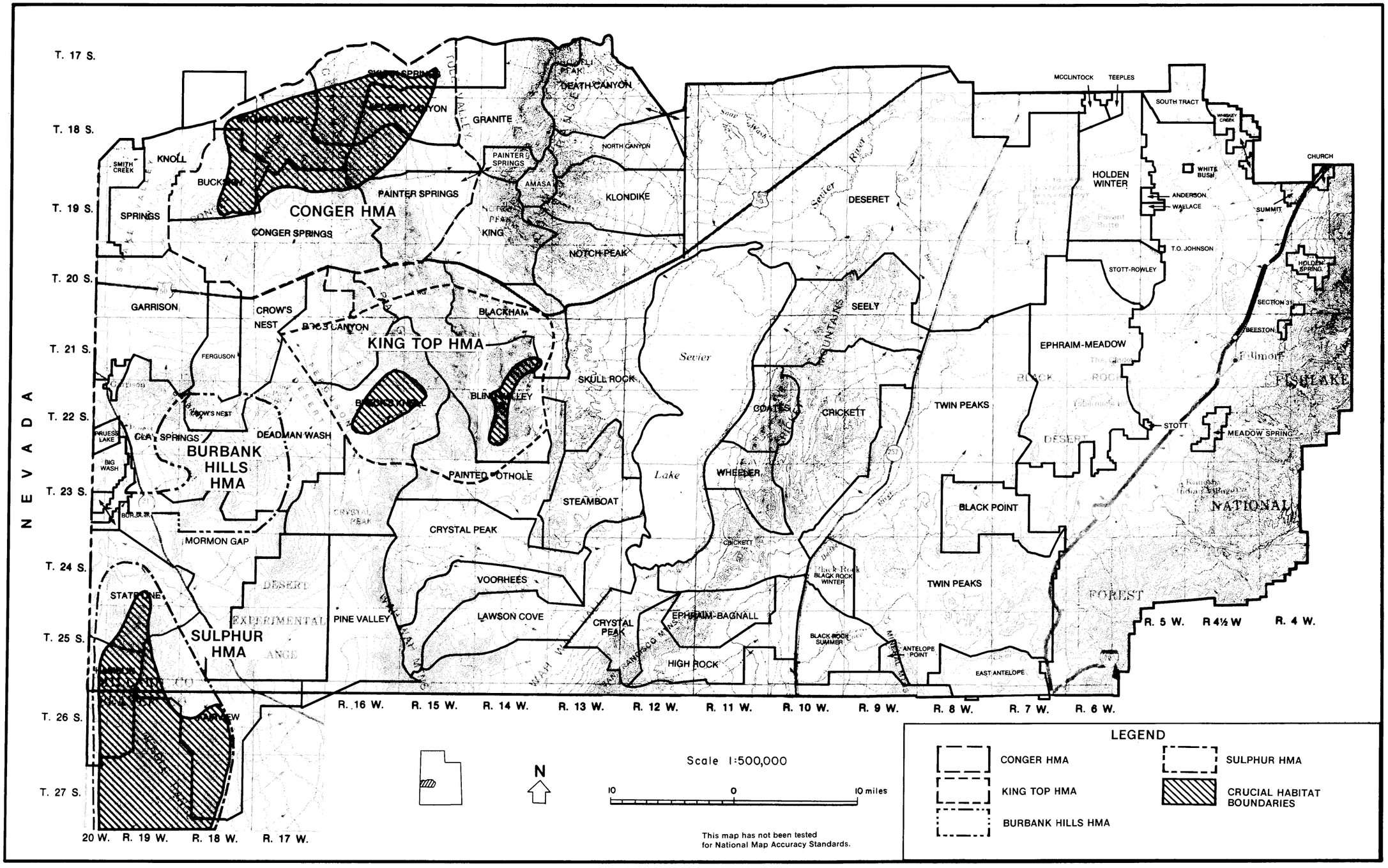


FIGURE 3-10
WILD HORSE HERD MANAGEMENT AREAS AND CRUCIAL HABITAT

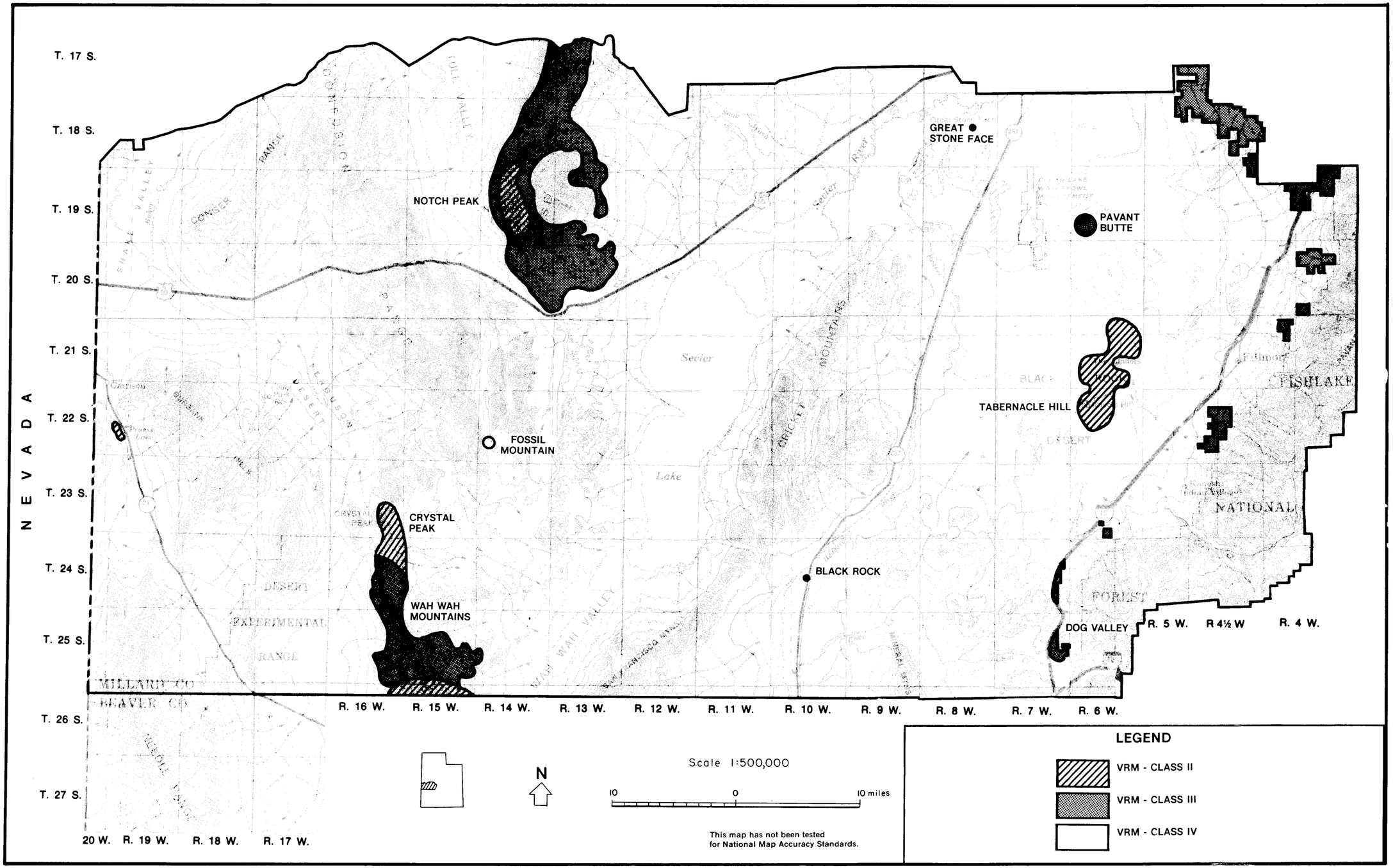


FIGURE 3-11
RECREATION SITES AND VISUAL RESOURCE MANAGEMENT CLASSES

readily identified from over 75 miles away. Historically, Notch Peak was a landmark on the trails going west across the desert. The peak and surrounding ridgeline of Douglas fir, aspen, bristlecone pine, and ponderosa pine provide a very appealing resource base for backpacking, camping, day hiking, horseback riding, nature study, and many other recreation pursuits. Historically the area near Notch Peak has been mined for gold, silver, tungsten, and other minerals. Most of the mining roads, shafts, old mine cabins, etc., are located in Amasa Valley, 2 miles north of Notch Peak.

FOSSIL MOUNTAIN

Fossil Mountain contains the most abundant and diverse assemblege of Lower Ordovician marine invertebrate fossils known anywhere in Utah. The fossil beds are well exposed and contain 13 fossil groups. Very rare specimens and a greater variety of different specimens than anywhere in the western United states are found here. The amateur collector can find small and large slabs of solid, fossilized material. The area is a popular rockhounding area for university groups and amateur collectors.

WAH WAH MOUNTAINS

The pristine character of the Wah Wah Range, with its formidable west cliff face and upper plateau covered with old picturesque stands of bristlecone pine, Douglas fir, and ponderosa pine, provide an ideal location for backpacking, camping, day hiking, photography, nature study, and geologic sightseeing. The central portion of the Wah Wah Mountains contain an important undisturbed biotic community representing a typical example of a desert mountain ecosystem. Sixty-seven plant species, including stands of Great Basin Bristlecone pine, have been identified in this area. The Nature Conservancy has indicated the features within the area are largely unrepresented in other existing or proposed natural areas in Utah. Though used by only a few recreators, the range offers many opportunities for increased numbers of users.

CRYSTAL PEAK

Crystal Peak, at the north end of the Wah Wah Mountain range, is the thickest and most prominant example of tunnel spring tuff in western Utah. The peak is an area of exceptional scenic splendor and is a unique undisturbed geologic landmark. This pure white peak can be seen for a distance of 50 miles and is a Millard County landmark. Surrounded by dark green pinyon pine, juniper, and a few ponderosa pine, the peak is often a focal point for picnicking and sightseeing by local residents.

PAVANT BUTTE

Pavant Butte is a unique volcanic cone comprised of volcanic ash and sand. The north slope is lacelike in appearance where lava flowed and collected in a curtain-like formation. Erosional chimneys and areas of stark volcanic slickrock add to the interest of the formation. The butte rises dramatically from the flat valley floor. It is the largest and most prominant crater of the Utah West Desert lava fields. Local scout groups and school groups visit the butte throughout the year. In 1923, attempts were made to build a wind-powered electric plant on a State section on the southern tip of the butte. A concrete cellar and 27 concrete pillars are the only portion of the project ever completed.

GREAT STONE FACE

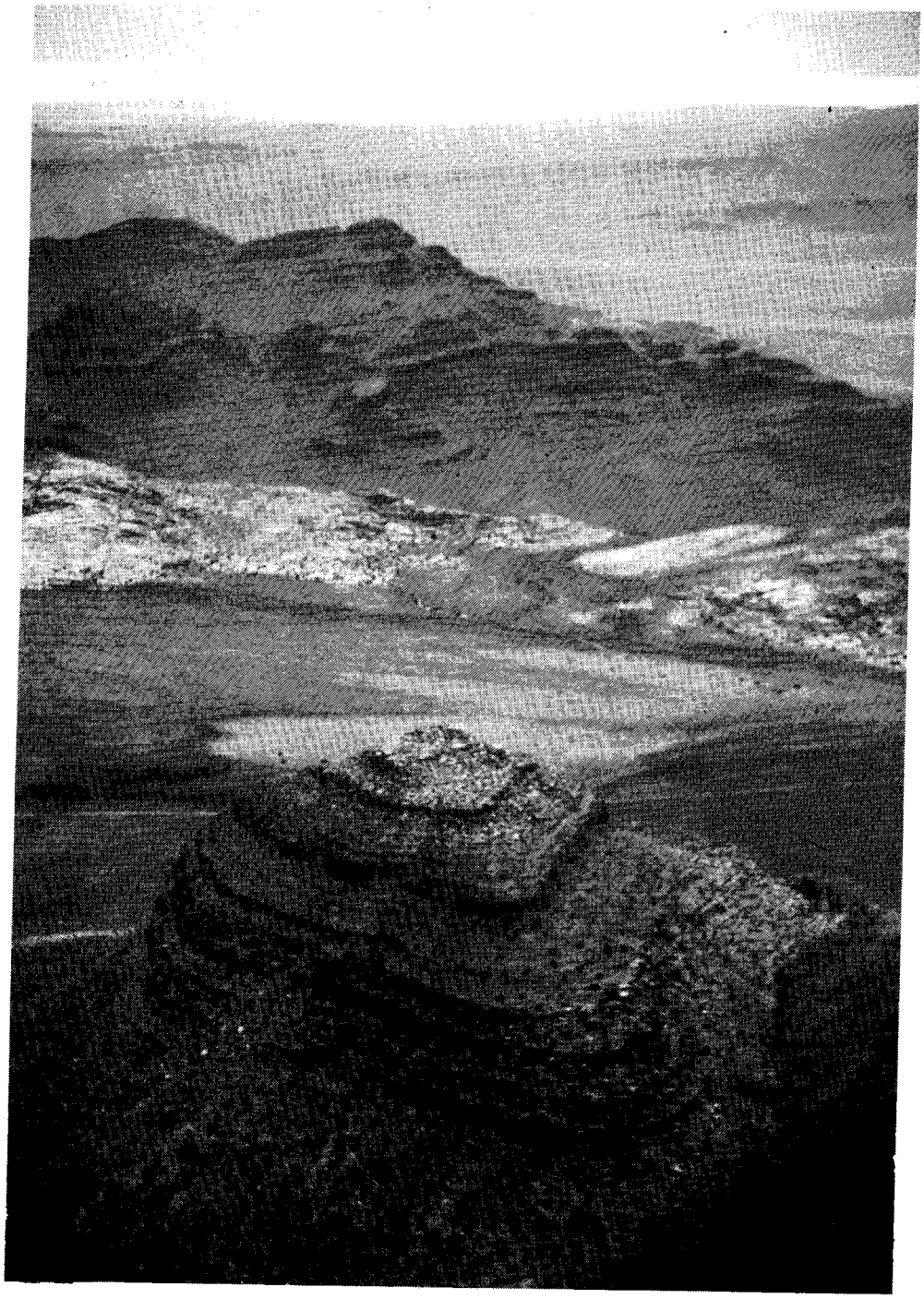
A lava flow near Deseret, Utah, contains a remnant of a conduit or vent approximately 32 feet high, which has eroded to a striking resemblance of a human face. The face is a remarkable likeness to the published pictures of the Mormon Prophet Joseph Smith. Local schools and scout groups visit the site each year.

Hunting

The WSRA provides habitat for big game species of mule deer, pronghorn antelope, elk, and historic habitat for bighorn sheep. There are approximately 1,500 deer in portions of six deer herd units, 700 pronghorn antelope in two herd units, and some elk primarily on adjacent lands (Pavant Mountains to the east and the Needles Range to the southwest). UDWR has planned future transplants to reestablish desert bighorn sheep in the West Desert. Annually, approximately 797 deer hunters account for 2,613 hunter days with a success rate of 40 percent. Approximately 46 antelope hunters account for 95 hunter days with a success rate of 85 percent. There is no current elk or bighorn sheep hunting within the WSRA. The resource area also offers chukar, waterfowl, limited sage grouse, and ringneck pheasant hunting. Pruess Lake, Lake Creek, and Meadow Creek offer limited fishing opportunities.

Off-Road Vehicles

Most off-road vehicles (ORV) activity within the WSRA is incidental to other recreational activities, such as hunting, rockhounding, and sight-



Fossil Mountain, foreground

seeing. The area is a considerable distance from large population centers. A few motorcycle races have been held during the past few years, sponsored by a locally organized motorcycle club. Races have been held in the vicinity of Notch Peak, Pavant Butte, Black Rock, and Dog Valley. The courses used for the races have not been used to any degree after the events. The races, averaging between 150 to 200 participants, have resulted in very few resource conflicts.

Visual Resources

The WSRA contains a wide variety of scenery. The eastern portion, consisting primarily of the Black Rock Desert, the Cricket Mountains, and Sevier Lake, is characterized by broad open valleys, interspersed with low rolling hills, and moderately high mountains. The valley floors contain a mix of pinyon-juniper and sagebrush. Volcanic lava flows and buttes provide interesting variety of vegetation within these areas. The mountains contain a limited variety in vegetation, rock, and soil types. Water bodies are primarily limited to the Sevier River and Sevier Lake. The lake is the third largest water body in Utah, but has little vegetation around the periphery. Though normally dry much of the year, the unusually high runoff the last few years has created a year-round water body which is strikingly blue when viewed from the southern end.

The central portion of the planning area is the most striking with high, rugged House Range and Wah Wah mountain ranges with towering peaks and steep escarpments. These mountains contain a wide variety of vegetation types from dark green pinyon-juniper to white aspen stands. The steep rock escarpments contain a wide variety of colors and forms. There is also some water evident in the small streams in the House Range Mountains. Interspersed between the mountains ranges are flat, barren lake bed playa's which provide an interesting landscape.

The Ferguson Desert, Burbank Hills, Confusion Mountains, Pine and Snake valleys comprise the western portion of the planning area. This area contains sagebrush-covered flat valley bottoms and rolling pinyon-juniper covered hills. There is no visible evidence of water. The House Range and Wah Wah Mountains to the east and spectacular Snake Range Mountains to the west (in Nevada) dominate the landscape.

In order to provide a BLM-wide systematic approach to identifying scenery quality and setting minimum quality standards for management of visual resource values on the public lands, the BLM established the Visual Resource Management (VRM) System contained in BLM Manual 8400. All previous planning efforts were done prior to introduction of the VRM system and, therefore, did not include any of the VRM management classes. During the summer of 1985, BLM personnel, from the House Range and Warm Springs Resource Areas, conducted a visual resource inventory and analysis of the entire WSRA.

Portions of the Wah Wah Mountains (including Crystal Peak), Notch Peak, Tabernacle Hill, and Ice Springs Lava Flows were the resources found to have the highest (Class A) visual qualities. Pavant Butte, the foothills adjacent to the Fishlake National Forest, portions of the Wah Wah Mountains, Notch Peak, King Top Mountains and Antelope Mountains contain moderate (Class B) visual qualities. The remaining flat valley bottoms and sparsely vegetated foothills and mountain ranges contain low (Class C) visual qualities.

Based on the above scenic quality, visual sensitivity and visual distance zones (see Glossary), all public lands were assigned VRM classes. These classes specified the objectives for managing the visual resources, the degree of landscape modification allowed, and provided a basis for BLM land use planning decisions.

The number of acres in each VRM classes is as follows: Class I, 0 acres; Class II, 28,484 acres; Class III, 106,180 acres; Class IV, 2,092,091 acres; and Class V, 0 acres. There were no areas in VRM Class I. The Tabernacle Hill and Ice Springs Lava Flows, Pruess Lake, and portions of the Wah Wah and House Range mountains were rated Class II. Portions of the House Range, Wah Wah, and Confusion Mountain ranges, Pavant Butte, and the foothills adjoining the Pavant Mountain Range were rated Class III. The remainder of the WSRA, consisting of the Black Rock Desert; the Cricket, San Francisco, and Mineral mountains; the Confusion, Needle, and Conger ranges; Tule, Snake, Wah Wah, and Pine valleys; and Sevier Lake were rated Class IV. No areas were rated Class V. Figure 3-11 delineates the location of the various VRM classes.

The management objectives for each of the VRM classes represented in the WSRA are as follows:

- VRM Class II. Management activities/ modifications of the environment should not be evident in the characteristic landscape. Changes may be visible but should not attract attention.
- VRM Class III. Changes caused by management activities may be evident but

should remain subordinate to the existing landscape.

- VRM Class IV. Changes may attract attention and be dominant landscape features but should reflect the basic elements of the existing landscape.

Cultural Resources

PREHISTORY

Utah's West Desert has been host to sporadic human activity for almost 14,000 years. The WSRA is known to have had at least four distinctive prehistoric cultures. The earliest was the Clovis culture of the Paleo-Indian tradition and was radiocarbon dated from approximately 12,000 to 9,000 B.C. These early people were specialized big-game hunters.

Following the Clovis culture was the Folsom culture, also of the Paleo-Indian tradition. That culture dated from approximately 10,000 to 7,000 B.C. Both the Clovis and Folsom cultures were adaptations to similar environmental conditions and are evidenced by highly distinctive fluted projectile points.

This Paleo-Indian tradition was eclipsed by the onset of warmer, drier climatic conditions and the subsequent extinction of megafauna at about 7,000 B.C.

Following the Paleo-Indian tradition, about 7,500 B.C., was the Desert Archaic culture. These people were hunters and gatherers. They lived a very mobile and highly adaptive lifestyle. The Archaic culture exploited a wide variety of natural resources by engaging in a seasonal round (moving to differing ecosystems to harvest various natural resources, i.e., seed-bearing plants, migrating animals, etc., as they came into season). Archaic people left scant traces in the archaeological record. These traces in the WSRA are most often campsites and lithic debris, characterized by a variety of chipped stone artifacts. Probably due to environmental stability, the Archaic lifeway changed little for thousands of years.

By A.D. 800, they were succeeded by the semi-horticultural Fremont people. The Fremont genesis remains a mystery, but the fact that they were present in the area for some 400-500 years is undisputed. Twenty-nine Fremont sites have been recorded in the WSRA. They consist mainly of small structural habitation sites and nonstructural camps. Many are associated with sand dunes near Sevier Lake. Larger village sites are no doubt found in the pinyon-juniper zone on the east side of the resource area.

Fremont people relied on the collection of wild resources and domesticates, although the degree of reliance on one or the other is questioned.

Indian occupation of the area declined rapidly about A.D. 1200-1300. Drought, soil, and/or resource depletion, social or religious beliefs, or feuding and raiding among neighboring groups have all been offered as possible reasons for the mass depopulation. However, no one reason has been conclusively demonstrated as the major cause of widespread abandonment.

Whatever happened, it is evident that Paiute-Shoshone groups took over the territory after the Fremont disappeared. The Paiute-Shoshone groups occupied the WSRA until European contact in the Nineteenth Century. They were apparently immigrants to the area and lived a basically Archaic hunting and gathering lifestyle. They manufactured a thick-walled grey/brown pottery and lived in hide teepees, wickiups, and rock shelters.

HISTORY

The first historical account of events in the WSRA is the Dominquez-Escalante expedition. The expedition entered the resource area on October 1, 1776, and camped near Pavant Butte that evening. After passing Clear Lake, they traveled south through the resource area along the Beaver River. At Red Rock Knoll, they were delayed for 3 days (Oct. 5-7) by a severe snow storm. The expedition left the resource area sometime during the day of October 8, 1776 (Warner, 1976). During the expedition, the two Catholic Fathers established relationships with numerous Indian groups which have influenced history down to the present day.

Mining activity began in the 1850s with the coming of white (Anglo) settlers. The majority of it dwindling by the early 1900s. Practically every mineral of commercial value was mined in the eastern Great Basin. Lead, silver, and gold made up the bulk. Minerals were found in sufficient quantities that made their extraction commercially feasible. The distance of the mines from a railroad connection prevented extensive operations. Ore had to be hauled long distances through the desert by freight wagons with six or eight horse teams.

Mining for gold, silver, tungsten, lead, and zinc occurred historically in Amasa Valley, Sawtooth Canyon, Miller Canyon, Notch Peak Canyon, and Bird Canyon on Sawtooth Mountain. Mining roads, mine shafts, and cabins are located in all of these areas, but are particularly abundant in Amasa Valley.

About 1898, a stagecoach mail run from Frisco, just south of the WSRA, and Newhouse to Ely, Nevada, was started. In winter time, mountain passes would sometimes be blocked with snow. Many times the mail had to be taken by horseback. The trail can still be clearly seen in the Wah Wah and Antelope valleys.

About the same time as the stagecoach mail began, the trading center Ibex was founded near the remote southern tip of the Barn Hills in Wah Wah Valley. At the time, it was the only permanent residence between the Sevier Valley and the Nevada State Line. Ibex, a trading center for stockmen and miners, included corrals, a post office, boarding house, and several windmill water pumps. Ibex faded away in the early 1900s, when the mines quit and the sheepmen left (Carr, 1972). Today, all that remains is broken down fences, purple glass fragments, and other rubbish. The structures burned down in 1956.

Historical events in southern Millard County picked up considerably about 4 years after the Mormons arrived in the Salt Lake Valley in 1847. In March of 1851, it was decided to select a site for a territorial capitol. Chalk Creek was designated as the site, the city was called Fillmore, and the Pavant Valley was formed into a county known as Millard County. The people of Utah thus honored President Millard Fillmore (Sutton, 1949).

The Capital was subsequently moved to Salt Lake City (Day and Ekins, 1951). Nevertheless, Fillmore was well-established and has persisted as county seat of Millard County. The old capitol building still stands and has been converted into a museum.

The Euro-American settlement of this country has been a history of Indian tenants having to accommodate white settlers. Settlements along the west slope of the Pavant Mountains were no exception. Fortunately for the people of Millard County, the Chief of the Pahvant Indians (a regional group of the Paiute Tribe) was Kanosh, a young, strong, and peace-loving man. He felt, as did Mormon leader Brigham Young, that it was better to live in harmony. Not all shared this philosophy. Even so, Kanosh was responsible for many years of relatively peaceful relations.

Sometimes unfortunate and needless trouble arose in spite of good intentions. Perhaps the best example of the tenuous tragic nature of Indian-White relations at the time is the Gunnison Massacre.

This was the product of a misunderstanding, an accidental death, and a hot temper. The result was death of eight innocent men (a government survey party) near Sevier Lake. A monument now marks the site of the massacre.

Just 6 years after the Gunnison Massacre, attempts to establish a permanent settlement on the Sevier River began. A site was selected, and by 1860 a dam was built to supply water for the Town of Deseret.

The Pavant Valley was still a favorite rendezvous for the Pahvant Indians who were more numerous than the Whites in the area. In the Spring of 1865, the Black Hawk War broke out in Sanpete County. The people of Millard County appealed to the government for help. Because the Civil War was on, they were told to form a militia and protect themselves. To do that, the settlers built Fort Deseret. It was built in just 18 days and completed in July of 1865.

Two years later, a similar effort was started on Cove Creek. Cove Fort was built in 1867 to protect and service stage and freight lines. Built in 7 months, it was smaller than its counterpart south of Deseret, but much more substantial. Stage lines stopped at the fort twice a day to get fresh horses and let passengers eat. The fort was also used by freight wagons traveling to and from Utah, Nevada, and California (Day and Ekins, 1951).

In 1933, the Civilian Conservation Corps (CCC) gave a major boost to reclamation in Utah. Projects long planned by the Departments of Agriculture and Interior were finally able to proceed.

Flood control activities were combined with water storage projects, especially in West Desert areas. Huge herds of sheep and cattle grazed in western Utah during the winter months, and facilities for livestock were in short supply. Nearly all CCC's Division of Grazing camps spent most of their time and labor constructing reservoirs, developing springs, and placing water troughs. The remains of two CCC Camps are present today: the Painter Spring Camp, west of Sawtooth Mountain, and the Clay Spring Camp, southwest of Pruess Lake in Snake Valley.

From the beginning of settlement in Deseret, livestock grazing has been one of the economic mainstays in southern Millard County. This area of Utah has also been an important agriculture, poultry, dairy, and grain center.

EXISTING INVENTORY INFORMATION

To date, 109 sites have been recorded in the WSRA: Paleo-Indian, 2; Archaic, 15; Fremont, 29; Ute/Paiute, 0; Shoshone, 2; Historic, 0; unknown, 61. Eight sites are listed on the National Register of Historic Places.

1. 42 MD 300 (Paleo-Indian site)
2. 42 MD 183 (Great Basin rock art)
3. 42 MD 284 (Great Basin rock art)
4. 42 MD 55 (Great Basin rock art)
5. Territorial Capitol, Fillmore
6. Gunnison Massacre Site
7. Fort Deseret
8. Cove Fort

The major historic sites and National Register listings are shown on Figure 3-12.

Paleontology

Most fossil-bearing strata in the resource area are from two geologic eras: Paleozoic and Cenozoic (see Table 3-11). The older Paleozoic deposits are found in the mountain ranges. Cenozoic deposits include the recent Quaternary alluviums which are found in the valleys and foothills.

Paleozoic rocks in Utah were deposited mostly under shallow marine conditions and consist mainly of limestone, dolomite, and sandstone. The fossil material contained in these deposits are an important tool for deciphering the geologic history of the mountain ranges of western Utah.

Exposed Paleozoic deposits found in the southern Confusion Range provide an outstanding field for gathering fossils of this geologic period. The area around Fossil Mountain is rich in fossil material, including crinoids, trilobites, and brachiopods.

There are no data on the individual exposed Paleozoic formations in the resource area. These formations span the Ordovician, Silurian, and Devonian periods and are most likely fossiliferous. The invertebrate fossils they contain consist of several types of trilobites and sponges, cephalopods, gastropods, and brachiopods.

The majority of the geologic deposits in the resource area are Cenozoic and consist of valley-filling alluvial, lacustrine, and volcanic materials.

TABLE 3-11

Geologic Time Scale

Era	Periods	Epochs	Million Years Since Start of Period
Cenozoic	Quaternary	Recent	
		Pleistocene	1
	Tertiary	Pliocene	11
		Miocene	25
		Oligocene	40
		Eocene	60
		Paleocene	70 ± 2
Mesozoic	Cretaceous		135 ± 5
	Jurassic		180 ± 5
	Triassic		225 ± 5
Paleozoic	Pennsylvanian (Carboniferous)		
	Mississippian (Carboniferous)		350 ± 10
	Devonian		400 ± 10
	Silurian		440 ± 10
	Ordovician		500 ± 15
	Cambrian		600 ± 20
Precambrian			Unknown

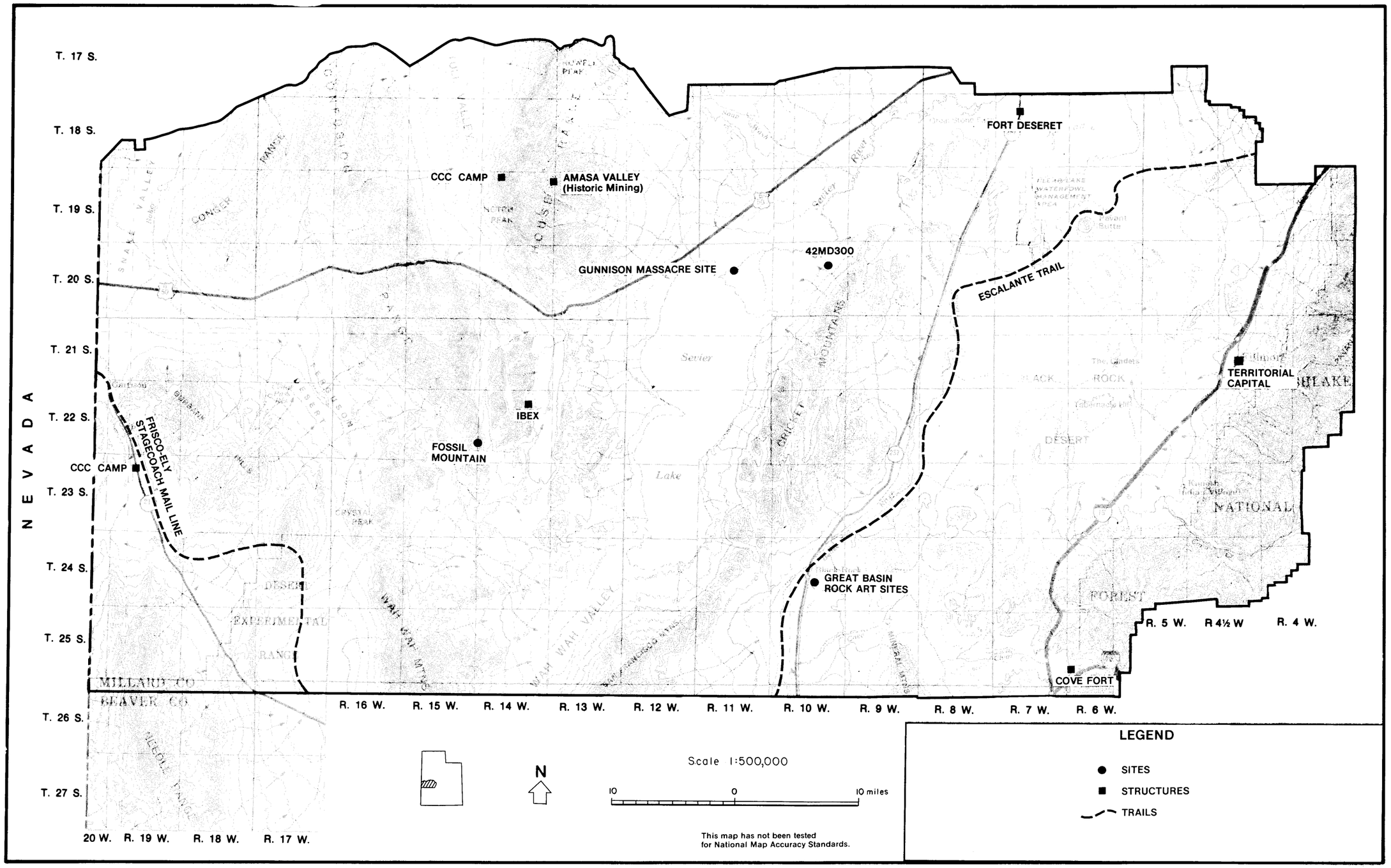


FIGURE 3-12
MAJOR HISTORIC SITES AND NATIONAL REGISTER LISTINGS

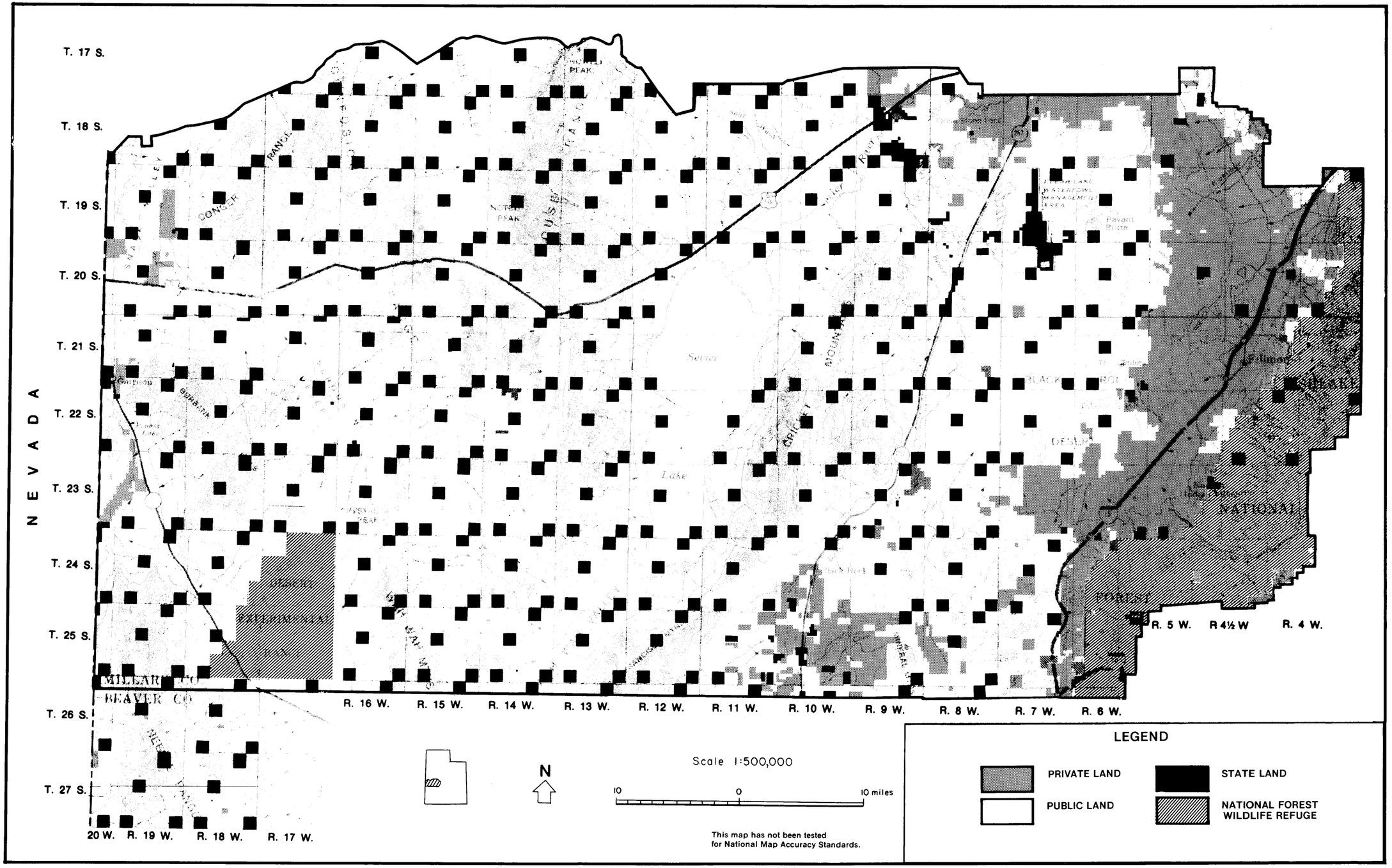


FIGURE 3-13
LAND OWNERSHIP

The Miocene and Pliocene fill in the eastern Great Basin valleys is more than 8,000 feet thick in places and includes the salt masses under the Sevier Desert. Overlying this are the more recent Quaternary surficial deposits (0-2 million years ago) which include glacial deposits and Pleistocene Lake Bonneville sediment.

A variety of fossil remains occur in these sediments, including some larger mammals like bison, sheep, and horses. Significant vertebrate fossils have been found in the Quaternary sediments and the potential exists for others. Cenozoic fossil generally are located along the margins of the valleys and in the mountain ranges made up of Tertiary volcanic material. Fossil rabbits, fish, lizards, and birds are fairly abundant. Less abundant (and also less significant) are the fossil clams and snails found in valley fill.

Paleontological resources are protected from unauthorized removal by the Antiquities Act of 1906 and the Utah State Antiquities Act. Both pieces of legislation treat fossil material as objects of antiquity.

LANDS

Over 2.2 million public land acres are in the planning area. This amounts to 71 percent of the total resource area acreage. Most of these lands are in a large contiguous block interrupted by regularly occurring State sections (four per township) and private, generally small, inholdings. The most complex ownership patterns occur on the east side of the planning area where private agricultural lands are concentrated. The vast majority of the WSRA population lives in the Pavant Valley. Lands in this center of population are largely in private ownership (see Figure 3-13). Table 3-12 presents land ownership within the WSRA (acreages and percent).

TABLE 3-12
Land Ownership in WSRA

		Acres	Percent of Total
Public/BLM Administered		2,226,755	71.0
Private		361,964	11.5
State of Utah		279,289	8.9
USFS Administered			
Fishlake N.F.	211,355		
Desert Experimental Range	55,625		
Total		266,980	8.5
Paiute Indians (Kanosh Band)		1,102	Less than 0.1
Total		3,136,090	100.0

Land Disposals

The communities in the Pavant Valley rely little, if at all, on public lands for community expansion. Nearly all recent interest in acquiring public lands has come from individuals living in other areas. The only two recent requests for public lands were made by local governments. They were for Recreation and Public Purposes (R&PP) leases for sanitary landfills for Garrison and a Millard county site just north of the WSRA boundary.

Under various public laws, the BLM has authority to dispose of public lands: the Federal Land Policy and Management Act (FLPMA) of 1976 gives authority to sell and exchange lands; the R&PP Act of 1954 gives authority to lease and sell lands; and the Desert Land Act of 1877, as amended by the Act of March 3, 1891, gives authority to dispose of lands suitable for agricultural crops.

Section 203 of FLPMA states that public lands may be sold for appraised fair market values if they are: (1) difficult or uneconomic to manage because of their location or other characteristics; or (2) lands which would serve important public objectives. The FLPMA also authorizes exchange of public lands. The principal criteria for exchanges are: (1) private lands to be acquired should be lands that would significantly benefit Federal land management programs; and (2) disposal of public lands should not have adverse effect on the environment, existing land uses, or management programs. Applications for sales and exchanges are evaluated and decisions made case-by-case.

The R&PP Act gives authority to provide lands to local governments or certain non-profit entities for uses in the public interest. Preapplication

inquiries regarding R&PP proposals are evaluated on a case-by-case basis. The benefits to the public are evaluated. Resources and existing uses on the lands are also considered, and a proposal is then formulated for detailed analysis.

The Desert Land Act authorizes disposal of lands for specified agricultural uses. The basic criteria are: (1) the lands applied for must have soil suitable for the growing of irrigated crops; (2) the applicant must demonstrate permanent water rights sufficient for irrigation; and (3) the proposed agricultural operation must be an economic unit.

Rights-of-Way Corridors

Rights-of-way for a variety of uses are granted each year in the resource area. Rights-of-way vary greatly in size. Recent examples are for a 1,320-foot pipeline to convey water from a reservoir to farm land for irrigation. Another is a 1.5 mile, 12-kV powerline to a hilltop communication site. Another is a 100-foot by 100-foot communication site. Except for governmental agencies, rights-of-way holders are assessed fair market rental for the acreage used.

Wherever possible new long distance rights-of-way are restricted to major existing corridors in the planning area. One designated east-west corridor crosses the northern portion of the resource area. This was designated by Management Framework Plan (MFP) decision and contains a 230-kV Utah Power and Light transmission line constructed in 1972. Figure 3-14 shows the location of major existing and designated rights-of-way corridors in the planning area.

Rarely are there applications for major facilities suitable for confinement to existing or designated corridors. Most rights-of-way applications and/or permits are for short distances (less than 1 mile) and small acreages (less than 5 acres); usually they are related to existing developments. Applications are processed as received and are in conformance with existing plans and policies. Examples are a short powerline or pipeline to service a farm or existing developments.

Utility companies occasionally contact BLM field offices to discuss planning routes of major rights-of-way for power or transportation projects. Preliminary multidisciplinary evaluations of the routing alternatives are done. Anticipated effects on existing land uses and the environment are discussed, and wherever possible, management directs the proponent to locations in conformance with BLM management objectives.

Special Designations

Previous MFPs, in recogization of exceptional recreation and scenic resource values, recommended study for designation of primitive areas on the Wah Wah and Swasey mountains, including Notch Peak. Those designation procedures were superseded by the wilderness study process. See the Utah Statewide Wilderness EIS for information on that process including designation recommendations. Currently, there are no areas with special management designations. Ten areas were identified as potentially suitable for a special designation in the MSA. These were:

- Pavant Butte. This is a prominent volcanic cone that rises about 1,000 feet above the valley. The Butte has several interesting features, such as natural rock formations, ruins of an historic wind-driving electrical generating project, and cliff habitat for endangered raptors.
- Tabernacle Hill and Cinders Lava Field. This volcanic field exhibits a wide variety of recent features, some being unique to Utah and some among the best examples anywhere in the nation. The hill was named and described by G. K. Gilbert (1890), who saw a similarity of the domed landform to the Mormon Tabernacle in Salt Lake City.
- Notch Peak. This is a West Desert landmark because of its distinct shape which is easily recognized for over 75 miles. It is a block-faulted mountain, the second highest in the House Range Mountains. Its 3,000-foot sheer vertical west face is thought to be the largest limestone monolith in Utah. Vegetation ranges from a desert shrub community at its base to fir, aspen, and bristlecone pine on the ridgeline.
- Great Stone Face. This is a geologic landmark of local significance. The face is a natural stone formation that resembles the profile of the Mormon leader Joseph Smith as he looked in the 1830s.
- Sunstone Knoll. This is an upthrust mass of lava in the middle of the alkali flat, named for the abundance of facet grade yellow "sunstone" or golden labradorite found on the knoll. The knoll is well known to rockhounds who collect the crystals from surface outwash and hand excavations.
- Hellhole Lava Tube. This is a 130-foot long tube in the Pavant Butte lava flow which is dated before Lake Bonneville.

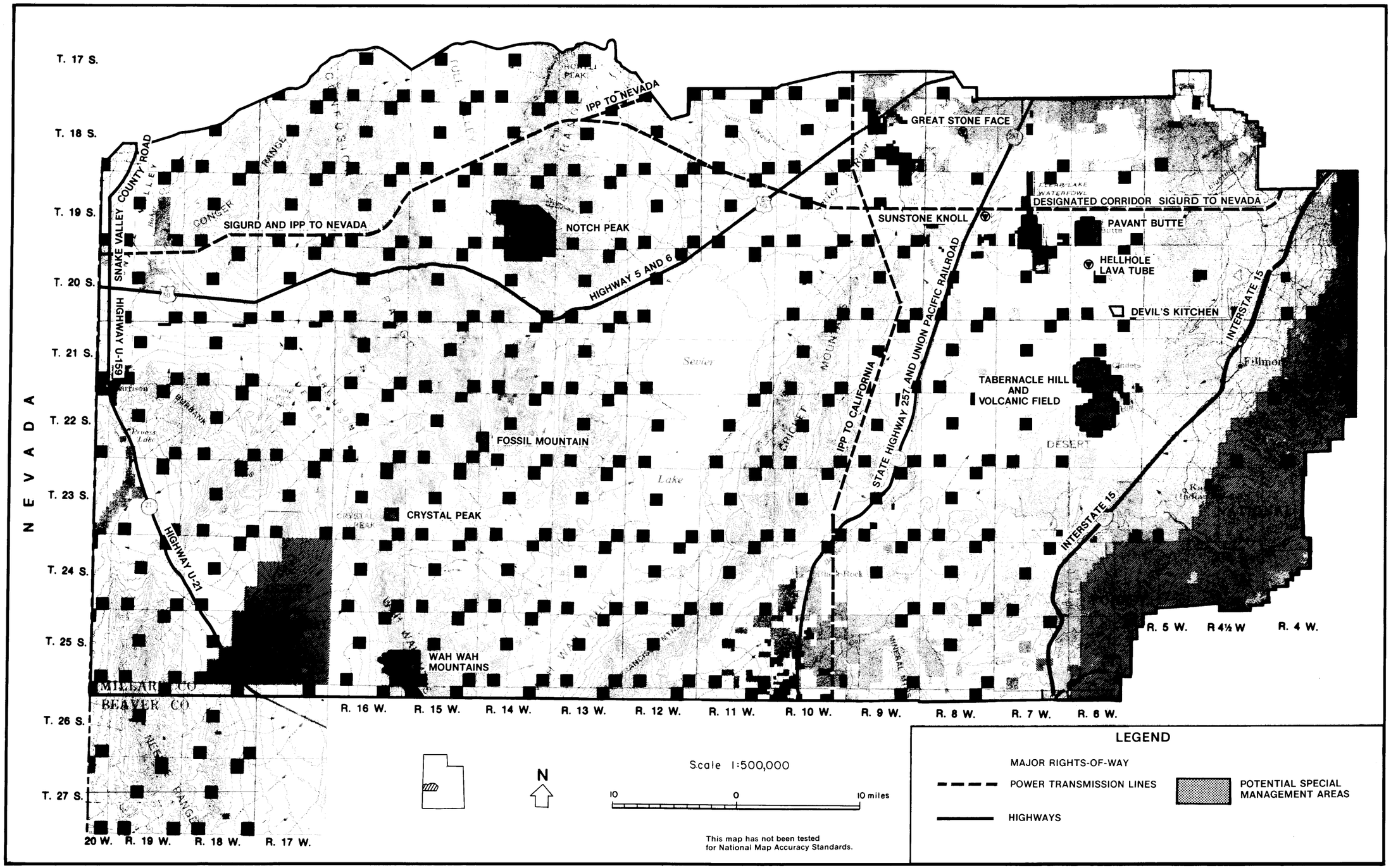


FIGURE 3-14
EXISTING MAJOR RIGHTS-OF-WAY AND SPECIAL AREAS

- Crystal Peak. This is a unique volcanic mountain of Tunnel Springs tuff. It is a landmark in Millard County and rises 900 feet above the surrounding terrain. The white peak can be seen for 50 miles or more, and is rated as Class A scenery.
- Fossil Mountain. This mountain contains a well exposed, complete fossiliferous Ordovician section. It is an outstanding area for collecting abundant and diverse fossils. The Smithsonian Institution and numerous museums and universities in the nation display fossils taken from this area.
- Devils Kitchen. This is a volcanic landform that has become a local landmark. It has the shape of an amphitheater with a semicircular cliff line of basaltic lava.
- Wah Wah Mountains. This is a typical example of a desert mountain ecosystem in essentially undisturbed condition. Special features include large areas of bristlecone pine forest. The potential for future research is good, especially if the area's values are publicized and its integrity maintained.

Only a portion of the above areas were carried forward to the alternative portion of this document.

In the MFP for this area, which was completed in 1977, three natural features were recommended for special designation: Crystal Peak, Notch Peak, and Tabernacle Hill. These designation were never completed; however, Tabernacle Hill was withdrawn from mineral entry and a recreation management plan was prepared for it.

Withdrawals that are in effect in the planning area are the Tabernacle Hill BLM protective withdrawal, the Forest Service Desert Experimental Range, and the Fishlake National Forest, which are part of the National Forest Reserve System.

In previous planning documents, no areas or tracts of land were identified or designated as suitable for disposal. Prior to the passage of FLPMA, there was no legal national mandate to retain public lands in Federal ownership; therefore, early MFPs classified nearly all public lands for retention under the authority of the Classification and Multiple Use Act of 1964. Since these classifications were no longer needed after FLPMA, they were terminated. At present, it remains the policy of the BLM that no land disposals will be considered in areas potentially suitable for special designations, areas that are withdrawn, or in WSAs.

MINERALS

Leasable Minerals

OIL AND GAS

Presently no producing fields or wells are in the WSRA and there has been little exploration activity to date. Exploration within the Basin and Range Province, which includes most of the WSRA, has been sporadic and is in its incipient state. Very few test holes have been drilled over this huge region. The structural complexity, in addition to the lack of success, has discouraged industry exploration.

Oil was discovered in two small fields in Railroad Valley, Nevada, to the west of the resource area. Those fields produce from open vertical fractures. Exploration has been at an elevated level in eastern Nevada since their discovery in 1976. They also had the effect of drawing some interest to Utah's West Desert. From 1968 to 1982, five deep holes were drilled (approximately 11,000 to 12,000 feet), but none since. Considerable seismic activity occurred in the WSRA in 1983, little in 1984 and none in 1985.

