ESMERALDA-SOUTHERN NYE PLANNING AREA

DRAFT

RESOURCE MANAGEMENT PLAN and ENVIRONMENTAL IMPACT STATEMENT

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

Las Vegas District Las Vegas, Nevada
Battle Mountain District Battle Mountain, Nevada

IN REPLY REFER TO:

1610
(NV-053)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
NEVADA STATE OFFICE
300 Booth Street
P.O. Box 12000
Reno, Nevada 89520

November 16, 1984

Dear Reader:

Enclosed for your review and comment is the Draft Esmeralda-Southern Nye Resource Management Plan and Environmental Impact Statement (RMP). This RMP is an attempt to integrate all resources into a single unified program of management covering approximately 3.4 million acres of public land. Five alternatives including the Preferred Alternative were analyzed. They are all multiple-use oriented, but each emphasizes a different balance between resources.

Your review and comment are needed at this time to ensure that your concerns have been considered in the planning process. Please direct written comments to Kemp Conn, District Manager, Attn: Esmeralda-So. Nye RMP, Bureau of Land Management, P.O. Box 26569, Las Vegas, Nevada 89126.

Oral comments will be accepted at the following public hearings.

Date and Time	City	Location
January 15, 1985, 7:00 P.M.	Pahrump, Nevada	Pahrump Community Center Room B
January 16, 1985 7:00 P.M.	Goldfield, Nevada	Esmeralda County Courthouse
January 17, 1985	Las Vegas, Nevada	Showboat Hotel, Plantation Room 2800 E. Freemont St.

A time limit may be placed on oral comments, depending on the number of people who wish to make a statement. Oral comments should be accompanied by a written synopsis of the presentation. Written and oral comments will be fully considered and evaluated in preparation of the proposed Resource Management Plan and Final Environmental Impact Statement.

If changes in the proposed Resource Management Plan and Environmental Impact Statement are minor, it will only include those changes and will not be a full reprint of the Draft RMP. For this reason, reviewers are requested to retain their copy of the Draft RMP for use in conjunction with the proposed RMP and Final Environmental Impact Statement.

Sincerely yours,

Edward F. Spang
State Director, Nevada

DRAFT RESOURCE MANAGEMENT PLAN

AND ENVIRONMENTAL IMPACT STATEMENT

for the

ESMERALDA-SOUTHERN NYE

PLANNING AREA

NEVADA

Prepared by the

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
LAS VEGAS DISTRICT

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
BATTLE MOUNTAIN DISTRICT

Edward F. Spang
Nevada State Director

The proposed resource management plan is the long-range plan to manage 3.4 million acres of public land with the Esmeralda-Southern Nye Planning Area. The plan has been prepared in response to Sections 202 and 603 of the Federal Land Policy and Management Act of 1976 that require the Bureau of Land Management to develop land use plans for the public lands and to study the suitability of certain lands for wilderness designation. An integral environmental impact statement assesses the environmental consequences of the plan.

This document is both the draft environmental impact statement for the resource management plan and the draft for a separate legislative final environmental impact statement for wilderness. Wilderness recommendations in the plan are preliminary and subject to change during administrativre review. A wilderness technical report containing the wilderness study area individual analyses required by the Bureau's wilderness study policy is available upon request.

For further information contact: Stephen Mellington, Project Manager, Bureau of Land Management, P.O. Box 26569, Las Vegas, Nevada 89126 or telephone (702-388-6403)

Please submit comments to Mr. Kemp Conn, District Manager, at the above address by February 19, 1985.

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SUMMARY

The Bureau of Land Management is proposing to implement a Resource Management Plan (RMP) for the Esmeralda-Southern Nye Planning Area. This RMP area contains portions of two different resource areas in two different districts. To aid in the development as well as the readability of the plan, the RMP area was subdivided into two discrete areas. Planning Area A is the area managed by the Tonopah Resource Area out of the Battle Mountain District and includes all of Esmeralda County and that portion of Nye County west of the bombing range down to approximately six miles south of Beatty. Planning Area B is the area managed by the Stateline Resource Area of the Las Vegas District and includes the remainder of southern Nye County (see Location Map).

The RMP is designed to provide overall management direction for those resources or uses found on public lands in the planning area. The five alternatives analyzed in the document were developed around the three issues identified during scoping. An environmental impact statement analyzes the effects of implementing the five alternatives and is an integral part of this document.

PLANNING ISSUES

The following three resource management issues are addressed in the alternatives.

ISSUE 1: WILDERNESS

What wilderness study area (WSAs) or portions of WSAs, if any, should be designated as wilderness?

ISSUE 2: LAND TENURE AND UTILITY CORRIDORS

What public lands should be disposed of to enhance management or provide for urban/suburban expansion within the RMP area?

Should utility and planning corridors be designated and, if so, how many and where?

ISSUE 3: RANGELAND MANAGEMENT

How should the RMP area be managed for livestock use, wild horse and burro use, and wildlife habitat?

ALTERNATIVES

PREFERRED ALTERNATIVE

This alternative strives to balance competing demands by providing for production of needed goods and services, while protecting important environmental values.

NO ACTION ALTERNATIVE

This alternative represents a continuation of present resource management and use levels.

ALTERNATIVE A

This alternative emphasizes livestock production, wildlife numbers, land disposals, and utility and planning corridor designations. It de-emphasizes wilderness values and reduces wild horse and burro numbers.

ALTERNATIVE B

This alternative emphasizes wild horse

and burro use, wildlife numbers and wilderness values. It provides a "mid-range" approach toward wilderness designation, land disposal, and utility and planning corridors and de-emphasizes livestock grazing.

ALTERNATIVE C

This alternative represents the elimination of livestock grazing on public lands. It strives to maximize wildlife numbers and acreages recommended for wilderness designation. In addition, this alternative identifies minimum land disposal and corridor designation and reduces wild horse and burro numbers.

Comparative summaries of major management prescriptions and environmental consequences of each alternative are displayed in Summary Tables 1 and 2, respectively.

SUMMARY TABLE 1
ESMERALDA-SOUTHERN NYE RMP ALTERNATIVES
SUMMARY OF MANAGEMENT PRESCRIPTIONS

Issue	Preferred	No Action	Alternative A	Alternative B	Alternative C
Wilderness	Recommend 17,850 acres in one area for wilderness designation (9%)	Recommend no areas for wilderness designation (0%).	Recommend 17,850 acres in one area for wilderness designation (9%)	Recommend 99,420 acres in three areas for wilderness designation (52%)	Recommend 189,675 acres in five areas for wilderness designation (100%)
Land Tenure	Identify a pool of 94,949 acres for disposal	Continue existing case-by-case management	Identify a pool of 245,807 acres for disposal	Identify a pool of 188,857 acres for disposal	Identify a pool of 10,235 acres for disposal
Corridors	Designate 357 miles of utility corridors and identify 30 miles of planning corridors.	Approve rights-of-way on a case-by-case basis.	Designate 422 miles of utility corridors and identify 80 miles of planning corridors.	Designate 334 miles of utility corridors and identify 72 miles of planning corridors.	Designate 230 miles of utility corridors and identify 22 miles of planning corridors.
Rangeland Management					
Livestock Grazing	Authorize livestock use at 46,385 AUMs. Implement intensive management on Category I allotments. Close the Ash Meadows Allotment to livestock grazing. Monitor and adjust use as findings indicate.	Continue existing use of 46,013 AUMs.	Increase livestock to 62,012 AUMs (35% increase). Implement intensive management on Category I allotments.	Reduce livestock use to 32,208 AUMs (30%) Implement intensive management on Category I allotments.	Eliminate livestock grazing from public lands.
Wild Horse and Burro	Manage for current level of 1127 and 357 herd, head,respectively in 13 management areas. Monitor and adjust use as findings indicate.	Manage for current levels of 1127 and 357 head respectively.	Reduce numbers to 410 and 143 head, respectively. (64% and 60%) decrease).	Allow for increase to 1513 and 477 head respectively (34% increase).	Reduce numbers to 427 and and 248 head respectively (62% and 30% decrease). Eliminate three herd use areas.
Wildlife	Manage current and historic big game habitat with a goal of achieving reasonable numbers. Modify the Ash Meadows HMP.	Manage current big game habitat for current numbers.	Manage current big game habitat with a goal of achieving reasonable numbers. Modify the Ash Meadows HMP.	Management current big game habitat with a goal of achieving reasonable numbers. Modify the Ash Meadows HMP.	Manage current and historic big game habitat with a goal of achieving reasonable numbers. Modify the Ash Meadows HMP.

SUMMARY TABLE 2

COMPARATIVE REVIEW OF THE ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES OVER THE LONG TERM

Environmental Component	Alternative a/				
	Preferred	No Action	A	B	C
Vegetation b/ Percent change in ecological condition	+1%	-7%	-5%	+3%	+6%
Wildlife c/					
Bighorn sheep population(% change)	1858(287%)	480(0%)	841(75%)	617(28%)	1858 (28%)
Mule deer population (% change)	1259 (150%)	504(0%)	699(39%)	379(-25%)	1259(150%)
Elk population (% change)	33 (136%)	14(0%)	0(-100%)	23 (64%)	35(136%)
Wild Horses and Burros c/					
Short term population (% change)	1127/357(0%/0%)	1127/357(0%/0%)	590/143(47%/60%)	1513/477(34%/34%)	472/237(60%/34%)
Livestock Grazing c/					
Projected livestock use (AUMs)(% change)	46,256(.5%)	44,949(-2%)	43,480(-6%)	45,957(-.1%)	0(-100%)
Land Disposal					
Acres disposed	94,949	0 d/	245,807	188,857	10,235
Corridors					
Miles designated utility/identified planning	357/30	0/0 d/	422/80	334/72	230/22
Minerals					
Acres of moderate or high metallic mineral potential withdrawn	13830	0	13830	48830	83,325
Wilderness					
Acres recommended suitable (%)e/	17850(9%)	0(0%)	17850(9%)	99,420(52%)	189,675(100%)

a/ All impacts are long term (20 years) unless otherwise noted.
b/ Change from current condition
c/ Change from current numbers
d/ Land disposal and rights-of-way will be on a case-by-case basis.
e/ Percent of acres within the wilderness study areas.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ESMERALDA PLANNING AREA
Resource Management Plan
and
Environmental Impact Statement

LOCATION MAP

1984

CHAPTER 1

Introduction, Planning Process Overview, Planning Issues, Planning Criteria and Plan Implementation

Chapter 1
INTRODUCTION, PLANNING OVERVIEW, ISSUES AND CRITERIA

PURPOSE AND NEED

The Esmeralda-Southern Nye Resource Management Plan (RMP) is designed to provide a framework for future management of the public lands in the planning area. Although comprehensive in nature, it is not intended to make program decisions for individual resource elements, but to provide the overall multiple-use objectives and management directions for the planning area. This document includes both a proposed RMP (the Preferred Alternative) and a draft environmental impact statement (EIS) which estimates the effects of implementing the Preferred Alternative and of the four other alternatives that were developed.

This document is prepared pursuant to Section 202 of the Federal Land Policy and Management Act of 1976 (FLPMA) which requires that the Secretary of the Interior shall, with public involvement, develop land use plans which provide for the use of public lands. The National Environmental Policy Act of 1969 (NEPA) requires federal agencies to prepare statements analyzing the environmental consequences of federal actions significantly affecting the human environment. This land use plan qualifies as a significant action and therefore an EIS was prepared.