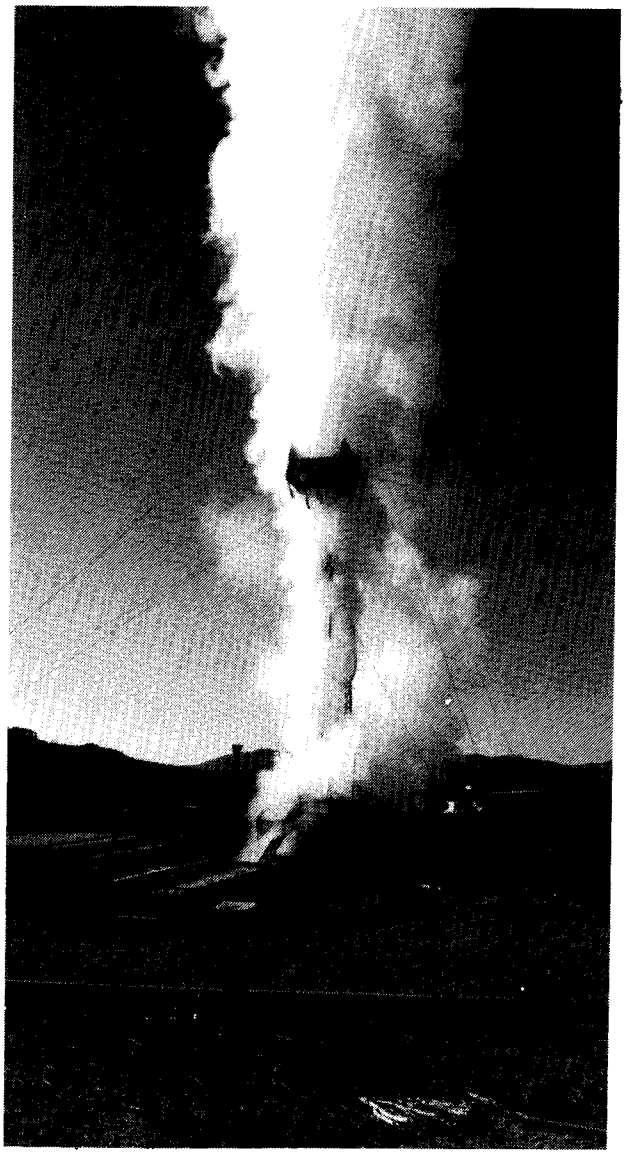
Most of the WSRA is held under oil and gas lease. Table 2-3 lists the present oil and gas categories for the resource area.

All oil and gas leasing within the resource area is non-competitive (simultaneous and over-the-counter), because no area with known oil production potential has been discovered (Known Geologic Structure). Leasing levels and lease activities in the WSRA are expected to remain at about the present level in the WSRA over the planning horizon, unless significant oil and gas finds are made.

The current leasing policy for oil and gas employs a system of land categorization, designed to protect natural and human resources while providing the maximum opportunity for oil and gas exploration and development. The four categories employed include: (1) Open—with standard stipulations, Category 1; (2) Open—with special stipulations, Category 2; (3) Open—with no surface occupancy, Category 3; and (4) Closed or suspended to leasing, Category 4. Most of the land in the WSRA (98 percent) is currently Category 1 (see Figure 3-15).

GEOTHERMAL

WSRA demonstrates many of the favorable characteristics, normally associated with geothermal resources. Recent increased exploration and leasing indicate the WSRA may have good potential for development.



Geothermal Exploration,
Sulphurdale Spring KGRA

Known heat sources are present in two areas in the WSRA. These are the Meadow-Hatton Springs, located west and northwest of Meadow, Utah, and the Sulphurdale Spring near Cove Fort and Sulphurdale, Utah. These areas have been designated as Known Geothermal Resource Areas (KGRA). Approximately 47,300 acres in the KGRA are in the resource area (see Figure 3-16)

Exploratory drilling and development of several geothermal wells and the construction and operation of an 2.4-kV electrical generating facility at Sulphurdale by Mother Earth Industries, Inc., indicates the KGRA is a potentially economic reservoir.

POTASSIUM, PHOSPHATE, AND SODIUM

Fifty-three prospecting permits have been issued for potassium in the areas of the Wah Wah hardpan and Sevier Lake. The total area covered by those permits was about 132,812 acres. In 1982-83, some exploration was conducted on the areas covered by the permits, which expired in November of 1985. The commercial potential of any deposits in these areas is unknown.

Locatable Minerals

All public lands in the WSRA are open to mineral entry and development, except for Tabernacle Hill (3,567 acres). Mineral exploration and development on public land will be regulated under 43 CFR 3800 to prevent unnecessary or undue degradation of the land. Validity examinations may be requested under the following conditions:

- Where a mineral patent application has been filed and a field examination is required to verify the validity of the claim(s);
- Where there is a conflict with a disposal application, it is deemed in the public interest to do so, or where the statute authorizing the disposal requires clearance of any encumbrance;
- Where the land is needed for a Federal program; or
- Where a mining claim is located under the guise of the mining law, and flagrant unauthorized use of the land or mineral resource is occurring.

Public land would be open to mineral entry where mineral withdrawals are revoked through the withdrawal review process.

Potential locatable mineral deposits in the WSRA include precious metals (gold and silver), base metals (lead, zinc, iron, vanadium, tungsten), and a variety of gemstones, gypsum, fluorine, and sulfur. Mining claims have been staked for locatable minerals, either placer or lode claims for all of the above minerals. Locatable minerals are those "valuable mineral deposits" which do not fall under the purview of the mineral leasing acts and do not include common varieties of sand, stone, gravel, pumice, pumicite, and clay.

A very limited mining history has been associated with mining claims, although numerous claims have been staked throughout the resource area. At the present, one commercial mining operation is in the resource area. Continental Lime, Inc., is quarrying limestone on the east side of the Cricket

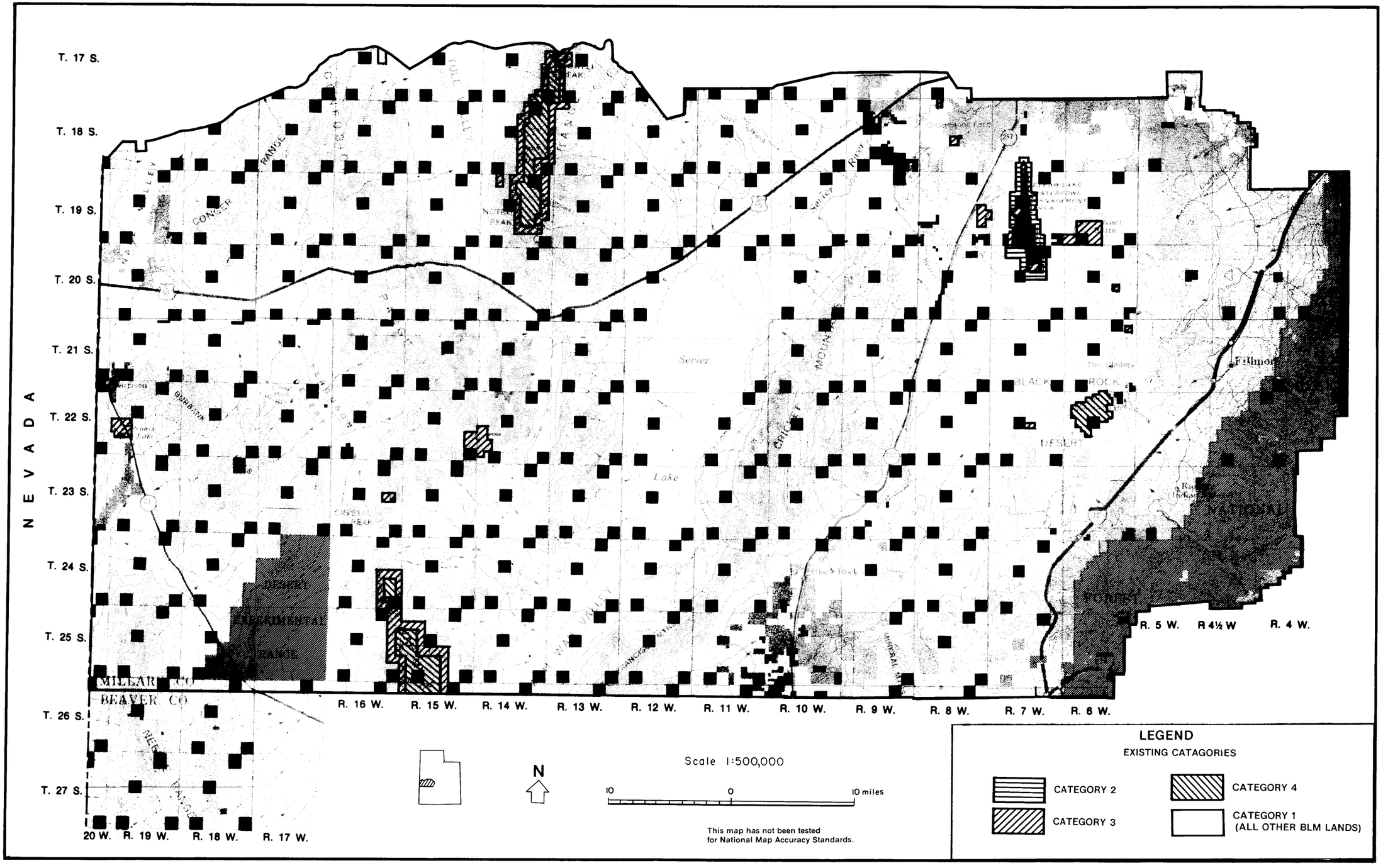


FIGURE 3-15
EXISTING OIL, GAS, AND GEOTHERMAL CATEGORIES

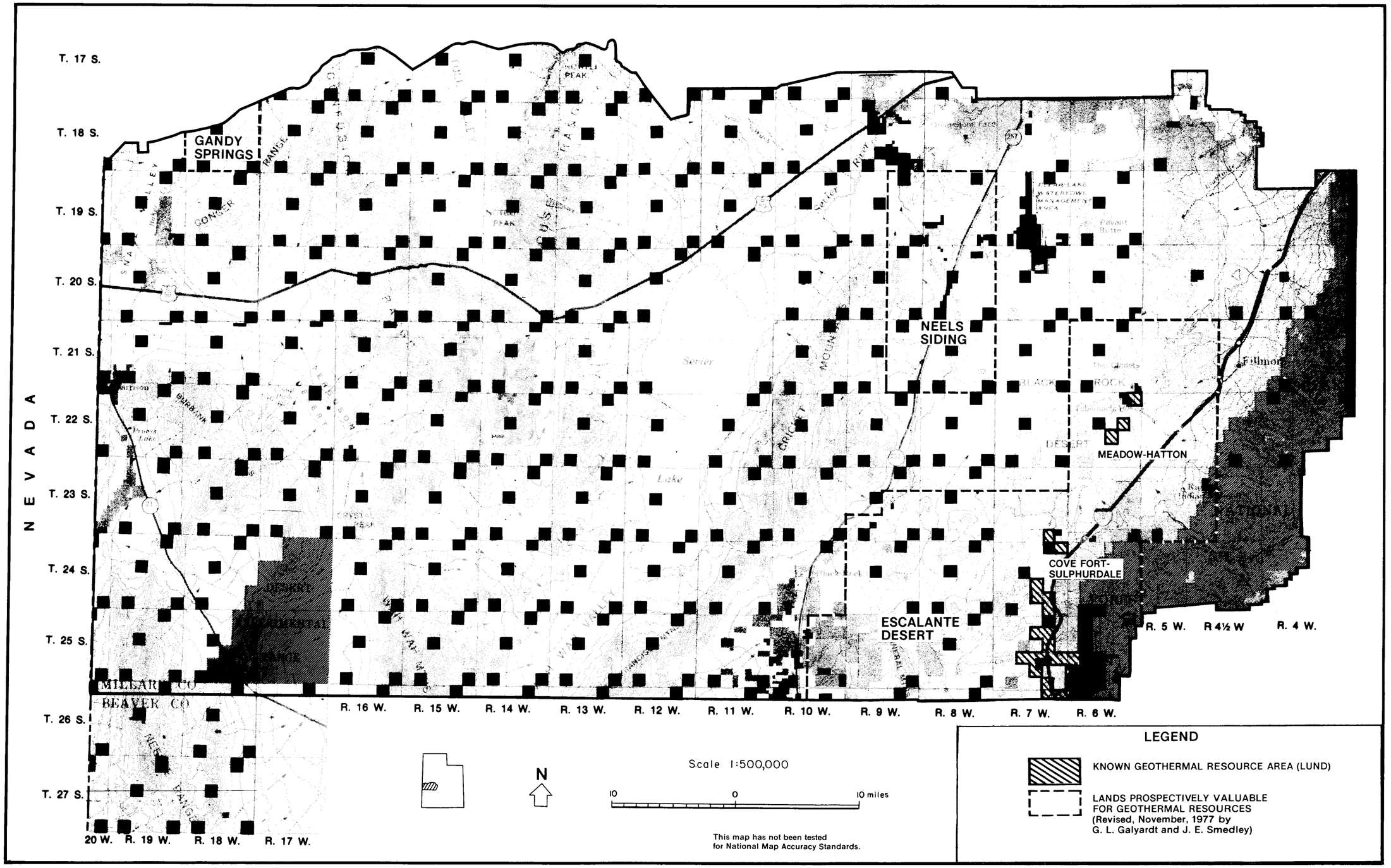


FIGURE 3-16
GEOTHERMAL RESOURCE AREAS

Mountains. Reserves from this area are estimated to be near 33 million tons. The operation is presently quarrying 650,000 tons of raw material annually. The mine life for Continental Lime, Inc., quarry is expected to be 50 plus years if demand for their product remains stable.

Saleable Minerals

Saleable minerals, including common varieties of sand, gravel, stone, cinders, and clay, are sold on a demand basis after appropriate environmental review of proposed sites. Their importance is principally for road building and other activities associated with construction of IPP, the oil and gas industry, and maintenance of State and Federal highways. Sand and gravel, sandstone, and quartzite are commonly used.

Sand and gravel is generally confined to terraces and areas along streams and rivers. Building stone and fill material are found on many of the more resistant ridges. Presently, sufficient volumes of these materials exist to meet forseeable demands. Few conflicts, related to the sale of mineral materials, have been identified. New quarry sites have been developed as needed, consistent with protection of other resources and uses.

Millard County has been issued several Free-Use Permits, and sales have been made to private contractors for road building and maintenance and other construction projects. It is estimated about 41,000 cubic yards of sand, gravel, and borrow material will be needed annually to maintain existing State and county roads and for possible new road construction.

There is an active interest in numerous recreational minerals. These are minerals collected for ornamental purposes, such as agate, petrified wood, and invertebrate fossils. All public lands are open to recreational mineral collection, unless the specific minerals are subject to prior rights, such as mining claims.

Sunstone Knolls, in the resource area, is reported as the best site in the Western U.S. for collecting golden labrodorite. Fossil Mountain is one of the foremost locations in the U.S. for wealth and variety of Ordovician life form fossils.

WATERSHED AND WATER RESOURCES

The WSRA is in the Great Basin Hydrological Region and contains portions of the Sevier Lake and Great Salt Lake sub-regions. The source of water in the area is from direct precipitation in the form of rain and snow and surface flowing water. Maximum precipitation is in late summer and early fall with a secondary peak in the spring. Much of the surface-flowing water percolates down through unconsolidated material to underground aquifers or moves laterally to valley bottoms. Fifty allotments have been identified as containing major ground water recharge areas (see Table 3-13). Eleven perennial streams flow into the Sevier Lake sub-region from mountains to the east. These streams are diverted for irrigation on farm lands fronting the mountain range. The Sevier and Beaver rivers flow through the central portion of the sub-basin and, to a large extent, their flows are diverted for crop irrigation (Figure 3-3).

TABLE 3-13
Allotments Containing Major Ground Water Recharge Areas

Anderson	Granite
Antelope Point	High Rock
Black Rock Winter	Holden Winter
Black Rock Spring	Holden Spring
Black Point	King
Blackham	Klondike
Blind Valley	Lawson Cove
Boob Canyon	Ledger
Breck's Knoll	Meadow Spring
Brown's Wash	Mormon Gab
Buckskin	North Canyon
Clay Springs	Notch Peak
Crickett	Painted Potholes
Crystal Peak	Painter Spring
Crow's Nest	Pine Valley
Coates	Seely
Conger Spring	Skull Rock
Deadman's Wash	Skunk Spring
Death Canyon	State Line
Deseret	Streamboat
Ephraim-Bagnall	Stott-Rowley
Ephraim-Meadow	Twin Peaks
Fairview	Vorhees
Ferguson	Wallace
Garrison	Wheeler

Six perennial streams flow into the Great Salt Lake sub-region portion of the WSRA from mountains to the west. They are diverted for irrigation, and are unavailable for use on public lands. Lake Creek flows into a 5,800 acre-foot irrigation reservoir called Pruess Lake which is located on public land (Figure 3-3). There are numerous intermittent streams, seeps, as well as 52 springs in both subregions. Ninety-two small reservoirs have been constructed to collect water for livestock use. The availability of water in reservoirs is highly variable, and reservoir life is generally short due to high rates of sedimentation. Because of the arid nature of the area, reservoirs are the only source of water in many locations. There are 19 developed springs in the resource area. Location of

developed springs, wells, and reservoirs are listed by allotment in Appendix 4.

Aquifers of the Great Salt Lake sub-region are predominantly in unconsolidated material. They are highly permeable and have the potential to yield large quantities of water to wells. Aquifers of the Sevier Lake sub-region are more likely to be in consolidated rock. This rock strata commonly has little porosity, except where it is cracked and jointed. Water-bearing permeable strata may be layered between impermeable layers. Water production of 30 wells in the resource area ranges from 3-100 gallons per minute (gpm), with an average of approximately 18.7 gpm.

Water Quality and Use

Springs and wells on public lands in the WSRA have been developed for wildlife, wild horses, and livestock use, but have been evaluated according to livestock and human quality standards. Water quality tests show that well water is generally calcium bicarbonate or sodium sulfate, and spring water is generally calcium bicarbonate. Some are suitable for human use, and nearly all are suitable for livestock and wildlife. Ground water quality is generally good in areas of natural recharge (alluvial fans, mountainous watersheds, and along the margins of most valleys). In areas of natural discharge (Tule and Sevier Lake Valley), ground waters are slightly saline (1,000-3,000 milligrams per liter of dissolved solids), and are generally suitable for livestock use but not by humans. Almost no water quality data has been collected from the 92 livestock reservoirs. Water in the lower segment of the Sevier River during summer months is predominately irrigation return flow. Total dissolved solids are impairing water quality and use. Pollution sources are from irrigation return flow, an effluent treatment plant, livestock grazing, and feedlots adjacent to the river (Utah Dept of Health, 1984). These pollution sources are upstream from the resource area.

Water uses include irrigation, livestock, wild horses, and wildlife. Lack of water is a major limiting factor for wildlife and livestock grazing in the West Desert.

Water Rights

The BLM is in the process of obtaining water rights. Certificates or Diligence Claims are being obtained for all water sources on, or originating on, public lands. Filing with the Utah State Division of Water Resources have been made on 141 water sources. Sixty-nine water sources (mostly reservoirs) have not yet had water filings prepared.

Watershed Treatment

Several land treatment practices are commonly used for watershed improvement. Chaining projects on 10,598 acres have removed the pinyon-juniper overstory and have allowed the land to be seeded to species affording better soil protection. Seeding has been completed on 4,599 acres burned by range fires, and 6,500 acres have been plowed and reseeded to more favorable species. The location of existing seedings by allotment are listed on Appendix 4. Approximately 41,800 acres located in the southeast part of the resource area has been determined as potentially suitable for vegetation treatments.

SOILS

Soils of the WSRA are found in desert basins and generally parallel mountain ranges in the Great Basin portion of Western Utah. The soils generally consist of the following types: colluvium and residuum formed soils on ridges, mountainsides, and hillsides; playas and barren flats in closed basins; soils from alluvium and lacustrine sediments on alluvial fans, bajadas, lake terraces, and lake plains; remnant lava and basalt flows; and hummocky sand dunes.

General soil delineations of the area and a brief description of each soil association are shown in Figure 3-17. Detailed information on the soils is contained in the soil survey reports which cover the WSRA: Soil Survey, East Millard Area (U.S. Department of Agriculture [USDA], SCS, 1959); Soil Survey, Desert Experimental Range (USDA, SCS, 1970); Soil Survey of Beaver-Cove Fort Area (USDA, SCS, 1976a); Soil Survey of Delta Area (USDA, SCS, 1977); and Draft Warm Springs Soil Survey (USDA, SCS, 1984).

Soils of the WSRA range from non-saline to very strongly saline and some are moderately to strongly alkali (Sodic). Saline and/or alkali soils are found on the lower slopes of some alluvial fans and on lake terraces, lake plains, and playas throughout the resource area.

Erosion

High water flows during spring runoff and intense summer thunderstorms can be significant factors in soil movement. However, in the WSRA, water-

MAP UNIT LEGEND FOR SOILS
BEAVER-COVE FORT AREA SOIL ASSOCIATIONS

2 Kessler-Penoyer-Hiko Peak association: Nearly level to steep, well-drained, deep soils on alluvial fans, valleys, mountains, and hills of the semiarid uplands.

4 Snake Hollow-Blackett-Blue Star association: Gently sloping to steep. Somewhat excessively drained and well-drained, deep soils on alluvial fans and hills of the dry subhumid uplands.

5 Mill Hollow-Usher-Pharo association: Gently sloping to steep, well-drained and somewhat excessively drained, deep soils on alluvial fans, terraces, hills, and mountains of the dry subhumid uplands.

6 Mosida-Etta-Usher association: Nearly level to strongly sloping, well-drained, deep soils on alluvial fans and flood plains of the dry subhumid uplands.

7 Pharo-Pass Canyon association: Gently sloping to steep, somewhat excessively drained and well-drained, deep to shallow soils on terraces, hills, ridges, and mountains of the dry subhumid uplands.

8 Shotwell-Firmage-Oakden association: Moderately sloping to steep, well-drained, very shallow to deep soils on hills and mountains of the semiarid and dry subhumid uplands.

12 Rock land-Bearskin-Cowers association: Rock land and gently sloping to very steep, well-drained, shallow to deep soils on ridges, hills, and mountains of the moist subhumid mountains.

DELTA AREA SOIL ASSOCIATIONS*

1 Yuba-Uffens-Uvada association: Deep, well drained and moderately well drained, strongly saline to very strongly saline and moderately alkali to strongly alkali silty clay loams, sandy clay loams, and silt loams: on deltas, beach bars, and flood plains.

2 Yenrab-Uvada association: Deep, well drained and somewhat excessively drained, strongly saline to very strongly saline and moderately alkali to strongly alkali sands and silt loams: on terraces and plains.

3 Abraham-Anco-Abbot association: Deep, somewhat poorly drained and poorly drained, slightly saline to strongly saline and slightly alkali loams, silty clay loams, and silty clays: on lake plains and flood plains.

4 Playa-Saltair association: Playas and deep, poorly drained and very poorly drained, very strongly saline and moderately alkali silt loams on lake plains and flood plains.

5 Uvada-Playas-Goshute association: Deep, well-drained, strongly saline to very strongly saline and moderately alkali to strongly alkali silt loams and gravelly silt loams and Playas: on lake plains and terraces.

6 Hiko Springs Checkett-Rock land association: Deep and shallow, well drained and excessively drained sandy loams, very cobbly loams, and Rock land, on terraces and mountainsides.

7 Sugarloaf-Yenrab-Lava flows association: Deep, somewhat excessively drained, slightly alkali to moderately alkali sandy loams and sands, and Lava flows: on high lake terraces, beach bars, and benches.

8 Yenrab-Drum-Yuba association: Deep, moderately well drained and somewhat excessively drained, strongly saline to very strongly saline and moderately alkali sands, loams and silty clay loams: on terraces, lake plains, and flood plains.

* Texture terms in the names of the associations refer to the surface layer of the major soils.

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MILLARD CO.-EASTERN SOIL ASSOCIATIONS

3 Typic Calciorthids-Typic Natragids: Very deep, well drained, level and nearly level soils formed in lacustrine deposits from mixed sources; on lake plains and low terraces.

5 Xeric Torripsamments-Xeric Torriorthents: Very deep, well drained and somewhat excessively drained level and moderately steep soils formed in eolian, alluvial and lacustrine deposits from sedimentry rocks; on beach bars, terraces and alluvial fans.

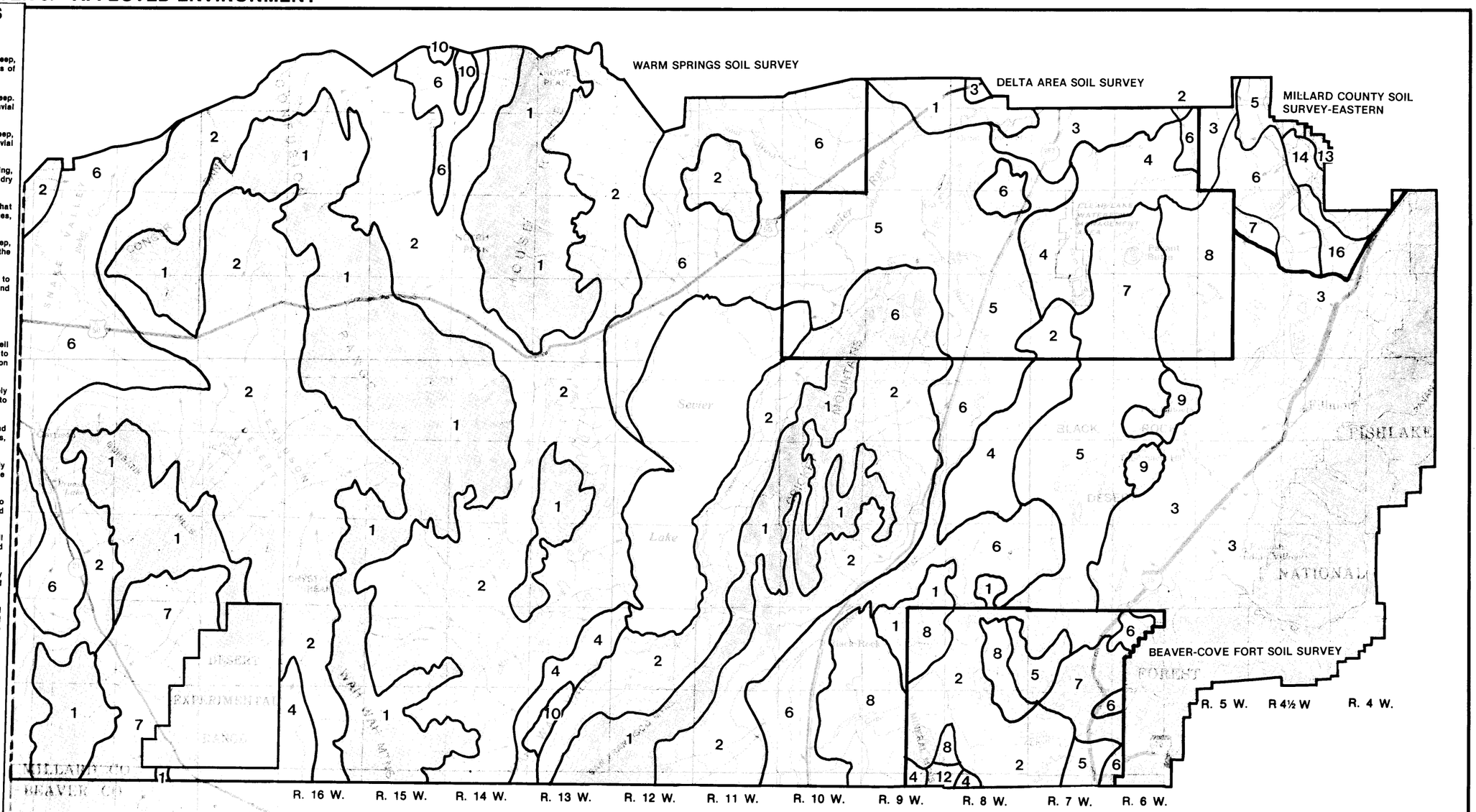
6 Xeric Torriorthents-Xerollic Calciorthids: Very deep, well drained, level and gently sloping soils formed in alluvial and lacustrine deposits from ignoreous and sedimentry rocks; on alluvial fans, terraces and valley bottoms.

7 Xeric Torripsamments-Xerollic Calciorthids-Aquic Calciorthids: Very deep, well drained, somewhat excessively and somewhat poorly drained, level and rolling soils formed in eolian and lacustrine deposits from mixed sources; on terraces, beach bars and flood plains.

13 Myton Variant - (Decio) - Crestline: Moderately deep and very deep, well drained, gently sloping to steep soils formed in alluvium and residuum from quartzite, limestone and conglomerate; on dissected alluvial fans and low remnant hills.

14 Spager - Sierocliff Borvant: Shallow and moderately deep well drained, gently sloping to steep soils formed in alluvium, colluvium and residuum from conglomerate on dissected alluvial fans and remnant low hills.

16 Aridic Calcic Argixerolls - Aridic Calcixerolls - Aridic Petrocalcic Palexerolls: Shallow, moderately deep and very deep well drained, level and nearly level sloping soils formed in alluvium from quartzite, sandstone, conglomerate and limestone rocks; on alluvial fans and terraces.



This map has not been tested for National Map Accuracy Standards.

LEGEND

SOIL CONTOURS

SOIL SURVEY AREAS

GENERAL SOIL MAP LEGEND WARM SPRINGS SOIL SURVEY AREA

1 Amtoft-Checkette-Lodar families associatation: Steep and very steep, well drained, very shallow and shallow soils; on ridges, mountainsides and hillsides.

2 Dera-Sanpete-Spager families association Shallow to very deep, well drained, gently sloping to strongly sloping soils; on alluvial fans and bajadas.

3 Heist-Manassa families association: Very deep, well drained, nearly level to strongly sloping soils; on lake plains and lower parts of alluvial fans.

4 Lynndyl-HikoSprings-Uvada families association: Very deep, well drained,nearly level to strongly sloping soils; on alluvial fans, lake terraces and lake plains.

5 Goldrun-Hiko Peak-Heist families association: Very deep, well drained, gently sloping to strongly sloping soils on alluvial fans and hummocky dunes.

6 Uffens-Goshute-Uvada families associations: Very deep, well drained, level to moderately sloping soils; on terraced alluvial fans, lake terraces and lake plains.

7 Sanpete-Hiko Springs-Penoyer families association: Very deep, well drained, nearly level to strongly sloping soils; on alluvial fans and lake plains.

8 Avalon-Robozo-Petaca families association: Shallow to deep, well drained, nearly level to gently sloping soils; on alluvial fans, lake terraces and remnant basalt flows.

9 Lava flows-Portino family complex: Moderately deep, well drained, gently sloping to strongly sloping soils; and Lava flows.

10 Playas: Barren flats in closed basins.

FIGURE 3-17
GENERAL SOILS

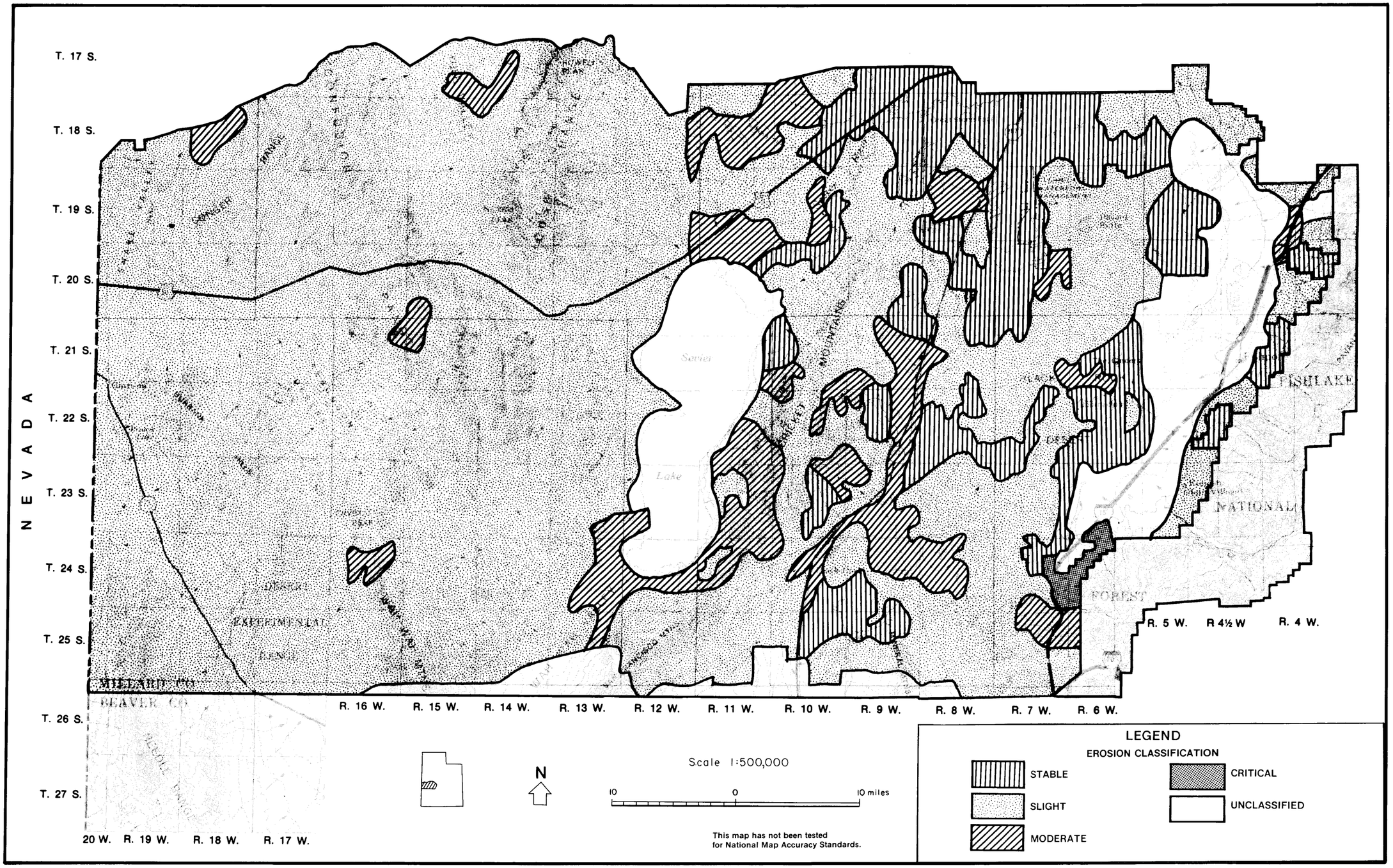


FIGURE 3-18
EROSION CLASSIFICATION

caused erosion is limited since annual precipitation is low, and the average slope is between 3 and 10 percent (USDI, BLM, 1969a; USDI, BLM, 1969b). Wind is the primary agent of erosion in the resource area. Considerable acreage is covered with loose soil or sparse vegetation, and is susceptible to dust storms during intense summer winds. Erosion condition classes are shown in Figure 3-18. The critical erosion area is on private land. All other areas have moderately erosive to stable soils.

FOREST RESOURCES

Timber Resources

Two areas in the WSRA have saw timber resources. They are Notch Peak (290 acres) and Wah Wah Mountains (460 acres). Neither site is open for commercial harvest because of inaccessibility and steep slopes. Species at both sites consist of ponderosa pine (*Pinus ponderosa*), Rocky Mountain Douglas fir (*Pseudotsuga menziesii* var. *Glauca*), white fir (*Abies concolor*), quaking aspen (*Populus tremuloides*), bristlecone pine (*Pinus aristata*), pinyon pine (*Pinus monophylla*), Rocky Mountain juniper (*Juniperus scopulorum*), and Utah juniper (*Juniperus osteosperma*).

The Wah Wah Mountain site is at high elevations in the central portion of the range. Only 100 of the 460 acres are on slopes of less than 40 percent. Presently, foot-trails are the only access. The total volume present is estimated to be about 560 thousand board feet (Mbf). About 14 Mbf is found on areas with less than 40 percent slope. All 460 acres are within the Wah Wah Mountains WSA.

There is no record of timber sales in the Wah Wah Mountains. However, stumps indicate some trees were logged in the area at the head of Lawson Cove some time prior to 1960. This area supported only a few ponderosa pine and is not a commercial site. The volume of wood growth is less than 20 cubic feet per acre per year.

The 290-acre Notch Peak site is on slopes exceeding 40 percent. It is estimated the site contains about 36.5 Mbf of saw timber. Due to lack of access and rugged steep slopes, the timber would also be uneconomic to harvest. There has not been any known harvest in the area. Notch Peak is also in a WSA and thus is protected from commercial harvest.

These WSRA timber areas comprise less than 0.0003 percent of the Utah total. They play no part in the economy of local or state logging industries.

There has been no timber production and no demonstrated demand for lumber products from public lands within the WSRA for several decades. Hence, the importance of WSRA saw timber resource to the local community is minimal.

Woodland Products

On BLM lands within the WSRA, there are approximately 220,000 acres of pinyon-juniper type vegetation. Stand densities and composition vary greatly due to soils, precipitation, elevation, and exposure. Generally, the lower elevation and the drier sites support a greater percent juniper, with some of the drier sites having 100 percent juniper.

Small scattered pinyon-juniper stands are throughout the resource area; however, the main concentrations are Mountain Home, Burbank Hills, Conger Mountain, King Top, Wah Wah Mountains, Sawtooth Mountain, Cove Fort area, Cricket Mountains, Whiskey Creek, Clear Lake, and Meadow-Holden. Table 3-14 summarizes the volumes of woodland resources found in these areas. Locations are depicted on Figure 3-19. The resources in the Crickett Mountains and to the west are predominatly stands of scattered juniper. Generally, the species composition and stand characteristics limit potential for sales and woodland product harvest in these areas.

Within the WSRA, the volume of available woodland products far surpasses current and foreseeable expanded demand. Revenues from the sale of these public land products are small. In 1984, WSRA public lands woodland products (posts and firewood) permit sales produced about $859 in revenues. In view of the statewide abundance of pinyon-juniper (over 9 million acres), there is little chance that WSRA woodland products will be important commercially locally or in Utah.

TABLE 3-14

WSRA Woodland Products

Area	Total Fed. Acres Pinyon-Juniper	Total Fed. Suitable Acres	Present Potential Production				Additional Production with Construction of New Access			
			Firewood Cords	Fence Posts	Pinenuts lbs/Year	Christmas Trees	Firewood Cords	Fence Posts	Pinenuts	Christmas Trees
Mountain Home	21,036	16,758	955,260	20,486	39,032	7,806	8,284	1,393	--	--
Burbank Hills	36,615	35,617	227,681	16,923	967	181	--	--	--	--
Conger Mtn.[a]	27,499	16,302	113,449	12,663	10,960	2,192	1,351	242	--	--
King Top[a]	17,260	9973	32,995	3,309	21,912	2,039	1,297	238	--	--
Wah Wah Mtns.[a]	44,643	16,507	111,691	13,083	23,589	5,312	15,204	1,362	--	--
Sawtooth Mtn.[a]	34,925	12,094	39,777	6,614	51,002	1,019	7,425	1,104	--	--
Cove Fort	18,602	18,602	164,622	23,251	142	283	--	--	--	--
Cricket Mountain	7,520	3,549	15,037	1,902	2,908	581	4,749	601	--	--
Whiskey Creek	7,880	7,880	14,265	2,025	--	--	--	--	--	--
Pavant Butte	2,229	2,229	14,055	402	--	--	--	--	--	--
Meadow-Holden	1,710	1,710	20,430	3,105	1,545	1,545	--	--	--	--
Total	219,919	141,221	1,709,263	103,763	152,157	21,958	38,310	4,940	--	--

[a]Substantial portions of these areas are within WSAs.

FIRE MANAGEMENT

The present fire management policy is to fully suppress all wildfires in the WSRA with whatever combination of manpower and equipment is required to handle the incident. Controlled prescribed fires are used on a case-by-case basis to convert vegetation types for the benefit of wildlife, livestock, and watershed. In the past 10 years, only one prescribed burn has been conducted in the resource area (Figure 3-20) This burn (200 acres) was on the Whiskey Creek Allotment in 1983.

TABLE 3-15
Wildlife Occurrences and Acres Burned in the Resource Area

Fires	Number of Fires	Acres Burned
1976	2	20
1977	4	14
1978	3	60
1979	6	14,857
1980	11	4,611
1981	18	6,418
1982	8	3,739
1983	18	858
1984	15	5,274

Historically, the west half of the resource area has had very few fires; however, the east half experiences large fires yearly (see Table 3-15). Frequently in July, August, and September, there are multiple occurrences on some days. The largest fire in recent history (July 1979) was in the southeast corner of the resource area on the WSRA East Antelope and BRRA Mineral Range allotments. That fire consumed 13,700 acres of summer cattle range.

Most wildfire ignitions (85 percent) in the resource area have been the result of lightning. During the last 5 to 6 years, a very active lightening "belt" has established itself on the east side of the resource area. The remainder of the starts (15 percent) are the result of human activity. Railroad fires, along the Union Pacific Las Vegas-Salt Lake City main line, occur every season. Incidental man-caused fires result from several causes, such as children playing with matches, trash or rubbish burning, discarded smoking materials, equipment use, and vehicle exhaust. During the past 5 years, there have been fires that were arson caused around the Baker Canyon-Eight Mile Point-Twin Peaks area.

Fire suppression forces in the resource area are based at Fillmore. Two medium engines and one heavy engine are manned by eight crewmen,

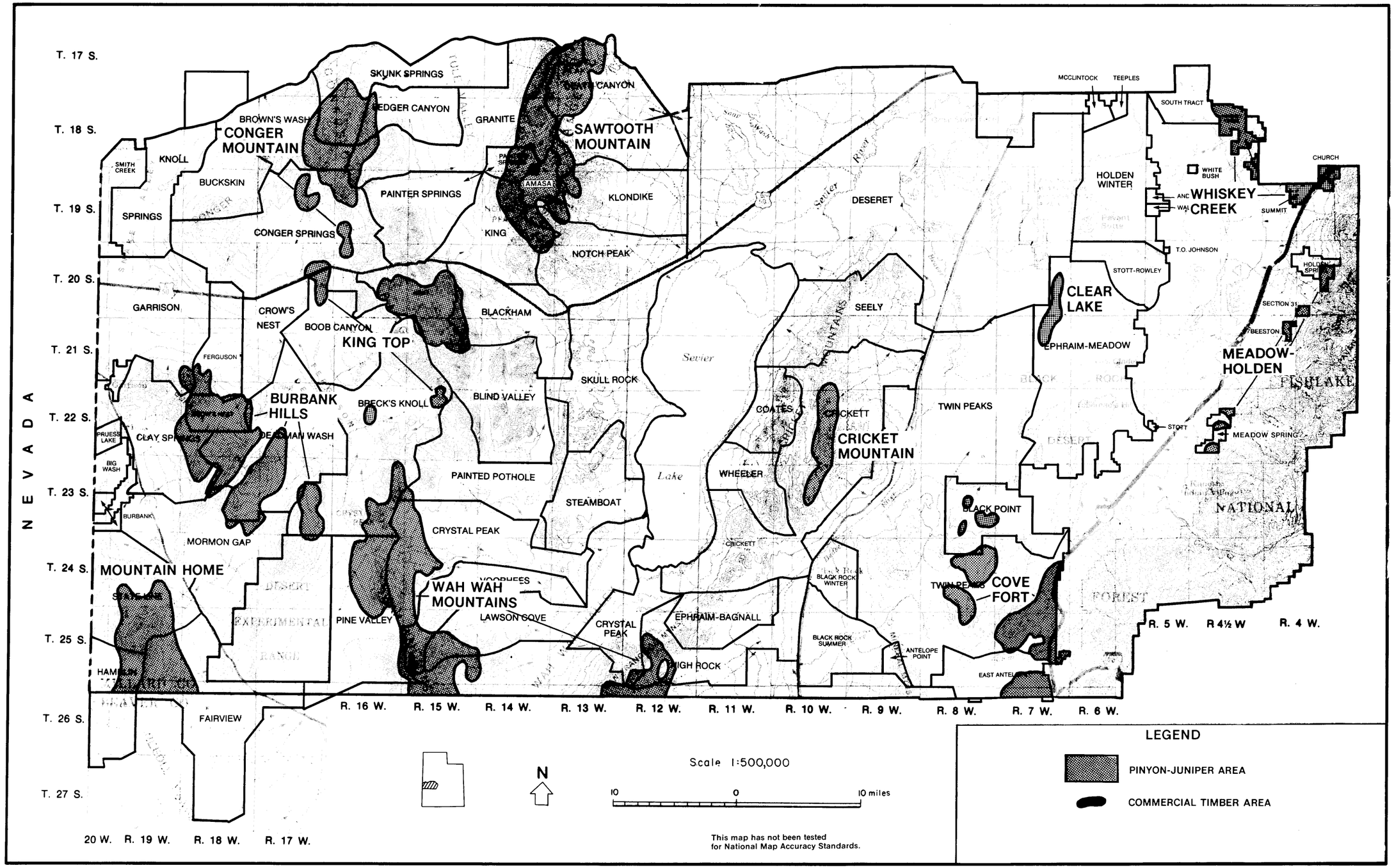


FIGURE 3-19
FOREST AND WOODLAND RESOURCES

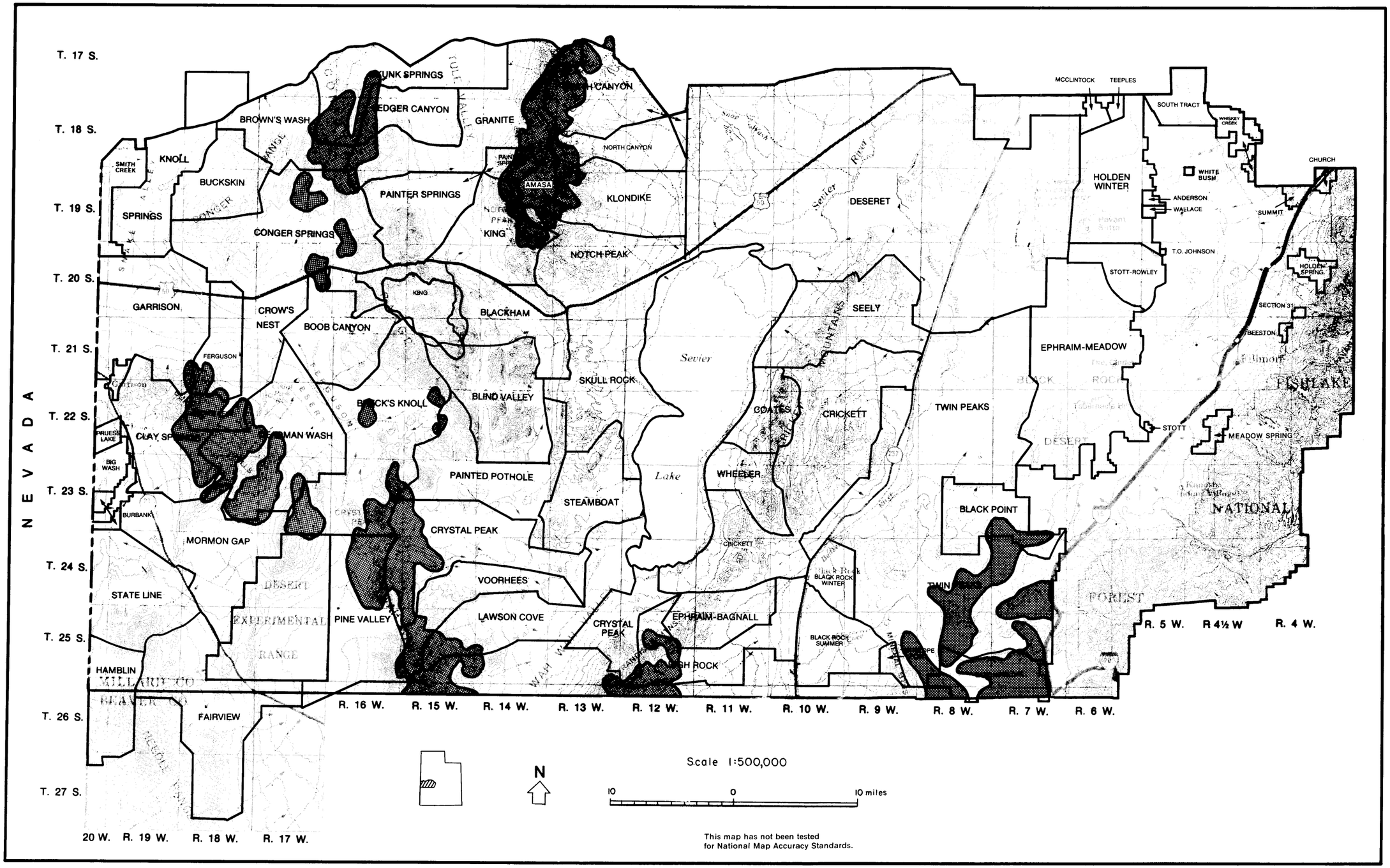


FIGURE 3-20
FIRE MANAGEMENT AREAS

including the Richfield District Assistant Fire Management Officer. One standby 2,800-gallon water tender is stationed at Fillmore during periods of high fire danger. Additional backup engines and a water tender are available at the Richfield District Office. Response times from Fillmore are anywhere from 30 minutes in the Twin Peaks area to 3 hours on the Wah Wah and Confusion ranges.

The BLM works closely with other fire departments in the resource area. Annual rental agreements are affected with the Fillmore, Holden, and Kanosh fire departments. A cooperative agreement is in effect with Millard County Emergency Services. Each agency supplies engines and water tenders to BLM fires upon request of the Richfield District fire dispatcher. Local government crews and engines usually are quicker to respond than the BLM engines because of their proximity to the fires.

In addition, suppression crews from surrounding BLM districts may, depending on their availability, respond to fires in the resource area. In the past, most out-of-district engine crews have come from the Cedar City District, which has a three-engine station approximately 60 minutes south of the resource area boundary. Other crews have come from Ely and Elko, Nevada, and Salt Lake City. Engine crews from the Fillmore and Beaver Ranger Districts of Fishlake National Forest and Dixie National Forest have also responded to fires in the eastern and southern part of the resource area.

Fuels on the resource area are made up of sagebrush-annual grass and shadscale-grass, pinyon-juniper woodlands, and some ponderosa pine-fir forest in the Wah Wah Mountains and near Notch Peak.

Areas of cheatgrass in the central and eastern portions of the resource area have resulted from the removal of the brush overstory through repeated wild fires. Most of the large acreage fires occur in this fuel type. In some cases, the cheatgrass areas burn nearly every fire season. The amount of cheatgrass present during the summer fire season is largely dependent on the previous winter moisture. The past 3 years' (1981-1984) growth has been more dense, taller, and, therefore, more susceptable to fire loss than in previous years.

Fire in the resource area has caused both positive and negative impacts. The removal of old coarse vegetation has benefitted livestock winter ranges. Renewed growth of annual grasses in the winter and spring has resulted after some fires. Some sagebrush areas have been diversified by fire, benefitting wildlife species.

Most significant of the negative fire impacts is the damage to soils, vegetation, and man-made structures. Recreation was affected for the last 5 years after wildfire burned large areas of important antelope range in the Cricket and Wah Wah mountains.

Regional climatic factors, as well as vegetation and topographic features, have favored frequent wildfire occurrences. Prevailing south to north strong wind patterns, coinciding with linear basin and range landforms, and low precipitation and relative humidity are significant fire management determinants in the resource area.

Range fires are potential sources of large amounts of air pollutants, such as carbon dioxide, carbon monoxide, particulate matter, hydrocarbons, nitrogen oxides, and sulfur oxides (EPA, 1977). However, single wildfire burns are seldom significant emitters of pollution for more than several hours. Pollutant emissions from prescribed burns are believed to be less than those produced by wildfires (EPA, 1977). Environmental constraints guide prescribed burn planning to insure compliance with class II air quality pollutant limitations. Burning, when used as a range management technique, is permitted only when atmospheric conditions facilitate rapid dispersion of pollutants.

ECONOMICS

The prevailing character of Millard County has been historically rural in character with agriculture occupying a primary part in the area's economic development. In recent years, this importance has declined as private-non-farm and government sources of income have gained in significance (see Table 3-16). Together, these sources include a wide variety of resources, services, and products that are available and contribute to the economy of Millard County. They include beryllium, gypsum, lime, clothing, fertilizer, health care, education, and government services, plus various agricultural products, such as hay, animal feed, meat products, and cheese.