This plan is focused on resolving three key issues and several statutory or court-ordered requirements. These issues are discussed in detail later in this chapter. A 1973 suit was filed in federal court by the Natural Resources Defense Council et. al., concerning the adequacy of BLM's programmatic grazing EIS and resulted in certain court orders. This document fulfills these court requirements by analyzing five specific alternatives for livestock grazing on public land.

As required under Section 603 of FLPMA, this document analyzes preliminary wilderness suitability recommendations for wilderness study areas located in the planning area. In accordance with BLM policy, the following procedure is used in addressing environmental concerns pertaining to wilderness designation.

Environmental impacts of wilderness designation are incorporated into the Bureau planning process through the draft RMP stage. The draft RMP document presents in summary form the impact to wilderness and other resources created by each alternative. Comments received on wilderness from this document will then be presented in a Final Esmeralda-Southern Nye Wilderness EIS to be published as a separate document from the final RMP. This EIS and a Wilderness Study Report will be submitted through the BLM Director and Secretary of the Interior to the President. The recommendations contained in this final wilderness EIS will be preliminary because they are subject to administrative review before they are presented to Congress for legislative action. More detailed information is incorporated into the Esmeralda-Southern Nye Wilderness Technical Report which is available on request. Appendix A presents the BLM Wilderness Review process which consists of inventory, wilderness study, and reporting channels to Congress.

In addition, this planning action serves to update land use planning guidance contained in two separate Management Framework Plans (MFPs). They are the Esmeralda and Stateline MFPs completed in 1977 and 1975, respectively. The decisions in the MFPs have been carried forward into this RMP where applicable. These are reflected in the "Management Guidance

Common to all Alternatives" section of Chapter II. The decision in this RMP will supercede the decisions in the two MFPs for the planning area dealing with the issues identified. Past management decisions unaltered by this plan remain in effect until changed utilizing standard Bureau decision procedures..

PLANNING PROCESS OVERVIEW

The BLM resource management planning process consists of nine basic steps (we are now at Step 7) and requires the use of an interdisciplinary team for the completion of each step. The planning steps described in the regulations and used in preparing this plan are described below and are graphically illustrated in Figure 1-1.

Step 1: Identification of Issues

This step is intended to identify resource management problems or conflicts that can be resolved through the planning process.

Step 2: Development of Planning Criteria

During this step preliminary decisions are made regarding the kinds of information needed to clarify the issues, the kinds of alternatives to be developed, and the factors to be considered in evaluating alternatives and selecting a preferred resource management plan.

Step 3: Inventory Data and Information Collection

This step involves the collection of various kinds of issue-related resource, environmental, social, economic, or institutional data needed for completion of the process.

Step 4: Analysis of the Management Situation

This step calls for a deliberate assessment of the current situation. It includes a description of current BLM management guidance, a discussion of existing problems and opportunities for solving them, and a consolidation of existing data that is needed to analyze and resolve the identified issues.

Step 5: Formulation of Alternatives

During this step several complete, reasonable resource management alternatives are prepared; including one for no action which represents a continuation of present activities and several that strive to resolve the issues while placing emphasis either on environmental protection or resource production.

Step 6: Estimation of Effects of Alternatives

The physical, biological, economic and social effects of implementing each alternative are estimated in order to allow for a comparative evaluation of impacts.

Step 7: Selection of the Preferred Alternative

Based on the information generated during Step 6, the District Manager identifies a preferred alternative. The draft RMP/EIS document is then prepared and distributed for public review.

Step 8: Selection of the Resource Management Plan

Based on the results of public review and comment, the District Manager will select a proposed Resource Management Plan and publish it along with a final EIS. A final decision is made after a thirty-day appeal period relative to the final EIS.

Step 9: Monitoring and Evaluation

This step involves the collection and

STEPS IN THE RESOURCE MANAGEMENT PLANNING PROCESS

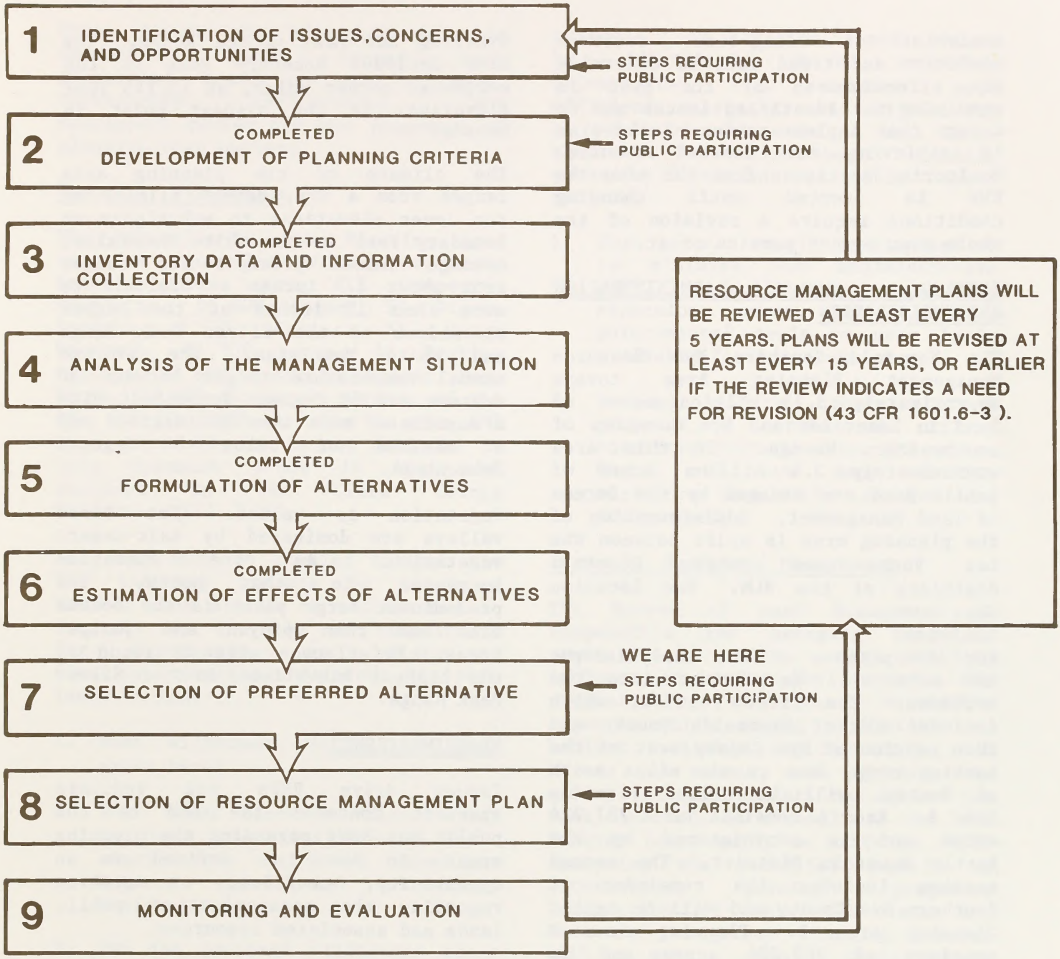


FIGURE 1-1 Planning Process Overview

analysis of long-term resource condition and trend data to determine the effectiveness of the plan in resolving the identified issues and to assure that implementation of the plan is achieving the desired results. Monitoring continues from the time the RMP is adopted until changing conditions require a revision of the whole plan or any portion of it.

SETTING AND ADMINISTRATION RESPONSIBILITIES

The Esmeralda-Southern Nye Resource Management Planning Area covers approximately 3.75 million acres of land in Esmeralda and Nye Counties of southwestern Nevada. Of this area approximately 3.4 million acres of public land are managed by the Bureau of Land Management. Administration of the planning area is split between the Las Vegas and Battle Mountain districts of the BLM. See Location Map.

For the purpose of the analysis the RMP area will be divided into two sections. The first section, which includes all of Esmeralda County and that portion of Nye County west of the bombing range down to six miles south of Beatty, will be called Planning Area A. Area A consists of 2,787,224 acres and is administered by the Battle Mountain District. The second section includes the remainder of Southern Nye County and will be called Planning Area B. Planning Area B consists of 969,534 acres and is administered by the Las Vegas District.

The RMP area is a part of the Basin and Range Physiographic Province and is characterized by north-south trending mountain ranges. These mountain ranges include: Monte Cristo, Lone Mountain, Cedar Mountain, Weepah Hills, Silver Peak Range, Palmetto Mountains, Montezuma Range, Magruder Mountain, Mount Jackson Ridge, Slate Ridge, Gold Mountain, Goldfield Hills, Grapevine Mountains, Bullfrog Hills, Bare Mountains, Spector Range, Mount Stirling and Last Chance Range. The area includes Boundary Peak in the northwest corner which, at 13,145 feet elevation, is the highest point in Nevada.

The climate of the planning area ranges from a dry, desert climate at the lower elevations to sub-alpine on Boundary Peak in the White Mountains. Average annual precipitation ranges from about 3.3 inches at Coaldale to more than 12 inches at the higher elevations of the Silver Peak Range and White Mountains. The average annual temperature ranges between 50 degrees and 60 degrees Fahrenheit with a maximum of more than 100 degrees and a minimum of below 0 degrees Fahrenheit.

Vegetation is varied. The broad valleys are dominated by salt-desert vegetation. As the elevation increases in the north, the predominant large plant is the Joshua Tree and then pinyon and juniper trees. Bristlecone pine is found at the highest elevations in the Silver Peak Range.

PLANNING ISSUES

Issues drive RMPs and indicate specific concerns the BLM or the public may have regarding the planning area. An issue is defined as an opportunity, conflict, or problem regarding the management of public lands and associated resources.

Issue-driven planning means that only those aspects of current resource management felt to be a concern are examined by being carried through the formulation and analysis of alternatives. Alternatives are not developed for those aspects of current resource management felt to be satisfactory. Although not identified as issues, off-road vehicle use, mineral management and areas of critical environmental concern (ACECs) will be discussed.

Three issues are addressed in this document. These issues were identified based on public input, interagency consultation, BLM management review and the judgement of planning team members.

Issue 1: Wilderness

The Esmeralda-So. Nye Planning Area contains five BLM Wilderness Study Areas. They are: 1) Grapevine Mountains, 66,800 acres; 2) Pigeon Springs 3,575 acres; 3) Queer Mountain, 81,550 acres, 4) Resting Springs, 3,850; and 5) Silver Peak Range, 33,900 acres. A portion of the Mt. Stirling WSA is also in the RMP area. However, it is not included in this document since it has been analyzed in the Clark County Wilderness EIS, 1983.

All WSAs must be studied through the BLM planning process to determine whether they are to be recommended to Congress as suitable or nonsuitable for designation as wilderness. Planning questions related to this issue include:

1. What wilderness values do these areas have?

2. What other resource values exist in these areas and what is the significance of the conflict between these and wilderness designation?

3. Can the proposed wilderness areas be managed as wilderness over the long-term?

Issue 2: Land Tenure Adjustments and Utility Corridors

Approximately 91 percent of the land within the planning area is administered by the Bureau of Land Management. A need has been identified to make public land available for community expansion and development, agricultural development, utility corridors, and other public purposes. In addition, lands should be identified where ownership adjustments will achieve more efficient management and utilization of public resources or to make lands available for better uses. Planning questions related to this issue include:

1. What parcels should be disposed of to minimize BLM administrative cost, facilitate community expansion needs, serve local governmental needs or make lands available for better uses?

2. Various utility companies have proposed a series of utility corridors through the RMP area. Where and how many utility corridors should be planned and designated?