Today, the single-most dominate industry in the region is in the construction sector with the building of the IPP coal-fired electric generating station north of Delta in West Millard County. Despite the presence of other significant employment and income sectors, IPP prevails at this time as the dominant economic structure of the region. It will do so until 1987 and possibly beyond into

TABLE 3-16
Major Economic Sector Analysis
Millard County, 1980 and 1983

Major Sectors	1980 Personal Income	1980 Percent of Total	1983 Personal Income	1983 Percent of Total
1. Agriculture	8,391	25	7,455	11
2. Private, Non-Agriculture	18,579	55	51,701	74
3. Government	6,737	20	10,795	15
Total	33,707	100	69,951	100

Source: USDC, Bureau of Economic Analysis, 1985.

the ninties if the go-ahead to construct generating units 3 and 4 is implemented.

In 1983, workers making up this construction sector earned 38 percent of total personal income for the region. This formed the single largest source of personal income (U.S. Department of Commerce [USDC], Bureau of Economic Analysis, 1985). Other significant sectors contributed to combined personal income including government services at 15 percent of total personal income, agriculture 11 percent, transportation/public utilities 10 percent, and retail trade 7 percent of total personal earnings (USDC, Bureau of Economic Analysis, 1985).

During 1983, 6,008 people were employed in Millard County, up 62 percent over the 1980 level. Unemployment at this time stood at 8.4 percent of the civilian labor force, 50 percent higher than in 1980 but somewhat under the State's 9.2 percent unemployment level (Utah Dept. of Employment Security, 1985b).

Between 1980 and 1984, Millard County grew 49 percent in population, compared to the State's 9 percent growth rate during the same time frame (Utah Dept. of Employment Security 1985a). Much of the growth rate can be attributed to IPP who employed an estimated 3,734 workers in 1984 compared to 107 in 1981 (University of Utah, 1985). Most of this influx was realized in the West Millard County area. The population of unincorporated Millard County in 1980 was 2,580, representing about 29 percent of the total county population (Paul Nelson, Inc., 1981). Between 1940 and 1980, this population ranged between 27 and 33 percent of the total population (Paul Nelson, Inc., 1981). Based on this data, it is estimated that about 2,800 people lived in this part of the county in 1984, above West Millard County where 3,708 people made their home in unincorporated areas (Paul Nelson, Inc., 1985a). See Table 3-17 for the area's projected population growth.

Summary data of the region's existing infrastructure conditions are contained in Table 3-18.

TABLE 3-17
Baseline and Projected Population Growth
Selected Years

Year	Millard County
1980	9,050
1984	13,500
1985	17,700
1990	15,400
2000	16,300
2010	19,000

Source: Gockner 1985; Utah Department of Employment Security, 1985a.

The burgeoning construction sector, as represented through IPP, has affected the region's vacancy rate since 1981, particularly in West Millard County. Most of this effect has not been a shortage of houses for sale, but the absorption of almost total rental units, again particulary in West Millard County. The smaller communities within the region have typically one to six houses for sale and from zero to two rentals available.

During the fourth quarter of 1984, the Millard School District operated at 76 percent of capacity with a student-teacher ratio of 23.5:1 with the inclusion of Garrison Elementary and West Central Utah Vocational School. Despite the general underutilized capacity, Garrison, Delta, and North Fillmore elementaries operate at 100 percent, 98 percent, and 97 percent of capacity, respectively.

Hospital services within the county are provided for by the West Millard County Hospital District, located in Delta, and East Millard Hospital District, located in Fillmore. The county has five ambulances and approximately 32 emergency medical technicians (EMTs) available. Between 1982 and 1984, West Millard County Hospital District admissions increased by 22 percent, emergency visits by 117 percent, and ambulatory visits by 21 percent due to the large influx of new people to the area (Paul Nelson, Inc., 1984). During the same period, the East Millard County Hospital District admissions declined 10 percent, emergency visits increased 15 percent, and ambulatory visits increased by 1 percent (Paul Nelson, Inc., 1984). Millard County provides police protection to Fillmore and unincorporated areas of the county through the County Sheriff's Office. This

TABLE 3-18

Summary of County Infrastructure Conditions

Category	Millard County	Fillmore
Population (1984)	13,500	2,134
Infrastructure		
Housing Units		
Single Family	3,367	[a]624
Multi Family	[b]1,706	[a]52
Mobile Homes	954	[a]66
Education (84-85)[c]		
Students	3,835	1,227
Present Capacity	5,063	1,475
Teachers	163	57
Student/Teacher Ratio	23.5:1	21.5:1
Health Care		
Hospital Beds		
General and Long Term	76	20
Medical Health Care		
Care Centers	--	--
Medical Personnel		
Doctors	8	3
Dentists	4	2
Emergency Medical Service		
Ambulances	5	2
Emergency Medical Technicians (EMTs)	32	12-14
Public Safety		
Law Enforcement		
Police Officers	17	17
Patrol Cars	13	13
Jail Space (beds)	40	40
Juvenile Holding Cells	1	1
Utility Service Demands		
Water System		
Connections	[d]3,188	890
Supply (10^6 gal/yr)	[e]4,175	270
Storage (10^6 gal)	[f]7.2	2.91

TABLE 3-18 (concluded)

Category	Millard County	Fillmore
Sewage System	Septic/lagoon	Lagoon
Solid Waste	Dump[g]	Dump[g]

[a]Paul Nelson, 1985a.

[b]USDC, Bureau of the Census, 1981; Fawcett, 1979; Paul Nelson, 1985a.

[c]Paul Nelson, 1985b.

[d]Does not include unincorporated areas.

[e]Fillmore, Leamington, Lynndyl, Oak City, Delta.

[f]Kanosh, Meadow, Fillmore, Holden, Scipio, Leamington, Lynndyl, Oak City, Hinckley, Delta.

[g]Being replaced by a centralized sanitary landfill.

office employees 17 officers, has 13 patrol cars available, a 40-bed jail facility, and a juvenile holding cell (Staples, 1985). In Delta, law enforcement is provided by its own police department. Between 1982 and 1984, some effects of an energy-related boom throughout the region and, in particular West Millard County, could be seen in part through changes in selected public safety indicators, such as major crime, traffic offenses, and accident rates. In Delta during this period, the average monthly number of cases for major crimes increased 21 percent, traffic offenses 48 percent, and vehicle accidents 135 percent (Paul Nelson, Inc., 1984). In Fillmore, traffic offenses increased 83 percent and accident rates by 163 percent. While data on major crimes was not available in Fillmore, the enforcement statutes are now increased with the Millard County Sheriff Department. In unincorporated Millard County between 1982 and 1984, major crime increased 71 percent, while traffic offenses declined 27 percent (Paul Nelson, Inc., 1984).

Since 1981, IPP has provided Millard and Juab counties with front-end money in excess of $52 million to mitigate direct impacts from the effects of IPP construction workers and their dependents (Paul Nelson, Inc., 1985a). Nearly one-half of these monies were spent on housing accommodations for IPP workers, with the rest funneled into upgrading and/or building community facilities, such as new municipal buildings, schools, a hospital, water and sewage treatment facilities, solid waste disposal, and additional monies for operation and maintenance expenses.

Although most of the monies have been funneled into West Millard County, substantial portions ($8.3 million) were directed into Millard County for overall county operation and maintenance expenses, plus a new jail (Paul Nelson, Inc., 1985a).

In general, Millard County, as assisted by IPP, has been able to handle the added expenditures necessitated by growth in the 1980s and have available debt to handle additional fiscal burdens (see Table 3-19).

Although the status of agriculture's economic importance has diminished in recent years, it continues to play an important part in the region's economy. Its importance is evidenced in Millard County, where in 1983 it was the third largest source of personal income and earnings.

An estimated 8,000 cattle grazed on BLM lands within the WSRA, which make up about 14 percent of all cattle estimated to be in Millard County (Utah Dept of Agriculture, 1984).

These cattle produce an estimated 1.6 million pounds of beef each year or a little over one-half percent of the total live weight of calves produced within Utah annually, based on a 1976-83 average (Utah Dept. of Agriculture, 1984).

In addition to cattle, an estimated 73,000 sheep graze on BLM lands within the WSRA for at least part of each year. They represent almost 13 percent of all sheep and lambs in Utah (Utah Dept. of Agriculture, 1984). These sheep annually produce an estimated 6.4 million pounds of meat for market or 18 percent of Utah's sheep and lamb production (based on an average 35.3 million pounds of sheep and lambs marketed annually in 1976-83, excluding custom slaughter and in-farm sales [Utah Dept of Agriculture, 1984]).

Eighty-six cattle and sheep enterprises operate within the WSRA, including five dual operations. Average cattle herd sizes range from 40 in small operations to almost 240 for medium herds and over 1,500 for larger ranches. Sheep operations range from about 1,000 to 6,000 ewes, with medium operations averaging about 2,070 ewes.

The dependence of ranch operations on BLM forage can be primarily guided by the percentage dependence on public lands. The average cattle ranch is about 85 percent dependent on BLM forage, while sheep operations are about 88 percent dependent (see Table 3-20).

Based on average budgets of small, medium, and large cattle and sheep operations, the majority of operators can cover their out-of-pocket costs despite current economic difficulties, due to lower than anticipated livestock prices, relatively high interest rates, and general hardships in meeting debt payments. The returns of small operators are generally too small to support a family so most must be supplemented by outside income. Most operations within the region, as depicted by typical budgets in Appendices 14 through 17, do not earn a fair market value for their investments and land through their ranch incomes.

Established grazing fee schedules represent a minimum value for public forage; however, the grazing fee in public lands is not determinal through the market place but instead through a formula established by the Public Rangelands Improvement Act (PRIA) of 1978. These fees, however, do not present a true measure of the value of an AUM in the West Desert, instead private lease rates will provide one of the best measures of value. The private lease rate within the West Desert goes for about $7.50 per AUM (Jensen, 1985). Using the $7.50 figure, the estimated annual value of BLM livestock forage

TABLE 3-19

Summary of Revenues and Expenditures
Millard County 1980-84

Category	1980	1981	1982	1983	1984[a]
Revenues					
Total	$2,505,070	$2,763,004	$4,234,688	$4,767,303	$4,874,785
Per Capita	276.91	287.81	407.18	421.88	361.09
Expenditures					
Total	2,184,643	2,982,716	4,943,695	3,865,780	4,874,785
Per Capita	241.40	310.70	475.35	342.10	361.09

Source: Paul Nelson, Inc., 1985a. [a]1984 Estimates.

TABLE 3-20

Estimated Ranch Operation Dependency on BLM Lands
Warm Springs Resource Area

Ranch Operation Category	Ranch Operation Number	Ranch Operation Percentage	Operators in Each Percent Dependency Class 1-20	21-40	40-50	51-80	81-100	Average Dependency
I. CATTLE								
Small (1-99)	28	57	0	2 (7%)[a]	2 (7%)	3 (11%)	21 (75%)	84
Medium (100-499)	18	37	0	0	0	0	17 (100%)	90
Large (500 and up)	3	6	0	0	1 (33%)	0	2 (67%)	76
Total	49	100					Average:	85
II. SHEEP								
Small (1-2,000)	23	62	0	0	0	0	23 (100)	88
Medium (2,001-4,500)	12	33	0	0	0	0	12 (100)	88
Large (4,501 and up)	2	5	0	0	0	0	2 (100)	88
Total	37	100					Average:	88

[a]Percent of all operators. Average dependency = 86.7 percent both sheep and cattle.

provided by the WSRA is about $750,000 based on licensed use.

Although the BLM does not recognize a capitalized value for grazing preferences, the market does recognize a capitalized value whenever grazing fees are lower than their true economic value (Gardner, 1962). In the West Desert, permits are selling for $35-40 an AUM (Memmott, 1985). If the entire permit value is capitalized as the ranch's value, then the BLM grazing privileges in the WSRA account for nearly $6 million or about 40-50 percent of the aggregate ranch value of operators using forage in the WSRA. Since grazing privileges can affect both base property values and ranch incomes, changes in grazing privileges could also affect rancher's ability to obtain loans.

Recreation within the WSRA includes hunting, camping, sightseeing, rock hounding, and ORV activities. This area is located within Utah's Central Planning District which attracts nearly $30 million in recreation monies annually. However, only a fraction of these dollars are funneled into the local economy, since most visitors are from the Wasatch Front and carry their food and supplies with them as they enter the region (Dalton, 1982).

The most significant wildlife consumptive use within the region is deer hunting. In 1983, approximately 61,872 deer hunter days and 9,224 antelope hunter days were on those hunting units that impinge upon the WSRA (UDWR, 1984). The value of these hunter days was nearly $5 million, although very little of that money is thought to flow into the region.

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

BASIC ASSUMPTIONS AND ANALYSIS GUIDELINES

This chapter analyzes how the alternatives, described in Chapter 2, would impact the existing environment, discussed in Chapter 3. Resources not affected/impacted are discussed first, followed by discussion of each resource that would be affected by the alternatives. Each resource analysis is followed by a conclusion.

It is assumed that the amount of forage use proposed under each alternative would be used entirely by the animals to which it is allocated. Livestock herd sizes would be adjusted to forage use levels, and big game would reach their proposed forage use levels.

Currently, oil and gas activity is low and is expected to remain low. Therefore, impacts from exploration and development are slight and expected to remain so. There could, however, be surface disturbance in localized areas which cannot be defined at present.

The following terms are used in describing impacts expected from the alternatives:

- Short Term. Impacts which would last for not more than 5 years.
- Long Term. Impacts which would last up to 20 years.
- Irreversible. A permanent commitment of resources; an action that, once taken, would cause a permanent change. A return to the current situation would be impossible or technically or economically infeasible.
- Irretrievable. A permanent loss of resources that would be impossible or technically or economically infeasible to replace.

The unavoidable adverse and beneficial impacts, short-term use and maintenance and enhancement of long-term productivity, and irreversible and irretrievable commitment of resources are discussed throughout this chapter. This discussion is organized by resource and alternative. Table 2-11, located at the end of Chapter 2, presents this information in a summary form.

RESOURCES NOT AFFECTED/ IMPACTED

Certain resources would not be affected by the actions analyzed in this environmental impact statement (EIS). Therefore, the following resources are not included in impact analysis.

Cultural Resources

In accordance with legislation and BLM policy, measures would be taken to identify and protect cultural and paleontological sites prior to any surface-disturbing activities. These practices are common to all alternatives and apply to all management areas. By complying with these policies and regulations, activities that could adversely impact these resource values would be effectively mitigated under all alternatives. However, even with appropriate mitigation, ground-disturbing actions could inadvertently damage or destroy cultural resources, resulting in a loss of scientific and educational information. This loss would be long term since present cultural and paleontological salvage techniques are not 100 percent effective. This adverse impact would be irreversible; the loss irretrievable. However, the intensive cultural resource inventory required prior to ground-disturbing action would be a beneficial impact to knowledge of cultural resources. Inventories would result in the documentation of previously unknown sites and areas.

The effects of vandalism, livestock trampling, erosion, and other agents of deterioration, though not great, would continue. Affected sites would lose some of the scientific value they now possess.

Forest Resources

No significant impacts to WSRA forest resources would be expected under any alternative. Under all alternatives, timber and woodland resource areas on the Wah Wah Mountains and Crystal Peak (6,610 acres) and Notch Peak (9,000 acres) would be forest lands not available for management of forest products. The remaining 205,059 acres of woodland would remain forest lands managed to enhance other values and uses.

TIMBER RESOURCES

No change from the present is anticipated for timber resources in the WSRA. There has been no demonstrated demand for decades. The steep, rugged terrain and the remote inaccessible nature of timber resources essentially prohibits economic harvest of the resource. Similar resources with better access and closer to markets would also reasonably preclude any potential utilization. Special protection of other resource values (watershed, aesthetics, soils, wildlife, livestock, etc.) would be required under each alternative.

Thus, none of the timber resources in the resource area would be harvested under any alternative. There has been no demand for timber resources, and no effect on local or regional economics would be expected.

WOODLAND RESOURCES

Woodland resources in the WSRA West Desert mountain ranges are predominantly juniper; on drier sites, stands may be pure juniper. Demand for this species is low. The stands are remote and, generally, access is limited (see Figure 3-19). Thus, there is low potential for significant utilization of the majority of WSRA woodland resources. Most future woodland harvest activity is expected to remain in the eastern portion of the resource area.

During 1983, 1984, and 1985, the demand for woodland products averaged about 340 cords of firewood and 770 posts. Some increase in this demand is expected as the population increases. Increasing electrical costs may also contribute to higher demand for fuel wood. No significant increase in demand for posts is expected. In recent years, there has been no demand for Christmas trees in the WSRA. Supply of woodland resources in the WSRA (see Table 3-14) is more than adequate to meet any foreseeable demand with no impact on long-term productivity.

Available information is insufficient to define the sustainable yield of woodland products in the WSRA. The definition of sustained yield would be academic; however, because the supply of woodland products in the WSRA and the State far exceeds demand. Gradual growth but no significant change in demand is foreseen. Thus for the forseeable future, the WSRA supplies of woodland products will be more than adequate to meet the needs of consumers.

Fire Management

NO ACTION

Full suppression of wildfires would continue to protect 2,226,755 acres of public lands, safeguard private property, and prevent the spread of wildfire to non-Federal lands.

Prescribed burns would be used only to maintain existing treatment areas. In those areas, it would maintain overall forage quality and benefit livestock, wildlife, and watershed values.

ALTERNATIVES B, C, AND D

Full suppression of wildfires would continue on 2,015,555 public land acres under all three alternatives. The management policy would be to safeguard private property and prevent the spread of wildfire to non-Federal lands.

A Fire Management Activity Plan would be developed to support and accomplish resource management objectives and applicable land-use decisions authorized in the Resource Mangement Plan (RMP). This Fire Management Plan would establish basic direction for the fire management program. It would define priorities for execution, and levels of fire management resources (personnel, equipment, and facilities). It would also include an economic analysis of program options.

A Fire Management Activity Plan could identify up to 211,200 acres of public land as suitable for limited suppression. In addition, 19,680 acres of contiguous State lands could potentially benefit from a limited suppression program administered under a cooperative management agreement. The limited fire suppression area includes areas above the pinyon-juniper line west of Sevier Lake. Also included are areas in the southeast portion of the resource area identified as suitable for vegetation treatment.

Economic analysis in the plan would define areas and conditions where limited suppression could be more cost effective than full suppression.

Prescribed burns are generally cost efficient relative to other vegetation treatment methods. Fire is disruptive to treated areas in the short term, but in the long term, it improves overall vegetation quality, benefitting livestock, wildlife, and watershed values.

CONCLUSION

Continued full suppression on most of the resource area is common to all alternatives. Under alternatives B, C, and D, limited suppression areas would be defined through a Fire Management Activity Plan. No significant negative impacts would occur under any alternative.

VEGETATION

Impacts to vegetation are discussed as either being limited or significant.

Limited Adverse Resource Impacts

Two specific actions would cause limited adverse impacts on existing vegetation communities under all alternatives (off-road vehicles [ORV] use and livestock use in riparian areas). These actions, as proposed, are not expected to substantially impact vegetation communities for the following reasons:

- ORV use is not extensive in the WSRA and is presently limited to public lands around rural townsites. The proposed alternatives range from unrestricted use in Alternative A to the most restrictive use in Alternative B (400,686 acres limited and 73,820 acres closed). Despite various levels of restrictions, any expected impacts to vegetation communities would be localized. Large-scale losses in vegetation cover due to the development of extensive road or trail networks is not anticipated under any alternative.
- Riparian vegetation communities are also extremely limited in the WSRA, due to the lack of perennial water sources. Livestock use in riparian areas (trampling, streambank degradation, and/or overuse) has not been extensive. Crafts Lake, and the Sevier River are not dependable water sources, nor are they used substantially by livestock due to poor water quality (high alkalinity). Lake Creek, Pruess Lake, and South Tule Spring have riparian vegetation currently rated in fair condition. Lake Creek would have livestock protective restrictions under alternatives B and D. All alternatives, including A (No Action), provide for riparian protection and enhancement as conditions are warranted. Alternatives B, C, and D would provide additional opportunities for livestock deferment from riparian areas, as Allotment Management Plans (AMPs) would be updated or developed on allotments containing riparian areas.

Significant Resource Impacts

There are four types of actions proposed under wildlife and livestock programs in the alternatives that could significantly impact vegetation communities in the resource area. These four types of actions include the proposed allocation of forage for all grazing animals, changes in livestock kind or season of use, proposed vegetation treatment projects, and proposed levels of grazing management (e.g., developments, implementation of AMPs).

The four land use actions could impact vegetation primarily in two ways. These would be through:

1. Changes in productivity: either increase, decrease, or complete loss.

2. Changes in vegetation composition by altering the plant community successional stage as reflected by condition and trend.

The expected changes in vegetation are assessed for all alternatives using these two parameters. Figure 4-1 shows a comparison of changes in livestock use for all alternatives.

Alternative A

Both beneficial and some potential adverse impacts to vegetation would be expected as a result of continuing present livestock use authorizations. The significance of these impacts is described as follows:

ALLOCATION OF FORAGE

The present livestock grazing allocation for all 63 grazing allotments is 149,009 animal unit months (AUMs) active preference. At present levels, averaged over 5 years (1980-1984), actual licensed use has been 87,733 AUMs or approximately 59 percent of the active preference. This current level of use is substantially below the overall estimated carrying capacity of 101,156 AUMs (see Appendix 1).

Current average actual use would be expected to remain substantially below the estimated carrying capacity on 48 allotments, even with existing big game and wild horse use added. However, on 14 allotments and part of another (Ephraim-Meadow), overutilization of key forage species would be expected to continue at current stocking levels (average actual use). On 13 of these 15 allotments, the overallocation of forage would not be substantial, as most would be overallocated by less than 20 percent, compared with indicated capacity. However, two allotments (Antelope Point and Stott-Rowley) would be substantially overallocated. Antelope Point and Stott-Rowley are both cattle allotments. They are located in the eastern portion of the resource area and encompass 18,040 public land acres in total. Continued heavy grazing on these allotments would be expected to lead to a long-term decline in key grass species, such as Indian ricegrass, alkali sacceton, crested wheatgrass, and needle-and-thread grass. The replacement of these species over the short term would be expected by a variety of annual species (e.g., cheatgrass, halogeton, Russian thistle, and other annual species). Longer term replacement (after 10 years) would occur with the encroachment of undesirable shrub species (e.g., broom snakeweed, low rabbitbrush, and big sagebrush). On the remaining 61 allotments, composition would change little or not at all.

Forage productivity would be expected to decline substantially on the approximately 18,000 of public land acres in these two allotments. Forage

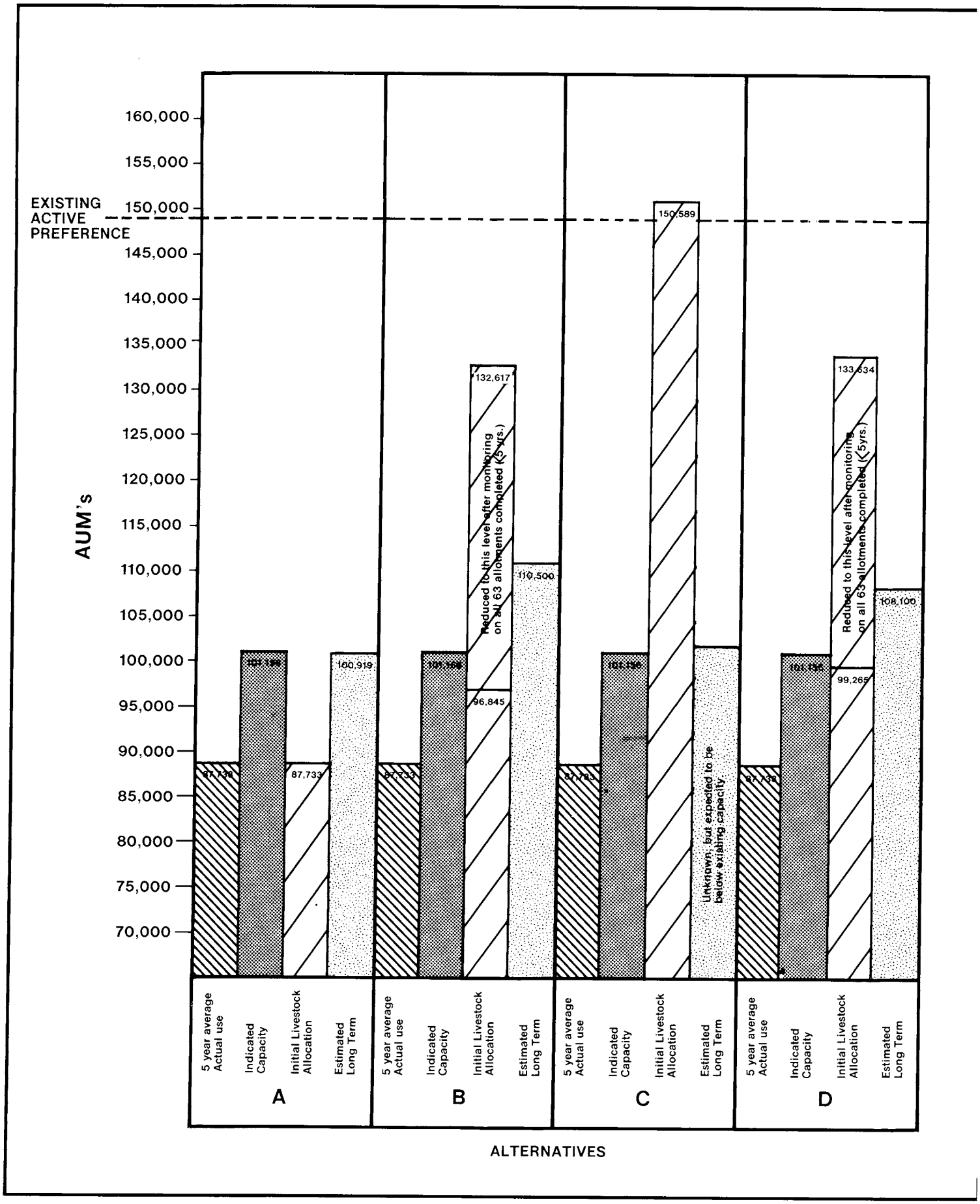


FIGURE 4-1
CHANGES IN LIVESTOCK USE BY ALTERNATIVE

productivity would be expected to remain static or slightly decline on the other 13 allotments that are marginally overstocked (less than 20 percent over indicated capacity).

If current livestock use levels were maintained, the remaining 48 allotments in the WSRA should sustain a stable base of forage and/or improve in forage productivity. Of the 48 allotments, those in poor and fair range condition, due to historical overuse at preference, should establish an improving trend through the long term.

Collectively, the long-term expected allocation for livestock would approximate 100,919 AUMs or slightly below the present indicated capacity of 101,156 AUMs. This estimate is based on the assumption that long-term increase in forage productivity on the 48 underutilized allotments would average approximately 5 percent on each allotment. Additionally, long-term forage losses could average 80 percent in Antelope Point and Stott-Rowley allotments, and 25 percent in the remaining 13 marginally overstocked allotments. Also assumed is that current levels of management would be maintained.

Needle-and-thread

CHANGES IN KIND OF LIVESTOCK OR SEASON OF USE

No changes in kind of livestock or season of use are proposed under this alternative. However, two allotments have been identified with substantial acreages in poor range condition, partly attributed to cattle seasons of use extending through the critical spring grazing period. These two allotments (Stott-Rowley and Ephraim-Meadow) are also identified above as two of the overstocked allotments that would decline in productivity over the long term.

VEGETATION TREATMENT PROJECTS

No new vegetation treatment projects would be proposed. Maintenance of existing seedings on the Holden Spring and Meadow Spring allotments would include the reseeding of approximately 4,320 acres. The removal of invading junipers and the reintroduction of perennial grasses in these areas would substantially improve site productivity (from approximately 216 AUMs to 720 AUMs).

INTENSIFYING GRAZING MANAGEMENT

No change from the present situation is proposed under this alternative.

Alternative B

Beneficial long-term impacts to vegetation would be expected under this alternative. Increased overall rangeland productivity would be expected. The major vegetation communities (salt desert shrub, sagebrush, and pinyon-juniper) would be intensively managed and/or protected in a manner that would provide optimum levels of big game and wild horse forage over the long term. Livestock forage would be available on a secondary noncompetitive basis with big game or wild horses. Vegetation composition in many of these communities would be substantially changed or, in the case of some sagebrush and pinyon-juniper sites, completely altered to provide key forage plants available to big game and livestock. These expected increases in net productivity and changes in plant composition would result from the following actions:

ALLOCATION OF FORAGE

Initially, livestock forage allocations would be adjusted on 24 allotments that have sufficient study data (at least 5 years utilization and 2 years trend (see Appendix 1). These adjustments would bring these allotments in line with indicated carrying capacity, as well as provide forage for estimated potential big game and wild horse populations.

Seventeen of the 24 allotments would be reduced from current active preference. The Meadow Spring Allotment (2,731 public land acres) would be completely eliminated from livestock grazing because of the demand to meet objective big game populations in this area. The Ferguson and Mormon Gap allotments would be increased from preference. Five allotments, that are within 10 percent of preference, would remain at preference.

The remaining 39 allotments, that do not have sufficient study data, would initially remain at existing preference. By remaining at preference, 22 of these allotments would be substantially overallocated above indicated capacity. However, over the short term (less than 5 years), these allotments would be adjusted to indicated capacity (after providing for potential big game and wild horse populations—the same as the other 24 allotments).

The current active preference of 149,009 AUMs would be initially reduced to 132,617 AUMs (accounting for 24, out of 63, allotments adjusted). Within 5 years, providing verification from monitoring studies, the initial allocation would be reduced to a level of 96,845 AUMs (with the remaining 39 allotments adjusted, see Figure 4-1). At this allocation level for livestock, a stable base of forage would also be provided for potential big game and wild horse populations (including additional forage for the introduction of bighorn sheep as proposed under this alternative).

Intensified management on 39 "I" and five "M" category allotments (see Figure 2-1) and vegetation treatments on approximately 27,600 acres would account for the majority of the long-term increases. Assuming an approximate increase in forage production (from 96,845 AUMs) of 15 percent for 39 "I" and 14 "M" category allotments, long-term allocations for livestock would be expected to reach nearly 110,500 AUMs. This recognizes that the increase would not be equal for all allotments. Some allotments are much more productive than others, and several allotments would have fairly large increases due to vegetation treatments. The remaining ten Category C allotments would not change in productivity. Estimated long-term forage production for livestock would be expected to increase significantly, even though objective big game and wild horse allocations would always be met first.

CHANGES IN KIND OF LIVESTOCK OR SEASON OF USE

Changes in kind of livestock could be initiated on up to 31 grazing allotments. If changes occurred on all 31, all existing sheep use in the WSRA West Desert would be converted to cattle use. This would have significant impacts to desert shrub communities by shifting the whole use pattern from key shrub species to herbaceous (grass and forb) species. It would be expected that plant reproductive vigor would improve for many of the key desert shrub species.

The most significant increases in shrub productivity would occur on the 326,452 acres of black sagebrush communities (identified in Alternative A). These are the most crucial use areas for both sheep and antelope. Presently, it is estimated that 290,572 acres or 89 percent of these communities are in poor to fair condition. With the use shifted to cattle, the reproductive vigor, composition, and density of black sagebrush and other associated key shrub species (e.g., bud sage, winterfat, and four-wing saltbush) should increase.

In addition to a major shift in kind of livestock, the seasons of use in two cattle allotments would be changed or modified. As mentioned in the Alternative A discussion, the Stott-Rowley and Ephraim-Meadow allotments have continuous spring-summer cattle use. The season of use on these allotments would be changed to winter. The change of season on these two cattle allotments would be expected to improve the productivity and composition of key grass species over the long term.

VEGETATION TREATMENT PROJECTS

Approximately 27,600 acres out of 41,800 acres of suitable pinyon-juniper and sagebrush sites would be converted by seedings to improve big game habitat and provide additional wildlife and livestock forage. Approximately one-third of the potential treatment areas on East Antelope and Twin Peaks allotments would be retained for big game cover (see Table 2-5). These developments would substantially increase forage productivity on three allotments (Black Point, East Antelope, and Twin Peaks) and alter the vegetation composition in these areas. On many sites previously in a decadent or static condition prior to overstory removal, productivity would be expected to increase 3 to 4 times. Many treatment areas would occur within mule deer habitat. These areas would be seeded with a variety of browse species (e.g., cliffrose, burnett, and bitterbrush) and cool-season grasses and forbs.

If prescribed burning were used as a treatment, vegetation cover would be nearly a complete loss for a short-term period of time (1 to 2 years). Vegetational responses from seeding usually

takes 2 to 5 years to establish and stabilize on burn areas. In contrast, if chemical or mechanical treatments were used, many of the herbaceous ground cover species would remain after the selective removal of overstory brush and tree species. The responses of native grasses and forbs, augmented with introduced species, could be immediate in areas with stable cover established within 2 years.

INTENSIFYING GRAZING MANAGEMENT

Range management practices would be intensified on 39 "I" and five "M" category allotments. Over a 20-year period, AMPs would be developed and fully implemented on these allotments (along with maintenance of ten existing AMPs) to provide seasonal rest for key forage plants and improve livestock grazing distribution and utilization. These management practices, coupled with proper stocking rates, should stabilize the majority of desert shrub communities and improve range condition. Total herbage cover should increase on the majority of cattle allotments, and key salt shrub species would be expected to increase in density and overall composition on all former sheep ranges.

Alternative C

This alternative analyzes maximum allowable livestock use on public range in the WSRA at current preference or indicated grazing capacity if higher. This alternative attempts to sustain initially high forage allocations over the long term (20 years). Intensive livestock management practices would be employed to the extent possible (39 "I" and five "M" category AMPs and 41,800 acres of proposed treatments/seedings). However, these management efforts would not be expected to promote or sustain the high levels of use proposed.

FORAGE ALLOCATIONS

Initially, forage allocations for livestock would be offered at current active preference or indicated capacity, whichever is higher. Based on preliminary data, if livestock operators activated their permits to these levels (a total of 150,589 AUMs), 42 allotments would be initially overallocated. Thirty-two of these allotments, two of which are dual use, would be substantially overallocated (more than 20 percent above present indicated capacity). These 32 allotments are listed on Table 4-1.

TABLE 4 - 1
Overallocated Allotments Under Alternative C

Cattle Allotments	Public Land Acres	Sheep Allotments	Public Land Acres
Antelope Point	2,895	Coates	19,229
Black Rock Summer	3,351	Conger Spring	70,425
Boob Canyon	30,025	Crickett	90,205
Brecks Knoll	69,393	Crystal Peak	61,893
Deseret	270,117	Death Canyon	27,279
Holden Winter	33,984	Ephriam-Bagnall	17,299
Knoll Springs	34,116	Fairview	55,068
Meadow Spring	2,731	Granite	48,801
Pine Valley	40,565	King	48,035
Stott-Rowley	15,145	Klondike	32,700
Whiskey Creek	5,001	Ledger Canyon	17,811
Total	507,323	Notch Peak	34,588
		Painter Springs	33,486
Dual Use Allotments		Seely	46,208
		Skull Rock	50,023
Ephriam-Meadow	60,996	State Line	33,045
Twin Peaks	179,865	Steamboat	29,109
Total	240,865	Voohees	26,958
		Wheeler	17,522
		Total	759,684

Of the 32 overallocated allotments, 19 are winter sheep allotments comprising 759,684 acres of public land. Under heavy grazing pressure by sheep, key species (e.g., black sagebrush, bud sagebrush, four-wing saltbush, and winterfat) are often seriously injured or killed (Blaisdell and Holmgren, 1984). The weakened condition and loss of reproductive vigor of these species would allow them to be replaced by annual or perennial grass species (e.g., cheatgrass, Indian ricegrass, Galleta grass, bottlebrush squirreltail, and needle-and-thread grass). The compositional trend on these desert allotments would change from brush dominant desert associations to those dominated by perennial and, in some cases, annual grass species. Despite attempts to intensify management (increase grazing distribution, use, and provide seasonal rest), these ranges could become unuseable to sheep over the long term, because of the loss of key forage browse species.

The remaining 13 allotments (748,188 public land acres), that would be overutilized, are cattle allotments (two of which are dual use with the dominant use by cattle). With excessive cattle grazing, a loss in population density of many of the key perennial grasses would be expected. These key species include Indian ricegrass, bluebunch wheatgrass, needle-and-thread grass, western wheatgrass, several species of bluegrass, and introduced species (e.g., crested wheatgrass and pubescent wheatgrass on established seedings). The replacement of these species over the short term would be expected by a variety of annual species (e.g., halogeton, cheatgrass, Russian thistle, and other weed species). Longer term replacement (after 10 years) would occur with the encroachment of undesirable shrub and tree species (e.g., broom snakeweed, low rabbitbrush, big sagebrush, and juniper trees). With annual losses in herbaceous cover and overall forage productivity, these sites could be rendered useless to cattle and wildlife over the long term (20 years). Rangeland improvements, particularly the 24,060 acres of perennial grass seedings on the Ephraim-Meadow and Twin Peaks allotments (see Table 2-5), could help offset an overall decline in productivity on these two allotments.

Given the expected declines in useable forage on 32 allotments and attempts to intensify management on many of these allotments, it is difficult to estimate what the overall long-term forage levels might be. It could amount to an 80 percent reduction in forage production over the long term. Heavy sustained grazing use on these 32 allotments would insure a decline in useable forage to below the existing indicated capacity. The remaining ten marginally overstocked allotments and 21 allotments that would be stocked at or below indicated capacity would improve in forage productivity with intensification of management over the long term.

CHANGES IN KIND OF LIVESTOCK OR SEASON OF USE

No specific changes in kind of livestock or in season of use would be made other than at the request of the operator and evaluated through an Environmental Assessment. Where the changes do occur, impacts would be as described in Alternative B.

VEGETATION TREATMENTS

All 41,800 acres of potentially suitable land would be treated. Seedings would be established with perennial, early season forage grasses and forbs (e.g., varieties of crested wheatgrass, pubescent wheatgrass, Russian wildrye, and dryland alfalfa).

INTENSIFYING GRAZING MANAGEMENT

The same 39 I and five M category allotments would be scheduled for AMPs as in Alternative B (see Figure 2-1). Of the 32 overallocated allotments identified in Table 4-1, all would have an AMP except the Black Rock Summer Allotment. Despite the increase in management intensity on these allotments, forage declines would still be expected to occur over the long term if the high stocking rates were permitted to continue.

Alternative D

The expected short- and long-term impacts to vegetation would be beneficial and nearly identical to those discussed in Alternative B.

FORAGE ALLOCATIONS

The initial livestock forage allocation would be 133,634 AUMs as compared to 132,617 AUMs in Alternative B. The slight difference is represented by shifts in the levels of forage use between livestock, big game, and wild horses.

The same process of allocating forage, based on required studies on 24 allotments and future allocations on 39 allotments, would be used. If monitoring studies continue to support the current indicated capacity, the total grazing allocation after 5 years would be established at approximately 99,265 AUMs (see Figure 4-1).

Estimated long-term forage allocation would be approximately 108,100 AUMs. This would be

dependent upon expected increases of approximately 15 percent in forage productivity on ten allotments with existing AMPs and I Category allotments where AMPs are proposed.

CHANGES IN KIND OF LIVESTOCK OR SEASON OF USE

In regard to changes in kind of livestock, it is not possible to predict the number of allotments that might change from sheep to cattle as evaluated through a request. Presently, the necessity of additional fencing and other economic factors have limited these opportunities.

The Stott-Rowley and Ephraim-Meadow allotments would be monitored, and adjustments in livestock numbers or season of use made as necessary. Long-term beneficial impacts, particularly in regard to improving the over 44,000 acres of poor condition range in the Ephraim-Meadow Allotment would be expected due to these adjustments.

VEGETATION TREATMENT

Approximately 14,000 acres treated/seeded would increase forage by 1,633 AUMs on four allotments. The former juniper and sagebrush sites would be seeded with introduced species as described in Alternative C.

INTENSIFYING GRAZING MANAGEMENT

Long-term beneficial impacts from implementing new AMPs would be as described in Alternative B.

Conclusion

No plant species, including sensitive and threatened and endangered (T&E) or other vegetation communities, would be irretrievably lost under the proposed levels of management for each alternative.

ALTERNATIVE A

Current levels of actual livestock use would be expected to continue at approximately 87,733 AUMs. At this level of use, 48 of the 63 total allotments would increase in overall forage productivity by an average of 5 percent over the long term. Thirteen allotments would maintain or slightly decline in productivity. Two allotments (Antelope Point and Stott-Rowley) would decline in forage production by 80 percent over the long term.

Composition of key forage species would change little or not at all on 61 allotments. On two allotments (Antelope Point and Stott-Rowley), an expected loss of key forage species and subsequent decline in range condition would occur. The long-term estimated carrying capacity for all 63 allotments would approximate 100,919 AUMs or slightly below the present indicated capacity of 101,156 AUMs.

ALTERNATIVE B

Livestock forage allocations would be initially adjusted from preference of 149,009 to 132,495 AUMs. At these initial levels, 22 allotments would remain substantially overallocated. However, within 5 years, proper adjustments would be initiated on all 63 allotments to indicated capacity. The adjusted levels would be approximately 96,845 AUMs. Estimated long-term forage production for livestock would increase by approximately 9,300 AUMs. Vegetation composition would shift gradually towards browse species, especially on the West Desert sheep allotments that would be converted. A shift in composition from tree species to forage species (grass and browse) would occur on 27,600 acres of treated areas in the eastern portion of the resource area.

ALTERNATIVE C

The largest potential adverse impacts to desert plant communities would be expected under this alternative in terms of long-term losses of key forage plants. Initially, permittees would be allowed to graze livestock at a total use level of 150,589 AUMs. At this level, 32 allotments would be overutilized.

If the high stocking rates were permitted to continue, production on the 32 allotments would decrease as much as 80 percent in the long term. Ten more allotments would remain static. The remaining 21 allotments would improve. The 19 overstocked winter sheep allotments would be largely converted from salt desert shrub communities to grassland over the long term. The 13 allotments that would be overutilized by cattle (including dual-use allotments) would lead to an overall decline in key forage grasses and a trend toward denser brush and tree overstories in many of the desert shrub, sagebrush, and pinyon-juniper communities.

On ten allotments, vegetation composition would remain approximately the same over the long term. On 21 allotments, the composition of key forage species would be expected to increase. Composition would shift from tree species to forage species (grass and browse) on 41,800 acres of treated areas. However, on 24,000 acres of these treated areas in two overstocked allotments, vegetation would revert to trees and other undesirable species.

ALTERNATIVE D

Impacts to vegetation communities would be nearly identical to Alternative B. Estimated long-term forage production for livestock would increase from an adjusted level of 99,265 to 108,100 AUMs or an increase of 8,835 AUMs. Composition of key forage species on all allotments is expected to stablize and increase. On 14,000 acres of treated/seeded areas, composition would shift from brush/tree species to herbaceous forage species.

RANGE MANAGEMENT

The major impacts to livestock and livestock operators would result from the following:

1. Proposed initial and long-term allocations of livestock forage (summarized for all alternatives in Figure 4-1).
2. Changes in kind of livestock that use the range, proposed in Alternative B.

Alternative A

There would be no substantial impacts to livestock operations and productivity on most allotments from continuing present grazing authorizations at the average licensed use level of 87,733 AUMs. However, two allotments (Stott-Rowley and Antelope Point) could decrease by as much as 80 percent in long-term useable forage because of overstocking at existing levels. The other 61 allotments would be expected to provide a relatively stable base of useable forage over the long term. Projected long-term (20 years) forage would approximate 100,919 AUMs for all 63 allotments. In the long term, permitted grazing use would increase by about 13,186 AUMs from current average use.

Alternative B

The most significant changes to existing, traditional livestock operations would occur under this alternative. Up to 31 grazing allotments that presently support winter sheep range could be converted to cattle ranges. This change could cause substantial adjustments to an established ranch community, methods of operations, and kind of marketable animals. The other 32 allotments would remain as cattle operations.

In the long term, permitted AUMs would be approximately 110,500, and permitted licensed use would increase by about 22,767 AUMs from current average use (see Figure 4-1).

Alternative C

The most significant changes to livestock operations and productivity would result from the potential overgrazing that could occur on the 32 allotments. Current average use on these allotments (59,255 AUMs) could be substantially increased to current active preference (105,870 AUMs). In the long term due to overutilization of forage, permitted livestock use on the 32 allotments would decrease by 80 percent from estimated current capacity (67,264 AUMs). On the other 31 allotments, long-term permitted use would increase 15 percent from current average use of 28,478 AUMs to 38,976 AUMs. Considering all 63 allotments, long-term permitted use would decrease from current average use by 35,304 AUMs.

Alternative D

The majority of operations would remain largely unaffected in the short term. Total long-term increases in forage productivity would be 20,367 AUMs above current average use.

Conclusion

Under all alternatives except C, there would be an expected long-term increase in forage allocation for livestock above the current average licensed use. The long-term forage available under Alternative C is not known but would decrease under existing levels on some allotments.

The most significant impact to existing livestock operations could occur under Alternative B, where up to 31 winter sheep allotments could be converted to cattle operations. These changes could require major financial adjustments in established sheep operations, as well as impact a traditional lifestyle and social network.

WILDLIFE

Environmental consequences to wildlife and their habitat, under each alternative, are discussed below by species or category of wildlife.

Pronghorn Antelope

ALTERNATIVE A

Under this alternative, livestock stocking rates would remain at current average licensed use on all allotments.

Current antelope use is estimated at 700 animals. Habitat conditions have been slowly improving on some allotments, due to lower livestock stocking rates, lighter utilization by sheep, and on some allotments, a change in kind of livestock from sheep to cattle. Based on use at current levels, it would be expected that over 35,880 acres of critical yearlong antelope habitat, now in good condition, would remain so in the short and long term; some of the 180,152 acres in fair condition could improve to a good condition (especially in the Burbank and Ibex areas); and most of the 110,420 acres in poor condition would remain poor in the short and long term, due to low habitat potential and no proposed change in use. Populations would be expected to increase on the good and fair condition habitat but remain static on poor condition habitat. Overall, improvement in habitat condition and gradual increase in antelope numbers in the short and long term would be expected.

ALTERNATIVE B

Under this alternative, changing the kind of livestock from sheep to cattle on up to 31 allotments would improve antelope habitat condition. Up to 362 miles of fence could be constructed to manage cattle. Fences would be built in conformance with BLM specifications to allow antelope movement. Antelope watering facilities would be constructed at 26 locations. In addition, oil and gas exploration and drilling and ORV use would be restricted during May and June on known fawning areas. This would protect the antelope from excessive disturbance during critical periods.

Critical yearlong habitat in good condition would remain in good condition; most habitat in fair and poor conditions would improve to the next higher condition class due to reduced competition for forage through change in kind of livestock and allocations. Areas which historically produced black sagebrush could again produce this key forage species.

Competition for black sagebrush between antelope and sheep would be eliminated. Since competition for black sagebrush between antelope and cattle is significantly less (approximately 20 percent diet overlap) and water sources would increase, antelope numbers would increase moderately in the short term and significantly increase in the long term. In the long term, populations could reach potential population numbers (2,994 animals).

ALTERNATIVE C

Under this alternative, maximum use of available forage by livestock would be allowed up to the active preference or indicated grazing capacity. A 76 percent reduction in forage would be available to antelope. Competitive sheep grazing would continue on 31 allotments containing critical yearlong antelope habitat.

Most of the sheep allotments with good condition critical yearlong antelope habitat would decline to fair or poor condition with downward trend. Black sagebrush would decrease in vigor and abundance in areas in fair and poor condition, and a downward trend would result. These areas would develop a poor condition in the short term. Black sagebrush could be lost in the long term. Overall critical habitat areas in cattle allotments would remain in their current condition or gradually improve. In these areas, antelope numbers would continue to increase, due to the lack of competition for black sagebrush. Antelope populations would significantly decrease to approximately 175 animals.

ALTERNATIVE D

Livestock numbers would be adjusted to indicated allotment carrying capacities less a suitable forage allocation for wild horses and wildlife. The result would be long-term improvement of most critical antelope habitat. Twenty-six new water sources would be constructed for antelope. Other grazing use would be regulated to allow for antelope population increases up to 1,861 animals. Request for change in kind of livestock from sheep to cattle and season of use would be evaluated on up to 32 allotments containing critical antelope habitat to determine conversion rates, fencing requirements, conflicts with other uses, and the feasibility of proposed changes. It cannot be predicted how many operators would request these kinds of changes, nor which one would be approved.

In the short term on allotments with downward vegetation trends, trend would stabilize and gradually improve. Current stable trend allotments would improve, and upward trend allotments continue to improve. In the long term, all critical habitat would gradually improve toward the goal of good condition or better. One-half of fair and poor class habitat would be expected to improve to the next higher class, resulting in 118,000 acres in good condition, 137,800 acres in fair condition, and 55,000 acres in poor condition. Total acres of black sagebrush would gradually increase.

Mule Deer

ALTERNATIVE A

Under this alternative, livestock use would remain at current levels on the four allotments containing

critical winter mule deer habitat. Those allotments and mule deer habitat condition are as follows: Church, fair; Holden Spring, good; Meadow Spring, good; Summit, fair; and (unallotted) six Mile, fair. Current deer use on these critical ranges is estimated at 95 yearlong and 1,408 winter animals. The Summit Allotment is currently receiving very light use. Deer use on the Church Allotment is also light, due to a recent chaining and reseeding.

This alternative should not affect wintering mule deer in the short term. Due to vegetation succession in the long term, the present vegetation communities of sagebrush/browse or oak/juniper would change to mature juniper/big sage communities. Therefore, condition on the Meadow Spring, Holden Spring, Summit, and Church allotments could decline until the existing treatment areas were retreated. The unallotted Six Mile area would remain in fair condition. Mule deer numbers would not change.

ALTERNATIVE B

Under this alternative, livestock competitive use would be restricted in critical mule deer habitat to allow achievement of potential population numbers. All four allotments containing critical winter habitat would be expected to remain at or improve to good condition. Habitat manipulation would maximize production and habitat condition for mule deer and reduce livestock competitive use. Mule deer populations would be expected to increase to 245 yearlong and 2,464 winter animals.

ALTERNATIVE C

Under this alternative, maximum use of available forage by livestock would be allowed up to the active preference or indicated grazing capacity, whichever is greater. On Church, Summit, Holden Spring, and Meadow Spring allotments, preference would be greater than the capacity by 127 AUMs. Most of the acreage of these allotments, over 80 percent, is suitable for vegetation treatment and could be converted to grassland. This would increase available AUMs for cattle, but would decrease the overall suitability for mule deer winter use, due to loss of cover and preferred forage species.

Currently, 8,736 acres of these four allotments are suitable for mule deer, providing forage and/or cover. If the suitable 80 percent of this acreage were converted to grassland, the habitat condition on all four allotments would decrease. Habitat condition on Summit, Church, and Holden Spring allotments could decline to low-fair or poor because of loss of cover and browse forage species. The Meadow Spring Allotment would retain a fair condition because of adequate cover and forage on areas unsuitable for treatment.

Total deer herd populations in the resource area could decline from 95 to 41 yearlong and from 1,408 to 650 animals in the long term.

ALTERNATIVE D

Vegetation treatments would maintain critical mule deer habitat in the Holden Spring, Summit, Church, and Meadow Spring allotments in good condition. The short- and long-term trend would be a continuation of good condition critical winter habitat. The Six Mile Tracts would continue in fair condition.

Under this alternative, existing high quality winter deer habitat would be maintained or improved slightly. Mule deer available forage and winter population numbers would increase. Mule deer winter populations would be expected to increase from 1,408 to 2,464 animals. Yearlong numbers would remain at 95 animals.

Elk

ALTERNATIVES A, C, AND D

Under these alternatives, elk use of WSRA ranges would continue to be slight. No adverse impact to the species or habitat would be expected under these alternatives. Alternative D would be most favorable for growth and expansion of the elk lands due to less competition with cattle.

ALTERNATIVE B

Under this alternative, Rocky Mountain elk would be allocated 117 AUMs of forage when competition with livestock became evident. Impacts would be beneficial to elk. In the long term, elk could increase to 70 head on public lands in the WSRA.

Desert Bighorn Sheep

ALTERNATIVES A AND C

No impact.

ALTERNATIVE B

Under this alternative, potential bighorn sheep habitat would be studied, and in suitable areas, monitoring studies and habitat management plans developed prior to reintroduction. Bighorn sheep would be allocated 140 AUMs of forage and transplanted into suitable areas in the WSRA. To prevent competition and disease factors with domestic sheep, sheep use would be eliminated in transplant areas. Desert bighorn populations could reach 150 animals in the long term.

ALTERNATIVE D

Under this alternative, potential for desert bighorn reintroduction would be analyzed. Future transplants would be made if conflicts with domestic sheep could be avoided and conditions necessary for desert bighorn survival and increase could be provided. Kinds of livestock could be the most significant limiting factor on allotments with domestic sheep use. If conditions were favorable, bighorn sheep could be transplanted. Forage allocations would be made as necessary to insure the viability of transplanted bighorn.

Raptors

ALTERNATIVES A AND C

Under this alternative, winter and nesting raptor populations would be monitored. Without crucial habitat designations, surface-disturbing activities, such as ORV use, could degrade the habitat. As a result, raptor populations could experience short-term decreases in some areas. No long-term effects would be expected.

ALTERNATIVES B AND D

Under this alternative, a 0.25 mile radius zone around all active and inactive nests would be designated as crucial nesting habitat. In addition, four crucial raptor habitat areas (96,500 acres) would have seasonal restrictions on oil and gas operations (leasing Category 2), and ORV use would be limited to existing roads. These restrictions would protect raptors during critical nesting periods; therefore, raptor numbers could increase in the long term.

Upland Game

ALTERNATIVES A AND C

Surface-disturbing activities, such as ORV use, could occur on sage grouse strutting grounds. Sage grouse numbers could decline from time to time in areas where life cycles were disrupted. In general, upland game populations would be expected to remain static in the short and long term.

ALTERNATIVE B

Under this alternative, a 2-mile radius buffer zone (10,000 acres) would be established around known sage grouse strutting grounds. ORV use in these areas would be limited to existing roads and trails. Up to 54 water sources would be developed for chukars. As a result, sage grouse and chukar numbers would increase in the long term.

ALTERNATIVE D

Same as Alternative B, except a 2-mile radius buffer zone would be established only around currently active sage grouse strutting grounds. Water sources would be developed, based on availability of funds. This protection would allow for undisturbed nesting and breeding. Therefore, populations could increase.

Riparian Habitat

ALTERNATIVES A AND C

Riparian habitat in fair to poor condition would remain as shown in Table 3-10, except for Pruess Lake where a Habitat Management Plan (HMP) would be implemented. At Pruess Lake, riparian habitat would be expected to improve from fair to good condition.

ALTERNATIVES B AND D

Under this alternative, riparian habitat would be placed in oil and gas leasing Category 3 and closed to ORV use. Grazing on the riparian habitat of Lake Creek would be restricted. The Pruess Lake HMP would be implemented, and an HMP on public lands adjacent to the Clear Lake Waterfowl Management Area would be developed. The management opportunities for South Tule Spring, Craft's Lake, Sevier River, and Meadow Creek would be inventoried, and a management plan prepared and implemented.

In the long term, the riparian habitat condition of Pruess Lake, Lake Creek, South Tule Spring, Crafts Lake, and Meadow Creek would be expected to improve from fair to good condition. Riparian condition on the Sevier River could improve from poor to fair due to management plan actions.

Threatened and Endangered Species

ALTERNATIVE A

Under this alternative, Pavant Butte could be subject to surface-disturbing activities, such as ORV use or mineral exploration. Reproduction of ground nesting ferruginous hawks could be adversely impacted by these types of activities. The historical peregrine falcon nesting habitat could be disturbed and potential reintroduction of the peregrine jeopardized.

Bald eagle and golden eagle roost areas would be subject to limited disturbance. However, no effect on population size would be expected in the short or long term. No significant impacts are expected on Swainson's hawks, white-faced ibis, long billed curlews, western snowy plovers, or sensitive mammal species.

ALTERNATIVE B

Under this alternative, 2,500 acres of Pavant Butte would be designated as an ACEC, and peregrine falcon transplants could be implemented. Golden eagle, ferruginous hawk, and Swainson's hawk nest sites would be protected by a 0.25-mile radius buffer zone.

Crucial nesting areas would be placed in oil and gas leasing Category 2 with seasonal use stipulations. ORV use in these areas would be restricted to existing roads and trails.

Impacts would be beneficial to peregrine falcon, golden eagle, ferruginous hawk, and Swainson's hawk. Populations could increase in the short and long term. Bald eagle populations would not be significantly affected.

Improved grassland and riparian conditions would benefit white-faced ibis, long-billed curlew, western snowy plover, least chub potential, and the sensitive pocket gopher and bat species. Populations could increase in the short and long term.

ALTERNATIVE C

Same as Alternative A.

ALTERNATIVE D

Same as Alternative B.

Conclusion

Under Alternative A, antelope numbers would moderately increase in the short and long term, and mule deer numbers would remain the same. Elk would not be affected. Bighorn sheep do not exist in the resource area. Raptor populations could experience short-term decreases. No long-term impacts would be expected. Upland game populations would remain static. Riparian habitat would remain in fair to poor condition, except at Pruess Lake where condition would improve from fair to good. Bald and golden eagle and ferruginous hawk populations and other sensitive bird and mammal species would not be significantly impacted. The potential to establish the peregrine falcon could be jeopardized.

Under Alternative B, antelope numbers would increase by over 300 percent. Mule deer numbers would increase 158 percent yearlong and 75 percent winter. Elk would increase from 0 to 70 head. Bighorn sheep would be reintroduced, and numbers would go from 0 to 150 animals. Raptor and upland game populations would increase. Riparian habitat would improve to the next higher condition class on Pruess Lake, Lake Creek, South Tule Spring, Crafts Lake, the Sevier River, and Meadow Creek. The bald and golden eagle populations would increase. Peregrine falcons would be reintroduced on Pavant Butte. All sensitive species would be beneficially impacted.

Under Alternative C, antelope numbers would decrease by 75 percent. Mule deer numbers would decrease overall by approximately 54 percent. Elk would not be affected. Bighorn sheep do not exist in the resource area. Raptor populations could be adversely affected. Upland game populations would remain static. Riparian habitat would remain in fair to poor condition, except at Pruess Lake where it would improve from fair to good. Bald and golden eagle populations would remain unaffected. The potential to establish the peregrine falcon would be jeopardized. Ferruginous hawks, a sensitive species, could be adversely impacted.

Decline in range condition would decrease available food prey species for all raptors. Poor condition grassland and riparian habitat would adversely impact ground nesting birds and riparian related bird and mammal species. All sensitive bird and mammal species would be adversely impacted by this alternative, and short- and long-term populations would decrease.

Under Alternative D, antelope numbers would increase approximately 166 percent. Mule deer number could increase 75 percent in the winter

and remain static yearlong. Elk would not be affected. Bighorn sheep could be transplanted into the resource area. Raptor and upland game numbers would increase. Riparian habitat would improve to the next higher condition class on Pruess Lake, Lake Creek, South Tule Spring, Crafts Lake, the Sevier River, and Meadow Creek. Bald and golden eagle populations would increase. Peregrine falcons would be established on Pavant Butte. All sensitive species would be beneficially impacted.

WILD HORSES

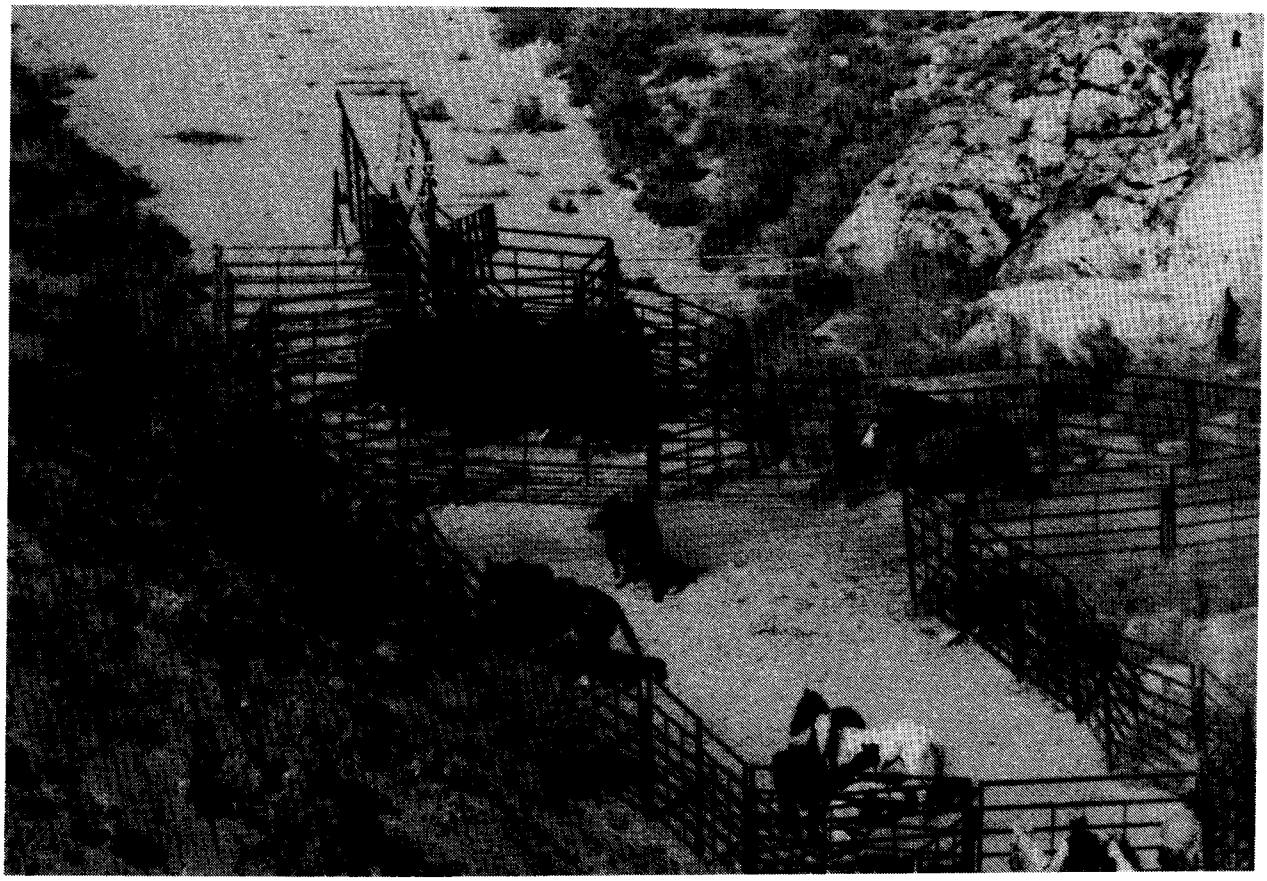
Introduction

Elements common to all alternatives are discussed here, followed by impacts anticipated under each alternative.

Federally-managed wild horses would continue to use adjacent State lands, along with BLM land, in all or portions of 20 WSRA livestock grazing allotments which make up the Herd Management Areas (HMAs).

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 (Lush, 1956; Sinnott, 1950). It is doubtful that 20 or less 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 trait 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 which are difficult to place by adoption.

Use concentration (trampling, high forage utilization, and soil compaction), around limited



numbers of water sources, can reduce the forage available and require wild horses to travel extensive distances between water and forage.

Change in kind of livestock grazing from sheep to cattle within HMAs would increase diet overlap and competition for desirable grasses.

Although wild horses become accustomed to fences, they remain barriers to their free-roaming nature. Therefore, fencing is generally not compatible with current policy on management and maintenance of wild horses within their range.

No appreciable loss in wild horse habitat and forage would be expected from surface-disturbing activities associated with mineral and energy exploration and development. The area's energy and mineral potential is low, and there is little probability of development in the four HMAs under any alternative. Increasing ORV use and other human disturbances could modify the wild horses patterns of movement and concentration.

Human harassment of wild horses during the foaling season by ORV users could result in some mortality of foals.

Round up or trapping wild horses would cause stress for the removed animals. Wildlife, livestock, and uncaptured wild horses, disturbed during capture and removal programs (anticipated approximately every 5 years), could also temporarily undergo stress.

Alternative A

In the WSRA, wild horses in the four HMAs would be managed to maintain the total current population of 195 head (Conger Mountain, 50 head; King Top, 30 head; Sulphur, 85 head; Burbank, 30 head). The 195 wild horses would continue to use 2,992 AUMs of forage from BLM lands. Periodic removal operations would be required to reduce populations to maintain an average total of 195 wild horses. If the wild horse populations of each HMA were distributed and held at the existing levels, no significant conflicts with livestock or wildlife would be expected. The utilization of 2,992 AUMs of forage from BLM lands by wild horses would continue (see Table 2-2).

Monitoring studies of the forage species would continue to provide information regarding the actual use and range condition of the allotments.

Releasing better quality wild horses when trapping occurs would improve the quality of the herd.

Alternative B

Wild horses would use 3,487 AUMs of forage from BLM lands and managed to maintain an average population of 346 head (Conger, 125 head; King Top, 75 head; Sulphur, 126 head, and Burbank, 20 head) (see Table 2-4).

Fewer livestock would result in less competition for key species and, subsequently, increase the quantity of forage. This would improve the condition and productivity of the wild horse HMA rangelands and, consequently, wild horses. If productivity increased, more frequent capture and removal programs could be necessary. However, if browse species increased because of sheep removal, the quality of the wild horse ranges could be reduced.

Monitoring of grazing use would be emphasized (see Chapter 2) on those allotments in "I" and "M" categories with less than 5 years of data. These include: Conger Mountain HMA—Conger Spring, Browns Wash, and Painter Spring allotments; King Top HMA—Blackham, King, Painted Potholes, Breck's Knoll allotments; Sulphur HMA—Fairview and State Line allotments; Burbank HMA—Deadman's Wash and Mormon Gap allotments. The results of this monitoring would be used to determine future grazing use. Should monitoring identify conditions adverse to wild horses, adjustments in livestock use would be made.

Wild horses of adoptable quality (from a standpoint of color, shape [conformation], and size) would be left on the range during removal operations. Poor quality wild horses would be removed first, and studs of the desired type introduced to increase the diversity of the gene pool. In a few years, this would also produce more wild horses of the type that can be adopted.

If fencing the perimeters of the seven sheep allotments on Conger Mountain HMA, four sheep allotments and unfenced boundaries common to two existing cattle allotment in the King Top HMA, four sheep allotments on the Burbank HMA, and three sheep allotments on the Sulphur HMA were to occur, it could have devastating consequences on wild horse populations. These fences would be a barrier to the wild horse's free-roaming nature and cause injury and loss of life to wild horses. If this fencing occurred, viable herds could not be maintained. The need of wild horses and current policy on management and maintenance of wild horses within their range would have to be addressed and other mitigating measures applied prior to any fence construction.

Alternative C

Under this alternative, wild horses would use 840 AUMs from BLM lands and populations would be managed to maintain 70 head (Conger, 30 head; King Top, 20 head; Sulphur, 20 head) (see Table 2-8). These herd populations are near or below the minimum numbers of wild horses necessary to maintain diversity in the herd as stated in the Introduction. The 20 animals in the WSRA portion of Sulphur HMA would constitute only part of the herd population. The remaining animals involved are in the adjacent Beaver River Resource Area (BRRA).

The removal of the wild horses from the Burbank HMA would not affect the overall wild horse population or the BLM's wild horse program. The herd was stagnant for many years and is essentially a segment of the Sulphur herd at present.

Limited amounts of fencing of allotments in three HMAs, in conjunction with change in kind of livestock (depending on type and locations, etc.), could have a negative impact on the free-roaming character of the wild horses and could cause injury and loss of life to wild horses.

If extensive greenwood cutting were to occur and access roads developed in the King Top HMA, it could reduce security and cover for the wild horse population. Increased human activity and new access roads could also increase harassment of the wild horses, possibly during the foaling season. The significance of these impacts would depend on the order of magnitude and location of the designated roads and cutting areas.

Alternative D

Wild horse populations would continue to be managed as described in Alternative A and in accordance with the Wild Horse and Burro Act of 1971. Wild horses would use 1,680 AUMs on BLM lands and herds managed to maintain a population of 140 head (Conger Mountain, 60 head; King Top, 30 head; and Sulphur, 50 head) (see Table 2-9). Unrelated or colorful wild horses would be introduced to the herds to provide genetic diversity and to improve the quality of the wild horses. This would especially benefit the King Top herd which would be maintained at 30 head.

The Burbank herd would be removed to eliminate herd trespass on private property and conflict with livestock and wildlife. The removal would not adversely affect the wild horse program.

Conclusion

Since the wild horse population in each HMA would be kept at 30 or more wild horses or new studs would be introduced to provide genetic diversity, all of the alternatives would provide essential genetic diversity. In Alternative B if fencing were to occur, viable herds could not be maintained. Because some fencing could occur in Alternative C, the free-roaming nature of the herds could be impaired, and injury and loss of life to individual wild horses could occur. No unavoidable adverse impacts would occur under alternatives A and D.

Increased recreational activity in HMAs and adjacent areas could increase harassment of wild horses. This impact could be mitigated, if necessary, by closing certain areas to ORV use or controlling ORV use.

Capture and removal of animals causes stress; however, specialized equipment, increased knowledge, and past experience would continue to reduce the stress level.

RECREATION AND VISUAL RESOURCES

Alternative A

Localized long-term overutilization of forage in potential recreation sites or in highly scenic areas would decrease recreation user satisfaction.

Recreation resources with potential for special management designation (i.e., ACECs, Outstanding Natural Areas [ONAs], Class III Recreation Areas, Historic Areas, Research Natural Areas, National Natural Landmark) would not be designated (see Figure 3-11). This could prevent the recreation values from receiving proper recognition and protection. The areas could be subjected to surface disturbance or other degradation due to permitted uses (ORV, mining activity, etc.).

The following recreation resources would continue to be protected by oil and gas categories 3 and 4 restrictions: Tabernacle Hill (also under mineral withdrawal), Pavant Butte, Great Stone Face, Notch Peak, Wah Wah Mountains, Fossil Mountain, and Crystal Peak. Portions of Crystal Peak, Notch Peak, The Cinders (adjacent to Tabernacle Hill), and Wah Wah Mountains not in lease categories 3 and 4 could be subject to surface disturbance from oil and gas activities. However, the potential for this is low.

Implementation of the Pruess Lake HMP would improve fish and wildlife habitat. Increased fish and wildlife populations would, in turn, enhance the fishing and hunting opportunities in the vicinity of the lake.

Requests for special recreation use permits would be processed in accordance with appropriate environmental review. As part of project level planning, recreation resources would be evaluated individually. Evaluations would consider significance of the proposed project and sensitivity of recreation resources in the affected area. Stipulations to permitted actions would be attached, as appropriate, to insure project compatibility with recreation management objectives. All identified historical, archaeological, and cultural sites would be protected in accordance with regulations and BLM policy.

All public lands would remain open to ORV use. Significant recreation resources and wildlife habitat may receive some resource damage due to ORV use. However, since existing and potential ORV use is limited, and only gradual increases are anticipated, the impacts would be expected to be minimal.

Visual resources would be evaluated as part of activity and project planning. Stipulations would be attached, as appropriate, in accordance with the affected area's VRM class to protect visual resources and mitigate visual impacts.

No significant impacts to visual resources would be expected from livestock grazing, except possibly on the two allotments (Antelope Point and Stott-Rowley) and localized areas with potential for overutilization identified in the Range Management section. Impacts on vegetation could affect the scenic quality of that element of the landscape in affected areas. Lack of vegetation treatment projects would minimize visual impact throughout the pinyon-juniper woodlands.

Continuation of oil and gas category restrictions would protect the majority of highly scenic recreation resources in the WSRA.

The existing minerals withdrawal on Tabernacle Hill would protect the visual resources of the site; however, until the validity of the existing 1,804 acres of existing mining claim is resolved, annual assessment work and other mining activities may continue to cause significant visual impacts.

The potassium prospecting on the Wah Wah hardpan and Sevier Lake could cause visual degradation on these VRM Class IV resources.

Implementation of the Pruess Lake HMP would protect the scenic riparian resources.

ORV use could result in visual degradation of landscape features in high use areas. However, due to low present and expected ORV activity, the impacts would probably be minimal.

Alternative B

Giving big game priority in forage allocation and use would provide a potential increase in numbers of deer (75 percent) and antelope (328 percent) and herds of up to 70 elk and 150 desert bighorn sheep to the WSRA ranges. This would provide greater opportunities for hunting, but would increase associated ORV use. See Figure 4-2 for ORV categories for Alternative B. Increased ORV use would probably not be significant due to the present low use and restricted number of permits that would be issued for antelope and elk. The vegetation treatment projects on 27,600 acres for improving forage for wildlife could cause some restrictions to ORVs on existing trails within the treatment areas until vegetation was re-established. However, use in those areas is low.

Special management designations (with the accompanying mineral withdrawals, oil and gas lease category 3 and 4 restrictions, ORV closures and/or restrictions) would protect Pavant Butte, Tabernacle Hill, Notch Peak, Crystal Peak, Fossil Mountain, and the Wah Wah Mountains. Pavant Butte and Tabernacle Hill ACEC designations (with mineral withdrawals, oil and gas lease Category 3 restrictions, and closure or restriction to ORVs) would ensure protection of the recreation values present. The National Natural Landmark designations on Notch and Crystal peaks, with the same restrictions, would ensure protection of these areas. The Wah Wah Mountains Research Natural Area designation, with the accompanying oil and gas lease Category 3 and 4 designations, and restrictions on woodland harvest and ORV closure would provide the protection necessary for keeping the area in a natural state for research of the vegetation resources. The Fossil Mountain historic site designation, with oil and gas lease Category 3, would protect the paleontological values. Additional oil and gas Category 3 areas on Crystal Peak, Notch Peak, the Cinders, and Wah Wah Mountains would protect additional recreation features from oil and gas activities. Pavant Butte, Tabernacle Hill, Fossil Mountain, Notch Peak, and the Wah Wah Mountains would receive Special Recreation Management Area (SRMA) designations. Designation would provide recognition and possible funding for preservation of these resources.

Implementation of the Pruess Lake HMP would improve fish and wildlife habitat, and increase fish

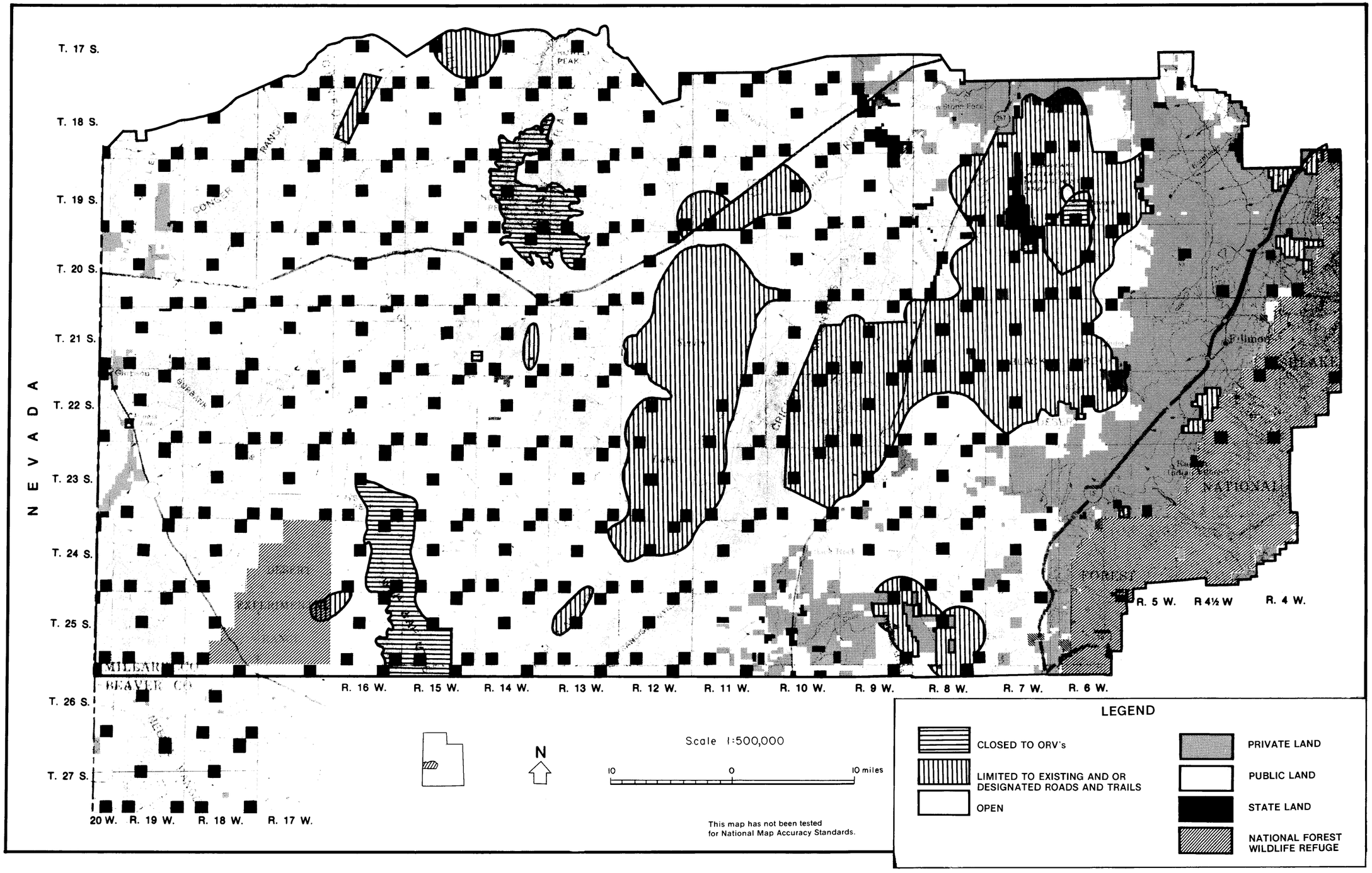


FIGURE 4-2
ORV CATEGORIES - ALTERNATIVE B

and wildlife populations, enhancing the fishing and hunting opportunities in the vicinity of the lake.

The majority (79 percent) of the resource area would be open to ORV use. Use would be limited on 18 percent of the area. Designations would protect critical deer winter range, sage grouse strutting areas, crucial raptor nesting areas, high erosion potential areas, and Tabernacle Hill. These restrictions would have little impact on ORV activity, due to the fact that ORV use is low and the seasonal nature of the restriction. Notch Peak, Fossil Mountain, Pavant Butte, the Wah Wah Mountains, and riparian areas (3 percent of the WSRA) would be closed to ORVs. Except for benchlands and some canyons, steep rugged topography precludes ORV activity on these areas. ORV use within the Wah Wah Mountains, occasional picnicking at Crystal Peak, and sightseeing at Pavant Butte would be precluded in these closed areas.

Under this alternative, surface-disturbing activities would not be permitted if VRM Class II objectives would be exceeded after proposed mitigation.

Priority for providing forage to wildlife (as opposed to livestock) would improve range conditions on ranges in poor and fair condition. This would subsequently improve the visual appearance. However, the 27,600 acres of vegetation treatment projects would have short- to long-term visual impacts.

The right-of-way avoidance for special management designation and VRM Class II areas would minimize visual impacts to these highly scenic areas.

The mineral withdrawals, oil and gas lease categories 3 and 4, and ORV restrictions and closures implemented on the special management designation areas would provide protection from visual impact caused by surface-disturbing activities.

Limiting woodland products removal in riparian areas and implementation of the Pruess Lake HMP would help maintain aesthetics values.

Alternative C

Long-term overutilization of livestock forage in, or adjacent to, areas with recreation resources would impact user satisfaction and aesthetics. In the long term, wildlife numbers would be significantly reduced, as would hunting opportunities. Deer populations would drop to half of the current level, while antelope would decrease by 75 percent. Proportional decreases in hunting would be expected. There would be no introduction of bighorn sheep, thus precluding hunting opportunities for this species.

None of the special recreation resources identified would receive special management designation and the subsequent surface protection measures (i.e., withdrawals, ORV closures, etc.). As a result, these areas could experience surface disturbance which would degrade the recreation resources present.

The following important recreation resources would continue to be protected from surface disturbance: Tabernacle Hill, Pavant Butte, Great Stone Face, Notch Peak, Wah Wah Mountains, Fossil Mountain, and Crystal Peak.

Implementation of the Pruess Lake HMP would improve fish and wildlife habitat, populations, and fishing and hunting opportunities in and around the lake.

Tabernacle Hill, Pavant Butte, Fossil Mountains, Notch Peak, and the Wah Wah Mountains would be designated and managed as SRMAs. Management plans prepared on the areas would specify the restrictions.

Impacts on and from ORV use would be the same as Alternative A.

Surface disturbance would be mitigated where practical, but activities would be allowed to proceed even if VRM objectives were exceeded, except in any areas designated as VRM Class I in actions subsequent to this RMP.

Impacts to visual resources would be caused by overgrazing on the allotments identified under Range Management section. The impacts on vegetation would affect the scenic quality of that element of the landscape.

Significant impacts to visual resources would result from vegetation treatment projects. These projects would impact the landform, vegetation, or structural components of the landscape. The degree of impact, primarily in terms of the contrast created in the landscape, would depend on how the actions were planned, designed, located, constructed, or implemented. The contrast with the surrounding natural landscape would generally be most significant immediately following the project and lessening substantially within 5 years after the project.

The three community pits established for removal of lava rocks near Flowell, Utah, could visually impact the lava flow. New access roads to facilitate harvesting of forest products in the Cove Fort area could degrade the visual quality of the area for several years.

Water bar and gully plug installation would reduce the potential for severe erosion with subsequent visual impairment.

Protection to visual resources afforded by oil and gas category restrictions and mineral withdrawals would be the same as Alternative A.

Though the entire resource area would remain open to ORV use, ORV activity and impacts to visual resources would be minimal.

Alternative D

Increased wildlife numbers (antelope 166 percent and mule deer 75 percent) would provide for increased hunting opportunities and associated ORV use.

Special management designations, SRMA status, mineral withdrawals, rights-of-way restrictions, oil and gas leasing category 3, ORV closures and/or restrictions would all provide protection for Pavant Butte, Tabernacle Hill, Notch Peak, Crystal Peak, Fossil Mountain, and the Wah Wah Mountains. Pavant Butte and Tabernacle Hill would be designated as ACECs; Notch Peak would be designated as a National Natural Landmark; Crystal Peak would be designated as an ONA; Fossil Mountain would be classified as a historic site; and a portion of the Wah Wah Mountains would be designated as a Research Natural Area. In addition, the Great Stone Face, Sunstone Knoll, Painter Springs, and Pruess Lake would be designated oil and gas leasing Category 3 to ensure protection from surface disturbance. Tabernacle Hill and the Wah Wah Mountains would be designated as SRMAs with subsequent recognition and funding to ensure their protection.

Implementation of the Pruess Lake HMP would ensure improvement of fish and wildlife habitat, thus increasing fish and wildlife populations and enhancing the fishing and hunting opportunities in the vicinity of Lake and Meadow creeks. Areas around the Clear Lake Waterfowl Management Area would be in a protective oil and gas category to protect the riparian habitat, thus preserving sightseeing and hunting values.

The majority (97 percent) of the resource area would be open to ORV use. Areas with limited designations would comprise 2 percent of the resource area and would include Tabernacle Hill, critical deer winter ranges, and raptor nesting areas. This would allow ORVs to use almost all of the existing roads and trails. The raptor nesting areas, which comprise the majority of the ORV restricted use areas, would be closed seasonally.

Four areas, comprising less than 1 percent of the resource area, would be closed to ORVs. They include Notch Peak, Crystal Peak, Pavant Butte, and the Wah Wah Mountains. Current ORV use in these areas is limited by the steepness and ruggedness of the terrain. Thus, no significant impact to ORV use would be expected.

Visual resources would be evaluated as part of activity and project planning. Stipulations would be attached, as appropriate in accordance with the affected areas VRM class, to protect visual resources and mitigate visual impacts.

Impacts to visual resources would be caused by the vegetation treatment projects as described under Alternative B, except the affected area would be approximately 1,400 acres. Range improvement projects to insure more uniform forage utilization would minimize the potential for visual degradation caused by overgrazing and subsequent soil erosion.

The mineral withdrawals, oil and gas lease categories 3 and 4, and ORV restrictions and/or closures and right-of-way avoidance areas implemented on recreation resources with special management designations would provide protection to the scenic values of these recreation resources.

Limiting woodland products removal in riparian areas and implementation of the Pruess Lake HMP would help maintain their aesthetics.

Closure to ORV use in the special management areas previously mentioned, in addition to limiting ORV use in critical deer winter ranges and in raptor nesting areas, would protect the visual qualities in these areas. See Figure 4-3 for ORV designation within Alternative D.

Conclusion

Alternative B would have the greatest positive impact on recreation resources, followed by alternatives D, A, and C. Alternative B would increase wildlife populations and subsequent hunting opportunities by 75 percent for deer and 328 percent for antelope. It would also eventually provide opportunity for elk and bighorn sheep hunting in the resource area. Under Alternative D, deer numbers would increase by 75 percent, and antelope would increase by 166 percent. Wildlife populations would remain at current levels under Alternative A and decrease under Alternative C. Under Alternative B, the primary recreation resources in the WSRA would have special management designations including SRMA. Alternative D would provide the same designations and

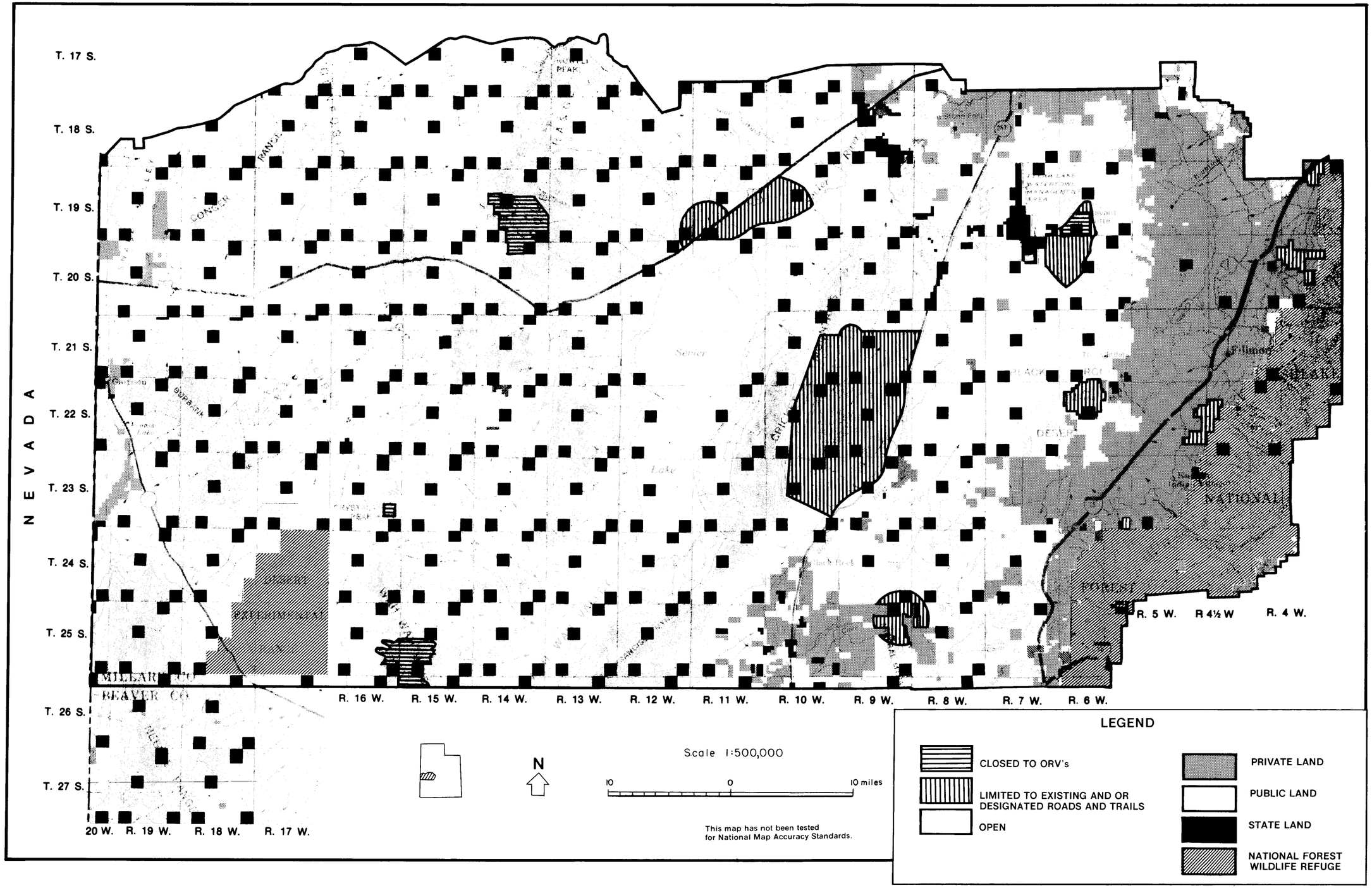


FIGURE 4-3
ORV CATEGORIES - ALTERNATIVE D

protective actions as Alternative B except for the Cinders and portions of the Wah Wah Mountains. Under alternatives A and C no special management designations would be made, but most significant recreation resources in the WSRA would be designated as SRMAs. Under alternatives B and D, additional portions of Crystal Peak, Notch Peak, and the Wah Wah Mountains would be protected by oil and gas Category 3 restrictions not proposed in alternatives A and C. Alternative B would be the most restrictive to ORV use followed by Alternative D. Alternatives A and C would have no ORV restrictions. No significant impacts to or from ORV activities would be expected regardless of the alternative, due to current and anticipated low use.

Impacts to visual resources would be caused by vegetation treatment projects. Alternative A would, therefore, receive the least amount of impact with no projects planned, followed by alternatives B, D, and C.

In terms of protecting significant recreation resources from visual damage, alternatives B and D would, in order, provide the greatest protection of visual resources from disturbance.

Under Alternatives C, overutilization of forage would damage vegetation and soils and degrade visual values in affected areas. Alternatives B and D would improve range conditions and subsequent visual resources. ORV restrictions in alternatives B and D would minimize potential visual impacts from ORV use. Alternatives A and C would provide no restrictions.

LANDS

Alternative A

LAND TENURE ADJUSTMENTS

If present management of the lands program continued, analysis and decisions on proposed disposal actions would be made on a case-by-case basis, subject to the MFP. This would have no identifiable effect on resources on public lands.

RIGHT-OF-WAY CORRIDORS

To the extent feasible, major right-of-way applicants would, in accordance with Section 503 of FLPMA, be required to locate in the existing right-of-way corridors or adjacent to existing major rights-of-way. This would provide flexibility in the location of major rights-of-way. Minimal impacts on other resources and uses would be expected, due to minimal disturbances from proliferation of rights-of-way.

SPECIAL MANAGEMENT DESIGNATIONS

No special management designations would be made under this alternative. Without special designation and restrictions on permitted activities, special values could be subject to surface disturbance or other degradation. This could result in future limitations on public use and enjoyment of the special values in these lands. Future opportunities to develop these lands and values, as appropriate, could be foregone.

Alternative B

LAND TENURE ADJUSTMENTS

The only lands identified for disposal are the following tracts which are suitable for sale under Section 203 of FLPMA (see Figure 2-2):

- T. 23 S., R. 19 W., Sec. 17, S½SE¼, NE¼SE¼, SE¼NE¼; 160 acres.
- T. 19 S., R. 19 W., Sec. 35, NE¼NE¼; 40 acres.
- T. 22 S., R. 6 W., Sec. 3, lots 9, 10 11; 20.36 acres.
- T.19 S., R. 4 W., Sec. 4, lot 11; 12.05 acres.
- T. 18 S., R. 4 W., Sec. 33, Lot 5; 6.79 acres.

None of these tracts are within grazing allotments or are grazed by livestock under a BLM permit. They have been examined for T&E and sensitive plants and animals and cultural resources. None were found. There is little to no potential for mineral resources. Disposal of these tracts would have no effect on visual resources.

All five of these tracts are isolated from other public lands. They have, or are being used by, adjacent private property owners. Disposal of these tracts would relieve the BLM of a management problem, and it is anticipated that the adjacent farming operations would be benefitted by the acquisition of these tracts.

No other lands would be designated for disposal. Any other disposal actions would required an amendment of the RMP. This would have no identifiable effects on public lands.

RIGHT-OF-WAY CORRIDORS

Right-of-way corridors would be designated, and major right-of-way applications would be restricted to these designated corridors where feasible. Right-of-way avoidance areas would consist

of special management designation and VRM Class II areas (see figures 3-11 and 14).

This would prevent the proliferation of rights-of-way and prevent the degradation of visual and other special values in the avoidance areas.

SPECIAL MANAGEMENT DESIGNATION

Six areas would receive special management designations (see Figure 3-14):

- Pavant Butte: ACEC (2,500 acres) with mineral withdrawal and Category 3 for oil and gas leasing. Close to motor vehicles and cooperate with UDWR and FWS in development of a peregrine falcon reintroduction plan.
- Tabernacle Hill and the Cinders Volcanic Field: ACEC (8,550 acres) with mineral withdrawal and Category 3 for oil and gas leasing on the cinders; continue Category 4 on Tabernacle Hill; develop recreation facilities; acquire State sections 16 and 32; limit ORV use; restrict rockhounding and shooting.
- Notch Peak: If not designated as wilderness, nominate 9,000 acres for National Natural Landmark, withdraw from mineral entry, and place in Category 3 for oil and gas leasing. Close to motor vehicles and plan to develop recreational support facilities.
- Crystal Peak: If not designated as wilderness by Congress, nominate for National Natural Landmark, withdraw 640 acres from mineral entry, and designate Category 3 for oil and gas leasing. Close to vehicular traffic; develop management plan; interpretational materials and facilities if required.
- Fossil Mountain: Historic site (1,920 acres) with continued classification as Category 3 for oil and gas leasing. Develop interpretational materials.
- Wah Wah Mountains: Designate a Research Natural Area (5,970 acres). Acquire State Section 32; designate Category 3 for oil and gas leasing; designate as a retention-acquisition and right-of-way avoidance area; restrict harvesting of woodland products; close to ORVs; and develop a management plan in coordination with Nature Conservancy to preserve the area's integrity and ecological values.

These designations would alert management and users to their special values and improve public awareness of those values. Management restrictions would preserve and protect the special values present. This would facilitate increased use and enjoyment of these areas by the public.

Alternative C

LAND TENURE ADJUSTMENTS

Same as Alternative B.

RIGHT-OF-WAY CORRIDORS

Same as Alternative A, No Action.

SPECIAL MANAGEMENT DESIGNATIONS

Same as Alternative A, No Action.

Alternative D

LAND TENURE ADJUSTMENTS

Same as Alternative B.

RIGHT-OF-WAY CORRIDORS

Same as Alternative B.

SPECIAL MANAGEMENT DESIGNATIONS

Special Management Designations would be the same as under Alternative B, with one exception. The Tabernacle Hill ACEC would be reduced from 8,550 acres to 3,567 acres with the Cinders area eliminated from designation. This action would maintain 4,983 acres in traditional multiple use.

Conclusion

Under Alternative A, land tenure adjustments would be made on a case-by-case basis. No special management designations would be made. Under alternatives B, C, and D, five tracts of land (approximately 240 acres total) would be available for sale, and right-of-way corridors would be designated. Six areas would receive special management designations under alternatives B and D, thereby protecting special values present.

MINERALS

Alternative A

LEASABLE MINERALS

Oil and Gas

Existing oil and gas leasing categories under the No Action Alternative are shown in Table 2-3 and Figure 3-15.

On lands open to leasing with special stipulations (Category 2), oil and gas exploration could be impacted in the area covered by a seasonal no surface occupancy stipulation (the 6,200 acres adjacent to Clear Lake Waterfowl Refuge). Exploratory drilling or development could be delayed in these areas.

The remaining Category 2 areas (for protection of riparian habitats—no surface occupancy within 400 feet) would be along Meadow Creek. Access and drilling targets typically are not in live water areas.

The remaining Category 4 acres are for the protection of riparian habitat at South Tule Spring.

Impacts to oil and gas activities would not be significant.

Geothermal

No impacts to geothermal activities were identified. Exploration and development could continue under standard stipulations.

Non-Energy Solid Leasable Minerals

No impacts to solid non-energy leasable minerals were identified. Resources could be developed in accordance with stipulations corresponding to the oil and gas leasing category designation for the area.

LOCATABLE MINERALS

Tabernacle Hill (3,567 acres), also withdrawn from mineral entry, is the only area in the WSRA under mineral withdrawal. The area is a potential source of cinders. Several substitute areas are available for cinders. No significant impacts to locatable mineral activity would be expected.

SALEABLE MINERALS

No impacts to saleable minerals would be expected.

Alternative B

LEASABLE MINERALS

Oil and Gas

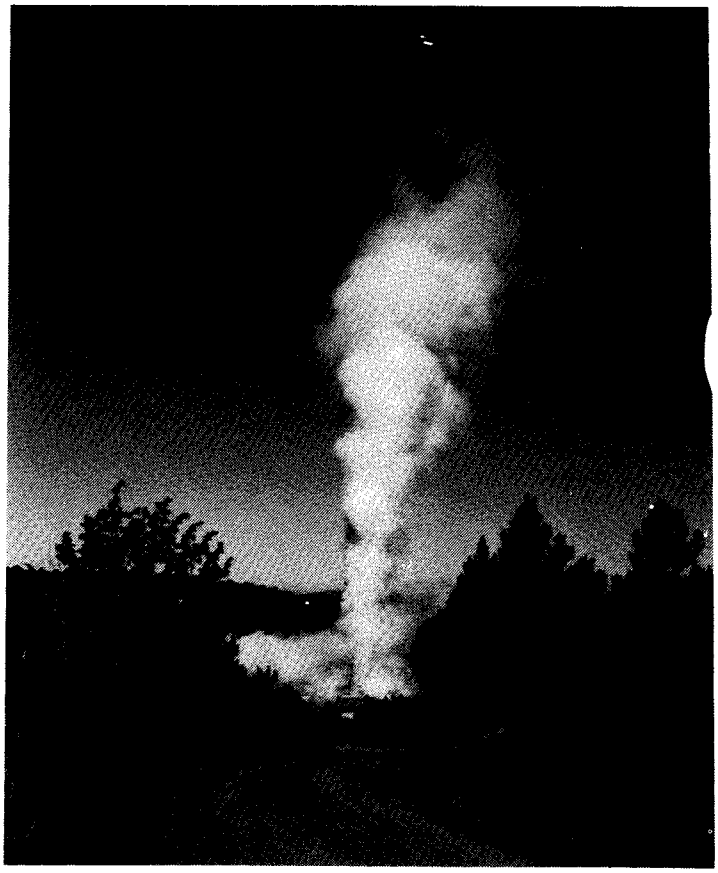
Under this alternative, the areas shown in Table 2-7 would be added to existing categorization. Total acreage in each category would be as follows: Category 1, 2,045,004 acres; Category 2, 112,097 acres; Category 3, 45,447 acres; and Category 4, 24,167 acres (see Figure 4-4).

The areas open to leasing under the standard stipulations (Category 1) would be decreased. This is an adverse impact to the opportunity for oil and gas exploration, because Category 1 is the least restrictive leasing category. However, 92 percent of the planning area would remain in Category 1.

Areas, open to leasing with special stipulations (Category 2), would increase substantially. Most of the Category 2 increase would provide seasonal restrictions on 105,656 acres of critical deer winter range and raptor nesting areas. Areas in Category 3 would increase by about 20,000 acres in areas of low or very low potential for oil and gas. These category 2 and 3 increases would not be expected to significantly affect oil and gas exploration or development in the WSRA.

Geothermal

Geothermal exploration activities would be seasonally restricted due to the more restrictive Category 2 in some KGRAs (see Figure 3-16). Should geothermal resources be discovered, development of the resources would not be impacted.



Geothermal Exploration,
Sulphurdale Spring KGRA

Non-Energy Solid Leasable Minerals

Same as Alternative A. Stipulations for solid non-energy minerals would be the same as for fluid minerals. Stipulations could be modified if deemed appropriate for solid leasable mineral development.

LOCATABLE MINERALS

The following areas, totaling 26,660 acres, would be withdrawn from mineral entry under Alternative B: Crystal Peak, 640 acres; Pavant Butte, 2,500 acres; Notch Peak, 9,000 acres; Tabernacle Hill and The Cinders, 8,550 acres; and Wah Wah Mountains, 5,970 acres. The remaining public lands (2,200,095 acres) would remain open to locatable mineral entry. The Wah Wah Mountains, Crystal Peak, Pavant Butte, and Tabernacle Hill and The Cinders have low potential for commercial locatable mineral deposits. Gold occurs near Notch Peak; known deposits of tungsten also occur in the vicinity. Based on low potential for occurrence of commercial mineral deposits in these areas, no significant impact on locatable mineral exploration or development would be expected.

SALEABLE MINERALS

Same as Alternative A.

Alternative C

LEASABLE MINERALS

Oil and Gas

Under this alternative, existing oil and gas categories would remain as in the No Action Alternative (see Table 2-3 and 3-15), and the impacts would be the same.

Geothermal

Same as Alternative A.

Non-Energy Solid Leasable Minerals

Same as Alternative A.

LOCATABLE MINERALS

Tabernacle Hill (3,567 acres) would remain withdrawn from mineral entry as in Alternative A. The remainder of the resource area (2,223,188 acres) would remain open to mineral entry. Impacts would be the same as under Alternative A.

SALEABLE MINERALS

Materal sales would be in conformance with oil and gas leasing category restrictions at sale sites. No significant impact would be expected.

Alternative D

LEASABLE MINERALS

Oil and Gas

Oil and gas leasing categories would be as shown in Table 2-8 and Figure 4-5. Less than 4 percent (81,397 acres) of the public lands would be subject to leasing Category 2 and 3 restrictions; the remaining 2,145,358 acres would be in Category 1.

Seasonal restrictions (Category 2) in the Clear Lake Waterfowl area, on critical deer winter range, and in raptor nesting areas could temporarily delay exploration and development in these very low to speculative potential areas. Category 3 restrictions would be principally in mountainous areas with low to speculative potential for recoverable reserves.

Geothermal

Geothermal exploration activities would be affected due to seasonal restrictions (Category 2 in some KGRAs). Should geothermal resources be discovered, development of the resources would not be affected.

Non-Energy Solid Leasable Minerals

Same as Alternative B.