Issue 3: Rangeland Management

The Bureau of Land Management is responsible for managing rangeland vegetation. This responsibility includes protecting the integrity and productivity of the vegetative resource while making vegetation and habitat available for livestock, wild horses and burros, and wildlife. To effect this management, the Bureau has been directed, as a result of the 1973 Federal court suit, to write an (EIS) analyzing the potential impacts of alternative grazing programs. Integration of this EIS into the Resource Management Planning process will meet the court-ordered requirement. Planning questions related to this issue include:

1. What short-term adjustments if any, in livestock forage allocations may be needed to meet management objectives?

2. Which allotments will require further activity planning, such as allotment management plans (AMPs) and according to what priorities?

3. Which wildlife habitat areas will

require further activity planning, such as habitat management plans (HMPs), and according to what priorities?

4. Which wild horse and burro areas require further activity planning, such as herd management area plans (HMAPs), and according to what priorities?

OFF-ROAD VEHICLE DESIGNATION

Off-road vehicle (ORV) use allocation did not emerge as an issue during the scoping process for the Esmeralda-So. Nye RMP. However, ORV designation will be implemented through the planning process for the RMP area in compliance with Executive Orders 11644 (Use of Off-Road Vehicles on Public Lands) and 11989 (Off-Road Vehicles on Public Lands).

Public lands within the RMP Area must be designated either open, limited or closed to ORV use. Two current management framework plans (MFPs) outline present ORV management within the RMP area. During the development of these MFPs, portions of the RMP areas were designated as closed or limited with the remainder of the RMP area designated as open. At that time, resource conflicts were identified and a multiple use analysis was performed. No problems have since been identified with the MFP decisions and therefore, no change is recommended. Because of this status, ORV designations were not considered an issue. ORV designations are detailed in Chapter 2 under the heading "Management Guidance Common to All Alternatives."

MINERALS

Mineral resource management was not included as an issue during the development of the Esmeralda-So. Nye RMP. Two current MFPs, in addition to the Esmeralda and Stateline Geothermal, Oil and Gas Environmental Assessments outlined present management guidance for the RMP area. This guidance has been reviewed and is considered to be current and adequate. During 1982 all mineral withdrawals and Classification and Multiple Use (CMU) segregated lands were reviewed to determine if a need still exists to justify the continuance of these withdrawal/segregations. A breakdown of current minerals management including the status of the withdrawals/segregations may be found in the "Guidance Common to all Alternatives" section of Chapter 2.

The only proposed management prescriptions that would affect mineral management would be those related to wilderness designation. In the case of wilderness designation, impacts to minerals will be discussed as a part of the wilderness issue.

AREAS OF CRITICAL ENVIRONMENTAL CONCERNS (ACECs)

ACECs were not identified as an issue during the scoping process for the Esmeralda-So. Nye RMP. At the present time there are no designated ACECs within the RMP area. Lands within the RMP area were reviewed by the BLM during the development of the plan. Two potential ACECs were identified during the review. They were the Ash Meadows area and Big Dune. Both of these areas provide habitat for proposed and/or listed threatened and/or endangered species. The designation of these potential ACECs was not analyzed in the document since current management options now available to the BLM are adequate for the protection of any special resources found in the RMP area. In the case of Big Dune, the BLM has entered into a Conservation Agreement with the U.S. Fish and Wildlife Service (FWS) for its protection. In Ash Meadows, a habitat management plan (HMP) has been partially implemented. This HMP will continue to be implemented and will be modified to include new data pertaining to

threatened or endangered species. In addition the U. S. Fish and Wildlife Service is in the process of creating a wildlife refuge in Ash Meadows. Implementation of the FWS's Land Protection Plan for Ash Meadows would protect these species.

PLANNING CRITERIA

A set of guidelines or criteria was developed and revised at several points during the resource management planning process. Planning criteria were used to guide resource inventories, to establish an outline for the management situation analysis, to aid in formulating alternatives and for estimating the effects of the alternatives. The various criteria used are available for review at the Las Vegas District Office. The following criteria apply to the selection of the Preferred Alternative:

> The Preferred Alternative will only recommend areas as suitable for wilderness designation if the following two conditions exist: 1) Where the wilderness values and the public benefits and uses that wilderness designation would provide are sufficient to offset the benefits of the resource values and uses which would be foregone due to wilderness designation, and 2) the areas can be managed as wilderness over the long-term.
>
> The Preferred Alternative will identify areas suitable for land tenure adjustments to serve community expansion and development requirements, local government needs, agricultural development, utility and other public needs or what parcels should be disposed of to minimize BLM administrative costs, facilitate management, provide resource protection, or make lands available for better uses.
>
> The utility corridor configuration proposed in the Preferred Alternative will be that which best meets utility and transportation development needs and which has the least impact on multiple-use management.
>
> The Preferred Alternative will strive to maintain or improve rangeland conditions, while making vegetation and habitat available for livestock, wild horses and burros and wildlife.

SEQUENCE OF PLAN IMPLEMENTATION ACTIONS

The selection of the final resource management plan will take place subsequent to a review of the public comments submitted in response to the draft plan. The final plan may consist of one of the alternatives presented in this document or it may be a combination of several of the alternatives. After publication of the final environmental impact statement, management decisions will be documented in a record of decision published in the Federal Register.

The resource management plan will be implemented through activity plans such as allotment management plans, wildlife habitat management plans and wild horse herd management area plans. These plans will identify such details as the grazing system to be used in an allotment management plan and the location of range improvements for the benefit of livestock, wild horses and wildlife. The management actions developed for these plans will be integrated into a total management program designed to assure progress towards meeting the objectives of the resource management plan. Additional implementation guidelines that apply to the alternatives are discussed below.

Implementation of the resource management plan will take place through coordination, consultation, and cooperation. The preferred method will be coordinated resource management and planning (CRMP). CRMP is an advisory process that brings together all interests concerned with the management of resources in a given local area (landowners, land management agencies, wildlife groups, wild horse groups, and conservation organizations) and is the recommended public process through which consultation and coordination will take place.

PLAN MONITORING

The resource management plan will be evaluated at five-year intervals to determine if there is sufficient cause to warrant revision or admendment.

This evaluation will focus on the objectives and management prescriptions developed for the issues analyzed. The general purposes of this monitoring and evaluation will be:

To determine if a prescription is fulfilling the purpose and need for which it was designed, or if there is a need for modification or termination of the action.

To discover unanticipated and/or unpredictable effects.

To ensure that decisions are being implemented on schedule.

To provide continuing evaluation of consistency with state and local plans and programs as well as adjoining BLM or other Federal agency plans.

CHAPTER 2

Alternatives

Chapter 2

ALTERNATIVES

INTRODUCTION

This chapter presents the Preferred Alternative and four other alternatives that were considered in the development of this plan. They are all multiple-use oriented, but each emphasizes a different balance between resources. One, alternative by regulation, must represent no action which means a continuation of present levels or systems of resource management.

The alternatives were designed to resolve the issues outlined in Chapter One. Those lands, resources and programs not affected by the resolution of an issue will be managed in the future essentially as they are at present. These management actions are outlined in the "Management Guidance Common to all Alternatives" section and in the No Action Alternative. Future changes will be permitted based on case-by-case analyses and in accordance with applicable laws, regulations and policies.

Alternatives considered but not analyzed are discussed in Chapter 5 under the heading "Scoping-Alternatives."

MANAGEMENT GUIDANCE COMMON TO ALL ALTERNATIVES

The following management guidance is applicable to all alternatives. This guidance consists of current management practices expected to continue which include decisions outlined in the Esmeralda and Stateline MFPs, plan implementation actions and standard operating procedures. All guidance applies to both Planning Areas A and B except where noted.

SOIL WATER, AND AIR PROGRAM

General

Soil, water and air resources will continue to be evaluated on a case-by-case basis as a part of project level planning. Such evaluation will consider the significance of the proposed project and the sensitivity of soil, water and air resources in the affected area. Stipulations will be attached as appropriate to ensure compatibility of projects with soil, water, and air resource management.

Soil

Soils will be managed to maintain or improve rangeland productivity as well as minimizing present and potential wind and water erosion.

Water

Water quality will be maintained or improved in accordance with state and Federal standards, including consultation with state agencies on proposed projects that may significantly affect water quality. Management actions on public land within municipal watersheds will be designed to protect water quality and quantity.

Management activities in riparian zones will be designed to maintain or, where possible, improve riparian habitat condition.

Roads and utility corridors will avoid riparian zones to the extent practicable.

Air

Air quality will be protected as all

BLM and BLM authorized activities must prevent air quality deterioration beyond the established standards specified in the Nevada Ambient Air Quality Standards. The Federal Land Policy and Management Act of 1976 (FLPMA) specifies the protection of air and atmospheric quality on BLM lands in Sec. 102(a)(8), and compliance with state and Federal laws in Sec. 202 (c) (8). FLPMA also requires an active role in preventing air quality violations on BLM lands in Sec. 102(c)(8). The Clean Air Act of 1977 has specific requirements for Federal land managers to protect the air over lands under their jurisdiction.

LANDS PROGRAM

Land Tenure

All land disposal actions are discretionary. Land disposals may be accomplished through one of the following methods; sales, Recreation and Public Purposes Act, requests, exchanges, or agricultural entry. Disposal of these parcels will be made on an as-needed basis, with perimeters established in coordination with the appropriate government entity and will be accomplished by the most appropriate disposal authority.

Site-specific decisions regarding land ownership adjustments in the planning area will be made based largely on consideration of the following criteria through the land report/environmental analysis process. In addition all lands identified for disposal must meet one or more of the criteria outlined in section 202(a) of FLPMA. This criteria list is not considered all-inclusive, but represents the major factors to be evaluated:

1) Public resource values or concerns, including but not limited to:
   threatened, endangered or sensitive species habitat,
   riparian areas,
   flood plains and wetlands,
   fisheries,
   nesting/breeding habitat for game birds or animals,
   key big game seasonal habitat,
   wild horse and burro habitat,
   developed recreation and recreation access sites,
   municipal watersheds,
   energy and mineral potential,
   visual resources
   cultural resources sites eligible for inclusion on the National Register of Historic Places,
   wilderness and areas being studied for wilderness, and other statutory-authorized designation.

2) Accessibility of the land for public uses.

3) Amount of public investments in facilities or improvements (i.e., range improvements, wildlife projects, etc.) and the potential for recovering those investments.

4) Difficulty or cost of administration (manageability);

5) Significance of the decision in stabilizing business, social and economic conditions, and/or lifestyles.

6) Encumbrances or conflicts of record; consistency of the decision with cooperative agreements and plans or policies of other agencies.

7) Suitability and need for change in land ownership or use for purposes including but not limited to: community expansion or economic development, such as industrial, residential, or agricultural (other than grazing) development.

Utility Corridors

Utility corridors, either designated or planned, will be identified following BLM procedures and will be made on a point-to-point basis. The actual route will be established after environmental analysis is completed on each rights-of-way application. Designated corridors will be three miles wide and planning corridors will be five miles wide except where topographic constraints exist.

Designated corridors are those which contain existing transmission facilities and/or rights-of-way. Planning corridors will be identified where there are no existing transmission facilities and/or rights-of-way. Where transmission facilities and/or rights-of-way exist, the width of the corridor will encompass the existing right-of-way and be located to avoid sensitive resources. Future rights-of-way applications will be required to locate new facilities proximate to existing facilities except where considerations of construction feasibility, cost, resource protection or safety are overriding.

VISUAL RESOURCES

Visual resources will continue to be evaluated as a part of the environmental analysis process for activity and project plans and other proposed actions. Such evaluation will consider the significance of the proposed project and the visual sensitivity of the affected area. Stipulations will be attached as appropriate to assure that the visual integrity of the area remains intact and that visual resource management objectives are met.

CULTURAL RESOURCES

Cultural resource protection is required through compliance with Section 106 of the National Historic Preservation Act of 1966, Section 2(b) of Executive Order 11593, and Section 101(b)(4) of the National Environmental Policy Act (NEPA) of 1969. Prior to project approval, intensive field (Class III) inventories will be conducted in specific areas that would be impacted by implementing activities. If cultural or paleontological sites are found, every effort will be made to avoid adverse impacts. However, in the case of National Register quality sites where avoidance of adverse impacts is not possible, BLM will consult with the State Historic Preservation Officer and the Advisory Council on the Historic Preservation in accordance with the Programmatic Memorandum of Agreement between the BLM and the Council dated January 14, 1980. This agreement sets forth a procedure for developing appropriate mitigative measures to lessen the impact of adverse effects. Finally, the American Indian Religious Freedom Act of 1978 (92 Stat. 469 or PL 95-341) defines the special status for sacred places, artifacts, plants, and animals of Native American peoples in the United States. This law guarantees American Indians access to sacred sites, including cemetaries, required in their religion, and natural species and resources, even though these resources may no longer be controlled by the Indian People.

WILDERNESS RESOURCES

All wilderness study areas will continue to be protected under the Bureau's Interim Management Policy and Guidelines for Lands Under Wilderness Review. Wilderness recommendations made in the final environmental impact statement for the resource management plan are preliminary and subject to change during administrative review. A separate legislative final environmental impact statement will be prepared for the wilderness study recommendations. A wilderness study report will also be written that addresses each area individually. The Director of the Bureau of Land

Management will request mineral surveys by the United States Geological Survey and Bureau of Mines for each area recommended as preliminarily suitable. The Federal Land Policy and Management Act of 1976 requires the Secretary of the Interior to review areas of the public lands determined to have wilderness characteristics, and to report to the President by October 21, 1991 his recommendations as to the suitability or nonsuitability of each such area for preservation as wilderness. The President is required to report his recommendations to Congress by October 21, 1993.

Designated wilderness areas would be closed to off-road vehicle use unless it takes place as part of a valid existing right or is authorized in the wilderness management plan. Separate management plans tailored to the characteristics of each area would be developed through consultation with interested parties. They would be coordinated with other activity plans for their areas. Specific management objectives, requirements, and decisions implementing administrative practices and visitor activities would be developed in each plan.

Designated wilderness areas would be segregated against appropriation and operations under the mining laws, mineral leasing laws, and other mineral disposal authorities subject to valid existing rights. Designation would allow for continuation of livestock grazing permits.

FOREST RESOURCES

Non-commercial harvesting of Christmas trees, juniper posts, pinyon nuts and dead or downed firewood will continue throughout the planning area except within the WSAs. In addition, two greenwood cutting areas and one Joshua Tree Harvest Area were established in Planning Area A in March of 1984. The two greenwood areas were established in the Palmetto Mountains and Silver Peak Range and the Joshua Harvest Area is located in the Magruder Mountain area. Special stipulations are attached to all permits issued for these two areas to accomplish protection of forest and other resources and fire protection.

RECREATION

General

Recreational activities within the RMP area include but are not limited to big and small game hunting, ORV use, rockhounding, fishing, waterfowl hunting, camping, and sightseeing for historical, scenic, geological, and zoological values. The area will continue to be managed to promote these activities.

Off-Road Vehicle Management

Off-road vehicles are currently managed in accordance with decisions outlined in the two current MFPs, as amended by the Frontier 500 Environmental Assessment completed in August of 1982 and in accordance with a Conservation Agreement between the BLM and FWS addressing the Giuliani's Dune Scarab Beetle. The following restrictions have been identified and/or analyzed in the aforementioned documents:

Closed

Planning Area A

Pinyon-Joshua Tree Transition Research Natural Area	10 acres

Planning Area B

Big Dune	5 acres

Limited

Planning Area A

Goldfield Joshua Tree Forest (competitive events limited to existing roads, trails, and washes)	100,000 acres

Pinyon-Joshua Tree Transition Research Natural Area (closed to competitive events, and other vehicles are restricted to existing roads, trails and washes) 630 acres.

The Sump (closed to competitive events, and other competitive vehicles are restricted to existing roads, trails and washes) 160 acres.

Amargosa speckled dace and Amargosa toad habitat (competitive events limited to existing roads, trails and washes). 55 acres.

Planning Area B

Ash Meadows Pup Fish Area (closed to competitive events, and other vehicles are restricted to existing roads, trails, and washes) 13,000 acres

Big Dune (closed to competitive events) 126 acres

Open

The remainder of the area will be designated as open. Applications for commercial or competitive special recreation use permits in areas designated as open will be analyzed through the special recreation use permit/environmental assessment process to determine what impacts may occur. These potential impacts will then be weighed against resource values to determine whether or not the special recreation use permits will be authorized.

RANGE MANAGEMENT

Selective Management

It is the policy of the BLM to address rangeland management problems through a selective management approach. The BLM has developed three categories into which allotments will be grouped according to their resource needs and potential for improvement. The names and objectives of the three categories are: 1) (M) maintain the current satisfactory condition; 2) (I) improve the current unsatisfactory condition; and 3) (C) manage in a custodial fashion.

The implementation of intensive grazing management will be accomplished through livestock grazing allotment management plans (AMPs). Allotments in the "improve" category are given first priority for development of plans to resolve identified problems. Second priority for livestock grazing AMP development is given to "maintain" category allotments and third priority is assigned to "custodial" category allotments. Although range improvements are not proposed on third priority allotments in this RMP, some minor rangeland improvements may be developed as the need arises, or if private funds become available.

The potential for improvement of each allotment has been determined by estimating its present range condition and analyzing its resource potential, presence of user conflicts, opportunity for positive economic return, and present management. A complete listing of the specific criteria used to evaluate the RMP area's grazing allotments appears in Appendix B, Table 1.

The initial allotment categorizations shown in Appendix B, Table 2, are subject to change. Allotments may be placed into different categories in the future as allotment evaluation shows changed conditions.

Livestock grazing on all ephemeral allotments would only be allowed if on-the-ground evaluations determine that forage is available and that it can be grazed without detriment to riparian vegetation.

Allotment Management Plans

Resource opportunities, problems and/or conflicts have been identified for each allotment. In addition, resource management objectives for each allotment have been developed by focusing on these identified opportunities, problems, and/or conflicts (see Appendix C). Future management prescriptions, including approval of allotment management plans (AMPs) will be tailored to meet these objectives. These plans will be multiple-use in nature and coordinated with wildlife (HMPs) and wild horse plans (HMAPs). Key components of AMPs are management objectives, grazing systems, range improvements and monitoring studies.

Grazing Treatments and Systems

Grazing treatments are the building blocks of a grazing system, and are designed to improve rangeland condition by manipulating livestock grazing to accomplish the objectives of management. The deferment of grazing or complete rest from grazing during the critical growth period of key management species allows these species to maintain and/or increase their density, percent composition, vigor , production and reproduction. Where intensive grazing management systems are implemented, utilization levels may be exceeded during each grazing cycle. The periodic rest from grazing would allow the key management species to increase in vigor and production.

Movement of livestock in I allotments without interior pasture fences would be controlled by manipulating water sources. This would be done in a manner which achieves the grazing use prescribed in the following treatments.

Treatment 1

Graze livestock yearlong or seasonlong for livestock production.

Treatment 2

Rest from livestock grazing one year or grazing season to provide for vigor of key management species.

Treatment 3

Defer livestock grazing until after seedripe of key management species to promote reproduction.

Livestock Use Adjustments

Livestock use adjustments are most often made by changing one or more of the following: the class of livestock grazing an allotment, the season of use, the stocking rate, or the pattern of grazing. All livestock use adjustments will be implemented through documented mutual agreement or by decision. When adjustments are made through mutual agreement, they may be implemented once the rangeland program summary has been through a public review period. When livestock use adjustments are implemented by decision, the decision will be based on operator consultation, range survey data, and monitoring of resource conditions. Current BLM policy emphasizes the use of a systematic monitoring program to identify the need for livestock adjustments.

Monitoring will also be used to measure the changes brought about by new livestock management practices and to evaluate the effectivess of management changes in meeting stated objectives.

Range Improvements

Range improvements will be implemented to achieve specific resource management objectives. Development of range improvement projects will include the following procedures:

Environmental analysis will be conducted during project planning so that, depending on impacts, modification or abandonment of the project may be decided.

Benefit/Cost (B/C) analysis will be performed on improvements required to implement new AMPs and other activity plans subsequent to the EIS. Such improvements will be analyzed on an allotment basis. The B/C analysis will be performed in compliance with BLM policy.

Only the minimal clearing of vegetation will be allowed on project sites requiring excavation.

Alteration of sagebrush areas either through application of herbicides, prescribed burning, or by mechanical means will be in accordance with procedures specified in the Memorandum of Understanding between the Nevada Department of Wildlife and Bureau of Land Management relating to the Western States Sage Grouse Guidelines.

Active raptor nests adjacent to areas proposed for vegetation manipulation will be protected. On-the-ground work will be confined to the period preceding nesting activity or after the young have fledged (left the nest). Areas containing suitable nesting habitat will be inventoried for active raptor nests prior to initiation of any project.

Soils inventories will be completed prior to planning vegetation type conversions to determine land treatment feasibility.

Fire management plans will be developed before any prescribed burning occurs on any native vegetation.

Fence construction must comply with BLM Manual 1737 and NSO Manual Supplement 4730. Lay-down fences will be constructed in wildlife and wild horse areas if necessary and feasible. Fences in wild horse areas will contrast enough with surroundings so as to be visible to horses and will have gates installed at least once every mile and at all corners.

Spring developments will be fenced to prevent overgrazing and trampling of adjacent vegetation and provide escape areas for small wildlife. Water at these spring developments will be maintained at the source.

All disturbed areas would be rehabilitated where such action is necessary and practical, to replace ground cover and prevent erosion.

Maintenance of structural improvements shall be provided by the user deriving the primary benefit from the improvement, through cooperative agreements and as specified in the BLM's 1982 Rangeland Improvement Policy.

Water will be made available in allotments and rested pastures for wild horses and wildlife, whereever feasible.

Where the need is identified for wildlife use, water improvements will include bird ramps in watering troughs, drinkers along pipelines, overflows at troughs and protected seep areas.

Monitoring Program

The purpose of the program is to provide the BLM with reliable data to determine if livestock, wild horse, and wildlife management prescriptions are meeting resource management objectives. It incorporates approved methods contained in the 1981 Range Studies Task Group monitoring procedures (Range Studies Task Group, 1981). Vegetation monitoring will include:

Utilization: BLM uses the Key Forage Plan Method --an ocular estimate for judging utilization of key species by weight. In this method, the examiner divides noticeable utilization among six classes of use within a key management area; no use (0 percent), slight (1-20 percent), light (21-40

percent), moderate (41-60 percent), heavy (61-80 percent), and severe (81-100) percent). This method will be used in key areas. In addition, a map of utilization patterns will be developed for the entire allotment.

Actual Use: Livestock operators will provide records of actual livestock use. Use by wild horses will be determined through census figures with refinement based on actual season-of-use data as available. Actual use and season-of use by big game animals will be determined in cooperation with the Nevada Department of Wildlife.

Climatic Data: Annual precipitation and length of growing season have a marked influence on seasonal vegetation growth and production. Official weather stations, BLM and Nevada State climatic stations will provide the climatic data. This data will be used to correlate seasonal weather to plant growth throughout the RMP area as determined by the utilization and trend studies.