LOCATABLE MINERALS

The following areas would be withdrawn from mineral entry: Crystal Peak, 640 acres; Pavant Butte, 2,500 acres; Notch Peak, 9,000 acres; Tabernacle Hill and The Cinders, 3,567 acres; and Wah Wah Mountains, 5,970 acres. All remaining public lands in the WSRA (2,205,078 acres or 99 percent of the resource area) would remain open to mineral entry.

None of these withdrawal areas has commercial production of locatable minerals: silica is found in the vicinity of Crystal Peak; cinders on Pavant Butte and Tabernacle Hill; gold near Notch Peak and tungsten in the vicinity. There are no known locatable mineral deposits on the Wah Wah Mountains. Some mining claims are located in each of the above areas, except for the Wah Wah Mountains. Generally claims show little evidence of ongoing assessment work, and potential for valid claims is probably low.

SALEABLE MINERALS

Same as Alternative B.

Conclusion

The overall opportunity for oil and gas exploration and development under Alternative A would

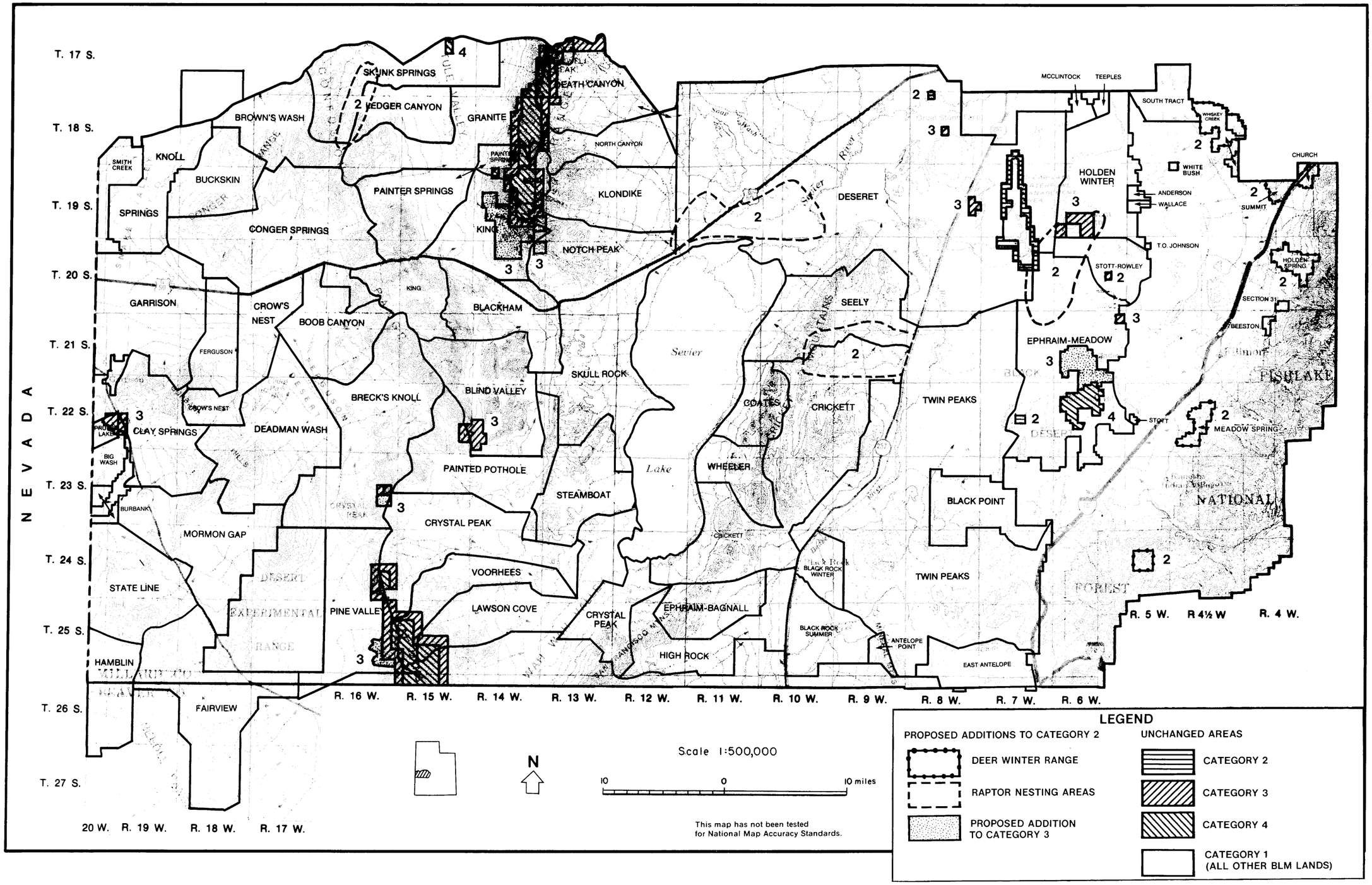


FIGURE 4-4
PROPOSED OIL, GAS, AND GEOTHERMAL CATEGORIES FOR ALTERNATIVE B

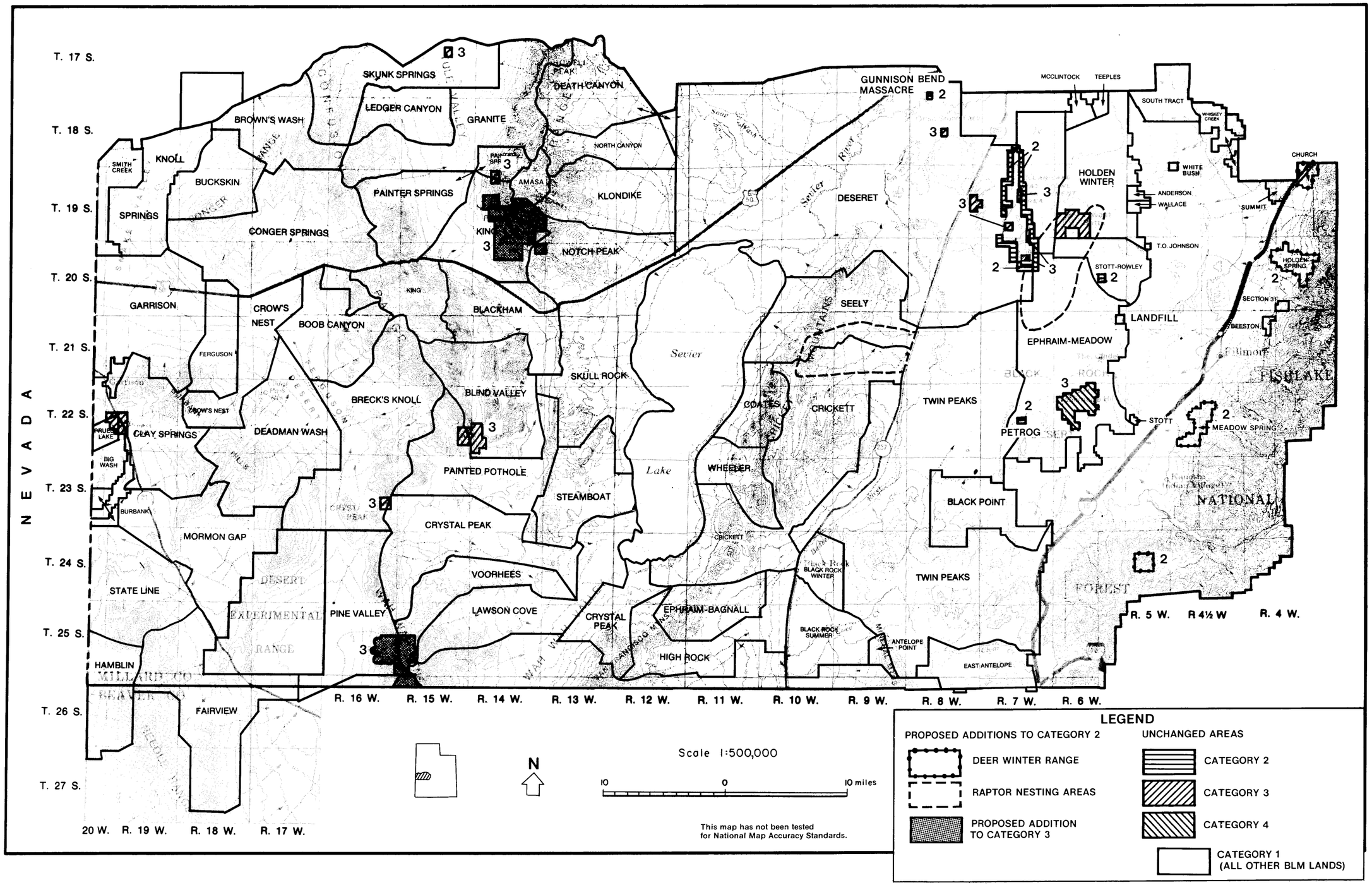


FIGURE 4-5
PROPOSED OIL, GAS, AND GEOTHERMAL CATEGORIES FOR ALTERNATIVE D

be excellent; 97 percent of the resource area is in Category 1, the least restrictive leasing category. The remaining 3 percent of the resource area is in categories 2, 3, and 4. Oil and gas exploration would be restricted there, but potential for the resource is speculative to very low, and no significant effect on activity or demand would be expected. Alternative B would increase acreages in protective leasing categories (mostly category 2 seasonal restrictions) and would leave 92 percent of the area in Category 1. Alternative C would be the same as Alternative A. Under Alternative D, the area in Category 2 would increase, Category 3 would decrease, no Category 4 would be designated and 96 percent of the WSRA would be Category 1. Moreover, no significant impact on oil and gas exploration or development would be expected under any alternative.

Areas withdrawn from mineral entry would be the greatest under Alternative B followed by D. Even under these alternatives, little or no change or impact on locatable mineral activity or potential for development would be expected. No significant effect on non-energy solid leasables or saleable minerals would be expected under any alternative.

WATERSHED AND WATER RESOURCES

No proposals, under any of the alternatives, would significantly impact water rights, or water use of either surface or ground water.

Impacts to the watershed would occur in areas subject to surface disturbance and reduced ground cover. As vegetation ground cover decreases, the soil becomes more susceptible to increased soil erosion and sediment yield. This would increase surface runoff and lower water quality of local streams. No overutilization would occur adjacent to the Sevier River. Therefore, no significant impact to water quality is expected.

A slight benefit to water resources could occur under alternatives B, C, and D, as 13 springs are proposed for appropriation and possible development as funding permits.

No streams or waters in the resource area are on the State of Utah's 1984-85 (305B report) priority list for protection (Utah Dept. of Health, 1984).

Alternative A

Under this alternative, grazing levels would be at current average licensed use. If grazing continued at these levels, severe overutilization would occur on portions of two allotments in the long term (see Vegetation section). Increased runoff and sediment yield on the portions of these allotments where overutilization occurred would impact water quality in local streams, drainage ways, and small reservoirs. These two allotments (Antelope Point and Stott-Rowley) contain major ground water recharge areas. Overutilization could decrease recharge to the aquifers and lessen the ability of the watershed to function as a recharge area. The resource area is in a closed basin (The Great Basin). Because of the arid nature of the area, nearly all streams in the resource area are intermittent, and none of the streams exit the resource area. Therefore, there would be no impact to streams outside the resource area.

Surface disturbance due to ORV use would not significantly affect erosion and sediment yield. All 2,226,755 public land acres would be open for ORV use.

Under this alternative, seven channel erosion studies and water quality on ten water sources would continue to be monitored annually to determine if corrective actions are needed.

Alternative B

Under this alternative, forage allocation would not exceed grazing capacity except possibly in the short term during the monitoring and adjustment process. This could occur on portions of 22 allotments (see Vegetation section). Increased runoff and sediment yield could result where this occurred. Forage allocation would not exceed grazing capacity in the long term. Therefore, there would be no long-term adverse impacts from grazing, as overutilization would not generally occur. No effect on ground water recharge areas would be expected under this alternative.

Under this alternative, 73,820 acres would be closed to ORV use, and 400,686 acres would be designated for limited use to existing roads and trails. The remaining lands (1,752,249 acres) would be open for ORV use. However, little or no impact from ORV use would be expected.

Reduced erosion on the watershed would result from the following protection measures: 15 gully plugs installed on six allotments; installation of 6-15 waterbars on 2 miles of road; channel erosion studies on seven sites (in addition to the seven currently being monitored); restriction of resource use on 11 allotments susceptible to wind erosion; and livestock season of use would be changed on two allotments.

Vegetation treatments on portions of the 27,600 acres suitable would be a beneficial impact to the watershed. As vegetation becames established (2-5 years) on the treated areas, there would be a decrease in surface runoff, erosion, and sediment yield. Water quality would increase in local streams.

Alternative C

Under this alternative, livestock grazing, at active preference levels, would cause overutilization of forage on portions of 32 allotments in the long term (see Vegetation section). Increased runoff and sediment yield on the portions of these allotments where severe overutilization occurred would impact water quality in local streams, drainage ways, and reservoirs, as described under Alternative A. Twenty-nine of these allotments shown on Table 4-1 contain major aquifer recharge areas; Knoll Springs, Whiskey Creek and Ephraim-Meadow do not. Overutilization could decrease recharge to the aquifers and lessen the ability of the watershed to function as a recharge area in the 29 allotments.

All 2,226,755 acres would be open for ORV use. However, little or no impact from ORV use would be expected.

Beneficial impacts to watersheds would result from installation of gully plugs and water bars and vegetation treatments on up to 41,800 acres as described under Alternative B.

Alternative D

Under this alternative, forage allocations would not exceed grazing capacity except possibly in the short term during the monitoring and adjustment process. This could occur on portions of 22 allotments as described under Alternative B. Forage allocation would not exceed grazing capacity in the long term. Therefore, no significant watershed impacts from livestock grazing would be expected.

Under this alternative, ORV designations would be as follows: approximately 18,110 acres would be closed; use on 52,917 acres would be limited to existing roads and trails; and the remaining 2,155,728 acres would be open to ORVs. However, little adverse impact from ORV use would be expected.

Erosion reduction on the watersheds would be as described under Alternative B. Likewise, vegetation treatments on about 14,000 acres would benefit watersheds.

Conclusion

No significant impact to water rights or uses would occur under any alternative. Livestock overutilization of forage on portions of two allotments under Alternative A and 32 allotments under Alternative C would adversely affect watershed and water quality over the long term.

No long-term overutilization would be expected under alternatives B or D.

Little or no impact from ORV use is expected under any of the alternatives.

Proposed watershed protection measures (vegetation treatments, gully plugs, water bars, erosion monitoring, etc.) would provide beneficial impacts to watershed.

The alternative most beneficial to watershed values would be Alternative B, followed by D, A, and C.

SOILS

Impacts to the soil resource are closely related to those discussed under Watershed. Impacts would result from surface disturbances and decreases in ground cover. As vegetation ground cover decreases, soil becomes more susceptible to erosion. Surface disturbance from future mineral activity could increase erosion in localized areas; however, the potential for mineral activity is low. Therefore, impacts cannot be quantified, but they are expected to be slight.

Alternative A

Generally, severe overutilization must occur before significant changes in erosion can be observed (Smeins, 1975). Under this alternative, livestock grazing would occur at average licensed use, and overutilization of forage would occur on portions of at least two allotments (see Vegetation section) over the long term. This could leave the soil susceptible to increased erosion on portions of these allotments.

The entire resource area (2,226,755 public land acres) would be open for ORV use. Surface disturbance from ORV use would not significantly affect soil erosion.

Under this alternative, seven channel erosion study sites would be monitored annually. This would be beneficial to soil management.

Alternative B

Under this alternative, forage allocations would not exceed grazing capacity, with the possible exception of in the short term during monitoring and adjustment. Therefore, no long-term adverse impacts from grazing would be expected.

Under this alternative, approximately 73,820 acres would be closed to ORV use, and 400,686 acres would be designated for limited use to existing roads and trails. The remaining lands (1,752,249 acres) are open for ORV use. However, little or no impact from ORV use is expected.

Soil resources would benefit from the following protection measures: 15 gully plugs installed on six allotments; installation of 6-15 waterbars on 2 miles of road; seven new channel erosion studies would be implemented; restriction of resource uses on 11 allotments susceptible to wind erosion; and season of use would be changed on two allotments to protect the watershed and soils. See Chapter 2, Alternative B, Watershed and Water Resources for allotments that would be affected.

Vegetation treatments on up to 41,800 acres (assuming a 20-year period) would be a beneficial impact to soils. As vegetation became established (2-5 years) on the treated areas, a decrease in erosion would be expected.

Alternative C

Under this alternative, livestock grazing, at active preference levels, would cause overutilization on portions of 32 allotments (see Vegetation section) in the long term. Significantly, increased erosion would occur on the portions of these allotments where there was severe overgrazing.

Approximately 1,752,249 acres would be open for ORV use. However, little or no impact from ORV use would be expected.

Beneficial impacts to soil resources would result from installation of 15 gully plugs on six allotments (Amasa, Black Point, Clay Springs, Meadow Spring, South Tract, and Twin Peaks) and 6-15 water bars on 2 miles of road in one allotment (Amasa).

Beneficial impacts to soils from vegetation treatments on up to 41,800 acres (assuming a 20-year period) would be expected as described under Alternative B.

Alternative D

Under this alternative, forage allocations would not exceed grazing capacity except possibly in the short term during the monitoring and adjustment process. No long-term adverse impacts from grazing would be expected on the 63 allotments.

Under this alternative, approximately 18,110 acres would be closed to ORV use, and on 52,917 acres, use would be limited to existing roads and trails. The remaining lands (2,155,728 acres) would be open for ORV use. However, little or no impact from ORV use is expected.

Beneficial impacts to soils from water resource improvements would be as described under Alternative B.

Vegetation treatments on an estimated 14,000 acres (assuming a 20-year period) would be expected to reduce erosion on those areas.

Conclusion

Under Alternative A, severe overutilization of forage could occur on portions of two allotments. Under Alternative C, severe overutilization of forage from grazing would occur on portions of 32 allotments. This would increase erosion in the affected areas. No significant impacts to soils from grazing would be expected under alternatives B and D. No significant impacts from ORV use would be expected under any alternative.

Overall Alternative B is most beneficial to soils, followed by D, A, and C, in order of decreasing protection.

ECONOMICS

Range Management

This analysis quantifies economic impacts to ranch income from the four alternatives. The analysis uses four cattle ranch sizes which depict small (1-99 head), medium (100-499 head), and large (500+ head) enterprises, plus sheep operations. The ranch sizes were based on average herds within each category and average actual use. Financial data was not based on individual operations. Hence, impacts to specific actual operations are not analyzed. The analysis reflects representative operations that may or may not parallel actual situations of individual ranches.

Changes in ranch net cash income were calculated using mathematical methods for budget variables and relationships. Variable costs estimates, in conjunction with partial budget techniques as described by M. Becher (1972), were used. Changes in ranch net income were

based on the assumption that the representative ranch operation would adjust its herd size to the allowable level of use under each alternative. Variable costs and receipts were adjusted based on the change in herd size without changes in fixed costs. The figures presented were arrived at by taking into account both current expenses (1982) and receipts (1982) and inventory changes over the accounting period. The analysis (see Appendices 14-17) includes family labor, depreciation, and interest on land and investments other than land. It provides an estimate of net ranch income for each representative ranch size under each alternative (see Appendices 14 to 17). See Table 4-2 for a comparative summary of the impacts on ranch incomes under each alternative.

ALTERNATIVE A

Under baseline conditions, representative small-, medium-, and large-scale cattle operation net cash income would, on an annual basis, be about $360, $940, and $37,500, respectively (based on 1982 dollars). Sheep operations, considered as an aggregate, would make nearly $28,000 yearly. The overall short-term impact on ranch income under this alternative would be insignificant.

Over the long term, increases in forage and AUM availability would occur except in selected areas. These percentage changes, shown in Table 4-2, could cause changes in net cash incomes for the representative ranch categories. The average change in net cash income for the representative livestock categories would range from an estimated increase of 3 percent for small cattle operations to 14 percent for large cattle operations. The net cash income of representative sheep operations would decline due to loss of available forage (up to 25 percent) on some allotments.

ALTERNATIVE B

Initially under this alternative, small cattle operations would profit the most from increases over average actual use. This change would enlarge the average herd size by ten head and would increase net cash income to approximately $570 annually. Medium and large cattle operations would also benefit from an initial increase in use of AUMs under this alternative. Net incomes from both of these representative size operations would increase by $230 and $2,760, respectively, over Alternative A.

Sheep operations under this alternative could be eliminated from grazing on public lands and changed to cattle. Changes in net cash income from the elimination of sheep use is not shown, since it is not known what course of action sheep operators would take. Some could sell their sheep immediately and buy cattle. Others could elect to take nonuse on the public lands to provide time to convert their operations to cattle. Others might sell their base properties and go into other professions entirely. The change in kind of livestock could severely impact sheep operations; in some cases, forcing them to sell their animals and/or operations which could cause substantial economic hardship.

Under intermediate and long-term conditions, small cattle operations would continue to benefit from increases in use of livestock AUMs. Net cash incomes would increase but at a lower rate. In the intermediate term, net cash incomes could increase by about $130 yearly and in the long term by about $200. Most small operations, however, are not self sufficient, in terms of supporting a family, and would require some outside income.

In the intermediate term, both medium- and large-size cattle operations would show increased use of AUMs. Net cash incomes would increase correspondingly, but to a lesser degree. Medium operations would have net income increases of about $100 more than Alternative A. Average large cattle operations could increase net income by about $3,440 annually.

In the long term, both medium and large size cattle operations would increase net income by $240 and $9,510, respectively, over Alternative A.

Regional impacts from changes to representative cattle operations under this alternative would not significantly affect employment and income. The impact from the change of sheep operations to cattle could cause short-term negative effects on agricultural income in Millard County and surrounding communities. Aside from the loss of income, it could force some operators to sell their operations and seek other ways to earn a living. The quality of life individuals derive from raising and selling sheep could be a more relevant unit of analysis; putting personal, non-monetary needs first and income needs second. Hence, the loss of a way of life to sheep operators could be more significant than the monetary loss.

ALTERNATIVE C

Under this alternative where production is emphasized, initial adjustments in livestock use would show the largest percentage change. Small ranch enterprises would benefit the most in increase in livestock AUMs, followed by sheep, then large and medium cattle operations. Depending on market conditions, all representative livestock operations would realize increases in net cash income. Net cash income increases would be

TABLE 4-2

Economic Assessment of Affected Livestock Operations By Size

Representative Ranch Size (AUs)[a]	Alternative A From Average Actual Use	Alternative B From Average Actual Use	Alternative C From Average Actual Use	Alternative D From Average Actual Use
		MEAN PERCENT CHANGE IN LIVESTOCK AUMS		
I. INITIAL ADJUSTMENT				
A. Cattle:				
Small (27)	0	77	140	79
Medium (154)	0	26	46	30
Large (909)	0	9	54	9
B. Sheep:				
All (1,215)	0	[b]-100	76	57
II. INTERMEDIATE ADJUSTMENS				
A. Cattle:				
Small (27)	[c]0	45	[d]	48
Medium (154)	[c]0	12	[d]	16
Large (909)	[c]0	10	[d]	11
B. Sheep:				
All (1,215)	[c]0	[b]-100	[d]	56
LONG-TERM ALLOCATION/AVAILABLE FORAGE				
A. Cattle:				
Small (27)	7	67	[d]	71
Medium (154)	3	29	[d]	34
Large (909)	2	27	[d]	28
B. Sheep:				
All (1,215)	-5	[b]-100	[d]	65
		ESTIMATED NET RANCH CASH INCOME AFTER INITIAL ADJUSTMENT		
A. Cattle:				
Small (27)	360	570	780	620
Medium (154)	940	1,170	1,340	1,220
Large (909)	37,500	40,260	61,050	40,260
B. Sheep:				
All (1,215)	27,960	[d]see text	46,470	41,480
		ESTIMATED NET RANCH CASH INCOME AFTER INTERMEDIATE ALLOCATION		
A. Cattle:				
Small (27)	360	490	[d]	509
Medium (154)	940	1,040	[d]	1,105
Large (909)	37,500	40,940	[d]	41,780
B. Sheep:				
All (1,215)	27,960	[d]see text	[d]	41,150
		ESTIMATED NET RANCH CASH INCOME AFTER LONG-TERM ALLOCATION		
A. Cattle:				
Small (27)	[e]370	560	[d]	509
Medium (154)	[e]980	1,180	[d]	1,270
Large (909)	[e]42,700	47,010	[d]	47,430
B. Sheep:				
All (1,215)	[e]26,530	[d]see Text	[d]	43,660

[a]Based on average license use.

[b]Assumes conversion from sheep to cattle on public lands.

[c]Same as initial.

[d]Cannot be determined.

[e]Based on projected long-term potential available livestock forage.

largest for large cattle operations ($23,550) followed by sheep operations ($18,510). None of the increases would cause significant impacts on employment and income within the local economy. For individual operators, much of the increase in net cash income would probably be used to pay family labor and interest on land and other investments. Little change in particular operations and/or lifestyles would be expected.

Intermediate and long-term adjustments in livestock forage use were not part of this alternative, hence were not included in the analysis.

ALTERNATIVE D

Initially, small ranch operations would benefit the most in terms of percent change in use and in net cash income. Next would come sheep operations, then medium and large cattle operations (see Table 4-2).

During the intermediate term, small cattle operations would make about $260 over the existing average actual use. Medium operations would make $280 more, large cattle operations would increase net profits by $2,760, and sheep operations' profits would increase $13,520 annually.

Over the long term, small cattle operations would make about $240 over the existing average actual use situation. Medium cattle ranches would increase profits by about $330 annually, large cattle operations by $9,930 and sheep operations by $15,700 annually.

None of the adjustments would significantly affect the local employment and income of Millard County. Most of the increases would probably be used to pay for family labor and interest on land and other investments. No significant change in livestock operations or lifestyles would be expected. Emphasis would probably be on improving family quality of life rather than profits.

Wildlife

No alternative analyzed would appreciably affect fishing activity or related economic activity. Big game populations would change, however, affecting economic activity.

ALTERNATIVE A

The significance of wildlife expenditures to the local or regional economy is not readily discernible. It must be estimated in terms of consumptive and non-consumptive uses. One measure of consumptive use is hunter days, which can provide a guide to expenditures. The WSRA value of deer and antelope hunter days is estimated to be approximately $214,000. Under current conditions, the value is expected to increase annually, nearly 14 percent for deer and about 25 percent for antelope. In economic terms, the increase would amount to about $30,000 annually (see Table 4-3). Most of these monies are probably spent in the hunter's community of residence.

TABLE 4 - 3
Estimated Value of Hunter Days Under Each Alternative

	Big Game Species		
Alternative[1]	Mule Deer	Antelope	Total
A	206,800	7,200	214,000
B[2]	362,000	30,600	392,600
C	89,500	1,800	91,300
D	352,100	19,100	371,200

[1] Values in the long term in 1984 dollars.

[2] There could also be hunter day values from elk and possibly bighorn sheep hunting under this alternative.

No impact on non-consumptive expenditures in recreation within the WSRA would be expected.

ALTERNATIVE B

With anticipated increase in deer and antelope herd numbers over the long term, the value of hunter days would increase. The relative magnitude of these increases are shown in Table 4-3. Elk numbers are also anticipated to expand in the Indian Peaks and Pavant Range herd units which could add another 9 hunter days or about $903 in hunter day value. The potential for desert bighorn sheep hunting could also exist.

ALTERNATIVE C

Although wildlife numbers would be significantly reduced under this alternative, hunter days could increase over the 1984 levels in the short term. In the longer term as game numbers declined, the relative value of hunter days within the resource area would also decrease to less than half the current value (see Table 4-3).

ALTERNATIVE D

The value of deer and antelope hunter days would increase by about 73 percent in the long term (see Table 4-3).

Wild Horses

The perpetuation of wild horses on public lands as living symbols of the historic and pioneer spirit of the West is, for the most part, a non-user benefit to the public, having little economic impact on the local economy.

Periodic wild horse roundups result in employment for a few individuals from the local area for short periods of time. Wild horses also provide some sightseeing activity. However, the impact from wild horses on employment and income in the local area is minimal under all alternatives.

Minerals

Under present market conditions, none of the mineral actions proposed under any alternative would cause significant impact on employment and income within the local or regional economy.

Conclusions

Under Alternative A in the short term, there would be little change in ranch income. In the long term, there could be increased forage available for cattle operations and decreased forage for some sheep operations. None would significantly affect the financial position of operators or the local community. In the long term, decreased available forage for some sheep operations could cause operators economic hardship.

Under Alternative B, there would be a short-term increase in forage use for all cattle operations; net income would increase in response to these increases. The magnitude of these increases in economic terms can only be estimated (see Table 4-2). Some sheep operations, however, could be required to sell or convert their operations to cattle. This could mean some economic hardship, at least in the short term, for affected operators.

For cattle operations, net cash income increases would also occur in the intermediate and long terms. None of these increases would significantly impact operators, their lifestyles, or local communities.

Under Alternative C, production would be maximized in the short term. In the long term, decreases in available forage would require reductions in herd size or purchases of supplementary feed. In a few cases, lifestyles could be enhanced, but many operators would be negatively impacted in the long term.

Under Alternative D, there would be increases in net cash income over Alternative A. These increases would probably be used to add to the family income and/or pay off debts. Generally, lifestyles could be enhanced, but local and regional economies would not be affected to a significant degree.

Hunting related expenditures would be highest under Alternative B, followed by D, A, and C. However, no alternative would be expected to significantly affect local or regional economies.

None of the alternative wild horse populations would be expected to significantly affect local or regional economics.

None of the mineral actions proposed under any alternative would be expected to cause significant impacts on employment or income, either locally or regionally.

SUMMARY OF UNAVOIDABLE ADVERSE IMPACTS, IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES, AND THE RELATIONSHIP OF SHORT-TERM USE OF THE ENVIRONMENT TO MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Impacts, beneficial and adverse, discussed in the preceding sections of Chapter 4 are compared by resource and alternative in a summary at the end of Chapter 2. Impacts of low significance or those of short duration are not considered.

Vegetation

An overall increase in forage productivity would occur under all alternatives except C over the long term as management actions are implemented and monitoring is continued. Under Alternative C, there would be substantial loss in productivity and composition of key forage species but no irretrievable loss of the species. No impact to T&E or sensitive plant species has been identified. No vegetation species or plant community would be irretrievably lost under any of the alternatives.

Range Management

Under all alternatives, there would be a long-term increase in forage allocation over and above the current average licensed use, with the exception of Alternative C where it would decline in the long term..

Wildlife

PRONGHORN ANTELOPE

Under alternatives A, B, and D, improving habitat would allow antelope numbers to increase over the long term. Under Alternative C, there would be a reduction in forage available to antelope, thus reducing populations over the long term.

MULE DEER

Under Alternative A, mule deer populations would remain at their present levels over the long term. Under alternatives B and D, populations would increase. Alternative C would result in a deer population decrease. All of these impacts would be long term.

ELK

Alternatives A and C would not cause any adverse impact to elk over either the short or long terms. Under alternatives B and D, overall elk numbers would increase over the long term.

DESERT BIGHORN SHEEP

No bighorn sheep are present or would occur under alternatives A and C. Under alternatives B and possibly D, bighorn sheep could be reintroduced and numbers increase.

RAPTORS

Alternatives A and C could adversely affect raptor populations over both the short and long terms. Under alternatives B and D, raptor numbers could increase over the long term.

UPLAND GAME

In general, under alternatives A and C, upland game poplations would be expected to remain static in the short and long terms. Under alternatives B and D, sage grouse and chukar partridge numbers would increase in the long term.

RIPARIAN HABITAT

Under alternatives A and C, riparian habitat conditions would remain in fair to poor condition, except at Pruess Lake where condition would improve from fair to good. The effect would be long term. Under alternatives B and D, the condition of riparian habitat is expected to improve on the long term at Pruess Lake, Lake Creek, South Tule Spring, Crafts Lake, the Sevier River, and Meadow Creek.

THREATENED AND ENDANGERED ANIMAL SPECIES.

Under Alternative A, no significant impact is anticipated to any sensitive or endangered species. All sensitive species would benefit under Alternative B. Under Alternative C, all endangered and sensitive species could be adversely impacted. Alternative D would benefit all endangered and sensitive species. Peregrine falcons could be reintroduced to Pavant Butte under alternatives B and D but not under alternative A or C.

Wild Horses

Alternatives A and D would not impact wild horses. Viable herds could not be maintained under Alternative B if all sheep allotments were converted to cattle and fenced. Under Alternative C, injury and loss of life to individual wild horses could occur if fencing were to occur in the HMAs.

Recreation

Hunting opportunities would remain at present levels in Alternative A and would decrease somewhat over the long term in Alternative C. They would increase over the long term under both alternatives B and D. Alternative A provides the least amount of visual resource protection, but there is currently little activity to impact visual resources. Alternative C would result in the most impact to visual resources over the long term. Alternatives B and D would both improve visual resources over the long term. Cultural resources would not be affected by any of the alternatives.

Lands

Under Alternative A, land tenure adjustments would be made on a case-by-case basis. No special management designations would be made. Under alternatives B, C, and D, five tracts of land would be available for sale, right-of-way corridors would be designated, and six areas would receive special management designations.

Minerals

Under alternatives A and C, approximately 97 percent of the resource area would be left under the least restrictive oil and gas leasing Category 1, allow future exploration and development. Ninety-two percent of the area would be under Category 1 in Alternative B, and 96 percent in alternative D. Little or no change in locatable mineral activity is expected under any alternative. All of these actions would probably be long term.

Watershed and Water Resources

Under Alternative A, livestock overutilization of forage on two allotments would result in increased

runoff and sediment yield that could degrade water quality within the resource area and affect major recharge areas. The same thing would occur under Alternative C, but on 32 allotments. The impact would last into the long term. Alternatives B and D would not affect watershed and water resources. Little or no impact from ORV use is expected.

Soils

Under Alternative A, livestock overutilization of forage on two allotments would result in increased erosion in those areas. The same thing would occur under Alternative C, but on 32 allotments instead of two. The impact would last into the long term. Alternatives B and D would not affect soils. Little or no impact from ORV use is expected.

Economics

Under Alternative A, there would be potential for increase in net cash cattle ranch income in the long term. Sheep operations would experience decline in income on some allotments. Under Alternative B, there would be increases in AUMs and net cash income for cattle operations; however, some sheep operations could be eliminated causing financial hardships to the operators. Under Alternative C, production would be maximized with resultant increases in AUMs and net cash incomes in the short term. In the long term, reductions in available forage would require adjustments in herd sizes or purchase of feed which would negatively affect net incomes. Under Alternative D, net cash income would increase in varying degrees in both the short and long term.

None of the alternative mineral, wildlife, or wild horse actions proposed would be expected to have a significant effect on local or regional employment or income.

Energy Analysis

Energy requirements for implementation of any alternative, including the preferred alternative, would be small. In all cases, the energy required would constitute a very small part of the total government, private, commercial, and industrial use of energy in the resource area. These energy requirements for implementation of any alternative was not considered significant. Alternatives B and C, which propose larger areas for vegetation treatment, would, however, require slightly higher expenditures of energy for implementation.

Irreversible and irretrievable commitments of resources are discussed below and are defined as follows:

Irreversible commitments are incapable of being reversed; once initiated, action would continue. Actions committing future generations to continue a similar course are considered irreversible. Irretrievable is defined as irrecoverable; not retrievable; once used, not replaceable.

The short-term losses of vegetation productivity, soil, big game, and recreational opportunities are irretrievable.

The short-term loss of grazing, visual quality, and soil, immediately following vegetation manipulation, is irretrievable but would result in no irreversible commitment of resources.

Any loss of income from grazing reductions is irretrievable. This loss would be reversible; however, because in the long term income would increase above current levels.

CHAPTER 5
CONSULTATION/COORDINATION

INTRODUCTION

The Warm Springs Resource Area (WSRA) Resource Management Plan (RMP) was prepared by an interdisciplinary team of resource, planning, and environmental specialists from the resource area and Richfield District Office.

PUBLIC PARTICIPATION

The Bureau of Land Management (BLM) planning process, outlined in Chapter 1, requires public participation throughout its execution. BLM policies and regulations mandate that all concerned and affected individuals, from public land users to public land managers, have a voice in the process. Therefore, and to insure compliance with National Environmental Policy Act (NEPA) regulations, public participation in this planning effort has been on-going since it was initiated in 1983.

Consultation and coordination with agencies, organizations, industry, and key individuals has occurred in a variety of ways throughout the RMP planning process. Public meetings, informal meetings, newsletters, individual contacts, letters, and *Federal Register* notices have been utilized to involve the public in the preparation of this document.

The Warm Springs planning process was originally scheduled for completion in September 1987. On January 27, 1983, a notice was published in the *Federal Register* which announced that the process would be accelerated 1 year. The final RMP/Environmental Impact Statement (EIS) would be published and distributed in 1986. That notice also invited the public to an issue scoping meeting held in Fillmore, Utah, on February 15, 1983. The meeting was attended by ten individuals from the public. The results of that meeting, written responses, and BLM's internal scoping process were condensed into the planning issue and management concerns discussed in Chapter 1.

Next came the identification of planning criteria. Draft planning guidelines and decision criteria were developed by the BLM interdisciplinary team. The draft criteria and results of the issue identification process were published in a brochure and distributed for public review and comment in July 1983. Comments received during the ensuing 30-day public comment period were analyzed and, as appropriate, incorporated into the issue, concerns, and planning criteria.

For approximately 20 months, the WSRA interdisciplinary staff gathered inventory data, information, and prepared the analysis of the management situation. During this process, there were numerous personal contacts with the public, public land users, and other agencies. In May 1985, a notice was published in the *Federal Register* calling for nominations of areas to be considered for designation as Areas of Critical Environmental Concern (ACECs). There was one nomination for special management designation: a research natural area (RNA) in the Wah Wah Mountains by the Nature Conservancy.

In May 1985 after the analysis of the management situation was completed, a newsletter was mailed to the public. It informed them of the status of the WSRA planning process and invited their continued involvement.

Proposed RMP alternatives were then formulated by the Warm Springs staff. The draft alternatives were summarized and defined in a newsletter to the public in November 1985. That newsletter invited review and comment on the proposed alternatives.

Now public participation is once again invited. Concerned and affected individuals, organizations, and other government agencies are invited to comment on the adequacy and accuracy of this draft RMP/EIS, including the Preferred Alternative. The preferred alternative is subject to change, based on public comments.

In April, a 90-day public comment period will be initiated, during which the BLM solicites written comments and concerns regarding this document. Also, during this 90-day public comment period, an open house will be held in Fillmore on May 12th, 1986.. All concerned individuals and organizations are invited to attend and express their attitudes regarding this planning effort. All comments received will be included and appropriately responded to in the final RMP/EIS, scheduled for publication and distribution in September 1986.

Following review of the comments by the District Manager, Area Manager, and the interdisciplinary team, the Area Manager will select a proposed plan. It will be reviewed by the Richfield District Manager and must be approved by the State Director. The final RMP/EIS will present the proposed plan and again solicit public review and comment. The Governor of Utah will be provided 60 days for a consistency review of the proposed RMP.

Publication by the Environmental Protection Agency (EPA) of the availability of the final RMP/EIS will begin a 30-day public protest period and the final approval sequence. During that period, the public may protest to the Director of BLM specific elements of the plan. In accordance with procedures prescribed in 43 CFR 1610.5-2, the public protest of the proposed RMP may only raise issues which were submitted for the record during the planning process.

Following approval of the RMP, public review of its use will constitute the final phase of public involvement in this planning process. The standards for monitoring and evaluating the decision and mitigating measures implemented will be outlined in the RMP. These will help BLM managers and interested public assess the adequacy of the plan and any need for amendment or revision.

PLANNING CONSISTENCY

All proposed actions analyzed in this RMP/EIS are in compliance with the land use plans and controls of other agencies having jurisdiction in or near the planning area.

Consultation and coordination opportunities will be provided to the following agencies during the public review period:

Federal Agencies

U.S. Department of Agriculture

Fishlake National Forest, U.S. Forest Service

Soil Conservation Service

U.S. Department of Interior

Cedar City District, Bureau of Land Management

Ely District, Bureau of Land Management

Bureau of Indian Affairs

U.S. Fish and Wildlife Service

Environmental Protection Agency

Department of the Air Force

State of Utah

Clearinghouse

Department of Natural Resources and Energy

Division of Water Resources

Division of Wildlife Resources

Division of Lands and Forestry

Division of Environmental Health

Geological and Mineralogical Survey

Department of Community and Economic Development

Division of State History

Office of the State Planning Coordinator

Local Governments

Six County Association of Governments

Millard County Commission

Indian Tribes

Paiute Indian Tribe of Utah

DISTRIBUTION

Copies of this document have been sent specifically to the following agencies, organizations, businesses, and interest groups. In addition, copies have been made available to all individuals requesting inclusion in our mailing list.

Federal Agencies

Department of Agriculture

Agricultural Stabilization and Conservation Service

Forest Service

Fishlake National Forest

Soil Conservation Service

Department of the Interior

Geological Survey

Fish and Wildlife Service

Bureau of Mines

National Park Service

Lehman Caves National Monument

Office of the Solicitor

Department of Commerce

Advisory Council on Historic Preservation

District Grazing Advisory Board

District Advisory Council

Council on Environmental Quality
Environmental Protection Agency

Utah State Agencies

Clearinghouse
Department of Natural Resources
Division of Water Resources
Division of Wildlife Resources
Division of Lands
Division of Oil, Gas, and Mining

Local Agencies

Six County Association of Governments
Millard County Commission
Mayor, Fillmore, Utah
Mayor, Delta, Utah

Indian Tribes

Paiute Indian Tribe

Nongovernment Organizations

Audubon Society
Cave Research Foundation
Common Cause
Council on Utah Resources
Defenders of the Outdoor Heritage
Defenders of Wildlife
Friends of the Earth
League of Woman Voters
National Council of Public Land Users
National Parks and Recreation Association
National Speleological Society
National Stock Grower's Association
National Wildlife Federation
National Woolgrower's Association
Natural Resources Defense Council
Nature Conservancy
Pro-Utah, Inc.
Public Lands Council
Sierra Club
Society for Range Management
Source
Southern Utah Wilderness Alliance
The Wilderness Society
The Wildlife Society
Utah Cattlemen's Association
Utah Council, Trout Unlimited
Utah Farm Bureau
Utah Sportsmen Association
Utah Archaeological Society
Utah Gem and Mineral Society
Utah Water Pollution Control Association
Utah Wilderness Association
Utah Wildlife and Outdoor Recreation Federation
Utah Woolgrower's Association

Congressional

Utah Delegation

Interested/Affected Individuals

Permittees
Private Landowners

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 Street, N.W.
Washington, D.C. 20240

Utah State Office
324 South State
Salt Lake City, UT 84111-2303
Phone (801) 524-4227

Richfield District Office
150 East 900 North
Richfield, UT 84701
Phone (801) 896-8221

Warm Springs Resource Area
P O Box 778
Fillmore, UT 84631
Phone (801) 743-6811

APPENDIX 1

• Initial Livestock Use/Allocation and Competitive Use by Allotment (Acres)

Allotment	Livestock Preference	Indicated[a] Capacity	Alternative A: No Action Average Actual Use			Alternative B: Protection Livestock Preference and Competitive Use			Alternative C: Production Livestock Prefernece and Competitive Use			Alternative D: Preferred Alternativese Livestock Preference and Competitive Use		
			Livestock	Wildlife	Wild Horse	Livestock	Wildlife[b]	Wild Horse	Livestock	Wildlife	Wild Horse	Livestock	Wildlife	Wild Horse
AMASA	144	85	100	2	0	76	9	0	144	0	0	83	2	0
Anderson	25	25	12	0	0	25	0	0	25	0	0	25	0	0
Antelope Point	329	191	265	1	0	329	5	0	329	0	0	329	2	0
Beeston	10	11	10	1	0	10	9	0	10	0	0	10	1	0
Big Wash	285	277	158	3	0	285	2	0	285	1	0	285	4	0
BLACK POINT	1,798	1,598	1,798	0	0	1,591	7	0	1,798	0	0	1,597	1	0
Black Rock Summer	294	39	41	0	0	294	0	0	294	0	0	294	0	0
Black Rock Winter	996	851	788	0	0	996	0	0	996	0	0	996	0	0
BLACKHAM	2,163	1,961	1,918	3	0	1,941	20	0	2,163	1	0	1,937	24	0
BLIND VALLEY	2,100	2,155	1,997	3	80	2,100	32	72	2,100	1	19	2,100	15	29
BOOB CANYON	2,597	1,914	1,150	1	72	1,762	17	135	2,597	0	36	1,859	1	54
Breck's Knoll	5,752	4,494	3,937	1	420	5,752	35	585	5,752	0	156	5752	3	234
Brown's Wash	2,608	2,652	1,877	24	169	2,608	23	210	2,608	6	51	2,608	47	101
BUCKSKIN	2,264	2,423	1,012	17	96	2,264	14	120	2,264	4	29	2,264	33	58
Church	120	131	124	1	0	120	16	0	120	0	0	120	1	0
CLAY SPRINGS	2,640	2,126	1,419	4	36	2,079	28	19	2,640	1	0	2,122	4	0
Coates	1,690	1,088	1,039	3	0	1,690	14	0	1,690	0	0	1,690	10	0
Conger Spring	4,542	3,623	3,344	41	177	4,542	45	220	4,542	11	53	4,542	109	105
Crickett	8,294	4,326	5,097	7	0	8,294	60	0	8,294	1	0	8,294	30	0
Crow's Nest	1,222	1,652	1,405	2	48	1,222	16	29	1,222	0	0	1,222	3	0
Crystal Peak	4,835	2,180	2,407	7	0	4,835	50	0	4,835	1	0	4,835	24	0
DEADMAN'S WASH	4,026	4,554	3,823	28	60	4,026	37	120	4,548	6	0	4,497	57	0
Death Canyon	2,426	1,132	1,351	7	0	2,426	25	0	2,426	1	0	2,426	15	0
DESERET	8,043	6,172	4,488	1	0	6,148	24	0	8,043	0	0	6,172	0	0
EAST ANTELOPE	488	539	378	2	0	488	20	0	539	0	0	488	5	0
Ephraim-Bagnall	1,515	779	770	1	0	1,515	6	0	1,515	0	0	1,515	1	0
EPHRAIM-MEADOW	4,366	2,505	2,504	1	0	4,366	3	0	4,366	1	0	4,366	1	0
EPHRAIM-MEADOW SHEEP	1,818	1,376	1,613	0	0	1,375	0	0	1,818	0	0	1,375	0	0
Fairview	5,005	2,384	1,653	36	351	5,005	64	394	5,005	9	63	5,005	65	156
FERGUSON	800	901	496	1	0	894	7	0	901	0	0	900	1	0
Garrison	1,429	1,241	1,276	2	0	1,429	7	0	1,429	0	0	1,429	2	0
GRANITE	2,770	2,045	2,047	7	0	2,017	28	0	2,770	1	0	2,035	10	0
HOLDEN SPRING	262	208	217	7	0	167	41	0	262	2	0	201	7	0
HOLDEN WINTER	1,368	740	383	0	0	740	0	0	1,368	0	0	740	0	0
KING	2,927	1,116	1,261	11	56	1,032	36	48	2,927	3	13	1,073	24	19
Klondike	3,357	1,585	1,485	3	0	3,357	21	0	3,357	2	0	3,357	20	0
KNOLL SPRINGS	1,050	457	312	1	0	453	4	0	1,050	0	0	457	0	0
LEDGER CANYON	1,319	767	628	7	169	548	9	210	1,319	1	51	644	22	101
McClintock	11	11	5	0	0	11	0	0	11	0	0	11	0	0
MEADOW SPRING	126	42	26	10	0	0	42	0	126	6	0	32	10	0
MORMON GAP	2,965	3,877	2,519	27	96	3,785	20	72	3,871	6	0	3,822	55	0
North Canyon	1,441	1,201	1,360	3	0	1,441	10	0	1,441	1	0	1,441	12	0
Notch Peak	3,559	1,610	1,991	0	0	3,559	19	0	3,559	0	0	3,559	21	0
Painted Potholes	2,326	2,326	394	6	0	2,326	14	0	2,326	1	0	2,326	17	0
Painter Springs	2,833	1,303	1,421	8	0	2,833	26	0	2,833	3	0	2,833	22	0
Pine Valley	3,750	2,329	2224	1	0	3,750	29	0	3,750	0	0	3,750	1	0
Section 31	35	43	35	1	0	35	9	0	35	0	0	35	1	0
Seely	4,635	2,744	3,116	4	0	4,635	35	0	4,635	3	0	4,635	32	0
Skull Rock	4,138	1,958	1,428	3	0	4,138	23	0	4,138	1	0	4,138	29	0
SKUNK SPRINGS	1,540	1,517	1,170	20	193	1,264	18	240	1,540	6	571	1,369	33	115
SOUTH TRACT SUMMER	1,130	1,191	397	0	0	1,130	1	0	1,130	0	0	1,130	0	0
South Tract Winter	45	45	45	0	0	45	1	0	45	0	0	45	0	0
State Line	4,753	2,785	2,624	8	155	4753	54	171	4,753	1	27	4,753	25	68
Steamboat	2,040	632	591	3	0	2,040	12	0	2,040	1	0	2,040	12	0
Stott	5	5	3	0	0	5	0	0	5	0	0	5	0	0
STOTT-ROWLEY	727	264	342	0	0	264	0	0	727	0	0	264	0	0
Summit	184	184	184	1	0	184	5	0	184	0	0	184	1	0
T.O. Johnson	12	12	12	0	0	12	0	0	12	0	0	12	0	0
Teeples	5	5	3	0	0	5	0	0	5	0	0	5	0	0
TWIN PEAKS	19,661	12,311	10,930	36	0	12,190	121	0	19,661	21	0	12,190	121	0
Voorhees	3,076	955	893	4	0	3,076	22	0	3,076	1	0	3,076	16	0
Wallace	39	39	22	0	0	39	0	0	39	0	0	39	0	0
Wheeler	1,806	1,206	1,302	0	0	1,806	6	0	1,806	0	0	1,806	9	0
Whiskey Creek	469	248	92	1	0	469	14	0	469	0	0	469	3	0
White Bush	21	21	21	0	0	21	0	0	21	0	0	21	0	0
Total	149,009	101,156	87,733	372	2,178	132,617	1,215	2,645	150,589	104	555	133,634	964	1,040
Total Livestock and Competitive Use				90,300			136,477			151,248			135,638	

Note: Allotments with at least 5 years of utilization and two readings of trend completed are in capital letters..

[a]Indicated capacity is actual grazing use times proper utilization factor divided by observed utilization.

[b]Although total wildlife forage use would increase, competitive use would decrease due to change in kind of livestock on up to 31 a
(from sheep to cattle). That would decrease diet overlap with antelope substantially.