Condition and Trend: Condition of a range site is determined by comparing composition by air-dry weight of the present plant association with that of the site's potential plant community. Trend is the direction of change in condition of the range observed over time. Changes in trend are categorized as upward, downward, or not apparent. From three to five years of observation are needed before any trend can be detected on most range sites. Trend is measured by using several methods, primarily by noting changes in the frequency of key species in key areas over time, using the Quadrat Frequency Method. Additional monitoring will be conducted in crucial wildlife and wild horse areas. Information gained through these efforts and other studies will be used in making any grazing decision. For more detailed information on these monitoring procedures, refer to the 1981 Final Nevada Range Monitoring Procedures (Range Studies Task Group, 1981), the draft Bureau Monitoring Studies Manual (USDI, BLM) and the Nevada Wildlife Manual Supplement 6630 (USDI, BLM, Aug. 1982).

The monitoring program for those allotments in the "maintain" and "custodial" categories will be of low intensity. For the "improve" category allotments, monitoring intensity will be variable, focusing on the effects of management prescriptions on objectives outlined in Appendix C and any other objectives developed through consultation and coordination with interested parties and AMP development.

WILDLIFE

The development of wildlife habitat improvement projects will be guided by wildlife habitat management plans (HMPs). The development of plans will be closely coordinated with livestock and wild horse plans and other resource plans to meet the objectives of both programs. Wildlife HMPs will address four major themes: management of crucial habitats to provide for threatened, endangered, or sensitive species where present; management of big game ranges to provide habitat for reasonable numbers of animals over the long term; improvement of riparian, wetland, and aquatic habitats; and management of other habitats to meet needs of upland game and nongame animals.

Riparian and aquatic habitat improvement measures could include managing livestock through grazing systems consistent with maintaining riparian vegetation in optimum condition, pasture fencing, or fencing areas to exclude livestock and wild horses. Whether to use protective fencing, grazing systems, some other appropriate measure, or a combination

of methods will be determined on an individual basis for each stream or riparian area.

WILD HORSE AND BURROS

Wild horse and burro management will be guided by herd management area plans (HMAPs). These plans will be developed through consultation and coordination with interested parties and would be coordinated with livestock and wildlife plans and other resource plans. They will focus on wild horse and burro management through determination of proper horse use levels, population management, habitat improvement such as the development of water sources, and population and habitat monitoring studies.

THREATENED, ENDANGERED AND SENSITIVE SPECIES

No activities will be permitted in habitat for threatened, endangered or sensitive species that would jeopardize the continued existence of such species. Whenever possible, management actions in habitat for threatened, endangered or sensitive species will be designed to benefit these species through habitat improvement. All project work will require a threatened, endangered, or sensitive species clearance before implementation. Consultation with the Fish and Wildlife Service per Section 7 of the Endangered Species Act is necessary if a threatened, endangered or proposed threatened or endangered species, or its habitat may be impacted. Other species considered sensitive but not under the protection of the Act are given special management consideration by Bureau policy. If adverse impacts to these other sensitive species are identified during project planning, the project will be modified to avoid these impacts.

MINERALS AND ENERGY

Minerals

All public land is open to mineral entry and development unless previously withdrawn. Mineral exploration and development on public land will be regulated under 43 CFR 3800 to prevent unnecessary and 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);

When there is a conflict with a disposal application or where the statute authorizing the disposal requires clearance of any encumbrance.

All public land is open to geothermal, oil and gas leasing with no special stipulations except in bighorn sheep habitat areas. In these areas, lease applications are processed on a case-by-case basis to evaluate if there is a need for special stipulations.

In 1982 all mineral withdrawals and segregations in the RMP were reviewed to determine if they were still necessary for their intended purpose. See Table 2-1 for a breakdown of existing withdrawals and Classification and Multiple Use (CMU) Act segregations and their status.

In summary, 99.86 percent of the RMP area is open to mineral entry and .14 percent is closed by either withdrawals or CMU segregations. Restrictions on geothermal, oil and gas leasing occur on 6 percent of the area with the remainder of the area open with no special stipulations.

ALTERNATIVES

Five alternatives have been developed for the Esmeralda-So. Nye Resource Management Plan. They are all multiple-use oriented, but each emphasizes a different balance between resources. The Preferred Alternative incorporates portions of the No Action Alternative and Alternatives A, B and C. To highlight the BLM's Preferred Alternative, which is the Proposed Action, it is the first alternative discussed in this chapter and all subsequent chapters. It is followed by the No Action Alternative and then Alternatives A, B, and C. No priority or preference is implied by the order of the latter four alternatives. Only management prescriptions that deal with the three identified issues will be discussed under each alternative.

PREFERRED ALTERNATIVE

The Preferred Alternative strives to balance competing demands by providing for production of needed goods and services, while protecting important environmental values. This alternative would change present management to the extent necessary to meet statutory requirements, policy commitments and to resolve identified issues in a balanced, cost-effective manner. The Preferred Alternative is considered the Proposed Action for the environmental impact statement portion of the RMP/EIS.

Issue I: Wilderness

Objectives

To recommend wilderness designation for those wilderness study areas (WSAs) where the values of wilderness designation are capable of balancing the other resource values and uses which would be foregone due to wilderness designation. All areas recommended suitable for wilderness designation must be able to be managed as wilderness over the long term.

Management Prescriptions

Under this alternative 17,850 acres or 9 percent of the WSAs are recommended as suitable and 171,825 acres are recommended as nonsuitable for wilderness designation. See Table 2-2 for a breakdown of wilderness acreage recommendations by alternative (see Wilderness Alternatives Maps).

Grapevine Mountains: The entire 66,800 acres within this WSA are recommended as nonsuitable for wilderness designation. The southern one-third of the mountainous portion of the WSA has a moderate potential for metallic minerals, and the entire WSA has a moderate potential for geothermal resources. The area contains only moderate wilderness values, supported primarily by outstanding opportunities for solitude. Motorized vehicle access across the gentle valley terrain of the WSA would adversely affect the BLM's ability to manage the area as wilderness over the long term.

Pigeon Spring: The entire 3,575 acres within this WSA are recommended as nonsuitable for wilderness designation. This WSA is contiguous to the California Desert Conservation Area, Sylvania Mountains WSA, No. 111, totalling 14,983 acres, which was recommended as nonsuitable for wilderness designation. Therefore, the Pigeon Spring WSA is not recommended as suitable for wilderness designation due to its small size and lack of wilderness characteristics when judged on its own merits.

Queer Mountain: The entire 81,550 acres within this WSA are recommended as nonsuitable for wilderness designation. The northwest, northeast and southeast portions of the WSA have a moderate potential for metallic minerals. The entire WSA also has a moderate potential for geothermal resources.

The area contains only moderate wilderness values, supported primarily by outstanding opportunities for solitude. Management of the entire area as wilderness over the long-term cannot be assured due to the potential for development of valid mining claims in the northern portion of the WSA and the ease of motorized vehicle access throughout most of the WSA.

Resting Spring Range: The entire 3,850 acres within this WSA are recommended as nonsuitable for wilderness designation. This WSA is contiguous to the California Desert Conservation Area, Resting Spring Range WSA, No. 145, totalling 89,772 acres, which was recommended as nonsuitable for wilderness designation. Therefore, the Resting Spring Range WSA is not recommended as suitable for wilderness designation due to its small size and lack of wilderness characteristics when judged on its own merits.

Silver Peak Range: A central core area, totalling 17,850 acres, which possesses high wilderness values is recommended as suitable for wilderness designation. This core area includes Icehouse Canyon, Piper Peak, and the ridgeline running north of Piper Peak. The area's high wilderness values result from the outstanding opportunities for primitive recreation and solitude and the presence of special features, such as bighorn sheep and wild horses. The addition of 1,134 acres of public land at the mouth of Icehouse Canyon along the northwest boundary of the WSA improves the management situation of the area by establishing an easily recognizable boundary based on topography. The remaining 17,184 acres of the WSA are recommended as nonsuitable for wilderness designation due to the moderate and high potential for metallic minerals and geothermal resources as well as to avoid potential conflicts with mining claims along the periphery of the WSA.

Issue 2: Land Tenure and Utility Corridors

Objectives

To improve opportunities for economic development by substantially increasing the amount of non-federally owned land within the RMP area.

To improve the manageability of public lands by disposing of scattered isolated tracts of land and creating a blocked-ownership pattern.

To ensure a system for transmission of utilities through the RMP area by establishing corridors which will meet the long-range planning needs of utility companies and avoid sensitive resource values.

Management Prescriptions

Identify a pool of 94,949 acres of public for disposal during the life of this plan (See Land Disposal and Corridor-Preferred Alternative Map). This land would meet urban-suburban expansion or agricultural development needs for communities in the RMP area. Disposal of identified public lands would also enhance BLM management of residual lands, by creating a blocked-ownership pattern in the planning area (see Table 2-3 for land disposal acreage by alternative).

Designate 357 miles of utility corridors which include existing facilities and/or rights-of-way and identify 30 miles of planning corridors (see Land Disposal and Corridors-Preferred Alternative Map). No private land would be included in these corridors.

1. A-B-C-D-E-F-G-H-I, a designated corridor running north-south which includes a right-of-way held by Western Area Power Administration (WAPA) for a 750 KV D.C. line.

2. B-O-N and O-M, a designated corridor running east-west. This corridor provides the only major east-west route in the planning area and would provide an outlet for potential geothermal power which may be produced in Fish Lake Valley.

3. P-B, a planning corridor running east-west which provides for the logical extension of corridor B-O-N and O-M. It would serve the same purpose as the aforementioned corridor.

4. L-W-O, a designated corridor running east-west containing an existing facility. It serves as the major link between the Millers and Fort Churchill substations.

5. X-S-D, E-K-G and H-J, designated corridors running north-south along U. S. 95 that contain existing facilities not included in the WAPA right-of-way corridor.

6. Z-Y, a planning corridor running north-south from Ione Valley and providing a route from Austin, NV.

7. M-R, a designated corridor generally running north-south between Tonopah and Alkali substations.

Issues: Rangeland Management

Objectives

Improve the condition of public rangelands to enhance the productivity for all rangeland values.

Initially, manage livestock use at existing levels.

Initially, manage wild horses and burros and their habitat at current numbers in areas which constituted their habitat at the time the Wild and Free-Roaming Horse and Burro Act became law in 1971.

Initially, manage wildlife habitat for existing numbers of big game, while recognizing reasonable numbers as a management goal.

To maintain or improve selected riparian and stream habitat to good or better condition.

Management Prescriptions

Authorize livestock use at 46,385 animal unit months (AUMs). This level of use is equivalent to the three to five year average use on all allotments except Emigrant Peak which will be authorized at preference (see Appendix G-Table G-4). Section 7 consultation will take place with the U.S. Fish and Wildlife Service before issuing an ephemeral permit on the Carson Slough and Grapevine-Rock Valley allotments. The Ash Meadows grazing lease will be closed to livestock grazing.

Intensively manage six Improve category allotments and provide three Maintain category allotments with range improvements (see Table 2-4 for intensive management implementation priorities) (see Allotment Boundary Map). These actions would improve vegetative condition and livestock distribution. Other range improvements may be implemented if private funds are made available.

Construct or implement range improvement projects in support of intensive management (see Table 2-5 for specific range improvements and their costs).

Manage wild horses and burros at current numbers based on the 1982 survey which identified a level of 1127 and 357 head respectively in 13 herd areas (See Table 2-6).

Develop six springs to enhance management of four herd areas (see Table 2-7). Implement Herd Management Area Plans following the priorities listed in Table 2-7.