APPENDIX 2

Warm Springs Resource Area
Vegetation Studies

	Utilization					Trend				
Allotment Name	Number of Studies	Year Initiated	Number of Years Read	Proper[a] Utilization Factor	Average[b] Annual Utilization	Number of Studies	Year(s) Initiated	Number of[c] Times Read	Last Read	Trend[d] by Plot(s)
Amasa	2	1980	5	0.49	0.58	2	1980	2	1984	1 IM; AT 1 ST
Anderson	1	1983	1	0.49	0.49	--	--	--	--	--
Antelope Point	3	1982	4	0.50	0.70	3	1967	4	1984	1 ST; 1 IM; 1 DE
Beeston	1	1983	2	0.41	0.41	3	1984	1	1984	AT 1 ST
Big Wash	3	1980	5	0.45	0.26	2	1983	1	1983	AT 2 ST
Black Point	7	1980	5	0.49	0.55	8	1971	8	1984	3 ST; 4 IM; 1 DE
Black Rock Summer	4	1983	3	0.45	0.47	1	1968	3	1983	1 DE
Black Rock Winter	6	1983	3	0.54	0.50	2	1968	3	1983	2 IM
Blackham	11	1967	5	0.49	0.48	5	1967	7	1985	1 ST; 1 DE; 3 IM
Blind Valley	5	1969	5	0.52	0.50	4	1969	8	1985	1 ST; 3 IM
Boob Canyon	9	1974	5	0.63	0.40	7	1974	6	1985	3 ST; 2 IM; 2 DE
Breck's Knoll	15	1983	3	0.47	0.45	9	1983	1	1983	AT 7 ST; 2 IM
Brown's Wash	7	1983	3	0.53	0.41	3	1983	1	1983	AT 3 ST
Buckskin	8	1970	5	0.52	0.24	4	1970	6	1985	3 ST; 1 IM
Church	4	1983	2	0.44	0.42	2	1984	1	1984	AT 2 ST
Clay Springs	10	1974	5	0.57	0.39	4	1974	6	1985	1 ST; 2 DE; 1 IM
Coates	5	1983	3	0.49	0.47	2	1971	3	1985	1 IM; 1 DE
Conger Spring	13	1983	3	0.49	0.48	5	1983	1	1983	AT 2 ST; 3 IM
Crickett	10	1983	3	0.49	0.58	7	1971	3	1985	3 IM; 4 ST
Crow's Nest	8	1981	5	0.49	0.43	6	1983	1	1983	AT 1 IM; 5 ST
Crystal Peak	8	1983	5	0.49	0.54	5	1983	1	1983	AT 4 ST; 1 DE
Deadman's Wash	9	1981	5	0.49	0.42	4	1982	2	1985	4 ST
Death Canyon	5	1983	3	0.49	0.59	3	1984	1	1984	AT 2 ST; 1 IM
Deseret	26	1971	5	0.59	0.43	13	1971	4	1984	6 IM; 7 ST
East Antelope	8	1981	5	0.54	0.38	3	1991	2	1994	2 IM; 1 DE
Ephraim Bagnall	6	1983	3	0.53	0.53	3	1983	1	1983	AT 3 ST
Ephraim Meadow Sheep	5	1967	5	0.52	0.61	3	1967	6	1984	3 DE
Ephraim Meadow Cattle	11	1967	5	--	--	6	1967	6	1984	4 ST; 1 DE; 1 IM
Ephraim Meadow Winter	5	1980	4	0.49	0.49	--	--	--	--	--
Fairview	8	1983	3	0.49	0.51	4	1983	1	1983	AT 1 ST; 3 IM
Ferguson	3	1967	5	0.49	0.27	3	1967	8	1983	1 IM; 1 DE; AT 1 IM
Garrison	7	1979	5	0.64	0.66	4	1983	1	1983	AT 1 DE; 2 IM; 1 ST
Granite	8	1969	5	0.53	0.53	4	1969	6	1985	1 ST; 3 DE
Holden Spring	3	1968	5	0.38	0.41	3	1968	5	1985	1 ST; 2 DE
Holden Winter	4	1967	5	0.60	0.31	3	1967	5	1984	1 ST; 3 IM
King	9	1967	5	0.49	0.58	4	1967	7	1985	3 DE; 1 IM
Klondike	7	1983	3	0.51	0.48	3	1984	1	1984	AT 3 ST
Knoll Springs	5	1974	5	0.57	0.39	3	1974	5	1984	3 IM
Ledger Canyon	5	1969	5	0.50	0.51	2	1969	5	1984	AT 2 ST
McClintock	1	1984	1	0.60	0.60	--	--	--	--	--
Meadow Spring	3	1971	5	0.25	0.21	2	1971	3	1984	1 ST; 1 DE
Mormon Gap	16	1980	5	0.56	0.38	6	1980	2	1984	2 ST; 1 IM; 3 DE
North Canyon	6	1983	3	0.51	0.58	2	1984	1	1984	AT 2 ST
Notch Peak	7	1983	3	0.49	0.61	2	1984	1	1984	AT 2 ST
Painted Potholes	9	1983	3	0.49	--	3	1983	1	1983	AT 2 ST; 1 IM
Painter Springs	6	1983	3	0.51	0.56	4	1983	1	1983	AT 3 ST; 1 DE
Pine Valley	11	1981	5	0.47	0.45	4	1983	1	1983	AT 4 ST
Section 31	1	1984	1	0.38	0.32	--	--	--	--	--
Seely	8	1983	3	0.51	0.58	3	1971	3	1985	1 ST; 1 IM; 1 DE
Skull Rock	5	1983	3	0.49	0.36	4	1983	1	1983	AT 4 ST
Skunk Springs	10	1970	5	0.50	0.29	4	1970	6	1985	2 ST; 2 IM
South Tract (Summer)	5	1970	5	0.58	0.50	3	1970	2	1984	1 ST; 1 IM; 1 DE
South Tract (Winter)	--	--	--	0.70	0.70	--	--	--	--	--
State Line	8	1983	3	0.49	0.49	3	1983	1	1983	AT 2 ST; 1 IM
Steamboat	6	1983	3	0.49	0.46	3	1983	1	1983	AT 3 ST
Stott	--	--	--	0.60	0.60	--	--	--	--	--
Stott-Rowley	4	1967	5	0.48	0.62	3	1967	6	1985	2 DE; 1 IM
Summit	--	--	--	0.56	0.56	--	--	--	--	--
T.O.Johnson	1	1984	2	0.44	0.44	--	--	--	--	--
Teeples	0	--	0	0.60	0.60	--	--	--	--	--
Twin Peaks Spring	5	1975	5	0.37	0.27	3	1976	3	1984	1 ST; 2 DE
Twin Peaks Winter	24	1970	5	0.53	0.49	18	1970	5	1984	6 ST; 3 DE; 9 IM
Voorhees	6	1983	3	0.49	0.46	3	1969	3	1983	1 ST; 1 IM; 1 DE
Wallace	1	--	0	0.48	0.48	--	--	--	--	--
Wheeler	4	1983	3	0.49	0.53	3	1971	3	1985	1 ST; 1 DE; 1 IM
Whiskey Creek	5	1983	2	0.56	0.21	2	1983	1	1983	AT 2 IM
White Bush	--	--	--	0.44	0.44	--	--	--	--	--

[a]Proper utilization factors were determined using the criteria outlined in Appendix 10.

[b]Average annual utilization is average of annual estimated utilization for all key species in key grazing areas of an allotment. It is determined using the methods described in the BLM Monitoring Handbook (TR-4400-3).

[c]Trend plots are now read on the average of every 3 years.

[d]AT = Apparent observed trend on studies read only once. IM = improving; ST = static; and DE = declining.

APPENDIX 3

Allotment Data Summaries Terms and Symbols

TERMS AND SYMBOLS

Active Preference: The number of animal unit months (AUMs) of livestock grazing use that currently can be licensed in an allotment.

Apparent Trend: The estimated direction of change in range condition based on a single observation.

Average Actual Use: The average of 5 years annual use made of forage in the allotment by livestock, big game, and/or wild horses in terms of AUMs.

Average Annual Utilization: Key species utilized by grazing animals (see Appendix 10) over several yuears.

Diet Overlap AUMs: The amount of wildlife and wild horse forage use that is competitive with livestock use (see Appendix 13).

Exchange of Use: An agreement with a permittee who owns or controls unfenced lands intermingled with public lands in an allotment. The agreement gives BLM grazing management control and specifies the carrying capacity/allowable use on the non-public lands.

Indicated Carrying Capacity: The estimated total available forage expressed in terms of AUMs. The estimate is based on average annual utilization of key forage species and average actual use by all species.

Key Forage Species: The plant species preferred by livestock whose use is monitored in the utilization studies.

Licensed Use: The projected level of livestock use (in AUMs) that is used by BLM for billing purposes prior to livestock being turned out on the range.

Objective AUMs: The identified level of forage use for wildlife and wild horse objective populations under Alternative D.

Observed Trend: The apparent direction of change in range condition based on repeated observations over time.

Prior Stable AUMs: The calculated level of forage use by mule deer based on the average of several years when deer populations were stable and at or near the carrying capacity of the range.

Range Condition: The present state of vegetation in the allotment in terms described in Appendix 11.

Season of Use: The period of time that livestock are licensed to graze on the allotment: Month and day of start and end of the period.

Suspended Non-Use: The portion of total preference that has been suspended and cannot be licensed for use by the permittee.

Total Average Actual Use by All Species: The average of total actual forage use by all species of animals (livestock, wildlife, and wild horses) over several years.

Total Preference: Active preference plus suspended non-use (in AUMs).

Weighted Proper Use of All Key Species: The portion of key plant species judged to be optimum utilization by grazing animals (see Appendix 10).

KEY SPECIES SYMBOLS AND COMMON NAMES

POA	Blue grass
SIHY	Squirreltail grass
ORHY	Indian ricegrass
SPAI	Alkali sacaton (grass)
AGCR	Crested wheatgrass
STCO	Needle-and-thread grass
AGSM	Western wheatgrass
ARNO	Black sagebrush
EULA	Winterfat (shrub)
ATCA	Four-wing saltbush
HIJA	Galleta grass
ARTR	Big sagebrush
ARSP	Bud sagebrush
SPCR	Sand dropseed
AGSP	Bluebunch wheatgrass
ELJU	Great Basin wildrye
AGTR	Pubescent wheatgrass

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: AMASA ALLOTMENT NUMBER: 4300 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	4,782	EXCELLENT	0	UPWARD	478	( )	APPARENT TREND
STATE	1,279	GOOD	478	DOWN	956	(X)	OBSERVED TREND
PRIVATE	0	FAIR	1,913	STATIC	4,348		
TOTAL	6,061	POOR	2,391				

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	5-16 TO 9-30						0	
ACTIVE PREF:	144	0	0	OBJECTIVE AUMS	27	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	37	0						
SUS NONUSE:	288	0						
TOTAL PREF:	432	0						
AVE.ACT. USE:	126	0	0	CURRENT AUMS	27	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	313	0	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 126 INDICATED CARRYING CAPACITY: 108 % CHANGE: -16

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: POA SINY ORHY	0.49	0.58

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: ANDERSON ALLOTMENT NUMBER: 5776 PLANNING UNIT: WARM SPRING CATEGORY: C

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	513	EXCELLENT	0	UPWARD	0	(X)	APPARENT TREND
STATE	0	GOOD	267	DOWN	0	( )	OBSERVED TREND
PRIVATE	560	FAIR	205	STATIC	513		
TOTAL	1,073	POOR	41				

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	5-1 TO 10-31							
ACTIVE PREF:	25	0	0	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	25	0						
AVE.ACT. USE:	25	0	0	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	25	0	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 25 INDICATED CARRYING CAPACITY: 25 % CHANGE: 0

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: SPAI	0.49	0.49

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: ANTELOPE POINT ALLOTMENT NUMBER: 5777 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	2,895
STATE	105
PRIVATE	0
TOTAL	3,000

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	2,895
POOR	0

TREND	ACRES		
UPWARD	2,536	(X)	OBSERVED TREND
DOWN	359		
STATIC	0		
		( )	APPARENT TREND

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE	DEER WI	HORSES
SEASON OF USE:	10-1 TO 4-30				0
ACTIVE PREF:	429	0	0 OBJECTIVE AUMS	27 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	0			
SUS NONUSE:	0	0			
TOTAL PREF:	329	0			
AVE.ACT. USE:	276	0	0 CURRENT AUMS	17 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	329	0	0 DIET OVERLAP AUMS	1 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 277 INDICATED CARRYING CAPACITY: 198 % CHANGE: -29

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: AGCR ORHY STCO	0.50	0.70

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	200
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: BEESTON ALLOTMENT NUMBER: 5780 PLANNING UNIT: WARM SPRING CATEGORY: C

OWNERSHIP	ACRES
FEDERAL	480
STATE	0
PRIVATE	0
TOTAL	480

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	480
POOR	0

TREND	ACRES		
UPWARD	0	(X)	APPARENT TREND
DOWN	0		
STATIC	480		
		( )	OBSERVED TREND

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE	DEER W	HORSES
SEASON OF USE:	5-16 TO 6-25				
ACTIVE PREF:	10	0	0 OBJECTIVE AUMS	14 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	0			
SUS NONUSE:	0	0			
TOTAL PREF:	10	0			
AVE.ACT. USE:	10	0	0 CURRENT AUMS	6 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	10	0	0 DIET OVERLAP AUMS	1 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 11 INDICATED CARRYING CAPACITY: 11 % CHANGE: 0

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: AGSM,POA	0.41	0.41

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: BIG WASH ALLOTMENT NUMBER: 5797 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	4,489
STATE	613
PRIVATE	
TOTAL	5,102

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	4,265
FAIR	0
POOR	224

TREND	ACRES		
UPWARD	1,122	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	3,367		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-1 TO 5-31	YL					
ACTIVE PREF:	0	285	9	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	112						
TOTAL PREF:	0	397						
AVE.ACT. USE:	0	179	6	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	179	3	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 182 INDICATED CARRYING CAPACITY: 315 % CHANGE: 73

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.45	0.26
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: BLACK POINT ALLOTMENT NUMBER: 5782 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	20,600
STATE	1,675
PRIVATE	1,464
TOTAL	23,739

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	7,348
FAIR	9,343
POOR	3,909

TREND	ACRES		
UPWARD	16,480	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	4,120		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	11-1 TO 5-6							
ACTIVE PREF:	1,798	0	0	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	255	0						
SUS NONUSE:	1,874	0						
TOTAL PREF:	3,672	0						
AVE.ACT. USE:	2,067	0	0	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	2,080	0	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 2,067 INDICATED CARRYING CAPACITY: 1,842 % CHANGE: -11

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: EULA AGCR	0.49	0.55

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	800
FAIR	1,550
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
PLOW/SEED	1,000	166

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: BLACK ROCK WINTER ALLOTMENT NUMBER: 5778 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	8,806
STATE	500
PRIVATE	1,173
TOTAL	10,479

RANGE CONDITION	ACRES
EXCELLENT	1,321
GOOD	3,082
FAIR	3,082
POOR	1,321

TREND	ACRES		
UPWARD	7,045	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	1,761		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE	DEER	HORSES
SEASON OF USE:	10-1 TO 3-31				
ACTIVE PREF:	996	0	0 OBJECTIVE AUMS	0 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	0			
SUS NONUSE:	417	0			
TOTAL PREF:	1,413	0			
AVE.ACT. USE:	938	0	0 CURRENT AUMS	0 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	1,063	0	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 938 INDICATED CARRYING CAPACITY: 1,013 % CHANGE: 8

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY EULA ATCA	0.54	0.50

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: BLACK ROCK SUMMER ALLOTMENT NUMBER: 5786 PLANNING UNIT: WARM SPRING CATEGORY: C

OWNERSHIP	ACRES
FEDERAL	3,351
STATE	1,650
PRIVATE	19,004
TOTAL	24,005

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	1,005
FAIR	1,676
POOR	670

TREND	ACRES		
UPWARD	0	( )	APPARENT TREND
DOWN	0	(X)	OBSERVED TREND
STATIC	3,351		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE	DEER	HORSES
SEASON OF USE:	4-1 TO 9-30				
ACTIVE PREF:	294	0	0 OBJECTIVE AUMS	0 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	0			
SUS NONUSE:	123	0			
TOTAL PREF:	417	0			
AVE.ACT. USE:	294	0	0 CURRENT AUMS	0 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	294	0	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 294 INDICATED CARRYING CAPACITY: 281 % CHANGE: -4

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY,AGSM	0.45	0.47

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: BLIND VALLEY ALLOTMENT NUMBER: 4303 PLANNING UNIT: CONFUSION CATEGORY: M

OWNERSHIP	ACRES
FEDERAL	39,940
STATE	5,276
PRIVATE	640
TOTAL	45,856

RANGE CONDITION	ACRES
EXCELLENT	7,988
GOOD	19,970
FAIR	11,183
POOR	799

TREND	ACRES		
UPWARD	27,949	( )	APPARENT TREND
DOWN	0	(X)	OBSERVED TREND
STATIC	11,991		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: DEFERRED

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-1 TO 4-30	YL		W		YL	
ACTIVE PREF:	0	2,100	32	OBJECTIVE AUMS	6	PRIOR STABLE AUMS	43	OBJECTIVE AUMS
EXCH. OF USE:	0	409						
SUS NONUSE:	0	0						
TOTAL PREF:	0	2,100						
AVE.ACT. USE:	0	2,295	6	CURRENT AUMS	6	CURRENT AUMS	120	CURRENT AUMS
LICENSED USE:	0	2,295	3	DIET OVERLAP AUMS	1	DIET OVERLAP AUMS	80	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 2,379 INDICATED CARRYING CAPACITY: 2,474 % CHANGE: 4

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.52	0.50
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: BLACKHAM ALLOTMENT NUMBER: 4325 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	30,788
STATE	3,040
PRIVATE	0
TOTAL	33,828

RANGE CONDITION	ACRES
EXCELLENT	1,539
GOOD	18,473
FAIR	7,697
POOR	3,079

TREND	ACRES		
UPWARD	12,315	( )	APPARENT TREND
DOWN	0	(X)	OBSERVED TREND
STATIC	18,473		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-1 TO 4-30	YL					
ACTIVE PREF:	0	2,163	51	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	239						
SUS NONUSE:	0	0						
TOTAL PREF:	0	2,163						
AVE.ACT. USE:	0	2,108	6	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	2,016	3	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 2,111 INDICATED CARRYING CAPACITY: 2,155 % CHANGE: 2

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.48
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: BOOK CANYON ALLOTMENT NUMBER: 4304 PLANNING UNIT: CONFUSION CATEGORY: M

OWNERSHIP	ACRES
FEDERAL	30,025
STATE	3,356
PRIVATE	0
TOTAL	33,381

RANGE CONDITION	ACRES
EXCELLENT	4,504
GOOD	13,511
FAIR	9,008
POOR	3,002

TREND	ACRES		
UPWARD	0	( )	APPARENT TREND
DOWN	21,017	(X)	OBSERVED TREND
STATIC	9,008		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: REST ROTATION

	CATTLE	SHEEP	ANTELOPE YL		DEER		HORSES YL	
SEASON OF USE:	11-1 TO 5-31							
ACTIVE PREF:	2,597	0	55	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	54	OBJECTIVE AUMS
EXCH. OF USE:	273	0						
SUS NONUSE:	0	0						
TOTAL PREF:	2,597	0						
AVE.ACT. USE:	1,278	0	45	CURRENT AUMS	0	CURRENT AUMS	72	CURRENT AUMS
LICENSED USE:	1,278	0	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	72	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,351 INDICATED CARRYING CAPACITY: 2,128 % CHANGE: 58

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY EULA HIJA	0.63	0.40

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
0	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: BRECKS KNOLL ALLOTMENT NUMBER: 4306 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	69,393
STATE	12,102
PRIVATE	0
TOTAL	81,495

RANGE CONDITION	ACRES
EXCELLENT	13,878
GOOD	27,758
FAIR	24,287
POOR	3,470

TREND	ACRES		
UPWARD	0	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	69,393		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE YL		DEER		HORSES YL	
SEASON OF USE:	11-1 TO 5-15							
ACTIVE PREF:	5,752	0	149	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	234	OBJECTIVE AUMS
EXCH. OF USE:	645	0						
SUS NONUSE:	0	0						
TOTAL PREF:	5,752	0						
AVE.ACT. USE:	4,632	0	64	CURRENT AUMS	0	CURRENT AUMS	420	CURRENT AUMS
LICENSED USE:	4,796	0	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	420	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 5,053 INDICATED CARRYING CAPACITY: 5,270 % CHANGE: 4

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY EULA HIJA	0.47	0.45

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: BROWNS WASH ALLOTMENT NUMBER: 4302 PLANNING UNIT: CONFUSION CATEGORY: M

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	26,112	EXCELLENT	3,917	UPWARD	0	(X)	APPARENT TREND
STATE	3,230	GOOD	15,667	DOWN		( )	OBSERVED TREND
PRIVATE	0	FAIR	3,917	STATIC	26,112		
TOTAL	29,342	POOR	2,611				

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-1 TO 3-31	YL		W		YL	
ACTIVE PREF:	0	2,608	102	OBJECTIVE AUMS	3	PRIOR STABLE AUMS	151	OBJECTIVE AUMS
EXCH. OF USE:	0	275						
SUS NONUSE:	0	0						
TOTAL PREF:	0	2,608						
AVE.ACT. USE:	0	2,109	51	CURRENT AUMS	3	CURRENT AUMS	252	CURRENT AUMS
LICENSED USE:	0	2,102	26	DIET OVERLAP AUMS	1	DIET OVERLAP AUMS	169	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 2,305 INDICATED CARRYING CAPACITY: 2,980 % CHANGE: 29

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.53	0.41
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: BUCKSKIN ALLOTMENT NUMBER: 4307 PLANNING UNIT: CONFUSION CATEGORY: M

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	21,898	EXCELLENT	5,474	UPWARD	13,139	( )	APPARENT TREND
STATE	2,372	GOOD	16,424	DOWN	0	(X)	OBSERVED TREND
PRIVATE	0	FAIR		STATIC	8,759		
TOTAL	24,270						

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: DEFERRED ROTATION

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-16 TO 4-30	YL				YL	
ACTIVE PREF:	0	2,264	73	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	87	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	0	2,264						
AVE.ACT. USE:	0	1,124	38	CURRENT AUMS	0	CURRENT AUMS	144	CURRENT AUMS
LICENSED USE:	0	1,124	19	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	96	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,239 INDICATED CARRYING CAPACITY: 2,685 % CHANGE: 117

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.52	0.24
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: CHURCH ALLOTMENT NUMBER: 5799 PLANNING UNIT: WARM SPRING * CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	1,253
STATE	0
PRIVATE	0
TOTAL	1,253

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	263
FAIR	865
POOR	125

TREND	ACRES		
UPWARD	0	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	1,253		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE	DEER W	HORSES
SEASON OF USE:	5-1 TO 8-31				
ACTIVE PREF:	120	0	0 OBJECTIVE AUMS	28 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	0			
SUS NONUSE:	34	0			
TOTAL PREF:	154	0			
AVE.ACT. USE:	124	0	0 CURRENT AUMS	14 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	128	0	0 DIET OVERLAP AUMS	1 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 125 INDICATED CARRYING CAPACITY: 131 % CHANGE: 5

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: AGSP ORHY AGSM	0.44	0.42

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	839
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS

ALLOTMENT SUMMARY

ALLOTMENT NAME: CLAY SPRINGS ALLOTMENT NUMBER: 4312 PLANNING UNIT: CONFUSION CATEGORY: M

OWNERSHIP	ACRES
FEDERAL	37,026
STATE	3,282
PRIVATE	1,275
TOTAL	41,583

RANGE CONDITION	ACRES
EXCELLENT	7,405
GOOD	14,070
FAIR	12,959
POOR	2,592

TREND	ACRES		
UPWARD	11,108	(X)	APPARENT TREND
DOWN	0		OBSERVED TREND
STATIC	25,918		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: DEFERRED ROTATION

	CATTLE	SHEEP	ANTELOPE YL	DEER YL	HORSES YL
SEASON OF USE:	11-1 TO 4-30				
ACTIVE PREF:	2,640	0	98 OBJECTIVE AUMS	35 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	261	0			
SUS NONUSE:	788	0			
TOTAL PREF:	2,928	0			
AVE.ACT. USE:	1,594	0	45 CURRENT AUMS	35 CURRENT AUMS	36 CURRENT AUMS
LICENSED USE:	1,394	0	1 DIET OVERLAP AUMS	3 DIET OVERLAP AUMS	36 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,434 INDICATED CARRYING CAPACITY: 2,388 % CHANGE: 46

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY EULA HIJA	0.57	0.39

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

R&R TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: COATES ALLOTMENT NUMBER: 5781 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	19,229
STATE	1,870
PRIVATE	0
TOTAL	21,099

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	17,312
POOR	1,917

TREND	ACRES		
UPWARD	0	( )	APPARENT TREND
DOWN	9,614	(X)	OBSERVED TREND
STATIC	9,615		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-1 TO 4-30	YL		W			
ACTIVE PREF:	0	1,690	19	OBJECTIVE AUMS	3	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	733						
TOTAL PREF:	0	2,423						
AVE.ACT. USE:	0	1,142	3	CURRENT AUMS	3	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	1,276	2	DIET OVERLAP AUMS	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,145 INDICATED CARRYING CAPACITY: 1,194 % CHANGE: 4

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.47
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: CONGER SPRING ALLOTMENT NUMBER: 4313 PLANNING UNIT: CONFUSION CATEGORY: M

OWNERSHIP	ACRES
FEDERAL	70,425
STATE	8,546
PRIVATE	0
TOTAL	78,971

RANGE CONDITION	ACRES
EXCELLENT	3,521
GOOD	55,637
FAIR	10,563
POOR	704

TREND	ACRES		
UPWARD	0	( )	APPARENT TREND
DOWN	0	(X)	OBSERVED TREND
STATIC	70,425		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-1 TO 4-30	YL		YL		YL	
ACTIVE PREF:	0	4,542	234	OBJECTIVE AUMS	18	PRIOR STABLE AUMS	158	OBJECTIVE AUMS
EXCH. OF USE:	0	371						
SUS NONUSE:	0	427						
TOTAL PREF:	0	4,969						
AVE.ACT. USE:	0	3,757	8	CURRENT AUMS	18	CURRENT AUMS	264	CURRENT AUMS
LICENSED USE:	0	3,911	42	DIET OVERLAP AUMS	4	DIET OVERLAP AUMS	177	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 3,980 INDICATED CARRYING CAPACITY: 4,063 % CHANGE: 2

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.48
SHEEP: ARNO,EULA,ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: CRICKETT ALLOTMENT NUMBER: 5779 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	90,205
STATE	9,970
PRIVATE	850
TOTAL	101,025

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	9,020
FAIR	67,654
POOR	13,531

TREND	ACRES	( )
UPWARD	58,633	(X) OBSERVED TREND
DOWN	0	
STATIC	31,072	

( ) APPARENT TREND

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		10-15 TO 4-30	YL		W			
ACTIVE PREF:	0	8,294	64	OBJECTIVE AUMS	6	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	1,022						
SUS NONUSE:	0	3,551						
TOTAL PREF:	0	11,845						
AVE.ACT. USE:	0	5,727	13	CURRENT AUMS	6	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	5,887	7	DIET OVERLAP AUMS	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 5,735 INDICATED CARRYING CAPACITY: 4,845 % CHANGE: -16

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.58
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: CROWS NEST ALLOTMENT NUMBER: 4305 PLANNING UNIT: CONFUSION CATEGORY: M

OWNERSHIP	ACRES
FEDERAL	25,358
STATE	3,051
PRIVATE	0
TOTAL	28,409

RANGE CONDITION	ACRES
EXCELLENT	7,607
GOOD	12,679
FAIR	3,804
POOR	1,268

TREND	ACRES	( )
UPWARD	10,143	(X) OBSERVED TREND
DOWN	0	
STATIC	15,215	

( ) APPARENT TREND

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: DEFERRED

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	11-1 TO 5-31		YL		W		YL	
ACTIVE PREF:	1,222	0	[illegible]	OBJECTIVE AUMS	6	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	143	0						
SUS NONUSE:	0	0						
TOTAL PREF:	1,222	0						
AVE.ACT. USE:	1,579	0	32	CURRENT AUMS	6	CURRENT AUMS	48	CURRENT AUMS
LICENSED USE:	1,611	0	1	DIET OVERLAP AUMS	1	DIET OVERLAP AUMS	48	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,629 INDICATED CARRYING CAPACITY: 1,856 % CHANGE: 14

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY HIJA EULA	0.49	0.43

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: CRYSTAL PEAK ALLOTMENT NUMBER: 4311 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	61,893
STATE	7,206
PRIVATE	0
TOTAL	69,099

RANGE CONDITION	ACRES
EXCELLENT	3,095
GOOD	35,279
FAIR	18,568
POOR	4,951

TREND	ACRES		
UPWARD	0	( )	APPARENT TREND
DOWN	12,379	( )	OBSERVED TREND
STATIC	49,514		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		10-16 TO 4-30	YL		W			
ACTIVE PREF:	0	4,835	51	OBJECTIVE AUMS	3	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	514						
SUS NONUSE:	0	3,139						
TOTAL PREF:	0	7,974						
AVE.ACT. USE:	0	2,674	13	CURRENT AUMS	3	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	2,640	7	DIET OVERLAP AUMS	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 2,682 INDICATED CARRYING CAPACITY: 2,434 % CHANGE: -9

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.54
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: DEADMANS WASH ALLOTMENT NUMBER: 4316 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	51,915
STATE	6,520
PRIVATE	0
TOTAL	58,435

RANGE CONDITION	ACRES
EXCELLENT	7,787
GOOD	15,675
FAIR	23,362
POOR	5,191

TREND	ACRES		
UPWARD	10,383	( )	APPARENT TREND
DOWN	0	(X)	OBSERVED TREND
STATIC	41,532		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP&CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	11-1 TO 4-30	11-1 TO 4-30	YL		W		0	
ACTIVE PREF:	1,698	3,328	119	OBJECTIVE AUMS	3	PRIOR STABLE AUMS	60	OBJECTIVE AUMS
EXCH. OF USE:	186	368						
SUS NONUSE:	0	852						
TOTAL PREF:	1,698	3,180						
AVE.ACT. USE:	1,587	2,708	57	CURRENT AUMS	3	CURRENT AUMS	60	CURRENT AUMS
LICENSED USE:	1,735	2,944	60	DIET OVERLAP AUMS	1	DIET OVERLAP AUMS	60	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 4,386 INDICATED CARRYING CAPACITY: 5,117 % CHANGE: 17

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY EULA HIJA	0.49	0.42
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: DEATH CANYON ALLOTMENT NUMBER: 4314 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	27,279
STATE	3,950
PRIVATE	0
TOTAL	31,229

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	13,640
FAIR	12,276
POOR	1,363

TREND	ACRES		
UPWARD	0	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	27,279		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-1 TO 4-30	YL		W			
ACTIVE PREF:	0	2,426	32	OBJECTIVE AUMS	6	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	283						
SUS NONUSE:	0	0						
TOTAL PREF:	0	2,426						
AVE.ACT. USE:	0	1,553	13	CURRENT AUMS	6	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	1,728	7	DIET OVERLAP AUMS	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,561 INDICATED CARRYING CAPACITY: 1,296 % CHANGE: -17

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.59
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: DESERET ALLOTMENT NUMBER: 5775 PLANNING UNIT: WARM SPRING CATEGORY: M

OWNERSHIP	ACRES
FEDERAL	270,117
STATE	49,112
PRIVATE	5,520
TOTAL	324,749

RANGE CONDITION	ACRES
EXCELLENT	13,506
GOOD	162,070
FAIR	81,035
POOR	13,506

TREND	ACRES		
UPWARD	135,058	( )	APPARENT TREND
DOWN	13,506	(X)	OBSERVED TREND
STATIC	121,553		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: REST ROTATION

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	5-1 TO 11-30		YL					
ACTIVE PREF:	8,043	0	64	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	819	0						
SUS NONUSE:	3,436	0						
TOTAL PREF:	11,479	0						
AVE.ACT. USE:	5,407	0	13	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	6,208	0	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 5,408 INDICATED CARRYING CAPACITY: 7,470 % CHANGE: 37

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY HIJA SPAI	0.59	0.43

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: EAST ANTELOPE ALLOTMENT NUMBER: 5796 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	16,404
STATE	1,357
PRIVATE	960
TOTAL	18,721

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	2,060
FAIR	8,034
POOR	6,310

TREND	ACRES		
UPWARD	820	( )	APPARENT TREND
DOWN	4,921	(X)	OBSERVED TREND
STATIC	10,663		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: DEFERRED ROTATION

	CATTLE	SHEEP	ANTELOPE	DEER	HORSES
SEASON OF USE:	6-16 TO 10-15			W	
ACTIVE PREF:	488	0	0 OBJECTIVE AUMS	140 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	56	0			
SUS NONUSE:	0	0			
TOTAL PREF:	488	0			
AVE.ACT. USE:	429	0	0 CURRENT AUMS	42 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	592	0	0 DIET OVERLAP AUMS	2 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 431 INDICATED CARRYING CAPACITY: 612 % CHANGE: 42

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: AGCR ORHY	0.54	0.38

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	1,000
FAIR	658
POOR	84

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
BURN/SEED	6,000	1,000

ALLOTMENT SUMMARY

ALLOTMENT NAME: EPHRAIM BAGNALL ALLOTMENT NUMBER: 6211 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	17,299
STATE	2,918
PRIVATE	1,165
TOTAL	21,382

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	5,190
FAIR	10,379
POOR	1,730

TREND	ACRES		
UPWARD	0	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	17,299		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE	DEER	HORSES
SEASON OF USE:		10-16 TO 4-30	YL		
ACTIVE PREF:	0	1,515	19 OBJECTIVE AUMS	0 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	0			
SUS NONUSE:	0	574			
TOTAL PREF:	0	3,089			
AVE.ACT. USE:	0	962	6 CURRENT AUMS	0 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	0	1,168	1 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 962 INDICATED CARRYING CAPACITY: 962 % CHANGE: 0

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.53	0.53
SHEEP: FULA ORHY ARTR		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: EPHRAIM MEADOW ALLOTMENT NUMBER: 5774 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	60,996
STATE	7,092
PRIVATE	40
TOTAL	68,128

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	24,398
POOR	36,598

TREND	ACRES		
UPWARD	0	( )	APPARENT TREND
DOWN	45,747	(X)	OBSERVED TREND
STATIC	15,249		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP&CATTLE TYPE OF SYSTEM: DEFERRED ROTATION

	CATTLE	SHEEP	ANTELOPE	DEER	HORSES
SEASON OF USE:	5-16 TO 9-23	10-21 TO 4-5		YL	
ACTIVE PREF:	3,455	911	0 OBJECTIVE AUMS	18 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	112			
SUS NONUSE:	581	113			
TOTAL PREF:	4,036	1,024			
AVE.ACT. USE:	2,411	434	0 CURRENT AUMS	18 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	3,135	746	0 DIET OVERLAP AUMS	1 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 2,846 INDICATED CARRYING CAPACITY: 2,846 % CHANGE: 0

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY HIJA SPAI	0.49	0.49
SHEEP: EULA ARSP ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: EPHRAIM MEADOW SHEEP ALLOTMENT NUMBER: 5774 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	10,361
STATE	930
PRIVATE	480
TOTAL	11,771

RANGE CONDITION	ACRES
EXCELLENT	
GOOD	
FAIR	2,590
POOR	7,771

TREND	ACRES		
UPWARD		(X)	OBSERVED TREND
DOWN	10,361		
STATIC			

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: DEFERRED ROTATION

	CATTLE	SHEEP	ANTELOPE	DEER	HORSES
SEASON OF USE:		10-21 ,TO 4-5			
ACTIVE PREF:		1,818	0 OBJECTIVE AUMS	0 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	224			
SUS NONUSE:	0	226			
TOTAL PREF:	0	2,044			
AVE.ACT. USE:	0	1,833	0 CURRENT AUMS	0 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	0	1,489	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,833 INDICATED CARRYING CAPACITY: 1,563 % CHANGE: %1%

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.52	0.61
SHEEP: EULA ORHY ARSP		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: FAIRVIEW ALLOTMENT NUMBER: 623A PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	55,068	EXCELLENT	8,360	UPWARD	22,027	(X)	APPARENT TREND
STATE	6,112	GOOD	27,534	DOWN	0	( )	OBSERVED TREND
PRIVATE	320	FAIR	16,720	STATIC	33,041		
TOTAL	61,500	POOR	2,754				

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		10-16 TO 4-30	YL		YL		YL	
ACTIVE PREF:	0	5,005	128	OBJECTIVE AUMS	35	PRIOR STABLE AUMS	234	OBJECTIVE AUMS
EXCH. OF USE:	0	439						
SUS NONUSE:	0	0						
TOTAL PREF:	0	5,005						
AVE.ACT. USE:	0	1,837	64	CURRENT AUMS	35	CURRENT AUMS	524	CURRENT AUMS
LICENSED USE:	0	1,874	33	DIET OVERLAP AUMS	7	DIET OVERLAP AUMS	351	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 2,228 INDICATED CARRYING CAPACITY: 2,663 % CHANGE: 20

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.41
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: FERGUSON ALLOTMENT NUMBER: 4317 PLANNING UNIT: CONFUSION CATEGORY: M

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	18,672	EXCELLENT	1,872	UPWARD	13,070	(X)	APPARENT TREND
STATE	1,647	GOOD	13,071	DOWN	0		OBSERVED TREND
PRIVATE	0	FAIR	3,729	STATIC	5,602		
TOTAL	20,319	POOR	0				

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	11-1 TO 4-30		YL					
ACTIVE PREF:	800	0	37	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	61	0						
SUS NONUSE:	0	0						
TOTAL PREF:	800	0						
AVE.ACT. USE:	539	0	26	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	556	0	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 540 INDICATED CARRYING CAPACITY: 980 % CHANGE: 81

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY EULA HIJA	0.49	0.27

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: GARRISON ALLOTMENT NUMBER: 4319 PLANNING UNIT: CONFUSION CATEGORY: M

OWNERSHIP	ACRES
FEDERAL	44,408
STATE	5,946
PRIVATE	600
TOTAL	50,954

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	17,763
FAIR	26,645
POOR	0

TREND	ACRES	
UPWARD	17,763	( ) APPARENT TREND
DOWN	0	(X) OBSERVED TREND
STATIC	26,645	

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: REST ROTATION

	CATTLE	SHEEP	ANTELOPE YL		DEER W		HORSES	
SEASON OF USE:	11-16 TO 4-15							
ACTIVE PREF:	1,429	0	31	OBJECTIVE AUMS	3	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	105	0						
SUS NONUSE:	0	0						
TOTAL PREF:	1,429	0						
AVE.ACT. USE:	1,467	0	19	CURRENT AUMS	3	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	1,322	0	1	DIET OVERLAP AUMS	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,469 INDICATED CARRYING CAPACITY: 1,424 % CHANGE: -3

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY,HIJA,EULA	0.64	0.66

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: GRANITE ALLOTMENT NUMBER: 4320 PLANNING UNIT: CONFUSION CATEGORY: M

OWNERSHIP	ACRES
FEDERAL	48,801
STATE	6,903
PRIVATE	0
TOTAL	55,704

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	24,400
FAIR	21,962
POOR	2,439

TREND	ACRES	
UPWARD	0	( ) APPARENT TREND
DOWN	14,640	(X) OBSERVED TREND
STATIC	34,161	

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: DEFERRED

	CATTLE	SHEEP	ANTELOPE YL		DEER W		HORSES	
SEASON OF USE:		11-16 TO 4-15						
ACTIVE PREF:	0	2,770	20	OBJECTIVE AUMS	4	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	302						
SUS NONUSE:	0	0						
TOTAL PREF:	0	2,770						
AVE.ACT. USE:	0	2,326	13	CURRENT AUMS	3	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	2,408	7	DIET OVERLAP AUMS	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 2,734 INDICATED CARRYING CAPACITY: 2,334 % CHANGE: 0

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.53	0.53
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: HOLDEN SPRING ALLOTMENT NUMBER: 5783 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	2,880	EXCELLENT	0	UPWARD	0	( )	APPARENT TREND
STATE	0	GOOD	780	DOWN	0	(X)	OBSERVED TREND
PRIVATE	0	FAIR	2,100	STATIC	2,880		
		POOR	0				
TOTAL	2,880						

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	5-16 TO 6-15				W			
ACTIVE PREF:	262	0	0	OBJECTIVE AUMS	184	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	262	0						
AVE.ACT. USE:	217	0	0	CURRENT AUMS	169	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	231	0	0	DIET OVERLAP AUMS	7	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 224 INDICATED CARRYING CAPACITY: 208 % CHANGE: -7

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: AGCR AGSM SIHY	0.38	0.41

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	780
FAIR	1,820
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: HOLDEN WINTER ALLOTMENT NUMBER: 5784 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	33,984	EXCELLENT	0	UPWARD	25,488	( )	APPARENT TREND
STATE	5,126	GOOD	10,195	DOWN	0	(X)	OBSERVED TREND
PRIVATE	0	FAIR	22,090	STATIC	8,496		
		POOR	1,699				
TOTAL	39,110						

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	10-1 TO 12-31							
ACTIVE PREF:	1,368	0	0	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	1,368	0						
AVE.ACT. USE:	440	0	0	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	483	0	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 440 INDICATED CARRYING CAPACITY: 852 % CHANGE: 94

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: SPAI	0.60	0.31

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: KING ALLOTMENT NUMBER: 4324 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	48,035
STATE	6,574
PRIVATE	0
TOTAL	54,609

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	9,607
FAIR	31,223
POOR	7,255

TREND	ACRES		
UPWARD	4,803	( )	APPARENT TREND
DOWN	14,411	(X)	OBSERVED TREND
STATIC	28,821		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-1 TO 4-30	YL		W		YL	
ACTIVE PREF:	0	2,927	49	OBJECTIVE AUMS	8	PRIOR STABLE AUMS	29	OBJECTIVE AUMS
EXCH. OF USE:	0	385						
SUS NONUSE:	0	0						
TOTAL PREF:	0	2,927						
AVE.ACT. USE:	0	1,433	19	CURRENT AUMS	8	CURRENT AUMS	84	CURRENT AUMS
LICENSED USE:	0	1,594	10	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	56	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,501 INDICATED CARRYING CAPACITY: 1,268 % CHANGE: -16

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.58
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: KLONDIKE ALLOTMENT NUMBER: 4322 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	32,700
STATE	3,523
PRIVATE	
TOTAL	36,223

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	14,350
FAIR	19,715
POOR	1,638

TREND	ACRES		
UPWARD	0	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	32,700		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-1 TO 4-15	YL					
ACTIVE PREF:	0	3,357	45	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	143						
SUS NONUSE:	0	0						
TOTAL PREF:	0	3,357						
AVE.ACT. USE:	0	1,650	6	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	1,812	3	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,453 INDICATED CARRYING CAPACITY: 1,756 % CHANGE: 6

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.51	0.48
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: KNOLL SPRINGS ALLOTMENT NUMBER: 4323 PLANNING UNIT: CONFUSION CATEGORY: M

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	34,116	EXCELLENT	1,706	UPWARD	22,858	( )	APPARENT TREND
STATE	4,293	GOOD	11,941	DOWN	0	(X)	OBSERVED TREND
PRIVATE	0	FAIR	15,352	STATIC	11,258		
TOTAL	38,409	POOR	5,117				

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: REST ROTATION

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	5-1 TO 10-31		YL					
ACTIVE PREF:	1,050	0	23	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	164	0						
SUS NONUSE:	195	0						
TOTAL PREF:	1,245 M	0						
AVE.ACT. USE:	351	0	13	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	610	0	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 352 INDICATED CARRYING CAPACITY: 514 % CHANGE: 46

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: SPAI,ORHY,HIJA	0.57	0.39

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: LEDGER CANYON ALLOTMENT NUMBER: 4321 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	17,811	EXCELLENT	0	UPWARD	0	(X)	APPARENT TREND
STATE	3,052	GOOD	8,906	DOWN	0	( )	OBSERVED TREND
PRIVATE	0	FAIR	8,015	STATIC	17,811		
TOTAL	20,863	POOR	890				

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-16 TO 4-15	YL		W		YL	
ACTIVE PREF:	0	1,319	49	OBJECTIVE AUMS	3	PRIOR STABLE AUMS	151	OBJECTIVE AUMS
EXCH. OF USE:	0	170						
SUS NONUSE:	0	0						
TOTAL PREF:	0	1,319						
AVE.ACT. USE:	0	739	13	CURRENT AUMS	3	CURRENT AUMS	252	CURRENT AUMS
LICENSED USE:	0	1,180	7	DIET OVERLAP AUMS	1	DIET OVERLAP AUMS	169	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 916 INDICATED CARRYING CAPACITY: 898 % CHANGE: -2

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.50	0.51
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: MEADOW SPRING ALLOTMENT NUMBER: 5773 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	2,731	EXCELLENT	0	UPWARD	819	( )	APPARENT TREND
STATE	0	GOOD	273	DOWN	0	(X)	OBSERVED TREND
PRIVATE	120	FAIR	819	STATIC	1,912		
		POOR	1,639				
TOTAL	2,851						

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE	DEER W	HORSES
SEASON OF USE:	5-16 TO 5-31				
ACTIVE PREF:	132	0	0 OBJECTIVE AUMS	246 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	0			
SUS NONUSE:	0	0			
TOTAL PREF:	132	0			
AVE.ACT. USE:	27	0	0 CURRENT AUMS	246 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	21	0	0 DIET OVERLAP AUMS	10 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 37 INDICATED CARRYING CAPACITY: 44 % CHANGE: 19

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: AGCR AGSP AGSM	0.25	0.21

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	1,770
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: MCCLINTOCK ALLOTMENT NUMBER: 5793 PLANNING UNIT: WARM SPRING CATEGORY: C

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	1,600	EXCELLENT	0	UPWARD		(X)	APPARENT TREND
STATE	520	GOOD	0	DOWN	0	( )	OBSERVED TREND
PRIVATE	1,360	FAIR	1,088	STATIC	1,600		
		POOR	512				
TOTAL	3,480						

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE	DEER	HORSES
SEASON OF USE:	10-1 TO 10-31				
ACTIVE PREF:	11	0	0 OBJECTIVE AUMS	0 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	0			
SUS NONUSE:	0	0			
TOTAL PREF:	11	0			
AVE.ACT. USE:	11	0	0 CURRENT AUMS	0 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	11	0	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 11 INDICATED CARRYING CAPACITY: 11 % CHANGE: 0

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: SPAI	0.60	0.60

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: MORMON GAP ALLOTMENT NUMBER: 4397 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES	( ) APPARENT TREND
FEDERAL	46,606	EXCELLENT	6,991	UPWARD	23,303	(X) OBSERVED TREND
STATE	6,455	GOOD	18,642	DOWN	0	
PRIVATE	40	FAIR	13,982	STATIC	23,303	
		POOR	6,991			
TOTAL	53,101					

GRAZING INFORMATION

CLASS OF STOCK: SHEEP&CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	9-16 TO 5-20	11-1 TO 4-30	YL				YL	
ACTIVE PREF:	1,984	981	115	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	160	166						
SUS NONUSE:	0	0						
TOTAL PREF:	1,984	981						
AVE.ACT. USE:	1,807	1,056	57	CURRENT AUMS	0	CURRENT AUMS	96	CURRENT AUMS
LICENSED USE:	2,063	1,045	31	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	96	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 2,990 INDICATED CARRYING CAPACITY: 4,406 % CHANGE: 47

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY EULA SIHY	0.56	0.38
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: NORTH CANYON ALLOTMENT NUMBER: 4328 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES	(X) APPARENT TREND
FEDERAL	19,611	EXCELLENT	0	UPWARD	0	( ) OBSERVED TREND
STATE	1,653	GOOD	5,883	DOWN	0	
PRIVATE	0	FAIR	11,767	STATIC	19,611	
		POOR	1,961			
TOTAL	21,264					

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		12-1 TO 3-31	YL					
ACTIVE PREF:	0	1,441	26	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	134						
SUS NONUSE:	0	216						
TOTAL PREF:	0	1,657						
AVE.ACT. USE:	0	1,478	6	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	1,553	3	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,481 INDICATED CARRYING CAPACITY: 1,302 % CHANGE: -12

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.51	0.58
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: NOTCH PEAK ALLOTMENT NUMBER: 4329 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	34,588
STATE	3,598
PRIVATE	0
TOTAL	38,186

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	6,918
FAIR	24,211
POOR	3,459

TREND	ACRES	(X)
UPWARD	0	( ) APPARENT TREND
DOWN	0	( ) OBSERVED TREND
STATIC	34,588	

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE	DEER	HORSES
SEASON OF USE:		11-21 TO 4-20	YL		
ACTIVE PREF:		3,559	45 OBJECTIVE AUMS	0 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	0			
SUS NONUSE:	0	0			
TOTAL PREF:	0	3,559			
AVE.ACT. USE:	0	2,212	0 CURRENT AUMS	0 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	0	2,385	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 2,212 INDICATED CARRYING CAPACITY: 1,777 % CHANGE: -20

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.61
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: PAINTED POTHOLES ALLOTMENT NUMBER: 4330 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	38,432
STATE	4,231
PRIVATE	0
TOTAL	42,663

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	7,686
FAIR	24,981
POOR	5,765

TREND	ACRES	(X)
UPWARD	0	( ) APPARENT TREND
DOWN	26,902	( ) OBSERVED TREND
STATIC	11,530	

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE	DEER	HORSES
SEASON OF USE:		11-1 TO 4-30	YL		
ACTIVE PREF:	0	2,326	38 OBJECTIVE AUMS	0 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	331			
SUS NONUSE:	0	530			
TOTAL PREF:	0	2,856			
AVE.ACT. USE:	0		13 CURRENT AUMS	0 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	0		7 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.00
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: PAINTER SPRINGS ALLOTMENT NUMBER: 4331 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	33,486
STATE	4,517
PRIVATE	0
TOTAL	38,003

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	20,092
FAIR	11,720
POOR	1,674

TREND	ACRES		
UPWARD	0	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	34,486		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-1 TO 4-15	YL		YL			
ACTIVE PREF:	0	2,833	45	OBJECTIVE AUMS	9	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	0	2,833						
AVE.ACT. USE:	0	1,615	13	CURRENT AUMS	9	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	1,893	7	DIET OVERLAP AUMS	2	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,624 INDICATED CARRYING CAPACITY: 1,479 % CHANGE: -9

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.51	0.56
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS

ALLOTMENT SUMMARY

ALLOTMENT NAME: PINE VALLEY ALLOTMENT NUMBER: 4398 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	40,565
STATE	5,417
PRIVATE	0
TOTAL	45,982

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	24,339
FAIR	12,169
POOR	4,057

TREND	ACRES		
UPWARD	0	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	40,565		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	11-1 TO 5-16		YL					
ACTIVE PREF:	3,750	0	45	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	325	0						
SUS NONUSE:	0	0						
TOTAL PREF:	3,750	0						
AVE.ACT. USE:	2,527	0	26	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	2,212	0	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 2,528 INDICATED CARRYING CAPACITY: 2,640 % CHANGE: 4

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY,EULA,HIJA	0.47	0.45

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: SECTION 31 ALLOTMENT NUMBER: 5794 PLANNING UNIT: WARM SPRING CATEGORY: C

OWNERSHIP	ACRES
FEDERAL	440
STATE	0
PRIVATE	0
TOTAL	440

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	440
POOR	0

TREND	ACRES		
UPWARD	0	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	440		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER W		HORSES	
SEASON OF USE:	5-16 TO 6-15							
ACTIVE PREF:	35	0	0	OBJECTIVE AUMS	17	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	35	0						
AVE.ACT. USE:	35	0	0	CURRENT AUMS	8	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	35	0	0	DIET OVERLAP AUMS	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 36 INDICATED CARRYING CAPACITY: 43 % CHANGE: 19

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: AGSM	0.38	0.32

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: SEELY ALLOTMENT NUMBER: 5787 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	46,208
STATE	5,137
PRIVATE	0
TOTAL	51,345