Continue existing rangeland monitoring studies, and establish new studies as recommended by the 1981 Nevada Range Monitoring Procedures to determine if management objectives are being reached and what adjustments in livestock use, wild horse land burro numbers and wildlife reasonable numbers are necessary.

Manage current wildlife habitat initially for current numbers with a goal of achieving reasonable numbers in both current and historical habitat (see Table 2-8 for specific projects and habitat managmeent plan priorities).

Continue the implementation of the Ash Meadows and Silver Peak Habitat Management Plans (HMPs). The Ash Meadows HMP will be modified to include new data pertaining to sensitive, threatened or endangered species. The BLM, in consultation/cooperation with Nye County, will work toward achieving the objectives outlined in the U.S. Fish and Wildlife Service's Ash Meadows Land Protection Plan.

Support reintroduction of bighorn sheep into historic habitat areas in the Goldfield, Amargosa, Magruder/Palmetto, Monte Cristo, Montezuma, Silver Peak and Sawtooth habitat areas.

Support introduction of bighorn sheep into suitable habitat in the Bare Mountain and Gold Mountain habitat area.

Support augmentation of elk in current habitat in the Spring Mountains habitat area. Implement special management treatments and/or facilities along 4.8 miles of streams to improve aquatic and riparian habitat condition.

NO ACTION ALTERNATIVE

The No Action Alternative portrays a continuation of present management direction with the exception of wilderness resources. For wilderness resources the No Action Alternative will be the same as the No Wilderness Alternative. The purpose of the No Action Alternative is to provide a baseline for the comparison of other alternatives.

Management Prescriptions

Issue 1: Wilderness

Under this alternative 0 acres of the WSAs are recommended as suitable and 189,675 acres would be recommended as nonsuitable for wilderness designation (see Table 2-2).

Issue 2: Land Tenure and Utility Corridors

Consider land disposals on a case-by-case basis based on demand.

Process right-of-way applications on a case-by-case basis, but do not plan or designate corridors.

Issue 3: Rangeland Management

Livestock grazing would continue to be licensed at the current three to five-year use level of 46,013 AUMs.

Manage wild horses and burros and their habitat at the 1982 level of 1,127 and 357 head, respectively (see Table 2-6 for horse and burro numbers by herd area).

Manage big game habitat for existing numbers.

ALTERNATIVE A

This alternative emphasizes livestock production, wildlife numbers, land disposals, and utility and planning corridor designations. It de-emphasizes wilderness values and reduces wild horse and burro numbers

Issue 1: Wilderness

Objective

To obtain the greatest degree of consumptive use and production, while recommending only those areas with the highest wilderness values as suitable for wilderness designation. All areas recommended suitable for wilderness designation under this alternative must be capable of being effectively managed to preserve this wilderness character.

Management Prescription

Under this alternative 17,850 acres or 9 percent of the WSAs are recommended as suitable and 171,825 acres are recommended as nonsuitable for wilderness designation (see Table 2-2).

Grapevine Mountains: The entire 66,800 acres within this WSA are recommended as nonsuitable for wilderness designation. The southern one-third of the mountainous portion of the WSA has a moderate potential for metallic minerals, and the entire WSA has a moderate potential for geothermal resources. The area contains only moderate wilderness values, supported primarily by outstanding opportunities for solitude. Motorized vehicle access across the gentle valley terrain of the WSA would adversely affect the BLM's ability to manage the area as wilderness over the long term.

Pigeon Spring: The entire 3,575 acres within this WSA are recommended as nonsuitable for wilderness designation. This WSA is contiguous to the California Desert Conservation Area, Sylvania Mountains WSA, No. 111, totalling 14,983 acres, which was recommended as nonsuitable for wilderness designation. Therefore, a partial wilderness alternative for the Pigeon Spring WSA was not identified due to its small size and lack of wilderness characteristics when judged on its own merits.

Queer Mountain: The entire 81,550 acres within this WSA are recommended as nonsuitable for wilderness designation. The northwest, northeast and southeast portions of the WSA have a moderate potential for metallic mineral. The entire WSA also has a moderate potential for geothermal resources. The area contains only moderate wilderness values, supported primarily by outstanding opportunities for solitude. Management of the entire area as wilderness over the long-term cannot be assured due to the potential for development of valid mining claims in the northern portion of the WSA and the ease of motorized vehicle access throughout most of the WSA.

Resting Spring Range: The entire 3,850 acres within this WSA are recommended as nonsuitable for wilderness designation. This WSA is contiguous to the California Desert Conservation Area, Resting Spring Range WSA, No. 145, totalling 89,772 acres, which was recommended as nonsuitable for wilderness designation. Therefore, a partial wilderness alternative for the Resting Spring Range WSA was not identified due to its small size and lack of wilderness characteristics when judged on its own merits.

Silver Peak Range: A central core area, totalling 17,850 acres, which possesses high wilderness values is recommend as suitable for wilderness designation. This core area includes Icehouse Canyon, Piper Peak, and the ridgeline running north of Piper Peak. The area's high wilderness values result from the outstanding opportunities for primitive recreation and solitude and the presence of special features, such as bighorn sheep and wild horses. The addition of 1,134 acres of public land at the mouth of Icehouse Canyon along the northwest boundary of the WSA improves the

management situation of the area by establishing an easily recognizable boundary based on topography. The remaining 17,184 acres of the WSA are recommended as nonsuitable for wilderness designation due to the moderate and high potential for metallic minerals and geothermal resources as well as to avoid potential conflicts with mining claims along the periphery of the WSA.

Issue 2: Land Tenure and Utility Corridors

Objectives

To improve opportunities for economic development by substantially increasing the amount of non-federally owned land within the RMP area.

To adjust the land tenure pattern by disposing of land identified by local planning boards and/or private individuals.

To ensure a system for transmission of utilities through the RMP area by establishing an extensive network of utility corridors.

Management Prescriptions

Identify a pool of 245,807 acres of public land which meets preliminary disposal criteria (see Table 2-3 and Land Disposal and Corridors-Alternative A Map). Disposal would meet needs for recreation or other public purposes, community expansion, economic development, agriculture, and for the creation of blocked-ownership patterns which would result in improved land management.

Designate 422 miles of utility corridors which include existing facilities and/or rights-of-way and identify 80 miles of planning corridors (see Land Disposal and Corridors-Alternative A Map). No private land would be included in these corridors.

1. A-B-C-D-E-F-G-H-I, a designated corrridor running north-south which includes a right-of-way held by Western Area Power Administration (WAPA) for a 750 KV D.C. line.

2. B-O-N and O-M, a designated corridor running east-west. This corridor provides the only major east-west route in the RMP area and would provide an outlet for potential geothermal power which may be produced in Fish Lake Valley.

3. P-B, a planning corridor running east-west which provides for the logical extension of corridor B-O-N and O-M. It would serve the same purpose as the aforementioned corridor.

4. L-W-O, a designated corridor running east-west containing an existing facility. It serves as the major link between the Millers and Fort Churchill substations.

5. X-S-D, E-K-G and H-J, designated corridors running north-south along U.S. 95 that contain existing facilities not included in the WAPA right-of-way corridor.

6. O-C-Q-T, a designated corridor running northeast-southwest from Millers substation to Bishop, California.

7. M-R-Q, a designated corridor generally running north-south between Tonopah, Alkali and Silverpeak substations.

8. V-T, a planning corridor running east-west which provides for the possible location of transmission line to Fish Lake Valley.

9. T-A, a designated corridor running north-south into Fish Lake Valley.

10. Z-Y, a planning corridor running north-south from Ione Valley and providing a route from Austin, NV.

Issue 3: Rangeland Management

Objectives

Increase livestock production through range management practices such as the implementation of allotment management plans (AMPs) and range improvements and a reduction in wild horse and burro numbers.

Manage wild horses and burros and their habitat for reduced numbers but at a level which would maintain herd integrity.

Manage current wildlife habitat with a goal of achieving reasonable numbers.

Management Prescriptions

Authorize livestock use at 62,012 AUMs. This is based either on a level which is 30 percent above the last three-to-five year average or at a level equal to preference, whichever is greater.

Intensively manage six Improve category allotments and provide Maintain category allotments with additional range improvements. Range improvements may be implemented on custodial category allotments if private funds become available (see Table 2-4 for intensive management priorities by allotment).

Construct or implement range improvement projects in support of intensive management (see Table 2-5 for specific range improvements and their costs).

Gather wild horses and burros to reduce their population to a level of 410 and 143 head, respectively in 13 herd areas (See Table 2-6).

Develop six springs to enhance management of four herd areas (see Table 2-7 for specific projects and implementation priorities).

Manage current big game habitat with a goal of achieving reasonable numbers (see Table 2-8 for specific projects and habitat management plan (HMP) priorities).

Continue implementation of the Ash Meadows and Silver Peak HMPs. The Ash Meadows HMP will be modified to include new data pertaining to sensitive, threatened, or endangered species. The BLM, in consultation/cooperation with Nye County, will work toward achieving the objectives outlined in the U. S. Fish and Wildlife Service's Ash Meadows Land Protection Plan.

ALTERNATIVE B

This alternative emphasizes wild horse and burro use, wildlife numbers and wilderness values. It provides a "mid-range" approach toward land disposal and utility and planning corridor designations and de-emphasizes livestock grazing.

Issue 1: Wilderness

Objective

Emphasize protection of those portions of wilderness study areas (WSAs) with the higher wilderness values, while recommending as nonsuitable for wilderness designation those areas with the lower wilderness values and/or existing or potential manageability problems.

Management Prescriptions

Under this alternative 99,420 acres or 52 percent of the WSA would be recommended as suitable and 90,225 acres would be recommended as nonsuitable for wilderness designation (see Table 2-2 and Wilderness Alternatives Map).

Grapevine Mountains: A central core area, totalling 23,150 acres is recommended as suitable for wilderness designation . This core

area includes the majority of the mountainous portion of the WSA. The remaining 43,650 acres would be recommended as nonsuitable for wilderness designation to avoid potential conflicts with motorized vehicle use in the valley portions of the WSA.

Pigeon Spring: The entire 3,575 acres within this WSA are recommended as nonsuitable for wilderness designation. This WSA is contiguous to the California Desert Conservation Area, Sylvania Mountains WSA, No. 111, totalling 14,983 acres, which was recommended as nonsuitable for wilderness designation. Therefore, a partial wilderness alternative for the Pigeon Spring WSA was not identified due to its small size and lack of wilderness characteristics when judged on its own merits.

Queer Mountain: A central core area, totalling 42,650 acres is recommended as suitable for wilderness designation. This core area includes the southern three quarters of the mountainous portion of the WSA. The northern one-quarter of the mountainous portion is recommended nonsuitable for wilderness designation due to the moderate potential for metallic minerals. The potential for development of existing mining claims is the greatest in this area. Claim development would adversely affect wilderness manageability. The peripheral portions of the area are recommended as nonsuitable to eliminate conflicts caused by ease of motorized vehicle access. A total of 38,900 acres are recommended as nonsuitable for wilderness designation

Resting Spring Range: The entire 3,850 acres within this WSA are recommended as nonsuitable for wilderness designation. This WSA is contiguous to the California Desert Conservation Area, Resting Spring Range WSA, No. 145, totalling 89,772 acres, which was recommended as nonsuitable for wilderness designation. Therefore, a partial wilderness alternative for the Resting Spring Range WSA was not identified due to its small size and lack of wilderness characteristics when judged on its own merits.

Silver Peak Range: The vast majority of the WSA, totalling 33,620 acres is recommended as suitable for wilderness designation. This alternative includes a larger portion of the pinyon and juniper woodland area, located along the eastern boundary, than would Alternative A. It also includes a large portion of the western canyonlands. There are 3,065 acres of public land added to the WSA to improve the management situation. This includes the area around Icehouse Canyon which was added to the WSA under Alternative A. It also includes expanding the southern boundary out to the road in McAfee Canyon. There are 3,345 acres recommended as nonsuitable for wilderness designation. A portion of Piper Canyon along the western boundary is recommended nonsuitable to avoid potential conflicts with motorized vehicle use on an existing way. The eastern boundary is pulled back to avoid potential conflicts with mining claims along the periphery of the WSA.

Issue 2: Land Tenure and Utility Corridors

Objectives

To improve opportunities for economic development by increasing the amount of non-federally owned land within the RMP area. Land disposal would not take place within known potential resource conflict areas such as wildlife or wild horse and burro use areas.

To ensure a system for transmission of utilities through the RMP area by establishing corridors which encompass major existing facilities, rights-of-way or planning routes.

Management Prescriptions

Identify a pool of approximately 188,857 acres of public land which meets preliminary disposal criteria (see Table 2-3 and Land Disposal and Corridors-Alternative B Map). This land would meet disposal needs for recreation or other public purposes, community expansion, economic development, agriculture and for the creation of blocked-ownership patterns while avoiding areas with potential resource conflicts and uses.

Designate 334 miles of utility corridors which include existing facilities and/or rights-of-way and identify 72 miles of planning corridors (see Land Disposal and Corridors-Alternative B Map). No private land would be included in these corridors.

1. A-B-C-D-E-F-G-H-I, a designated corridor running north-south which includes a right-of-way held by Western Area Power Administration (WAPA) for a 750 KV D.C. line.

2. B-O-N and O-M, a designated corridor running east-west. This corridor provides the only major east-west route in the RMP area and would provide an outlet for potential geothermal power which may be produced in Fish Lake Valley.

3. P-B, a planning corridor running east-west which provides for the logical extension of corridor B-O-N and O-M. It would serve the same purpose as the aforementioned corridor.

4. L-W-O, a designated corridor running east-west containing an existing facility. It serves as the major link between the Millers and Fort Churchill substations.

5. X-S-D, E-K-G and H-J, designated corridors running north-south along U.S. 95 that contain existing facilities not included in the WAPA right-of-way corridor.

6. V-T, a planning corridor running east-west which provides for the possible location of transmission lines to Fish Lake Valley.

7. T-U, a designated corridor running north-south into Fish Lake Valley.

8. M-R, a designated corridor generally running north-south between Tonopah and Alkali substations.

Issue 3: Rangeland Management

Objectives

Improve the condition of public rangelands so as to enhance the productivity for all rangeland values.

Provide for more uniform vegetation utilization.

Allow livestock grazing at use levels which would avoid significant conflicts with other resources.

Manage wild horses and burros and their habitat for increased numbers.

Manage current wildlife habitat with a goal of achieving reasonable numbers of big game.

Management Prescriptions

Authorize livestock use at 32,208 AUMs. This is based on a level which is 30 percent below the last three-to-five year average.

Intensively manage six Improve category allotments and provide three Maintain category allotments with additional range improvements. Range improvements may be implemented on Custodial category allotments if

private funds become available (see Table 2-4 for intensive management priorities by allotments).

Construct or implement range improvement projects in support of intensive management (see Table 2-5 for specific range improvements and their costs).

Manage wild horses and burros and their habitat to reach a level of 1,513 and 477 head, respectively (see Table 2-6). This is an overall increase of 34 percent, which represents an estimated increase in numbers of six percent/year for five years.

Develop six springs to enhance management of four herd areas (see Table 2-7 for specific projects and implementation priorities).

Manage current big game habitat with a goal of achieving reasonable numbers (see Table 2-8 for specific projects and habitat management plan priorities).

Continue the implementation of the Ash Meadows and Silver Peak HMPs. The Ash Meadows HMP will be modified to include new data pertaining to sensitive, threatened or endangered species. The BLM in consultation/cooperation with Nye County, will work toward achieving the objectives outlined in the U.S. Fish and Wildlife Service's Ash Meadows Land Protection Plan.

Implement special management treatments and/or facilities along 4.8 miles of streams to improve aquatic and riparian habitat condition.

ALTERNATIVE C

This alternative represents the elimination of livestock grazing on public lands. It strives to maximize wildlife numbers and acreage recommended for wilderness designation. In addition, this alternative identifies minimum land disposal and corridor designations and reduces wild horse and burro numbers.

Issue 1: Wilderness

Objective

To recommend wilderness designation for the maximum amount of wilderness study area (WSA) acreage within the RMP area.

Management Prescriptions

Under this alternative 189,675 acres are recommended as suitable and 0 acres are recommended as nonsuitable for wilderness designation (see Table 2-2).

Issue 2: Land Tenure and Utility Corridors

Objective

To transfer out of public ownership only those parcels necessary for community expansion and/or isolated tracts.

To provide a minimum system for transmission of utilities through the RMP area by establishing corridors which encompass major existing facilities, rights-of-way or planning routes.

Management Prescriptions

Identify a pool of approximately 10,235 acres of public land for community expansion and/or creation of a block-ownership pattern which would result in improved land management (see Table 2-3 and Land Disposal and Corridors-Alternatives C Map).

Designate 230 miles of utility corridors which include existing facilities and/or rights-of-way and identify 22 miles of planning corridors (see Land Disposal and Corridors-Alternatives C Map). No private lands would be included in these corridors.

1. A-B-C-D-E-F-G-H-I, a designated corridor running north-south which includes a right-of-way held by Western Area Power Administration (WAPA) for a 750 KV D. C. line.

2. B-O-N and O-M, a designated corridor running east-west. This corridor provides the only major east-west route in the RMP area and would provide an outlet for potential geothermal power which may be produced in Fish Lake Valley.

3. P-B, a planning corridor running east-west which provides for the logical extension of corridor B-O-N and O-M. It would serve the same purpose as the aforementioned corridor.

Issue 3: Rangeland Management

Objectives

Remove livestock grazing from all public land within the RMP area.

Manage wild horse and burros and their habitat to eliminate conflicts with big game species.

Manage current and historic wildlife habitat with a goal of achieving reasonable numbers of animals.

Management Prescriptions

Exclude livestock grazing on all public lands within the RMP area.

Gather wild horses and burros to reduce their population to a level of 427 and 248 head, respectively in 12 herd areas (see Table 2-6). Eliminate wild horses and/or burros from the Nye County portion of the Mt. Stirling HUA.

Develop six springs to enhance management of four herd areas (see Tables 2-7 for specific projects and implementation priorities).

Manage current and historic big game habitat with a goal of achieving reasonable numbers of animals (see Table 2-8 for specific projects and habitat management plan (HMP) priorities).

Continue the implementation of the Ash Meadows and Silver Peak HMPs. The Ash Meadows HMP will be modified to include the new data pertaining to sensitive, threatened or endangered species. The BLM in consultation/cooperation with Nye County, will work toward achieving the objectives outlined in the U.S. Fish and Wildlife Service's Ash Meadows Land Protection Plan.

Support reintroduction of bighorn sheep into historic habitat areas in the Goldfield, Amargosa, Magruder/Palmetto, Monte Cristo, Montezuma, Silver Peak and Sawtooth habitat areas.

Support introduction of bighorn sheep into suitable habitat in the Bare Mountain and Gold Mountain habitat areas.

Support augmentation of elk in current habitat in the Spring Mountains habitat area.

TABLE 2-1
STATUS OF EXISTING WITHDRAWALS AND CLASSIFICATION
AND MULTIPLE USE SEGREGATIONS

NAME/NUMBER	LOCATION	SIZE (ACRES)	STATUS
Ash Meadows PLO 5387 (withdrawal)	T.17S.,R.50E.M.D.M. Section 14, lot 11, Section 35, SW1/4 NE1/4.S1/2 NE1/4 SE1/4, SE 1/4 SE 1/4	136.84	Recommended for retention
Pinyon-Joshua Transition Research Natural PLO 3530 (withdrawal)	T.3S.,R.38E.M.D.M. Section 32, all	640	Recommended for Revocation
Devils Hole (N-257B) (C&MU)	T.17S., R.50E. MDM Sec.35,E1/2NE1/4,N1/2 NE1/4 SE1/4,Sec.36, NE1/4,W1/2,N1/2SE1/4, SE1/4SE1/4 T.13S.,R.51E.,MDM Sec.31, NE1/4NE1/4,W1/2 E1/2,W1/2 T.18S., R.50E., MDM. Sec.1, N1/2N1/2,Sec.2., NE1/4 T.18S.,R.51E., MDM. Sec 6. lots 2 through 6, SW 1/4 NE 1/4, SE1/4 NW1/4,NE1/4 SW1/4, SE1/4		Recommended for Retention
Jack Rabbit Spring (N-3319) (C&MU)	T.18S.,R. 51E. MDM Sec.18,SW1/4 NW1/4, w1/2 SE1/4 NW1/4		Recommended for Retention
Warm Springs Pupfish (N-27612)	T.17S., R.70E.,MDM Sec.26,S1/2;Sec.34,NE 1/4; Sec.35,N 1/2 N1/2,SE 1/4 NE1/4, SW 1/4 NW1/4, W1/2 SW 1/4,N 1/2 NE 1/4 SE 1/4, NW 1/4,SE 1/4; Sec.36, W 1/2.T.18S., R. 50 E. Sec. 1, Lots 3 and 4; Sec. 2, Lots 1 and 2, S 1/4 NE 1/2.	1419.04	Pending
Ash Meadows (N-29915)	T.18S., R.50E. MDM Sec.13,E 1/2 SW 1/4 SE 1/4, E 1/2 W 1/2 SW 1/4 SE 1/4; Sec. 24,NE 1/4 NE 1/4 T. 18S.,R.51E. MDM Sec.18, Lots 2, 3, 4, W 1/2 SE 1/4 NW 1/4, E 1/2 SW 1/4; Sec.19, Lot 1, E 1/2 NW 1/4, SW 1/4, NE1/4.	435.93	Pending

TABLE 2-2
ACREAGE RECOMMENDED SUITABLE FOR WILDERNESS DESIGNATION
BY ALTERNATIVE

Wilderness Study Areas	Total Acreage	Preferred		No Action		A		B		C	
		AC	%	AC	%	AC	%	AC	%	AC	%
Planning Area A											
Grapevine Mountains (NV-060-355)	66,800	0	0	0	0	0	0	23,150	35	66,800	100
Pigeon Spring (NV-060-350)	3,575	0	0	0	0	0	0	0	0	3,575	100
Queer Mountain (NV-060-350)	81,550	0	0	0	0	0	0	42,650	52	81,550	100
Silver Peak Range NV-060-338)	33,900	17,850 a/	53	0	0	17,850a/	53	33,620b/	99	33,900	100
Subtotal	185,825	17,850	10	0	0	17,850	10	99,420	56	185,825	100
Planning Area B											
Resting Springs (NV-050-460)	3,850	0	0	0	0	0	0	0	0	3,850	100
Subtotal	3,850	0	0	0	0	0	0	0	0	3,850	100
Grand Totals	189,675	17,850	9	0	0	17,850	9	99,420	52	189,675	100

a/ Includes 1,184 acres added to the Silver Peak Range WSA to enhance manageability.
b/ Includes 3,065 acres added to the Silver Peak Range WSA to enhance manageability.