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	4,621
FAIR	36,966
POOR	4,621

TREND	ACRES		
UPWARD	0	(X)	APPARENT TREND
DOWN	13,862	( )	OBSERVED TREND
STATIC	32,446		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER YL		HORSES	
SEASON OF USE:		10-16 TO 4-15	YL					
ACTIVE PREF:	0	4,635	64	OBJECTIVE AUMS	9	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0							
SUS NONUSE:	0	0						
TOTAL PREF:	0	4,635						
AVE.ACT. USE:	0	3,462	6	CURRENT AUMS	9	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	3,867	3	DIET OVERLAP AUMS	2	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 3,467 INDICATED CARRYING CAPACITY: 3,049 % CHANGE: -12

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.51	0.58
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: SKULL ROCK ALLOTMENT NUMBER: 4334 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	50,023
STATE	7,148
PRIVATE	0
TOTAL	57,171

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	15,007
FAIR	30,014
POOR	5,002

TREND	ACRES		
UPWARD	30,014	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	20,009		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-1 TO 4-30	YL					
ACTIVE PREF:	0	4,138	64	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	270						
SUS NONUSE:	0	0						
TOTAL PREF:	0	4,138						
AVE.ACT. USE:	0	1,641	6	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	1,626	3	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,644 INDICATED CARRYING CAPACITY: 2,238 % CHANGE: 36

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.36
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: SKUNK SPRINGS ALLOTMENT NUMBER: 4338 PLANNING UNIT: CONFUSION CATEGORY: N

OWNERSHIP	ACRES
FEDERAL	37,061
STATE	2,951
PRIVATE	0
TOTAL	40,012

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	11,118
FAIR	14,825
POOR	11,118

TREND	ACRES		
UPWARD	18,531	( )	APPARENT TREND
DOWN	9,265	(X)	OBSERVED TREND
STATIC	9,265		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	5-16 TO 10-15							
ACTIVE PREF:	114	0	0	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	114	0						
AVE.ACT. USE:	57	0	0	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	114	0	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 57 INDICATED CARRYING CAPACITY: 98 % CHANGE: 72

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY,HIJA,SPCR	0.50	0.29

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: SKUNK SPRINGS ALLOTMENT NUMBER: 4338 PLANNING UNIT: CONFUSION CATEGORY: M

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL		EXCELLENT		UPWARD		( )	APPARENT TREND
						(X)	OBSERVED TREND

GRAZING INFORMATION

CLASS OF STOCK: SHEEP&CATTLE TYPE OF SYSTEM: DEFERRED ROTATION

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-9 TO 4-15	YL		W		YL	
ACTIVE PREF:	0	1,426	64	OBJECTIVE AUMS	11	PRIOR STABLE AUMS	173	OBJECTIVE AUMS
EXCH. OF USE:	0	173						
SUS NONUSE:	0	721						
TOTAL PREF:	0	2,147						
AVE.ACT. USE:	0	1,202	38	CURRENT AUMS	11	CURRENT AUMS	288	CURRENT AUMS
LICENSED USE:	0	1,203	19	DIET OVERLAP AUMS	3	DIET OVERLAP AUMS	193	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,417 INDICATED CARRYING CAPACITY: 1,533 % CHANGE: 8

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.53	0.49
SHEEP: ARNO,EULA,ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: SOUTH TRACT (SUMMER) ALLOTMENT NUMBER: 5788 PLANNING UNIT: WARM SPRING CATEGORY: M

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	2,298	EXCELLENT	0	UPWARD	0	( )	APPARENT TREND
STATE	330	GOOD	2,125	DOWN	0	(X)	OBSERVED TREND
PRIVATE	1,074	FAIR	173	STATIC	2,298		
TOTAL	3,702						

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: DEFERRED ROTATION

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	5-1 TO 9-30				W			
ACTIVE PREF:	1,130	0	0	OBJECTIVE AUMS	17	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	1,130	0						
AVE.ACT. USE:	1,061	0	0	CURRENT AUMS	8	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	1,130	0	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,061 INDICATED CARRYING CAPACITY: 1,231 % CHANGE: 16

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: AGCR	0.58	0.50

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	2,125
FAIR	0
POOR	173

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: SOUTH TRACT (WINTER) ALLOTMENT NUMBER: 5788 PLANNING UNIT: WARM SPRING CATEGORY: M

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	2,532	EXCELLENT		UPWARD		( )	APPARENT TREND
STATE	320	GOOD		DOWN		(X)	OBSERVED TREND
PRIVATE	4,075	FAIR	2,532	STATIC	2,532		
TOTAL	6,927						

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM:

	CATTLE	SHEEP	ANTELOPE	DEER	HORSES
SEASON OF USE:	12-1 TO 1-31				
ACTIVE PREF:	45	0	0 OBJECTIVE AUMS	17 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	0			
SUS NONUSE:	0	0			
TOTAL PREF:	45	0			
AVE.ACT. USE:	45	0	0 CURRENT AUMS	8 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	45	0	0 DIET OVERLAP AUMS	1 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 46 INDICATED CARRYING CAPACITY: 46 % CHANGE: 0

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY,AGSM	0.70	0.70

EXISTING TREATMENT CONDITION

CONDITION	ACRES

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS

ALLOTMENT SUMMARY

ALLOTMENT NAME: STATE LINE ALLOTMENT NUMBER: 6238 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES		
FEDERAL	33,045	EXCELLENT	0	UPWARD	13,218	(X)	APPARENT TREND
STATE	3,493	GOOD	16,523	DOWN	0	( )	OBSERVED TREND
PRIVATE	0	FAIR	13,218	STATIC	19,827		
		POOR	3,304				
TOTAL	36,538						

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE	DEER	HORSES
SEASON OF USE:		11-1 TO 4-30	YL	W	YL
ACTIVE PREF:	0	4,753	51 OBJECTIVE AUMS	8 PRIOR STABLE AUMS	102 OBJECTIVE AUMS
EXCH. OF USE:	0	346			
SUS NONUSE:	0	0			
TOTAL PREF:	0	0			
AVE.ACT. USE:	0	2,915	13 CURRENT AUMS	8 CURRENT AUMS	232 CURRENT AUMS
LICENSED USE:	0	3,005	7 DIET OVERLAP AUMS	2 DIET OVERLAP AUMS	155 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 3,079 INDICATED CARRYING CAPACITY: 3,079 % CHANGE: 0

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.49
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: STEAMBOAT ALLOTMENT NUMBER: 4336 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	29,109
STATE	3,260
PRIVATE	0
TOTAL	32,369

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	20,376
POOR	8,733

TREND	ACRES		
UPWARD	0	( )	OBSERVED TREND
DOWN	0		
STATIC	29,109	(X)	APPARENT TREND

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		11-1 TO 4-30	YL					
ACTIVE PREF:	0	2,040	26	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	232						
SUS NONUSE:		0						
TOTAL PREF:	0	2,040						
AVE.ACT. USE:	0	657	6	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	1,027	3	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 660 INDICATED CARRYING CAPACITY: 703 % CHANGE: 7

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.46
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: STOTT ALLOTMENT NUMBER: 5795 PLANNING UNIT: WARM SPRING CATEGORY: C

OWNERSHIP	ACRES
FEDERAL	160
STATE	0
PRIVATE	80
TOTAL	240

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	160
POOR	0

TREND	ACRES		
UPWARD	0	( )	OBSERVED TREND
DOWN	0		
STATIC	160	(X)	APPARENT TREND

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	10-1 TO 2-15							
ACTIVE PREF:	5	0	0	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	5	0						
AVE.ACT. USE:	5	0	0	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	5	0	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 5 INDICATED CARRYING CAPACITY: 5 % CHANGE: 0

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: SPAI	0.60	0.60

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: STOTT-ROWLEY ALLOTMENT NUMBER: 5789 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	15,145
STATE	860
PRIVATE	513
TOTAL	16,518

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	1,515
FAIR	7,572
POOR	6,058

TREND	ACRES		
UPWARD	0	( )	APPARENT TREND
DOWN	3,029	(X)	OBSERVED TREND
STATIC	12,116		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	5-1 TO 10-15							
ACTIVE PREF:	727	0	0	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	727	0						
AVE.ACT. USE:	372	0	0	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	372	0	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 372 INDICATED CARRYING CAPACITY: 288 % CHANGE: -23

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: SPAI ORHY SIHY	0.48	0.62

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: SUMMIT ALLOTMENT NUMBER: 5769 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	1,872
STATE	0
PRIVATE	0
TOTAL	1,872

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	1,872
FAIR	0
POOR	0

TREND	ACRES		
UPWARD	1,236	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	636		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: DEFERRED ROTATION

	CATTLE	SHEEP	ANTELOPE		DEER YL		HORSES	
SEASON OF USE:	5-1 TO 9-20							
ACTIVE PREF:	184	0	0	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	9	0						
SUS NONUSE:	23	0						
TOTAL PREF:	207	0						
AVE.ACT. USE:	184	0	0	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	184	0	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 184 INDICATED CARRYING CAPACITY: 184 % CHANGE: 0

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: AGCR,AGSP	0.56	0.56

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	1,172
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: T O JOHNSON ALLOTMENT NUMBER: 5760 PLANNING UNIT: WARM SPRING CATEGORY: C

OWNERSHIP	ACRES
FEDERAL	160
STATE	0
PRIVATE	0
TOTAL	160

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	160
POOR	0

TREND	ACRES	(X)	
UPWARD	0	( )	OBSERVED TREND
DOWN	0		
STATIC	160		

(X) APPARENT TREND

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	5-1 TO 8-31							
ACTIVE PREF:	12	0	0	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	12	0						
AVE.ACT. USE:	12	0	0	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	12	0	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 12 INDICATED CARRYING CAPACITY: 12 % CHANGE: 0

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: SPAI;ORHY	0.44	0.44

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: TEEPLES ALLOTMENT NUMBER: 5798 PLANNING UNIT: WARM SPRING CATEGORY: C

OWNERSHIP	ACRES
FEDERAL	920
STATE	0
PRIVATE	520
TOTAL	1,440

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	920
POOR	0

TREND	ACRES	(X)	
UPWARD	0	( )	OBSERVED TREND
DOWN	0		
STATIC	920		

(X) APPARENT TREND

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	10-1 TO 10-31							
ACTIVE PREF:	5	0	0	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	5	0						
AVE.ACT. USE:	5	0	0	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	5	0	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 5 INDICATED CARRYING CAPACITY: 5 % CHANGE: 0

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: SPAI	0.60	0.60

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: TWIN PEAKS (S) ALLOTMENT NUMBER: 5780 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES	(% APPARENT TREND
FEDERAL	23,162	EXCELLENT	0	UPWARD	0	(X) OBSERVED TREND
STATE	4,072	GOOD	13,162	DOWN	0	
PRIVATE	2,439	FAIR	10,000	STATIC	23,162	
		POOR	0			
TOTAL	29,673					

GRAZING INFORMATION

CLASS OF STOCK: CATTLE&SHEEP TYPE OF SYSTEM: REST ROTATION

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	5-1 TO 6-15	5-1 TO 6-15			W			
ACTIVE PREF:	738	450	0	OBJECTIVE AUMS	506	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	308	205						
TOTAL PREF:	1,046	655						
AVE.ACT. USE:	781	452	0	CURRENT AUMS	169	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	807	450	0	DIET OVERLAP AUMS	41	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,274 INDICATED CARRYING CAPACITY: 1,746 % CHANGE: 37

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ORHY,ELJU,AGTR	0.37	0.23

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	3,000
FAIR	1,241
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
BURN	6,000	1,000

ALLOTMENT SUMMARY

ALLOTMENT NAME: TWIN PEAKS (W) ALLOTMENT NUMBER: 5780 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES	RANGE CONDITION	ACRES	TREND	ACRES	( ) APPARENT TREND
FEDERAL	156,707	EXCELLENT	0	UPWARD	70,518	(X) OBSERVED TREND
STATE	19,249	GOOD	39,177	DOWN	7,835	
PRIVATE	10,614	FAIR	94,024	STATIC	78,354	
		POOR	23,506			
TOTAL	186,570					

GRAZING INFORMATION

CLASS OF STOCK: CATTLE&SHEEP TYPE OF SYSTEM:REST ROTATION

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	10-1 TO 4-30	10-1 TO 4-30	YL					
ACTIVE PREF:	7,553	10,920	51	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	1,848	2,770						
TOTAL PREF:	9,401	13,690						
AVE.ACT. USE:	7,255	4,841	6	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	7,722	9,134	3	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 12,092 INDICATED CARRYING CAPACITY: 13,087 % CHANGE: 8

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: EULA ORHY HIJA SHEEP: EULA ARNO ORHY	0.53	0.49

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
BURN&SEED	6,000	1,000

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: VOORHEES ALLOTMENT NUMBER: 6220 PLANNING UNIT: CONFUSION CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	26,958
STATE	1,430
PRIVATE	0
TOTAL	28,388

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	13,479
FAIR	12,131
POOR	1,348

TREND	ACRES		
UPWARD	0	( )	APPARENT TREND
DOWN	0	(X)	OBSERVED TREND
STATIC	26,958		

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:		12-1 TO 4-15	YL		W			
ACTIVE PREF:	0	3,076	32	OBJECTIVE AUMS	3	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	1,479						
TOTAL PREF:	0	4,555						
AVE.ACT. USE:	0	940	6	CURRENT AUMS	3	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	0	982	3	DIET OVERLAP AUMS	1	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 944 INDICATED CARRYING CAPACITY: 1,006 % CHANGE: 7

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	0.49	0.46
SHEEP: ARNO EULA ORHY		

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: WALLACE ALLOTMENT NUMBER: 5791 PLANNING UNIT: WARM SPRING CATEGORY: C

OWNERSHIP	ACRES
FEDERAL	900
STATE	0
PRIVATE	680
TOTAL	1,580

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	477
FAIR	423
POOR	0

TREND	ACRES		
UPWARD	0	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	900		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	5-1 TO 10-15							
ACTIVE PREF:	39	0	0	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	39	0						
AVE.ACT. USE:	39	0	0	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	39	0	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 39 INDICATED CARRYING CAPACITY: 39 % CHANGE: 0

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATILE: SPAI	0.48	0.48

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: WHEELER ALLOTMENT NUMBER: 5750 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	17,522
STATE	2,576
PRIVATE	0
TOTAL	20,098

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	1,752
FAIR	12,266
POOR	3,504

TREND	ACRES	
UPWARD	0	(X) APPARENT TREND
DOWN	5,257	( ) OBSERVED TREND
STATIC	12,265	

GRAZING INFORMATION

CLASS OF STOCK: SHEEP TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE	DEER	HORSES
SEASON OF USE:		11-16 TO 4-30	YL		
ACTIVE PREF:	0	1,806	19 OBJECTIVE AUMS	0 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	296			
SUS NONUSE:	0	774			
TOTAL PREF:	0	2,080			
AVE.ACT. USE:	0	1,496	0 CURRENT AUMS	0 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	0	1,639	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 1,496 INDICATED CARRYING CAPACITY: 1,383 % CHANGE: -8

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:		
SHEEP: EULA ARNO OPHY	0.49	0.53

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	0
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

ALLOTMENT SUMMARY

ALLOTMENT NAME: WHISKEY CREEK ALLOTMENT NUMBER: 5792 PLANNING UNIT: WARM SPRING CATEGORY: I

OWNERSHIP	ACRES
FEDERAL	5,001
STATE	0
PRIVATE	0
TOTAL	5,001

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	4,082
FAIR	919
POOR	0

TREND	ACRES	
UPWARD	5,001	(X) APPARENT TREND
DOWN	0	( ) OBSERVED TREND
STATIC	0	

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: DEFERRED ROTATION

	CATTLE	SHEEP	ANTELOPE	DEER	HORSES
SEASON OF USE:	5-1 TO 9-20			W	
ACTIVE PREF:	469	0	0 OBJECTIVE AUMS	84 PRIOR STABLE AUMS	0 OBJECTIVE AUMS
EXCH. OF USE:	0	0			
SUS NONUSE:	0	0			
TOTAL PREF:	469	0			
AVE.ACT. USE:	92	0	0 CURRENT AUMS	28 CURRENT AUMS	0 CURRENT AUMS
LICENSED USE:	183	0	0 DIET OVERLAP AUMS	1 DIET OVERLAP AUMS	0 DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 93 INDICATED CARRYING CAPACITY: 248 % CHANGE: 167

KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE: ACCR AGSM AGSP	0.56	0.21

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	3,470
FAIR	857
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS
	0	0

APPENDIX 3

ALLOTMENT SUMMARY

ALLOTMENT NAME: WHITE BUSH ALLOTMENT NUMBER: 5770 PLANNING UNIT: WARM SPRING CATEGORY: C

OWNERSHIP	ACRES
FEDERAL	80
STATE	0
PRIVATE	0
TOTAL	80

RANGE CONDITION	ACRES
EXCELLENT	0
GOOD	40
FAIR	40
POOR	0

TREND	ACRES		
UPWARD	0	(X)	APPARENT TREND
DOWN	0	( )	OBSERVED TREND
STATIC	80		

GRAZING INFORMATION

CLASS OF STOCK: CATTLE TYPE OF SYSTEM: CONTINUOUS SEASONAL

	CATTLE	SHEEP	ANTELOPE		DEER		HORSES	
SEASON OF USE:	4-1 TO 9-30							
ACTIVE PREF:	21	0	0	OBJECTIVE AUMS	0	PRIOR STABLE AUMS	0	OBJECTIVE AUMS
EXCH. OF USE:	0	0						
SUS NONUSE:	0	0						
TOTAL PREF:	21	0						
AVE.ACT. USE:	21	0	0	CURRENT AUMS	0	CURRENT AUMS	0	CURRENT AUMS
LICENSED USE:	21	0	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS	0	DIET OVERLAP AUMS

TOTAL AVERAGE ACTUAL USE BY ALL SPECIES: 21 INDICATED CARRYING CAPACITY: 21 % CHANGE: 0

	KEY FORAGE SPECIES	% WEIGHTED PROPER USE OF ALL KEY SPECIES	% AVERAGE ANNUAL UTILIZATION
CATTLE:	AGCR,AGSM	0.44	0.44

EXISTING TREATMENT CONDITION

CONDITION	ACRES
EXCELLENT	0
GOOD	40
FAIR	0
POOR	0

TREATMENT OPPORTUNITY

TYPES	ACRES	AUMS

APPENDIX 4

WSRA Range Improvements

Allotment Name	Number	Structural[a] Spring Development Existing	Spring Development Proposed	Pipelines (Mi.) Existing	Pipelines (Mi.) Proposed	Wells Existing	Wells Proposed	Reservoirs Existing	Reservoirs Proposed	Fences (Mi.) Existing	Fences (Mi.) Proposed	Cattleguards Existing	Cattleguards Proposed	Non-Structural[b] Vegetation Treatments Existing	Vegetation Treatments Proposed
Anderson													1		
Amasa	4300		2		3.0					0.5		2			
Antelope Point	5777									2.5				200	
Beeston	5780														
Big Wash	5797									3.0					
Black Point	5782									25.5		4		2,350	1,000
Black Rock	5786					1									
Summer															
Black Rock	5778				3.0	1				12.0					
Winter															
Blackham Canyon	4325					1		2							
Blind Valley	4303					1		3							
Boob Canyon	4304				2.0			2		20.0		3			
Brecks Knoll	4306							4		10.0		2			
Browns Wash	4302	1													
Buckskin	4307							1		8.0		1			
Church	5799			1.0									1	839	1,000
Clay Spring	4312			2.5	2.5			1		5.5			3		
Coats	5781							3							
Conger Spring	4313	3				1									
Crickett	5779					1		6		9.5					
Crows Nest	4305				2.5	2		1		15.0		2			
Crystal Peak	4311							2		7.0					
Deadman Wash	4316						1	1		5.5	15.0		2		
Death Canyon	4314							1							
Deseret	5775	2		66.0	15.5	3		20		51.0		10	2		
East Antelope	5796									20.0		3		1,658	6,000
Ephraim Bagnall	6211							2							
Ephraim Meadow	5774					1									
Sheep															
Ephraim Meadow	5774			2.0		4	1	1		50.0		5			
Fairview	6236	1	2		8.0			1							
Ferguson	4317					1		3		10.0	4.0		1		
Garrison	4319					2				28.5					
Granite	4320														
Holden Spring	5783	1		5.0	1.0					5.5		3		2,600	
Holden Winter	5784	1				3				12.5					
King	4324							2							
Klondike	4322				5.0										
Knoll Springs	4323	2				2		3		14.5					
Ledger Canyon	4321														
McClintock	5793													1,770	
Meadow Spring	5773														
Mormon Gap	4397			5.0	6.0	1		3		25.5		3			
North Canyon	4328				3.0					2.0		1			
Notch Peak	4329							1							
Painted Potholes	4330							1							
Painter Springs	4331	1		3.0											
Pine Valley	4398				15.0			2		10.0	15.0	2	3		
Section 31	5794														
Seely	5787	2		3.0				2		9.0					
Skull Rock	4334							5							
Skunk Spring	4338	2													
South Tract	5788			12.0				1		10.0		4		2,500	
Summer															
South Tract	5789														
Winter															
State Line	6238	1						1							
Steamboat	4336					1		2							
Stott	5795														
Stott-Rowley	5789					2				9.0		2			
Summit	5769													1,172	
T O Johnson	5760														
Teeples	5798														
Twin Peaks	5785	1		12.0	5.0	1	2	12		75.0	10.0	10	2	4,241	6,000
Voorhees	6220					1		1							
Wallace	5791														
Wheeler	5790							2							
Whiskey Creek	5792	1	1	5.0	2.0					5.5		3		4,327	
White Bush	5770													40	
Totals		19	5	116.5	73.3	30	4	92	--	462	44	60	15	21,697	14,000

[a]Proposed structural improvements for alternatives B, C, and D.

[b]proposed vegetation treatments (prescribed burning, chaining, and/or seeding) for Alternative D. Other suitable areas could be treated, based on priority of need, favorable benefit/cost ratio, and availability of funding.

APPENDIX 5

Pronghorn Antelope Population and Forage Requirements

Allot. Number	Allotment Name	Alternative A: No Action					Alternative B: Protection					Alternative C: Production					Alternative D: Preferred Alternative				
		Current Numbers Yearlong	Total Forage Consumption (AUMs)	Diet Overlap With Livestock[a] Percent	Total All Range (AUMs)	Public Lands (AUMs)	Potential Numbers Yearlong	Total Forage Consumption (AUMs)	Diet Overlap With Livestock[a] Percent	Total All Range (AUMs)	Public Lands (AUMs)	Alternative Numbers Yearlong	Total Forage Consumption (AUMs)	Diet Overlap With Livestock[a] Percent	Total All Range (AUMs)	Public Lands (AUMs)	Objective Numbers Yearlong	Total Forage Consumption (AUMs)	Diet Overlap With Livestock[a] Percent	Total All Range (AUMs)	Public Lands (AUMs)
West Desert Herd Unit																					
Conger Sub-Unit																					
4302	Browns Wash	40	51	51	26	23	80	102	b20	21	19	10	13	51	7	6	80	102	51	52	46
4307	Buckskin	30	38	51	19	17	57	73	b20	15	14	7	9	51	5	4	57	73	51	37	33
4313	Conger Spring	65	83	51	42	37	183	234	b20	47	41	16	20	51	10	9	183	234	51	119	106
4320	Granite	10	13	51	7	6	69	88	b20	18	16	2	3	51	1	1	16	20	51	10	9
4321	Ledger Canyon	10	13	51	7	6	38	49	b20	10	8	2	3	51	1	1	38	49	51	25	21
4323	Knoll Springs	10	13	0	1	1	18	23	20	5	4	2	3	0	0	0	18	23	0	0	0
4324	King	15	19	51	10	9	55	70	b20	14	12	4	5	51	3	3	38	49	51	25	22
4331	Painter Spring	10	13	51	7	6	47	60	b20	12	11	2	3	51	1	1	35	45	51	23	20
4338	Skunk Spring	30	38	51	19	18	61	78	b20	16	15	7	9	51	5	5	50	64	51	33	31
	Smith Creek	5	6	--	--	--	7	9	--	--	--	2	2	--	--	--	7	9	--	--	--
	Sub-unit Total	225	287		138	123	615	786		144	140	54	70		33	30	522	668		324	288
North Canyon Sub-Unit																					
4314	Death Canyon	10	13	51	7	6	72	92	b20	19	16	2	3	51	1	1	25	32	51	16	14
4322	Klondike	5	6	51	3	3	62	79	b20	16	14	2	3	51	2	2	35	45	51	23	20
4328	North Canyon	5	6	51	3	3	40	51	b20	11	10	2	3	51	1	1	20	26	51	13	12
4329	Notch Peak	0	0	51	0	0	57	73	b20	15	14	0	0	51	0	0	35	45	51	23	21
5775	Deseret	8	10	0	1	1	114	146	20	29	24	2	3	0	0	0	30	38	0	0	0
	Sub-unit Total	28	35		14	13	345	441		90	78	8	12		4	4	145	186		75	67
	Herd Unit Total	253	322		152	136	960	1,227		234	218	62	82		37	34	667	854		399	355
Southwest Desert Herd																					
Burbank Hills Sub-Unit																					
4304	Boob Canyon	35	45	2	1	1	43	55	20	11	10	9	11	2	0	0	43	55	2	1	1
4305	Crows Nest	25	32	2	1	1	62	79	20	16	14	7	9	2	0	0	62	79	2	2	2
4306	Brecks Knoll	50	64	2	1	1	108	139	20	28	24	12	15	2	0	0	108	139	2	3	3
4312	Clay Springs	35	45	2	1	1	77	98	20	20	18	9	11	2	0	0	77	98	2	2	2
4316	Deadman Wash	45	57	53	30	27	142	181	b20	37	33	10	13	53	7	6	93	119	53	63	56
4317	Ferguson	20	26	2	1	1	29	37	20	8	7	5	6	2	0	0	29	37	2	1	1
4319	Garrison	15	19	2	1	1	24	31	20	7	6	4	5	2	0	0	24	31	2	1	1
4397	Mormon Gap	45	57	54	31	27	89	114	b20	23	20	10	13	54	7	6	90	115	54	62	55
4398	Pine Valley	20	26	2	1	1	56	71	20	15	12	5	6	2	0	0	35	45	2	1	1
5797	Big Wash	5	6	51	3	3	8	10	b20	2	2	2	3	51	1	1	7	9	51	5	4
6236	Fairview	50	64	51	33	30	105	134	b20	27	24	12	15	51	8	7	100	128	51	65	59
6238	Stateline	10	13	51	7	6	101	129	b20	26	23	2	3	51	1	1	40	51	51	26	23
	Pruess Lake[c]	2	3	--	--	--	11	14	--	--	--	0	0	--	--	--	11	14	--	--	--
	Burbank[c]	2	3	--	--	--	1	1	--	--	--	0	0	--	--	--	0	0	--	--	--
	Hamblin[c]	5	6	--	--	--	77	98	--	--	--	2	3	--	--	--	40	51	--	--	--
	Sub-unit Total	364	466		111	100	933	1,191		220	193	89	113		24	21	759	971		232	208
Ibex Sub-Unit																					
4303	Blind Valley	5	5	51	3	3	42	54	b20	11	10	2	3	51	1	1	25	32	51	16	14
4311	Crystal Peak	10	13	51	7	6	160	204	b20	41	37	2	3	51	1	1	40	51	51	26	23
4325	Blackham	5	6	51	3	3	62	79	b20	16	15	2	3	51	1	1	40	51	51	26	24
4330	Painted Potholes	10	13	51	7	6	59	75	b20	15	14	2	3	51	1	1	30	38	51	19	17
4334	Skull Rock	5	6	51	3	3	104	133	b20	27	24	2	3	51	1	1	50	64	51	33	29
4336	Steamboat	5	6	51	3	3	50	64	b20	13	12	2	3	51	1	1	20	26	51	13	12
6220	Voorhees	5	6	51	3	3	63	80	b20	16	15	2	3	51	1	1	25	32	51	16	15
6213	Lawson Cove	5	6	--	--	--	47	60	b--	--	--	1	1	--	--	--	0	0	--	--	--
	Sub-unit Total	50	62		29	27	587	749		139	127	15	22		7	7	0	294		149	134
Cricket Sub-Unit																					
5779	Cricket	10	13	51	7	6	200	255	b20	51	45	2	3	51	1	1	50	64	51	33	29
5781	Coates	2	3	51	2	2	28	36	b20	8	7	0	0	51	0	0	15	19	51	10	9
5785	Twin Peaks	5	6	53	3	2	45	57	b20	12	10	2	3	53	2	2	40	51	53	26	22
5787	Seely	5	6	51	3	2	105	[illegible]	b20	27	24	2	3	51	1	1	50	64	51	33	30
5790	Wheeler	0	0	51	0	0	25	32	b20	7	6	0	0	51	0	0	15	19	51	10	9
6211	Ephraim-Bagnall	5	6	2	1	1	31	40	b20	8	6	2	3	2	0	0	15	19	2	1	1
5775	Deseret	2	3	0	0	0	80	102	20	21	17	0	0	0	0	0	20	26	0	0	0
6210	High Rock[d]	5	6	--	--	--	--	--	--	--	--	1	1	--	--	--	0	0	--	--	--
	Sub-unit Total	34	43		16	13	514	656		134	115	9	13		4	4	205	262		113	100
	Herd Unit Totals	448	571		156	140	2,034	2,596		493	435	113	148		35	32	1,194	1,527		494	442
Resource Area Totals		701	893		308	276	2,994	3,823		727	653	175	230		72	66	1,861	2,381		893	797

[a]Diet overlap based on class of livestock and key forage species (black sage, winterfat, and Indian ricegrass).

[b]Based on change of class of livestock from sheep to cattle.

[c]Administered by the Ely District.

[d]Administered by the Cedar City District.

APPENDIX 6

Mule Deer Population and Forage Allocation

Allot. Number	Allotment Name	Alternative A: No Action — Current Numbers Yearlong	Total Forage Consumption (AUMs)	Diet Overlap With Livestock[a] — Percent	Total All Range (AUMs)	Public Lands (AUMs)	Alternative B: Protection — Potential Numbers Yearlong	Total Forage Consumption (AUMs)	Diet Overlap With Livestock[a] — Percent	Total All Range (AUMs)	Public Lands (AUMs)	Alternative C: Production — Alternative Numbers Yearlong	Total Forage Consumption (AUMs)	Diet Overlap With Livestock[a] — Percent	Total All Range (AUMs)	Public Lands (AUMs)	Alternative D: Preferred Alternative — Objective Numbers Yearlong	Total Forage Consumption (AUMs)	Diet Overlap With Livestock[a] — Percent	Total All Range (AUMs)	Public Lands (AUMs)
Deer Herd Unit 62B — West Desert-Central																					
4300	Amasa	15 YL	27	8	2	2	30 YL	54	20	12	9	5 YL	9	8	0	0	15 YL	27	8	2	2
4302	Browns Wash	5 W	3	20	1	0	10 YL, 5 W	21	20	5	4	2 W	1	20	0	0	5 W	3	20	1	1
4303	Blind Valley	10 W	6	20	1	0	20 YL, 10 W	41	20	10	9	2 W	1	20	0	0	10 W	6	20	1	1
4304	Boob Canyon	0	0	8	0	0	5 YL	9	20	2	2	0	0	8	--	--	0	0	8	--	--
4305	Crows Nest	10 W	6	8	1	1	10 W	6	20	2	2	2 W	1	8	0	0	10 W	6	8	1	1
4306	Brecks Knoll	0	0	8	0	0	5 YL	9	20	2	2	0	0	8	--	--	0	0	8	--	--
4307	Buckskin	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
4312	Clay Springs	20 YL	35	8	3	3	30 YL, 20 YL	53	20	12	10	5 YL	9	8	1	1	20 YL	35	8	3	2
4313	Conger Springs	10 YL	18	20	4	4	10 YL	18	20	4	4	5 YL	9	20	2	2	10 YL	18	20	4	3
4314	Death Canyon	10 W	6	20	1	1	5 YL, 10 W	15	20	4	4	2 W	1	20	0	0	10 W	6	20	1	1
4316	Deadman Wash	5 W	3	28	1	1	10 YL, 5 W	21	20	5	4	2 W	1	28	0	0	5 W	3	28	1	1
4317	Ferguson	0	0	--	--	1	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
4319	Garrison	5 W	3	8	1	1	5 W	3	20	1	1	2 W	1	8	0	0	5 W	3	8	1	1
4320	Granite	5 W	3	20	1	1	5 YL, 5 W	12	20	3	3	2 W	1	20	0	0	5 W	3	20	1	1
4321	Ledger	5 W	3	20	1	1	5 W	3	20	1	1	2 W	1	20	0	0	5 W	3	20	1	1
4322	Klondike	0	0	--	--	--	5 YL	9	20	2	2	0	0	--	--	--	0	0	--	--	--
4323	Knoll Springs	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
4324	King	15 W	8	20	2	2	10 YL, 15 W	26	20	6	6	2 W	1	20	0	0	15 W	8	20	2	2
4325	Blackham	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
4328	North Canyon	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
4329	Notch Peak	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
4330	Painted Potholes	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
4331	Painter Spring	5 YL	9	20	2	2	15 YL	27	20	6	5	5 YL	9	20	2	2	5 YL	9	20	2	2
4334	Skull Rock	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
4336	Steamboat	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
4338	Skunk Spring	20 W	11	28	3	2	20 W	11	20	3	3	3 W	2	28	1	1	20 W	11	28	3	2
4397	Mormon Gap	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
5775	Deseret	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
5779	Cricket	10 W	6	20	1	1	10 YL, 10 W	24	20	6	5	2 W	1	20	0	0	10 W	6	20	1	1
5781	Coates	5 W	3	20	1	1	5 W	3	20	1	1	2 W	1	20	0	0	5 W	3	20	1	1
5787	Seely	5 YL	9	20	2	2	15 YL	27	20	6	6	5 YL	9	20	2	2	5 YL	9	20	2	2
5790	Wheeler	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
	Smith Creek	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
	Unit Totals	55 YL	98		13	9	185 YL	98		58		25 YL	45		7	7	55 YL	98		13	11
		105 W	61		15	17	105 W	61		35		25 W	13		1	1	105 W	61		15	14
			159		28	26		159		93	77		58		8	8		159		28	25
Deer Herd Unit 62C — West Desert-South																					
4311	Crystal Peak	5 W	3	20	1	1	5 YL, 5 W	12	20	3	3	2 W	1	20	0	0	5 W	3	20	1	1
4398	Pine Valley	0	0	--	--	--	5 YL	9	20	2	1	0	0	--	--	--	0	0	--	--	--
5797	Big Wash	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
6211	Ephraim-Bagnall	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
6220	Voorhees	5 W	3	20	1	1	5 W	3	20	1	1	2 W	1	20	0	0	5 W	3	20	1	1
6236	Fairview	20 YL	35	20	7	6	30 YL	53	20	12	11	5 YL	9	20	2	2	20 YL	35	20	7	6
6238	Stateline	15 W	8	20	2	2	15 W	8	20	2	2	4 W	2	20	0	0	15 W	8	20	2	2
	Pruess Lake	10 YL	18	--	--	--	10 YL	18	--	--	--	5 YL	9	--	--	--	10 YL	18	--	--	--
	Burbank	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
	Hamblin	5 W	3	--	--	--	5 W	3	--	--	--	2 W	1	--	--	--	5 W	3	--	--	--
	Unit Total	30 YL	53		7	6	50 YL	53		15		10 YL	18		2	2	30 YL	53		7	6
		30 W	17		4	4	30 W	17		5		10 W	5		0	0	30 W	17		4	4
			70		11	10		70		20	18		23		2	2		70		11	10
Deer Herd Unit 53 — Oak Creek																					
5789	South Tract	15 W	8	4	1	0	30 W	17	4	3	2	6 W	3	4	0	0	30 W	17	4	1	0
5792	Whiskey Creek	50 W	28	4	1	1	150 W	84	4	14	14	21 W	12	4	0	0	150 W	84	4	3	3
	Summit	15 W	8	4	1	1	50 W	28	4	5	5	6 W	3	4	0	0	50 W	28	4	1	1
	Unit Total	80 W	44		3	2	230 W	129		22	21	33 W	18		0	0	230 W	129		5	4
Deer Herd Unit 54 — Fillmore																					
5969	Church	25 W	14	4	1	1	50 W	28	4	5	5	8 W	4	4	0	0	50 W	28	4	1	1
5780	Beeston	10 W	6	4	1	1	25 W	14	4	3	3	3 W	2	4	0	0	25 W	14	4	1	1
5783	Holden Spring	300 W	169	4	7	7	328 W	184	4	30	30	100 W	56	4	2	2	328 W	184	4	7	7
5794	Section 31	15 W	8	4	1	1	30 W	17	4	3	3	5 W	3	4	0	0	30 W	17		1	1
	Unit Totals	350 W	197		10	10	433 W	243		41	41	116 W	65		2	2	433 W	243		10	10
Deer Herd Unit 55 — Kanosh																					
5760	T.O. Johnson	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
5773	Meadow Spring	438 W	246	4	10	10	438 W	246	4	40	38	258 W	144	4	6	6	438 W	246	4	10	10
5775	Ephraim-Meadow	10 YL	18	8	1	1	10 YL	18	8	3	3	6 YL	11	8	1	1	10 YL	18	8	1	1
5776	Anderson	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
5778	Black Rock	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
5782	Black Point	0	0	--	--	--	30 W	17	8	8	7	0	0	--	--	--	30 W	17	8	1	1
5784	Holden Winter	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
5785	Twin Peak	300 W	169	24	41	34	900 W	506	20	81	66	177 W	99	24	24	19	900 W	506	24	121	98
5789	Stott-Rowley	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
5791	Wallace	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
5793	McClintock	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
5795	Stott	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
5798	Temples	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--	0	0	--	--	--
	Unit totals	10 YL	18		1	1	10 YL	18		3	3	6 YL	11		1	1	10 YL	18		1	1
		738 W	415		51	44	1,368 W	769		124	111	435 W	243		30	25	1,368 W	769		132	109
			433		52	45		787		127	114		254		31	26		787		133	110
Deer Herd Unit 56 — Beaver																					
5777	Antelope Point	30 W	17	8	1	1	48 W	27	8	5	5	9 W	5	8	0	0	48 W	27	8	2	2
5796	East Antelope	75 W	42	4	2	2	250 W	140	4	23	20	22 W	12	4	0	0	250 W	140	4	6	5
	Unit Totals	105 W	59		3	3	298 W	167		28	25	31 W	17		0	0	298 W	167		8	7
Resource Area Totals		95 YL	169		21	16	245 YL	169		76		41 YL	74		10	10	95 YL	169		21	18
		1,408 W	793		86	80	2,464 W	1,386		255		650 W	361		33	29	2,464 W	1,386		174	149
			962		107	96		1,555		331	296		435		43	39		1,555		195	167

[a]Diet overlap of 20 percent, based on change of class of livestock and key forage species being black sagebrush, winterfat and Indian ricegrass.

APPENDIX 7

WSRA Wild Horse Population and Total Use Forage

TABLE 1

Alternative A--No Action

HMA and Allotment	Total Area (Acres)	Crucial Habitat Used by Horses	Total Forage Use[a] (AUMs)	Use Competitive With Livestock (AUMs)
Conger HMA Population: 100[b]				
Conger Spring	78,971	14,602	264	177
Brown's Wash	29,342	6,780	252	169
Skunk Springs	40,012	6,305	288	193
Ledger Canyon	20,863	4,640	252	169
Buckskin	24,270	5,198	144	96
Painter Sprngs	38,003	0	0	0
Granite	55,704	0	0	0
Total	287,165	37,525	1,200	804
King HMA Population: 66[b]				
Boob Canyon	33,381	4,935	72	72
Breck's Knoll	31,495	52,971	420	420
Blackham	33,828	0	0	0
Blind Valley	45,856	4,413	120	80
King	54,609	3,989	84	56
Painted Potholes	42,663	0	0	0
Total	291,832	66,308	796	628
Sulphur HMA[c] Population: 112[b]				
State Line	36,538	16,000	232	155
Fairview	61,500	30,000	524	351
Hamblin[d]	22,084	18,000	(594)	(594)
Total	120,122	64,000	1,350	506
Burbank HMA Population: 20[b]				
Deadman's Wash	38,534	11,706	60	60
Mormon Gap	53,101	10,620	96	96
Crows Nest	28,409	3,332	43	48
Clay Springs	41,583	2,270	37	36
Total	181,627	27,928	240	240
Total All HMAs Population:	880,746 298	195,761	2,992	2,178

[a]Average Actual Use (1980-1984).

[b]Five-year average herd population. Current populations are: Conger HMA--50, King HMA--30, Sulphur HMA--85, and Burbank HMA--30.

[c]WSRA portion of the HMA.

[d]Hamblin use is not included in the totals here or in Appendix 1. Hamblin's grazing use is presently administered by the Ely District.

APPENDIX 7

TABLE 2

Alternative B

HMA and Allotment	Total Area (Acres)	Crucial Habitat Used by Horses	Forage Required (AUMs)	Use Competitive With Livestock (AUMs)
Conger HMA Population: 125				
Conger Spring	78,971	14,602	330	220
Brown's Wash	29,342	6,780	315	210
Skunk Springs	40,012	6,305	360	240
Ledger Canyon	20,863	4,640	315	210
Buckskin	24,270	5,198	180	120
Painter Sprngs	38,003	0	0	0
Granite	55,704	0	0	0
Total	287,165	37,525	1,500	1,000
King HMA Population: 75				
Boob Canyon	33,381	4,935	135	135
Breck's Knoll	31,495	52,971	585	585
Blackham	33,828	0	0	0
Blind Valley	45,856	4,413	108	72
King	54,609	3,989	72	48
Painted Potholes	42,663	0	0	0
Total	291,832	66,308	900	840
Sulphur HMA Population: 126				
State Line	36,538	16,000	257	171
Fairview	61,500	30,000	590	394
Hamblin[a]	22,084	18,000	(665)	(665)
Total	120,122	64,000	847	565
Burbank HMA Population: 20				
Deadman's Wash	38,534	11,706	120	120
Mormon Gap	53,101	10,620	72	72
Crows Nest	28,409	3,332	29	29
Clay Springs	41,583	2,270	19	19
Total	181,627	27,928	240	240
Total All HMAs Population: 346	880,746	195,761	3,487	2,645

[a]Hamblin use is not included in the totals here or in Appendix 1. Hamblin's grazing use is presently administered by the Ely District.

APPENDIX 7

TABLE 3

Alternative C

HMA and Allotment	Total Area (Acres)	Crucial Habitat Used by Horses	Forage Required (AUMs)	Use Competitive With Livestock (AUMs)
Conger HMA Population: 30				
Conger Spring	78,971	14,602	79	53
Brown's Wash	29,342	6,780	76	51
Skunk Springs	40,012	6,305	86	57
Ledger Canyon	20,863	4,640	76	51
Buckskin	24,270	5,198	43	29
Painter Sprngs	38,003	0	0	0
Granite	55,704	0	0	0
Total	287,165	37,525	360	241
King HMA Population: 20				
Boob Canyon	33,381	4,935	36	36
Breck's Knoll	31,495	52,971	156	156
Blackham	33,828	0	0	0
Blind Valley	45,856	4,413	29	19
King	54,609	3,989	19	13
Painted Potholes	42,663	0	0	0
Total	291,832	66,308	240	224
Sulphur HMA Population: 20				
State Line	36,538	16,000	41	27
Fairview	61,500	30,000	94	63
Hamblin[a]	22,084	18,000	(105)	(105)
Total	120,122	64,000	135	90
Burbank HMA Population: Herd removed.				
Deadman's Wash	38,534	11,706	0	0
Mormon Gap	53,101	10,620	0	0
Crows Nest	28,409	3,332	0	0
Clay Springs	41,583	2,270	0	0
Total	181,627	27,928	0	0
Total All HMAs Population: 70	880,746	195,761	735	555

[a]Hamblin use is not included in the totals here or in Appendix 1. Hamblin's grazing use is presently administered by the Ely District.

APPENDIX 7

TABLE 4

Alternative D

HMA and Allotment	Total Area (Acres)	Crucial Habitat Used by Horses	Forage Required (AUMs)	Use Competitive With Livestock (AUMs)
Conger HMA Population: 60				
Conger Spring	78,971	14,602	158	105
Brown's Wash	29,342	6,780	151	101
Skunk Springs	40,012	6,305	173	115
Ledger Canyon	20,863	4,640	151	101
Buckskin	24,270	5,198	87	58
Painter Sprngs	38,003	0	0	0
Granite	55,704	0	0	0
Total	287,165	37,525	720	480
King HMA Population: 30				
Boob Canyon	33,381	4,935	54	54
Breck's Knoll	31,495	52,971	234	234
Blackham	33,828	0	0	0
Blind Valley	45,856	4,413	43	29
King	54,609	3,989	29	19
Painted Potholes	42,663	0	0	0
Total	291,832	66,308	360	336
Sulphur HMA Population: 50				
State Line	36,538	16,000	102	68
Fairview	61,500	30,000	234	156
Hamblin[a]	22,084	18,000	(264)	(264)
Total	120,122	64,000	336	224
Burbank HMA Population: Herd removed.				
Deadman's Wash	38,534	11,706	0	0
Mormon Gap	53,101	10,620	0	0
Crows Nest	28,409	3,332	0	0
Clay Springs	41,583	2,270	0	0
Total	181,627	27,928	0	0
Total All HMAs Population: 140	880,746	195,761	1,416	1,040

[a]Hamblin use is not included in the totals here or in Appendix 1. Hamblin's grazing use is presently administered by the Ely District.

APPENDIX 8

Alternative B: Elk and Desert Bighorn Sheep Populations, Forage Allocation, and Use Competitive With Livestock (AUMs)

	Rocky Mountain Elk				Desert Bighorn Sheep			
	Population	Forage Allocation	Use Competitive With Livestock	Public Lands Competitive Use	Population	Forage Allocation	Use Competitive With Livestock	Public Lands Competitive Use
Beeston	5	10	6	6	0	--	--	--
Blackham Canyon	0	--	--	--	5	10	6	5
Blind Valley	0	--	--	--	15	30	16	13
Boob Canyon	0	--	--	--	5	10	6	5
Breck's Knoll	0	--	--	--	10	20	11	9
Church	10	20	11	11	0	--	--	--
Coates	0	--	--	--	5	10	6	4
Crickett	0	--	--	--	10	20	11	10
Crystal Peak	0	--	--	--	10	20	11	10
Death Canyon	0	--	--	--	5	10	6	5
Fairview	10	58	32	29	0	--	--	--
Granite	0	--	--	--	10	20	11	9
Hamblin	10	58	--	--	0	--	--	--
High Rock	0	--	--	--	5	10	6	--
Holden Spring	10	20	11	11	0	--	--	--
King	0	--	--	--	20	40	21	18
Klondike	0	--	--	--	5	10	6	5
Lawson Cove	0	--	--	--	5	10	6	--
Meadow Spring	5	10	6	6	0	--	--	--
Notch Peak	0	--	--	--	5	10	6	5
Painter Springs	0	--	--	--	10	20	11	10
Pine Valley	0	--	--	--	15	30	16	13
Section 31	5	10	6	6	0	--	--	--
Seely	0	--	--	--	5	10	6	5
Summit	5	10	6	6	0	--	--	--
State Line	10	58	32	29	0	--	--	--
Voorhees	0	--	--	--	5	10	6	6
Total	70	254	110	104	150	300	168	132

APPENDIX 9

Wildlife Habitat Improvement Alternatives[a]
WSRA

Allotment Name	Allotment Number	Wildlife Waters (number) Alternative B	Wildlife Waters (number) Alternative D	Vegetation Manipulation (acres) Alternative B	Vegetation Manipulation (acres) Alternative D	Fences (miles)[b] Alternative B	Fences (miles)[b] Alternative D
Amasa	4300	2	0				
Blackham Canyon	4326	1	1			10	0
Bland Valley	4303	3	3			8	0
Boob Canyon	4304	1	0				
Brecks Knoll	4306	3	1			2	0
Browns Wash	4302	3	3			13	0
Buckskin	4307	1	1			5	0
Clay Spring	4312	1	1				
Coates Sheep	5781	1	1			7	0
Conger Spring	4313	3	3			10	0
Crickett	5779	5	5			23	0
Crows Nest	4305	1	1				
Crystal Peak	4311	5	4			38	0
Deadman Wash	4315	3	2			3	0
Death Canyon	4314	3	1			11	0
Ephraim Bagnall	5211	2	2			12	0
Fairview	6236	4	2			30	0
Ferguson	4317	1	1				
Granite	4320	5	5			20	0
Holden Spring	5783			1,700	1,700		
King	4324	7	7			11	0
Klondike	4322	2	2			8	0
Knoll Springs	4323					1	0
Ledger Canyon	4321	1	1			11	0
Meadow Spring	5773			1,600	1,600		
Mormon Gap	4397	1	1			3	0
North Canyon	4328	1	1			10	0
Notch Peak	4329	2	1			10	0
Painted Potholes	4330	1	1			20	0
Painted Springs	4331	4	3			10	0
Pine Valley	4398	3	2				
Seely Sheep	5787	2	2			6	0
Skull Rock	4334	2	2			16	0
Skunk Spring	4338					29	0
State Line	6238	3	3			2	0
Steamboat	433y	2	2			15	0
Voorhees	5220	2	2			10	0
Wheeler Sheep	5790					8	0
6-Mile Point	Unallotted			240	0	2.5	0
Lake Creek	Unallotted					0.5	0.5
Total		80	[c]67	3,540	[d]3,300	365	0.5

[a]Under Alternative B, two waterfowl water control projects would be constructed in the Deseret Allotment. None are proposed in any other alternative. All fences are for antelope purposes due to change in kind of livestock, with the exception of 2.5 miles on 6-Mile unallotted area for mule deer) and 0.5 miles on Lake Creek to protect riparian habitat.

[b]Fences would be constructed on allotments if competition with livestock (sheep) prevented achievement of wildlife objectives.

[c]26 Antelope, 41 upland game.

[d]Maintenance.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
RICHFIELD DISTRICT OFFICE
150 East 900 North
Richfield, Utah 84701

IN REPLY
REFER TO:
1792.0910 WS
(U-050 & 052)

STAFF REPORT

TITLE: Proper Use Levels for Warm Spring Resource Area.

DATE: October 15, 1985

AUTHORS: Alan Partridge and Sheril Slack

The most direct discussions of proper use in the northern desert shrubs and grassland communities are: C. Wayne Cook's "Effects of Season and Intensity of Use on Desert Vegetation" and "Managing Intermountain Rangelands - Salt Desert Shrub Ranges" Blaisdell and Holmgren. In considering these discussions, it seems that the Desert Range Experiment work relates more to winter use, while Cook also relates to spring and early summer grazing.

When considering these two studies in relation to grazing systems, Mr. Cook states, "Desert plants can tolerate about 25 percent utilization if grazed every year in the spring and only 50 to 60 percent, if these plants are grazed every other spring." He also points out, that with alternate year spring grazing, as much as a 16 percent reduction in production could be expected as compared to winter grazing on an annual basis.

In comparing levels of winter use for three consecutive years, Cook expressed little difference between 25 and 50 percent use. However, there was significantly more death loss and reduction in crown cover to 60 percent use than compared to 30 percent use for clipping studies. He stated that 75 percent use materially reduced production. Also, in the third year at 75 percent use of herbage removal, no additional production was available when compared to staying at the 25 percent use level. Based on this, it appears that if yields are to be maintained, less than 60 percent and more than 50 percent can be used each year in the winter. Blaisdell and Holmgren's recommended use of annual growth of key species (black sagebrush 70 percent, winterfat 60 percent, Indian ricegrass 75 percent, squirreltail 75 percent), generally exceeded the levels recommended by Cook. From these discussions, the proposed proper use levels of key species for the Warm Springs Resource Area are as follows:

APPENDIX 10

Percent Proper Use of Key Species
for Each Season and for Different Grazing Treatments

Season[a]	Each Year		Alternate Year		Rest More Than a Single Seasons[d]
	Mixed Seasons	Single Seasons	Mixed Seasons[b]	Single Seasons[c]	
Summer (June-Aug.)	50	50	50	55	55
Fall (Sept.-Nov.)	60	60	60	65	65
Winter (Dec.-Feb.)	60	70	60	70	75
Spring[e] (Mar.-May)	25	25	50	50	50

[a]In case of split season, the Proper Use Levels are Determined by weighting each season on a percentage basis. (Example 60 days winter X 60 percent proper use = 36.00 and 30 days spring X 25 percent = 7.5 [36 + 7.5 = 43.50]. Divide 43.50 by total days 90 [43.50 divided by 90 = 48 percent] average proper use 48 percent.)

[b]Use of a pasture extends into two or more seasons.

[c]Refers to a simple deferment system (used every other year).

[d]Refers to a more complex system (rest rotation, etc.).

[e]When spring use is alternated and other use is not, allow 37 percent use for the spring season.

AAPartridge/SSlack/st (11/1/85)

APPENDIX 11

Guidelines for Determining Range Forage Condition Classes
(Blaisdell and Holmgren, 1984)

EXCELLENT RANGE. Ranges in this classification are producing the maximum forage possible under the existing climatic and soil conditions. Vegetation consists of a quality stand of desirable forage species, including Indian ricegrass, galleta, needle-and-thread, sand dropseed, squirreltail, black sagebrush, winterfat, budsage, hopsage, globemallow, and fourwinged salt-bush. The species are healthy and vigorous and make up the major part of the vegetation.

GOOD RANGE. Such ranges produce nearly the maximum forage possible under the given climatic conditions. Vegetation consists chiefly of a good stand of desirable forage plants, e.g., winterfat, black sagebrush, budsage, galleta, Indian ricegrass, squirreltail, hopsage, globemallow, and most salt-bushes other than shadscale. These species are thrifty and vigorous and make up a major part of the vegetation. However, in plant communities normally dominated by such species as low rabbitbrush, shadscale, or greasewood, lower amounts of the desirable species are acceptable as good condition. The presence of annual weed species, such as halogeton is rare, in most years virtually absent.

FAIR RANGE. The vegetation is being thinned of the most desirable plants, which are being partially replaced by such inferior species as shadscale, low rabbitbrush, and annuals. Severe grazing use on palatable plants is apparent. Stubs or dead woody roots of desirable shrubs, such as winter fat, black sagebrush, or budsage are scattered throughout the vegetation. Annual weeds are common and produce a small portion of the yield in years favorable to their growth.

POOR RANGE. The desirable vegetation is sparce. Less desirable perennials and annuals, e.g. cheatgrass, Russian thistle, and halogeton dominate the communities. Desirable species are scattered throughout the communities, mostly hedged and low in vigor.

APPENDIX 12

RANGE CONDITION AND TREND SUMMARY

ALLOTMENT NAME	TOTAL FED ACRES	RANGE CONDITION EXCELLENT	GOOD	FAIR	POOR	TREND CONDITION DOWNWARD	STATIC	UPWARD
AMASA	4,782	0	478	1,913	2,391	956	3,348	478
ANDERSON	513	0	267	205	41	0	513	0
ANTELOPE POINT	2,895	0	0	2,895	0	359	0	2,536
BEESTON	480	0	0	480	0	0	480	0
BIG WASH	4,489	0	4,265	0	224	0	3,367	1,122
BLACK POINT	20,600	0	7,348	9,343	3,909	0	4,120	16,480
BLACK ROCK SUMMER	3,351	0	1,005	1,676	670	0	3,351	0
BLACK ROCK WINTER	8,806	1,321	3,082	3,082	1,321	0	1,761	7,045
BLACKHAM	30,788	1,539	18,473	7,697	3,079	0	18,473	12,315
BLIND VALLEY	39,940	7,988	19,970	11,183	799	0	11,991	27,949
BOOB CANYON	30,025	4,504	13,511	9,008	3,002	21,017	9,008	0
BRECKS KNOLL	69,393	13,878	27,758	24,287	3,470	0	69,393	0
BROWNS WASH	26,112	3,917	15,667	3,917	2,611	----	26,112	0
BUCKSKIN	21,898	5,474	16,424	----	----	0	8,759	13,139
CHURCH	1,253	0	263	865	125	0	1,253	0
CLAY SPRINGS	37,026	7,405	14,070	12,959	2,592	0	25,918	11,108
COATES	19,229	0	0	17,312	1,917	9,614	9,615	0
CONGER SPRING	70,425	3,521	55,637	10,563	704	0	70,425	0
CRICKETT	90,205	0	9,020	67,654	13,531	0	31,572	58,633
CROWS NEST	25,358	7,607	12,679	3,804	1,268	0	15,215	10,143
CRYSTAL PEAK	61,893	3,095	35,279	18,568	4,951	12,379	49,514	0
DEADMANS WASH	51,915	7,787	15,575	23,362	5,191	0	41,532	10,383
DEATH CANYON	27,279	0	13,640	12,276	1,363	0	27,279	0
DESERET	270,117	13,506	162,070	81,035	13,506	13,506	121,553	135,058
EAST ANTELOPE	16,404	0	2,060	8,034	6,310	4,921	10,663	820
EPHRAIM BAGNALL	17,299	0	5,190	10,379	1,730	0	17,299	0
EPHRAIM MEADOW	60,996	0	0	24,398	36,598	45,747	15,249	0
EPHRAIM MEADOW SHEEP	10,361	----	----	2,590	7,771	10,361	----	----
FAIRVIEW	55,068	8,260	27,534	16,520	2,754	0	33,041	22,027
FERGUSON	18,672	1,872	13,071	3,729	0	0	5,602	13,070
GARRISON	44,408	0	17,763	26,645	0	0	26,645	17,763
GRANITE	48,801	0	24,400	21,962	2,439	14,640	34,161	0
HOLDEN SPRING	2,880	0	780	2,100	0	0	2,880	0
HOLDEN WINTER	33,984	0	10,195	22,090	1,699	0	8,496	25,488
KING	48,035	0	9,607	31,223	7,205	14,411	28,821	4,803
KLONDIKE	32,700	0	16,350	14,715	1,635	0	32,700	0
KNOLL SPRINGS	34,116	1,706	11,941	15,352	5,117	0	11,258	22,858
LEDGER CANYON	17,811	0	8,906	8,015	890	0	17,811	0
MCCLINTOCK	1,600	0	0	1,088	512	0	1,600	----
MEADOW SPRING	2,731	0	273	819	1,639	0	1,912	819
MORMON GAP	46,606	6,991	18,642	13,982	6,991	0	23,303	23,303
NORTH CANYON	19,611	0	5,883	11,767	1,961	0	19,611	0
NOTCH PEAK	34,588	0	6,918	24,211	3,459	0	34,588	0
PAINTED POTHOLES	38,432	0	7,686	24,981	5,765	26,902	11,530	0
PAINTER SPRINGS	33,486	0	20,092	11,720	1,674	0	33,486	0
PINE VALLEY	40,565	0	24,339	12,169	4,057	0	40,565	0
SECTION 31	440	0	0	440	0	0	440	0
SEELY	46,208	0	4,621	36,966	4,621	13,862	32,346	0
SKULL ROCK	50,023	0	15,007	30,014	5,002	0	20,009	30,014
SKUNK SPRINGS	37,061	0	11,118	14,825	11,118	9,265	9,265	18,531
SOUTH TRACT (SUMMER)	2,298	0	2,125	173	----	0	2,298	0
SOUTH TRACT (WINTER)	2,532	----	----	2,532	----	----	2,532	----
STATE LINE	33,045	0	16,523	13,218	3,304	0	19,827	13,218
STEAMBOAT	29,109	0	0	20,376	8,733	0	29,109	0
STOTT	160	0	0	160	0	0	160	0
STOTT-ROWLEY	15,145	0	1,515	7,572	6,058	3,029	12,116	0
SUMMIT	1,872	0	1,872	0	0	0	636	1,236
T O JOHNSON	160	0	0	160	0	0	160	0
TEEPLES	920	0	0	920	0	0	920	0
TWIN PEAKS (S)	23,162	0	13,162	10,000	0	0	23,162	0
TWIN PEAKS (W)	156,707	0	39,177	94,024	23,506	7,835	78,354	70,518
VOORHEES	26,958	0	13,479	12,131	1,348	0	26,958	0
WALLACE	900	0	477	423	0	0	900	0
WHEELER	17,522	0	1,752	12,266	3,504	5,257	12,265	0
WHISKEY CREEK	5,001	0	4,082	919	0	0	0	5,001
WHITE BUSH	80	0	40	40	0	0	80	0

FED ACRES	EXCEL RNG COND	GOOD RANGE CO\	FAIR RANGE CO\	POOR RANGE CO\	TREND DOWN	TREND STAT	TREND UP
2,027,229	100,371	803,061	889,732	234,065	214,061	1,237,310	575,858

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WARM SPRINGS RESOURCE AREA
P O Box 778
Fillmore, Utah 84631

IN REPLY
REFER TO:

STAFF REPORT

TITLE: Methods of Determining Diet Overlap Between Livestock and Big Game Animals.

DATE: November 26, 1985

AUTHOR: John Augsburger, WSRA Wildlife Biologist

The percent similarity of diets (diet overlap) for sheep, cattle, antelope, mule deer, elk, and desert bighorn were computed using Kulcyznski's formula:

$$S = \frac{(2)\ (W)\ (100)}{(A + B)}$$

S = Similarity of diets.
W = Sum of quantity of each species that the two diets have in common.
A = Total quantity of all species in diet A.
B = Total quantity of all species in diet B.

When sufficient data was available, the Key species, as identified by the range conservationists, were used to compare diets and determine overlap. When no comparable data was available on the key species, data on all grasses were used for comparison. Studies from the areas most similar to that within the WSRA were used when available. Also, similar seasons were used when possible.

Diet overlap for antelope versus winter sheep and winter cattle were computed using data from Smith and Beale, Pronghorn Antelope in Utah, 1980. Key species for sheep are black sagebrush, winterfat, and Indian ricegrass. Sheep used 23, 18, and 23 percent, respectively. Antelope used 21, less than 1, and 0 percent, respectively. The diet overlap is 51 percent.

For cattle and antelope with key species of winterfat, Indian ricegrass, and Galleta grass, the diet overlap was 2 percent. Cattle used 12, 50, and 19 percent, respectively and antelope used less than 1, 0, and 0, respectively.

For cattle and antelope, with black sagebrush added to the key species list, the 11 percent use by cattle increased the diet overlap to 20 percent.

For computing the sheep versus mule deer diet overlap, Smith and Beale was used for the sheep diet (see above), and mule deer diets were based on Smith and Julander, Deer and Sheep Competition in Utah, 1953 and Longhurst et al., Livestock and Wild Ungulates. Deer diets were 4 percent black sage, 3 percent winterfat, and 0 percent Indian ricegrass. Diet overlap was computed to be 20 percent.

APPENDIX 13

Diet overlap for fall and winter mule deer and winter cattle on the West Desert was taken directly from fecal sample food habit analysis performed by Colorado State University. These samples were collected on the WSRA in conjunction with wild horse studies. The diet similarity was found to be 8 percent.

Cattle and mule deer diet overlap on the Pavant foothill ranges and the big sagebrush ranges of the Black Rock Desert was determined to be 4 percent. No specifically applicable data was available. The study by Odell Julander in the Oak Creek area within four juniper-oak-sagebrush habitat types was used as a basis for computing the overlap. Use on all perennial grasses was combined as specific species were not deliniated in the study.

Diet overlap between cattle and elk (55 percent) was taken from a food relation study conducted on the Red Desert in Wyoming. The overlap between cattle and bighorn sheep (52 percent) is taken from dietary studies from northwestern Nevada. Both elk and bighorn diet overlaps were based on the total diets of all species, not key forage plants.

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Olsen, Frank W. and Hansen, Richard M. 1977. "Food Relations of Wild Free-Roaming Horses to Livestock and Big Game, Red Desert, Wyoming." Journal of Range Management.

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Smith, Justin G. and Julander, Odell. 1953. "Deer and Sheep Competition in Utah." Journal of Wildlife Management.

APPENDIX 14

Average Costs and Returns for Small Beef Herds
(1-99 Cows), Warm Springs Resource Area, 1982

Item	Unit	Number	Average Weight	Price CWT	Total Value
Sales:					
Steer Calves	Head	11	420	$65.44	$3,023
Heifer Calves	Head	7	385	56.00	1,509
Yearling Steers	Head	5	700	59.75	2,091
Yearling Heifers	Head	5	625	53.95	1,686
Cull Cows	Head	4	950	37.71	1,433
Total Sales	Dol.				9,742
Total Per Cow	Dol.				211.78

Item	Unit	Number	Price	Value/ Cow	Total Value
Cash Costs:					
Federal Grazing Fee[a]	AM	219	1.86	8.85	407
Private Pasture Lease	AUM	--	--	--	--
State Land Lease	AUM	--	--	--	--
Irrigated Pasture	AUM	--	--	--	--
Hay Produced	Ton	73.3	40.71	64.87	2,984
Protein Supplement	Ton	6.0	199.0	25.96	1,194
Salt and Mineral	CWT	16.1	4.85	1.70	78
Vet. and Medicine	Dol.	--	--	5.96	274
Hired Trucking	Dol.	--	--	5.85	269
Marketing	Dol.	--	--	2.61	120
General Overhead	Dol.	--	--	10.22	470
Hired Labor	Hrs.	--	--	--	--
Fuel/Lubricants	Dol.	--	--	20.67	951
Repairs	Dol.	--	--	13.35	614
Taxes	Dol.	--	--	5.85	269
Insurance	Dol.	--	--	9.46	205
Interest on Operating Capital	Dol.	5,699.1	0.15	18.15	835
Total Cash Costs	Dol.			188.48	8,670
Other Costs:					
Family Labor	Hrs.	552.0	4.22	50.63	2,329
Capital Replacement	Dol.	--	--	37.76	1,737
Interest on Investment Other Than Land	Dol.	--	--	93.28	4,291
Interest on Land	Dol.	--	--	193.63	8,907
Total Other Costs	Dol.	--	--	375.30	17,264
Total All Costs	Dol.			563.78	25,934
Return Above Cash Costs	Dol.	--	--	23.30	1,072
Return Above Cash Costs and Family Labor	Dol.	--	--	-27.33	-1,257
Return to Total Investment[b]	Dol.			-65.09	-2,994
Return to Land[c]	Dol.			-158.37	-7,285

Source: USDA, Economic Research Service, 1982.

[a]Includes both Forest Service and BLM grazing fees.

[b]Return above cash costs and family labor minus capital replacement.

[c]Return to total investment minus interest on investment other than land.

APPENDIX 15

Average Costs and Returns for Medium Beef Herds (100-499 Cows), Warm Springs Resource Area, 1982

Item	Unit	Number	Average Weight	Price CWT	Total Value
Sales:					
Steer Calves	Head	58	420	$65.44	$15,941
Heifer Calves	Head	33	385	56.00	7,115
Yearling Steers	Head	24	700	59.75	10,038
Yearling Heifers	Head	18	625	53.95	6,069
Cull Cows	Head	26	950	37.71	9,314
Total Sales	Dol.				48,477
Total Per Cow	Dol.				202.83

Item	Unit	Number	Price	Value/ Cow	Total Value
Cash Costs:					
Federal Grazing Fee[a]	AM	1,694.0	1.86	13.18	3,151
Private Pasture Lease	AUM	--	--	--	--
State Land Lease	AUM	--	--	--	--
Irrigated Pasture	AUM	--	--	--	--
Hay Produced	Ton	475.8	40.71	81.05	19,370
Protein Supplement	Ton	26.3	199.0	21.90	5,234
Salt and Mineral	CWT	83.6	4.85	1.69	405
Vet. and Medicine	Dol.	--	--	5.10	1,219
Hired Trucking	Dol.	--	--	1.42	340
Marketing	Dol.	--	--	0.77	185
General Overhead	Dol.	--	--	10.92	2,611
Hired Labor	Hrs.	625.0	4.22	11.04	2,638
Fuel/Lubricants	Dol.	--	--	7.59	1,814
Repairs	Dol.	--	--	6.11	1,460
Taxes	Dol.	--	--	4.54	1,084
Insurance	Dol.	--	--	4.25	1,015
Interest on Operating Capital	Dol.	18,657.5	0.15	11.55	2,761
Total Cash Costs	Dol.			181.12	43,287
Other Costs:					
Family Labor	Hrs.	2,060	4.22	36.37	8,693
Capital Replacement	Dol.	--	--	24.04	5,745
Interest on Investment Other Than Land	Dol.	--	--	85.41	10,412
Interest on Land	Dol.	--	--	167.51	40,036
Total Other Costs	Dol.	--	--	313.33	74,886
Total All Costs	Dol.			494.45	118,173
Return Above Cash Costs	Dol.	--	--	21.72	5,190
Return Above Cash Costs and Family Labor	Dol.	--	--	-14.66	-3,503
Return to Total Investment[b]	Dol.			-38.69	-9,248
Return to Land[c]	Dol.			-124.10	-29,660

Source: USDA, Economic Research Service, 1982.

[a]Includes both Forest Service and BLM grazing fees.

[b]Return above cash costs and family labor minus capital replacement.

[c]Return to total investment minus interest on investment other than land.

APPENDIX 16

Average Costs and Returns for Large Beef Herds
(500-or more Cows), Warm Springs Resource Area, 1982

Item	Unit	Number	Average Weight	Price CWT	Total Value
Sales:					
Steer Calves	Head	301	420	$65.44	$82,729
Heifer Calves	Head	167	385	56.00	36,005
Yearling Steers	Head	139	700	59.75	58,137
Yearling Heifers	Head	112	625	53.95	41,825
Cull Cows	Head	133	950	37.71	47,647
Total Sales	Dol.				266,343
Total Per Cow	Dol.				202.54

Item	Unit	Number	Price	Value/ Cow	Total Value
Cash Costs:					
Federal Grazing Fee[a]	AM	5,997.0	1.86	8.48	11,154
Private Pasture Lease	AUM	--	--	--	--
State Land Lease	AUM	--	--	--	--
Irrigated Pasture	AUM	--	--	--	--
Hay Produced	Ton	1,372.1	40.71	42.48	55,858
Protein Supplement	Ton	60.1	199.0	9.08	11,940
Salt and Mineral	CWT	460.2	4.85	1.70	2,232
Vet. and Medicine	Dol.	--	--	3.90	5,128
Hired Trucking	Dol.	--	--	1.52	1,995
Marketing	Dol.	--	--	0.71	940
General Overhead	Dol.	--	--	5.78	7,600
Hired Labor	Hrs.	6,850.0	4.22	21.98	28,907
Fuel/Lubricants	Dol.	--	--	3.50	4,609
Repairs	Dol.	--	--	6.53	8,593
Taxes	Dol.	--	--	4.03	5,302
Insurance	Dol.	--	--	4.00	5,259
Interest on Operating Capital	Dol.	73,709.7	0.15	8.30	10,909
Total Cash Costs	Dol.			122.00	160,426
Other Costs:					
Family Labor	Hrs.	2,995.0	4.22	9.61	12,639
Capital Replacement	Dol.	--	--	24.18	31,802
Interest on Investment Other Than Land	Dol.	--	--	80.81	106,262
Interest on Land	Dol.	--	--	161.69	212,623
Total Other Costs	Dol.	--	--	276.29	363,326
Total All Costs	Dol.			398.29	523,752
Return Above Cash Costs	Dol.	--	--	80.55	105,917
Return Above Cash Costs and Family Labor	Dol.	--	--	70.93	93,278
Return to Total Investment[b]	Dol.			46.75	61,476
Return to Land[c]	Dol.			-34.06	-44,786

Source: USDA, Economic Research Service, 1982.

[a]Includes both Forest Service and BLM grazing fees.

[b]Return above cash costs and family labor minus capital replacement.

[c]Return to total investment minus interest on investment other than land.

APPENDIX 17

Average Costs and Returns for Sheep Interprises (All Sizes), Warm Springs Resource Area, 1982

Item	Unit	Number	Average Weight	Price CWT	Total Value
Sales:					
Slaughter lambs	Head	486	97	$48.93	$23,007
Feeder Lambs	Head	1,133	82	49.26	45,765
Cull Ewes	Head	330	135	10.50	4,678
Wool	lbs.	22,570	--	0.89	20,087
Wool Incentive Payments	Dol.	20,087	--	1.00	20,087
Unshorn Lamb Payment	Dol.	1,401	--	2.74	3,839
Total Sales	Dol.				117,523
Total Value Per Ewe	Dol.				53.37

Item	Unit	Number	Price	Value/ Ewe	Total Value
Cash Costs:					
Federal Grazing Fee[a]	AM	2,981.0	1.86	2.52	5,545
Private Pasture Lease	AUM	1,104.2	9.29	4.66	10,258
Hay Produced	Ton	113.5	40.71	2.10	4,621
Grain Produced	Ton	900.0	2.51	1.03	2,259
Protein Supplement	Ton	3.0	199.00	0.27	597
Salt and Mineral	CWT	159.0	4.85	0.35	771
Vet. and Medicine	Dol.	--	--	0.40	889
Hired Trucking	Dol.	--	--	2.50	5,505
Marketing	Dol.	--	--	0.14	299
Shearing	Dol.	--	--	2.15	4,734
Ram Death Loos	Dol.	--	--	0.69	1,519
General Overhead	Dol.	--	--	1.25	2,752
Hired Labor	Hrs.	2,555.0	4.22	4.90	10,782
Fuel/Lubricants	Dol.	--	--	2.10	4,424
Repairs	Dol.	--	--	1.77	3,907
Taxes	Dol.	--	--	0.55	1,211
Insurance	Dol.	--	--	0.41	905
Miscellaneous	Dol.	--	--	1.22	2,686
Interest on Operating Capital	Dol.	18,797.6	0.15	1.26	2,782
Total Cash Costs	Dol.			30.18	66,446
Other Costs:					
Family Labor	Hrs.	2,990.0	4.22	5.73	12,618
Depreciation	Dol.	--	--	7.31	16,086
Interest on Investment Other Than Land	Dol.	--	--	11.36	25,018
Interest on Land	Dol.	--	--	9.42	20,748
Total Other Costs	Dol.	--	--	33.82	74,470
Total All Costs	Dol.			63.99	140,916
Return Above Cash Costs	Dol.	--	--	23.20	51,077
Return Above Cash Costs and Family Labor	Dol.	--	--	17.47	38,459
Return to Total Investment[b]	Dol.			10.16	22,373
Return to Land[c]	Dol.			-1.20	-2,645

Source: USDA, Economic Research Service, 1982.

[a]Includes both Forest Service and BLM grazing fees.

[b]Return above cash costs and family labor minus depreciation.

[c]Return to total investment minus interest on investment other than land.

APPENDIX 18

United States Department of the Interior
FISH AND WILDLIFE SERVICE
ENDANGERED SPECIES OFFICE
2078 ADMINISTRATION BLDG.
1745 WEST 1700 SOUTH
SALT LAKE CITY, UTAH 84104

IN REPLY REFER TO

January 6, 1986

MEMORANDUM

TO: Area Manager, Warm Springs Resource Area, Bureau of Land Management, Fillmore, Utah

FROM: Field Supervisor, Endangered Species Office, U.S. Fish and Wildlife Service, Salt Lake City, Utah

SUBJECT: Endangered Species List for Warm Springs Resource Area

In response to your memorandum of November 18, 1985, concerning an updated species list for your Resource Management Plan, we are providing you the following list of species that may be present in the concerned area:

Listed		Status
Peregrine falcon	Falco peregrinus	Endangered
Bald eagle	Haliaeetus leucocephalus	Endangered

We would like to bring to your attention species which are candidates for official listing as threatened or endangered (see 49 FR 21664, 50 FR 37958, 50 FR 39526). While these species have no legal protection under the Endangered Species Act we ask that you try and avoid them if they are found in the area covered by your resource management plan. Candidate species which may occur in the area of your project are as follows:

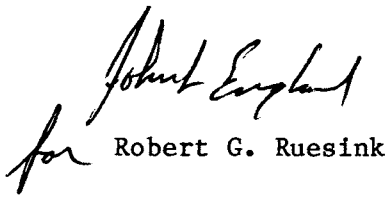
Candidate		Category
Ferruginous hawk	Buteo regalis	2
Swainson's hawk	Buteo swainsoni	2
Western snowy plover	Charadrius alexandrinus nivosus	2
Long-billed curlew	Numenius americanus	2
White-faced ibis	Plegadis chihi	2
Currant milk-vetch	Astragalus uncialis	2
Compact catseye	Cryptantha compacta	1
Frisco clover	Trifolium andersonii var. friscanum	1
Sand-loving wild-buckwheat	Eriogonum ammophilum	1
Tunnel springs beard tongue	Penstemon concinnus	2
Warner's dodder	Cuscuta warneri	2
No common name	Frasera gypsicola	1
Jones globe mallow	Sphaeralcea caespitosa	2
Clear Lake pocket gopher	Thomomys umbrinus convexus	2

The Federal agency should review their proposed action and determine if the action would affect any listed species. If the determination is "may affect" for listed species you must request in writing formal consultation from the Field Supervisor, U.S. Fish and Wildlife Service (FWS) at the address given above. At this time you should provide this office a copy of the biological assessment and any other relevant information that assisted you in reaching your conclusion.

The FWS can enter into formal Section 7 consultation only with another Federal agency or its designee. State, county, or any other governmental or private organizations can participate in the consultation process, help prepare information such as the biological assessment, participate in meetings, etc.

Your attention is also directed to Section 7(d) of the Endangered Species Act, as amended, which underscores the requirement that the Federal agency or the applicant shall not make any irreversible or irretrievable commitment of resources during the consultation period which, in effect, would deny the formulation or implementation of reasonable and prudent alternatives regarding their actions on any endangered or threatened species.

We are prepared to assist you whenever you have questions which we may be able to answer. If we can be of further assistance, please advise us. The FWS representative who will provide you technical assistance is Robert Benton; FTS 588-4430; comm. 524-4430.



for Robert G. Ruesink

GLOSSARY

ACRE-FOOT. The volume (as of irrigation water) that would cover 1 acre to a depth of 1 foot (43,560 cubic feet or 325,900 gallons).

ACTIVE PREFERENCE. The total number of AUMs of forage that a permittee can license for livestock use in one allotment.

ACTUAL USE. The use made of forage in an area by livestock, big game, and/or wild horses. Usually expressed in animal unit months per year.

AIR QUALITY. A Measure of the health-related and visual characteristics of the air, often derived from quantitative measurements of the concentrations of specific injurious or contaminating substances.

AIR QUALITY CLASS I AND II AREAS. Regions where maintenance of existing good air quality is of high priority. Class I areas are those that have the most stringent degree of protection from future degradation of air quality, such as National Parks. Class II areas permit moderate deterioration of existing air quality, such as lands administered by the Bureau of Land Management (BLM).

ALKALI SOIL (SODIC). A soil which has such a high degree of alkalinity (pH 8.5 or higher) or percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that the growth of most crop plants is severely restricted.

ALLOTMENT. An area of land designated and managed for grazing of livestock of one or more qualified grazing permittees. Use is limited to prescribed numbers and kinds of livestock for a prescribed period(s) of each year.

ALLOTMENT MANAGEMENT PLAN (AMP). A written program of livestock grazing management which applies to operations on public land. An AMP specifies management goals and required support measures. It is prepared in consultation, cooperation, and coordination with the permittee(s), lessee(s), or other involved affected interests.

ALTERNATIVE. One of at least two proposed means of accomplishing planning objectives.

ANALYSIS. The examination of existing and/or recommended management needs and their relationships to discover and display the outputs, benefits, effects, and consequences of initiating a proposed action.

ANIMAL UNIT MONTH (AUM). The amount of forage required to sustain the equivalent of 1 cow or its equivalent for 1 month: 1 wild horse for 1 month; 6.2 sheep for 1 month; 8.9 deer for 1 month (winter season), 5.8 deer for 1 month (summer season); 9.6 antelope for 1 month; 5.5 bighorn sheep for 1 month; 2.2. burros for 1 month; 1.2 elk for 1 month (winter season) or 2.1 elk for 1 month (yearlong) (usually 800 lbs. of usable air-dried forage.).

AQUATIC. Living or growing in or on the water.

ARCHAEOLOGY. The scientific study of the material remains of extinct peoples and past cultures.

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC). An area of 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/provide safety from natural hazards.

BASIC VISUAL ELEMENTS. The elements which determine how the character of a landscape is perceived. *Form:* The shape of object such as landforms or patterns in the landscape. *Line:* Perceivable linear changes in contrast resulting from abrupt differences in form, color, or texture. *Color:* The reflected light of different wave lengths that enables the eye to differentiate otherwise identical objects. *Texture:*The visual results of variation in the surface of an object.

BLOCKFAULTING. A type of normal faulting in which the crust is divided into structural or fault blocks of different elevations and orientations. It is the process by which block mountains are formed.

CHAINING. The process of modifying vegetation by pulling an anchor chain between two crawler tractors, thus reducing tall-growing, brittle vegetation and enhancing grasses, forbs, and sprouting shrubs.

CLASTIC. Of, belonging to, or being a rock (as a conglomerate or a sandstone) made of fragments of preexisting rocks.

COMMERCIAL FOREST LANDS. Forested lands which produce at least 20 cubic feet of wood volume per acre per year.

COMPETITIVE FORAGE. Plant species which are grazed (preferred) by more than one species of herbivore.

CONFORMATION. Arrangement of parts, manner of formation or structure.

CRITICAL WILDLIFE HABITAT. That portion of wildlife habitat that is essential to the survival and perpetuation of a certain species in an area.

CROWN CLOSURE OR DENSITY. When viewed from above, the percent of the ground that is covered by the crowns of trees.

CULTURAL RESOURCES. Those resources of historical, archaeological, and paleontological significance.

DESIGNATED RIGHT-OF-WAY CORRIDOR. A parcel of land linear or aerial, that has been identified through the land use planning process or by other management decision as being a preferred location for existing and future rights-of-way, and suitable to accommodate more than one type of right-of-way or one or more rights-of-way which are similar, or compatible.

EMISSION. Pollutants released to the atmosphere from any combustion process. Sometimes used synonymously with effluent, but it is more applicable to atmospheric discharges.

ENDANGERED SPECIES. Any animal or plant species in danger of extinction throughout all or a significant portion of its range.

ENDEMIC. A species restricted to a given geographical location and which are native to that locale.

ENVIRONMENT. All that surrounds an organism and interacts with it.

ENVIRONMENTAL ANALYSIS. A systematic process for consideration of environmental factors in land management actions.

EPHEMERAL STREAM. A stream or reach of a stream that flow briefly only in direct response to rain or snow melt in the immediate locality and whose channel is at all times above the water table.

ERODIBILITY. Susceptibility of a soil to erosion by water or wind. Relative terms are none, slight, moderate, and high.

EROSION CONDITION CLASSES. There are five classes: stable, slight, moderate, critical, and severe. Soil surface factors (SSFs) are used to determine the erosion condition class.

EXCHANGE-OF-USE. An agreement made with a permittee having ownership or control of nonfederal land interspersed and grazed in conjunction with surrounding Federal range. This agreement specifies the carrying capacity and gives BLM control of the nonfederal land for grazing purposes.

EXCLOSURE. An area fenced to exclude animals.

EXTENSIVE RECREATION MANAGEMENT AREA. Areas where significant recreation opportunities and problems are limited and explicit recreation management is not required. Standard BLM management actions are adequate in these areas.

FIRE MANAGEMENT PLAN. An activity plan developed to support and accomplish resource management objectives and applicable land-use decision authorized in BLM Resource Management Plans. Establishes basic direction for the fire management program, identifies priorities for execution, and determines levels of fire resources (personnel, engines, aircraft, and facilities), including an economic analysis.

FIXED COSTS. A cost which does not necessarily increase or decrease as the total volume of production increases or decreases (e.g., taxes on real property).

FORAGE. Vegetation of all forms available and of a type used for animal consumption.

FORB. A broad-leafed aceous plant.

FOREST PRODUCTS. Woodland and timber products, such as posts, poles, firewood, and sawlogs.

FULL FIRE SUPPRESSION. The full suppression of wildfires on the resource area with whatever combination of manpower, equipment, and judgement is required.

GENE POOL. The total diversity of genetic potential of an animal species.

GRAZING PERMIT. An authorization which allows grazing on public lands. Permits specify class of livestock on a designated area during specified seasons each year. Permits are of two types: preference (10 year) and temporary nonrenewable (1 year).

GRAZING PERMIT VALUE. BLM allocated AUMs may be transferred from one operator to another. The dollar value given by one operator (buyer) to induce a present permit holder (seller) to transfer his permit is known as the "permit value" of an AUM. This "permit value" may have a significant bearing on the rancher's capital value.

GRAZING PREFERENCE. The total number (active and suspended non-use) of animal unit months of livestock grazing on public land apportioned and attached to base property owned or controlled by a permittee.

GRAZING SYSTEM. A prescribed method of grazing a range allotment having two or more pastures or management units to provide periodic rest for each unit.

HABITAT. A specific set of physical conditions in a geographic area(s) that surround a single

species, a group of species, or a large community In wildlife management, the major components of habitat are food, water, cover, and living space.

HABITAT MANAGEMENT PLAN (HMP). A plan for a geographic area of public lands which identifies wildlife habitat management actions to be implemented to achieve specific objectives.

HERBIVORE. Animals that browse or graze upon plants.

HYDROCARBONS. A general term for organic compounds that contain only carbon and hydrogen in the molecule.

IMPOUNDMENT. A structure usually made of earth to hold runoff water.

IMPROVED WATER SOURCE. Water sources (springs, wells) that have facilities, such as water boxes, pipelines, troughs, pumps, etc., installed to increase water quality, quantity, and availability.

INBREEDING. The mating of related individuals.

INTERIM MANAGEMENT POLICY (IMP). An interim measure governing lands under wilderness review. This policy protects Wilderness Study Areas from impairment of their suitability as wilderness.

INTERMITTENT STREAM. A stream which flows part of the time, usually after a rainstorm, during wet weather, or only part of the year.

KIND OR CLASS OF LIVESTOCK. Kind: The species of domestic livestock—cattle and sheep. Class: The age class (i.e., yearling or cows) of a species of livestock.

KNOWN GEOLOGIC STRUCTURES (KGS). Technically, the known geologic structure of a producing oil or gas field is constructed by the Geological Survey to be the trap, whether structural or stratigraphic, in which an accumulation of oil or gas has taken place, and the limits of said trap, irrespective of the degree to which it may be occupied by oil or gas. Known geologic structures are frequently much more extensive than the pools of oil or gas they may contain, and the extent and place of any oil or gas accumulation therein, though influenced by structure, is finally determined by such factors as stratigraphy, hydrocarbon supply, sand conditions, and hydrostatic pressure. The Geological Survey seeks to evaluate the net effect of these several factors in terms of reasonably presumptive productive acreage and, as far as practicable, to conform the results, modified to include a fair safety margin, to the subsurface contours of the dominant structural feature involved.

LAND USE PLAN. A plan that reflects an analysis of activity systems and a carefully studied estimate of future land requirements for expansion, growth control, and revitalization or renewal. The plan shows how development in the area should proceed in the future to insure the best possible physical environment for living, the most economic and environmentally sensitive use of land, and the proper balance in use from a cost-revenue point of view. The land use plan embodies a proposal as to how land should be used in the future, recognizing local objectives and generally accepted principals of health, safety, convenience, economy, and general living amenities.

LEASABLE MINERALS. Refer to Mineral Classifications.

LEASING CATEGORIES. The four categories used to determine leasing activities for oil and gas and tar sand were based on potential for development, other resource uses, and protection of sensitive resource values. Category 1 opens all public lands to leasing with standard stipulations. Category 2 allows leasing with standard and special stipulations to protect sensitive resource values. Category 3 allows leasing with no right of surface occupancy: recovery methods must not disturb the surface. Category 4 closes lands to leasing.

LIMITED FIRE SUPPRESSION. This is a wildfire suppression action, which recognizes that fire suppression in specific areas is: (1) extremely difficult to suppress (hazardous to fire fighting personnel or suppression operation including aircraft); (2) the resource value threatened do not warrant the expense associated with a full suppression action; or (3) the area has been identified as an area for prescribed burning.

LIVESTOCK PERMITTEE. A person or organization legally permitted to graze livestock on public lands.

LOCATABLE MINERALS. Refer to Mineral Classifications.

M I C SELECTIVE MANAGEMENT POLICY. Direction under which all grazing allotments are categorized for management purposes into three groups. The overall objectives are: M—maintain the current resource conditions; I—improve the current resource conditions; and C—Custodially manage the existing resource values.

MANAGEMENT CONCERN. Concerns which do not meet the criteria for a planning issue but cannot be resolved administratively. Management concerns result from professional judgment and familiarity with conditions in a resource area and

may be further defined by inventory and analysis. Examples might include a fragile watershed or a need to establish special designation.

MANAGEMENT FRAMEWORK PLAN (MFP). A land use plan for public lands administered by BLM which provides a set of goals, objectives, and constraints for a specific planning unit or area; a guide to the development of detailed plans for the management of each resource. This form of plan is now being replaced with Resource Management Plans.

MINERAL CLASSIFICATIONS. Minerals are classified into several broad categories. Leasable minerals resources include oil, gas, tar sand, oil shale, geothermal, and carbon dioxide. Locatable minerals include uranium, gold, silver, copper, and vanadium. Saleable resources include sand, gravel, and building stone.

MULTIPLE USE. Management of public lands and their various resource values so that they are used in the combination that will best meet the present and future needs of the American people. Relative values of the resources are considered, not necessarily the combination of uses that will give the greatest potential economic return or the greatest unit output.

NATIVE RANGE. Those rangelands which support natural vegetation as opposed to reseeded range which usually contains introduced vegetation.

NATURALNESS. An area which "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable." (Section 2[c], *Wilderness Act*).

NITROGEN OXIDES. Nitrogen compounds produced by combustion, particularly when there is an excess of air or when combustion temperatures are very high.

NONCOMMERCIAL FOREST LANDS. Lands which produce less than 20 cubic feet of forest products per year.

NON-COMPETITIVE FORAGE. Forage which deer, elk, wild horses, or antelope use and which are not used by livestock.

OCCULAR RECONNAISSANCE SURVEY. A forage survey method which inventories vegetation by estimating total forage density, percent composition by species, and total usable forage in a given range type to determine the carrying capacity for livestock and wildlife.

OFF-ROAD VEHICLES (ORV). Any motorized vehicle designed for or capable of cross-country travel over lands, water, sand, snow, ice, marsh, swampland, or other terrain.

OPTION VALUE. A distinct category of non-user benefits which is the amount which people would be willing to pay for retention of a recreation area or facility which is not captured by user charges or taxation or even estimated as users current consumer's surplus.

PARTICULATE MATTER. Any material, except water in a chemically uncombined form, that is or has been airborne and exists as a liquid or a solid at standard temperature and pressure conditions. Minute particles of coal dust, fly ash, smoke, or other solid material suspended in the atmosphere.

PERCENT FEDERAL RANGE. AUMs on public lands compared to AUMs on private and State lands.

PERCENT UTILIZATION. Grazing use of current growth, usually expressed as a percent of weight removed and most often related to key plant species.

PERMANENT IMPROVEMENT. A man-made structural or nonstructural improvement which will remain at a particular location for more than one field season, as differentiated from temporary structures. Includes such items as toilet buildings, trails, cabins, signs, fences, vegetation treatment areas, shelters, and fire grills.

PERMIT. Vegetation or Mineral Material Negotiated Cash Sale Contract (Form 5450-5) authorizes cutting, gathering, excavation, and removal of the specified material from a specified public land site or area.

PLANNING AREA. One or more planning units for which Management Framework Plans are prepared.

PLANNING ISSUE. (Bureau Manual 1616.1). Multiple use conflicts which usually are long term and cannot be resolved by administrative action only. A planning issue must have two or more of the following characteristics: (1) concern expressed by public land users, State or local government, or another Federal agency; (2) existing or potential serious deterioration of public lands or resources; (3) possible significant impacts on and sometimes off public lands; (4) proposed uses which may not be in the best public interest or which may be in serious conflict with other uses. In addition, a planning issue must be mappable, decisions which could resolve it must be discretionary, it must not require resolution before planning is completed, and there must be alternative means of resolution. Resource management programs are not, by themselves, planning issues.

PLANNING UNIT. A geographic unit within a BLM district that includes related lands, resources, and use pressure problems which are considered together for resource inventory and planning.

PLANT COMPOSITION. The mixture of plants found in a vegetation type or study area usually expressed in percents as related to all the other plants.

PLANT VIGOR. The relative well being and health of a plant as reflected by its ability to manufacture sufficient food for growth and maintenance.

PRESCRIBED FIRE. Controlled application of fire to natural fuels under conditions of weather, fuel moisture, and soil moisture that will allow confinement of the fire to a predetermined area and, at the same time, will produce the intensity of heat and rate of spread required to accomplish certain planned benefits to one or more objectives to wildlife, livestock, and watershed values. The overall objective is to employ fire scientifically to realize maximum net benefits at minimum environmental damage and acceptable cost.

PRIOR STABLE LEVELS. A calculated number derived from deer population dynamics data from the average of 10 or more years when deer populations were stable and at or near the carrying capacity of the range of a given deer herd unit.

PROPER USE. A degree and time of grazing use which, if continued, will either maintain or improve the vegetation condition consis-**PROPER USE.** A degree and time of grazing use which, if continued, will either maintain or improve the vegetation condition consistent with conservation or other natural resources.

PUBLIC LANDS. Any lands or interest in lands outside of Alaska owned by the United States and administered by the Secretary of the Interior through the BLM, except lands located on the Outer Continental Shelf and lands held for the benefit of Indians.

PUBLIC PARTICIPATION. The process of attaining citizen input into each stage of development of planning documents. It is required as a major input into the BLM's planning system.

RANGE CONDITION. The present state of vegetation of a range site in relation to the climax (natural potential) plant community for that site. Condition is expressed as excellent, good, fair, or poor.

RANGE FORAGE CONDITION. A condition rating based on the amount of forage (lbs/acre) currently produced on an allotment useable by livestock in relation to its potential forage production (lbs/acre).

RANGE IMPROVEMENTS (STRUCTURAL AND NONSTRUCTURAL). Any activity or program on or relating to rangelands that is designed to improve forage production, change vegetation composition, control patterns of use, provide water, stabilize soil and water conditions, and enhance habitat for livestock, wildlife, and wild horses and burros. Rangeland improvements include nonstructural (land treatments, e.g., chaining, seeding, burning, etc.) and structural (stockwater developments, fences, and trails).

RANGE SITE. A distinctive kind of rangeland that differs from other kinds of rangeland in its potential to produce native plants.

RANGELAND. Land dominated by vegetation that is useful for grazing and browsing by animals. "Range" and "rangeland" are used interchangeably.

RANGELAND MONITORING PROGRAM. A program designed to measure changes in plant composition, ground cover, animal populations, and climatic conditions on the public rangeland. Vegetation studies are used to monitor changes in rangeland condition and determine the reason for any changes that are occurring. The vegetation studies consist of actual use, utilization, trend, and climatic conditions.

RANGELAND SURVEY/STUDIES. An inventory of the rangeland resources including production of plant materials, plant composition, rangeland use, physical features, and natural conditions, such as water, barriers, etc., for the purpose of estimating ecological conditions, trends in condition, estimated proper stocking rates, etc. These studies are useful in management planning.

RAPTORS. Birds of prey, such as the eagle, falcon, hawk, owl, or vulture.

REGION. May be any geographic area larger than a planning area (Social-Economic Profile Area, sub-State, State, Multi-State, or National), which is appropriate for comparative area analysis and for which information is available. Regions may be different for different resources or subject matter analysis.

RELATIVE HUMIDITY. The relative measure of water vapor content in the atmosphere.

RELICT VEGETATION. A remnant or fragment of a flora that remains from a former period when it was more widely distributed.

RESOURCE AREA. A manageable geographic subdivision of a BLM District consisting of one or more planning areas.

RESOURCES. All of the products and physical values produced or contained within public lands. They include the values which are known as natural resources (i.e., timber, coal, oil, etc.).

RIPARIAN HABITAT. A native environment growing near streams, reservoirs, ponds, etc. that provides food, cover, water, and living space (permanent or intermittent). It is usually unique or limited in arid regions and is, therefore, of great importance to a wide variety of wildlife.

RIPARIAN VEGETATION. Plants adapted to moist growing conditions along streams, waterways, ponds, etc.

SALINE-ALKALI SOIL. A soil containing sufficient exchangeable sodium to interfere with the growth of most crop plants and containing appreciable quantities of soluble salts. The exchangeable-sodium-percentage is greater than 15, and the electrical conductivity of the saturation extract is greater than 4 mmhos per centimeter (at 25 degrees C). The pH reading of the saturated soil is usually less than 8.5.

SALINE SOIL. A nonalkali soil containing soluble salts in such quantities that they interfere with the growth of most crop plants. The electrical conductivity of the saturation extract is greater than 4 mmhos per centimeter (at 25 degrees C), and the exchangeable-sodium-percentage is less than 15. The pH reading of the saturated soil is usually less than 8.5. *Slightly Saline:* Less than 4 mmhos above 3 inches and 4-16 mmhos below 8 inches. *Moderately Saline:* 4-16 mmhos above 20 inches and more than 16 mmhos below 20 inches. *Strongly Saline:* More than 16 mmhos in surface and throughout the soil profile.

SEDIMENT YIELD. The amount of mineral or organic soil material that is in suspension, is being transported, or has been moved from its site of origin by running water.

SENSITIVE SPECIES. Species not yet officially listed but that are undergoing status review for listing on the Fish and Wildlife Service official threatened and endangered list; species whose populations are small and widely dispersed or restricted to a few localities; and species whose numbers are declining so rapidly that official listing may be necessary.

SOIL ASSOCIATION. A group of defined and named soil units occurring together in individual and characteristic patterns over a geographic region.

SOIL CLASSIFICATION. The systematic arrangement of soils into classes of one or more categories or levels of classification for a specific objective. Broad groupings are made on the basis of general characteristics and subdivisions are made on the basis of more detailed differences in specific properties.

SOIL SURFACE FACTOR (SSF). A numerical expression of surface erosion activity caused by wind and water as reflected by soil movement, surface litter, erosion pavement, pedastalling, rills, flow patterns, and gullies. Values may vary from 0 for no erosion to 100 for severe erosion conditions.

SOIL-VEGETATION INVENTORY. A uniform, systematic method for inventory of soil and vegetation resources and collecting data for use in planning and environmental assessments.

SPECIAL RECREATION MANAGEMENT AREAS. Recreation management areas that receive emphasis and priority in BLM's recreation planning and management efforts. The recreation resources in these areas require explicit management to provide specified recreation setting, activity, and experience opportunities. Recreation management objectives will provide explicit guidance with respect to the existing opportunities and problems in these areas. Recreation Management Plans will subsequently be prepared for special recreation management areas using RMP objectives for guidance.

STATE LANDS. Land controlled or administered by the State of Utah.

STOCKING RATE. The degree to which an allotment is stocked with livestock and big game, usually expressed in animal unit months.

STOCK WATERING POND. A water impoundment made by constructing a dam or by excavating a dugout or both to provide water for livestock and/or wildlife.

SULFUR OXIDES. A pungent toxic gas yielded by the combustion of fossil fuels.

TAXA. Any taxonomic unit, as an order, genus, variety, etc.

THREATENED SPECIES. Any animal or plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

TOTAL DISSOLVED SOLIDS (TDS). The total quantity (milligrams per liter) of dissolved materials in water.

TRADITIONAL USE. Use (e.g., wood cutting, ORV) of an area that has occurred before 1976.

TREND IN RANGE CONDITION. An interpretation of the direction of change in range condi-

tion. These determinations may relate to ecological site or forage conditions. Also vegetation trend that is improving (upward), not changing (static), and declining (downward).

UNIT RESOURCE ANALYSIS (URA). A compilation of physical resource data and an analysis of the current use, production, condition, and trend of the resource and the potentials and opportunities within a planning unit or area, including a profile of ecological values.

VARIABLE COSTS. A cost which increases or decreases as the total volume of production increases or decreases (e.g., cost of cattle feed).

VEGETATION. Plants in general or the sum total of the plant life above and below ground in an area.

VEGETATION TREATMENT. Changing the characteristics of an established vegetation type for the purpose of improving rangeland forage or wildlife habitat resources. Treatments are designed for specific areas and differ according to the area's suitability and potential. The most common land treatment methods alter the vegetation by chaining, spraying with herbicides, burning, and plowing, followed by seeding with well adapted desirable plant species.

VEGETATION UTILIZATION. The portion of the current year's forage production that is consumed or destroyed by grazing animals. May refer either to a single species or to the vegetation as a whole, usually expressed in percent.

VISIBILITY. The greatest distance in a given direction where it is possible to see and identify with the unaided eye a prominent dark object against the sky at the horizon.

VISITOR DAY. Twelve visitor hours which may be aggregated by one of more persons in single or multiple visits.

VISITOR USE. Visitor use of a resource for inspiration, stimulation, solitude, relaxation, education, pleasure, or satisfaction.

VISUAL RESOURCE MANAGEMENT (VRM) CLASSES. Management classes are determined on the basis of overall scenic quality, distance from travel routes, and sensitivity to change. *Class I*: Provides primarily for natural ecological changes only. It is applied to wilderness areas, some natural areas, and similar situations where management activities are to be restricted. *Class II*: Changes in the basic elements caused by a management activity may be evident in the characteristic landscape, but the changes should remain subordinate to the visual strength of the existing character. *Class III*: Changes in the basic elements caused by a management activity may be evident in the characteristic landscape, but the changes should remain subordinate to the visual strength of the existing character. *Class IV*: Changes may subordinate the original composition and character but must reflect what could be a natural occurrence within the characteristic landscape. *Class V*: Change is needed. This class applies to areas where the naturalistic character has been disturbed to a point where rehabilitation is needed to bring it back into character with the surrounding landscape.

WETLANDS. Lands including swamps, marshes, bogs, and similar areas, such as wet meadows, river overflows, mud flats, and natural ponds.

WICKIUP. A small brush hut used by the later nomadic Indians in the area (i.e., Paiute-Shoshone).

WILDERNESS. An area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of undeveloped Federal land retaining its primeval character and influence without permanent improvements or human habitations.

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 recreation, scenic, scientific, educational, conservation, and historical use."

WILDERNESS STUDY AREA. Areas under study for possible inclusion as a Wilderness Area in the National Wilderness Preservation System (NWPS).

WILDFIRE. A free-burning fire requiring a suppression response.

WOODLAND. Forest lands stocked with other than timber species (i.e., pinyon, juniper, mountain mahogany, etc.). Uses of the woodland products are generally limited to firewood, posts, and harvest of fruit (pinyon pine nuts).

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