TABLE 2-3
LAND DISPOSAL BY ALTERNATIVE (ACRES)

Area	County	Preferred	No Action a/	A	B	C
Planning Area A						
Beatty	Nye	10,726	0	29,715	0	0
Blair Junction	Esmeralda	690	0	690	690	0
Coaldale	Esmeralda	530	0	530	530	0
Fish Lake Valley	Esmeralda	20,885	0	53,600	32,442	420
Goldfield	Esmeralda	2,674	0	19,200	9,216	285
Goldpoint	Esmeralda	1,540	0	1,540	1,540	0
Lida	Esmeralda	570	0	570	570	0
Millers	Esmeralda	2,720	0	2,606	2,606	80
Scottys Junction	Nye	3,660	0	4,930	4,930	640
Silverpeak	Esmeralda	1,080	0	3,540	2,460	0
Tonopah	Esmeralda	2,674	0	4,376	3,170	1,850
Subtotal		47,749	0	121,297	78,381	3,275
Planning Area B						
Amargosa	Nye	26,880	0	74,560	61,430	2,840
Lathrop Wells	Nye	5.240	0	2,555	2,555	155
Pahrump	Nye	15,080	0	47,395	46,491	3,965
Subtotal		47,200	0	124,510	110,476	6,960
Grand Total		94,949	0	245,807	188,857	10,235

a/ Driven by specific applications/expressions of interest (sales).

TABLE 2-4
IMPLEMENTATION PRIORITY FOR INTENSIVE MANAGEMENT
BY ALLOTMENT FOR EACH ALTERNATIVE

PREFERRED	ALTERNATIVE A	ALTERNATIVE B
PLANNING AREA A		
Silver Peak/Icehouse a/	Magruder Mountain	Magruder Mountain
Magruder Mountain	Montezuma	Silver Peak/Ice House a/
Red Springs	Silver Peak/Ice House a/	Red Springs
Montezuma	Red Springs	Montezuma
Monte Cristo b/	Monte Cristo b/	Monte Cristo b/
White Wolf	White Wolf	White Wolf
Razorback	Razorback	Razorback
PLANNING AREA B		
Mt. Stirling	Mt. Stirling	Mt. Stirling

a/ Intensive Management will consider these 2 allotments as one grazing unit under present grazing lessee. In case of the transfer of either grazing lease, Silver Peak will retain its place in the list, Ice House will become fifth on the list for Planning Area A under all alternatives.

b/ Implementation of existing stewardship program.

TABLE 2-5

RANGE IMPROVEMENT PROJECTS BY ALTERNATIVE

Project/Cost	Preferred Number/Cost	Alternative A Number/Cost	Alternative B Number/Cost
Planning Area A			
Wells ($15,000/ea)	7/105,000	12/180,000	10/150,000
Pipelines(6,600/mi.)	22.25/146,850	25/165,000	12/79,200
Windmills ($3,500/ea)	0/0	12/42,500	7/24,500
Spring Dev.($1,500/ea)a/	5/7,500	5/7,500	5/7,500
Troughs ($400/ea.)	15/6,000	38/15,200	29/11,600
Storage Tanks($4,500 ea.)	0/0	12/54,000	6/27,000
Fence ($4,500/mi)	42.2/189,900	190/867,000	158/711,000
Cattleguards ($3000/ea)	2/6,000	11/33,000	5/15,000
Veg.Treatments(ac.)b/	1,195/27,485	1,695/38,985	695/15,985
Gabions c/	20,000	20,000	20,000
Subtotal	508,735	1,423,185	1,061,785
Planning Area B			
Pipelines ($6,600//mi.)		2/13,200	2/13,200
Troughs ($400/ea.)		2/800	2/800
Cattleguards ($3,000/ea.)	2/6,000	2/6,000	2/6,000
Subtotal	6,000	20,000	20,000
Total d/	514,735	1,443.185	1,081,785

a/ Spring developments include only costs to improve flow at the source. Fencing and piping of springs is included under fences and pipelines.

b/ Includes	Preferred	Alt A	Alt B.
Spray and burn $10/ac.	1195 ac	1695 ac.	695 ac.
Drill seed $13/ac	1195 ac	1695 ac.	695 ac.

c/ Includes overall estimated costs for constructing and installing an as yet undetermined number of gabions and contracting heavy equipment and labor for erosion control work.

d/ Funding levels are for a five year period and are 8100 monies.

TABLE 2-6

WILD HORSE AND BURRO NUMBERS BY ALTERNATIVE a/

HERD AREA	PREFERRED	NO ACTION	A	B	C
Planning Area A					
Bullfrog	12/218	12/218	12/50	16/292	10/174
Dunlap	69H	69H	50H	92H	43H
Fish Lake Valley	62/12	62/12	50/12	88/16	60/12
Goldfield	227/71	227/71	43/43	304/95	107/33
Gold Mtn.	19H	19H	19H	25H	7H
Montezuma	161H	161H	50H	216H	84H
Palmettos	184H	184H	50H	246H	24H
Paymaster/Lone Mtn.	48H	48H	48H	64H	32H
Silver Peak	307H	307H	50H	412H	79H
Stonewall	13/34	13/34	13/16	17/45	7/17
Subtotal	1102/335	1102/335	385/121	1480/448	453/236
Planning Area B					
Amargosa	19/1	19/1	19/1	25/1	19/1
Last Chance	12B	12B	12B	16B	12B
Mt Stirling	6/9	6/9	6/9	8/12	0
Subtotal	25/22	25/22	25/22	33/29	19/12
Total	1127/357	1127/357	410/143	1513/477	427/248

a Horse numbers are listed first then burro numbers.
H= horse B= burro

TABLE 2-7

WILD HORSE AND BURRO HERD MANAGEMENT AREA

PLAN IMPLEMENTATION PRIORITIES AND ASSOCIATED PROJECTS

Herd Area	Opportunity/Conflict a/	Projects/Cost b/	
Planning Area A			
Silver Peak	a,b	2-spring developments-$10,000	
Stonewall	c	2-spring developments-$10,000	
Bullfrog	c	1-spring development -$ 5,000	
Palmettos	c	-	
Montezuma	c	-	
Goldfield	c	-	
Paymaster/Lone Mtn.	c	1-spring development -$ 5,000	
Gold Mtn.	c	-	
Dunlap	c	-	
Fish Lake Valley	c	-	
Subtotal			30,000
Planning Area B			
Mt. Stirling	c	-	
Amargosa	c	-	
Last Chance	c	-	
Subtotal			0
Total c/			30,000

a/ a = best opportunity for habitat improvement
b = private property horse conflicts, resource conflicts.
c = opportunity for habitat improvement, resource conflicts.

b/ Spring development include .25 mile of fence, .25 mile of pipeline, and 1 trough

c/ Funding levels are for a five-year period and are 4321 monies.

TABLE 2-8
WILDLIFE HABITAT MANAGEMENT PLAN IMPLEMENTATION PRIORITIES
AND ASSOCIATED MANAGEMENT ACTIONS AND PROJECTS

Habitat a/ Area	Priorities b/ Species	Management Actions c/Projects a/Cost by Alternative: Preferred	Alternative A	Alternative B	Alternative C
Planning Area					
Silver Peak	BH,D,C,	C,R/4 spring developments/$20,000	4 small catchments/$30,000	-	same as preferred
		3 small catchments /$22,500	-	-	R
Stonewall	BH,D,C,	R	-	-	R
Monte Cristo	BH,D,C,	R/3 small catchments /$22,500	4 small catchments/$30,000	Same as A	Same as preferred
Bare Mountain	BH	I/2 small catchments /$15,000	-	-	Same as preferred
Lone Mountain	BH,D	R			R
Amargosa	BH,D,C	R	HMPs may be developed but would		R
Palmetto/Magruder	D,BH,C	R	only be partially implemented		R
Montezuma	D,BH,C	R	due to limited funding under		R
Goldfield	BH,C	R	all four alternatives (i.e.,		R
Gold Mountain	BH,D,C.	I	wildlife projects)		I
Sawtooth	BH,C	R			R
White Mountains	F,S,BH,D,C	R			R
Cost Subtotal		80,000	60,000	30,000	80,000
Planning Area B					
Ash Meadows	L,P	C,S/Project Maintenance /$10,000	Same as preferred	Same as preferred	Same as preferred
Spring Mountains	E,D,BH,C	A/1 Spring Development /$5,000	Same as preferred	Same as preferred	Same as preferred
Big Dune	B		HMPs may be developed but would		
Johnnie	BH		be partially implemented due to		
Specter	BH		limited funding under all four		
			alternatives (i.e., no wildlife		
			projects).		
Cost Subtotal		$22,500	$22,500	$22,500	$22,500
Total e /		$102,500	$82,500	$52,500	$102,500

a/ Listed in order of overall priority for each planning area beginning with the highest.

b/ Priority of species by habitat area, priority is from left to right. B=proposed listed beetle, BH=bighorn sheep, C=chukar partridge, D=mule deer, e= elk F= brook trout, L=listed and proposed federal and state protected fish and invertebrates, P=listed and proposed plant species.

c/ Management actions besides development of HMPs.C= continue implementation of existing HMP, R=reintroduce priority species, I = introduce priority species, A=augment priority species. S = contract of study at School Spring to determine fish, vegetation and water relationships = $7,500.

d/ Project costs; spring developments ($5000/includes protective fencing), small catchments (5,000 gallon)=$7,500, project maintenance (fence repair, pond and pipeline maintenace)=$2,500

e/ Funding levels are for a five year period and include only federal 4350 monies.

CHAPTER 3

Affected Environment

Chapter 3
AFFECTED ENVIRONMENT

This chapter describes the resources and uses of the Esmeralda-So. Nye RMP area which may be affected by one of the five alternatives proposed in this plan. Additional information on these resources or uses may be found in the Las Vegas or Battle Mountain District Offices. Resources or uses not appearing in this chapter are not expected to be affected by any of the proposed alternatives.

CULTURAL RESOURCES

Cultural resources in Esmeralda County and adjacent portions of Southern Nye County have not been inventoried, except in project specific cases, to any systematic extent. Considerably less than one percent of the land now under BLM management has been inventoried. This is not enough to predict, with any degree of confidence, site distributions and densities. However, enough information is on record to indicate the range of cultural resources and some important localities where these occur in this area.

Prehistoric sites in the study area are most commonly lithic scatters or isolated tools and associated manufacturing debris. Rock shelters, caves and springside localities are the most common habitation sites, where general activities, particularly food processing, took place. Manufacturing of tools and other materials processing sites are generally at the locality where the raw material is available. The earliest known sites, common lithic scatters, are associated with the playas at the extreme southern end of Big Smoky Valley known as Pluvial Lake Tonopah. This material, mostly from surface localities, dates back to about 8-10,000 BC. More recent material is widely scattered in this area. Extensive, but undated panels and galleries of so-called rock art pictographs and petroglyphs are reported but otherwise poorly known from the Silver Peak Range and Montezuma Peak areas. An intriguing possibility is the reported presence of remnants of irrigation ditches in Fish Lake Valley. The status and reality of these reported features, whether Indian or white pioneer related, has not been investigated.

Historic sites are extensive in the study area, the most elaborate and well-preserved materials being at the old townsites of Goldfield and Rhyolite. The townsite of Goldfield is especially significant in terms of public interest, historical studies (archived) and studies in historic archaeology and architecture. Other areas with extensive or important historic ruins include the Silver Peak Range, Palmetto Mountains, Montezuma Peak, Bullfrog Hills and Columbus Salt Marsh. Widely scattered structures and features are present in areas related to ranching activities, most of which are either unrecorded or unstudied.

There is a constant attrition of these resources as surface disturbing activities relating to mining, ranching, farming and the like take their toll. Some extremely important sites are being destroyed or extensively damaged with little regard to cultural values.

RECREATION

Within the RMP area, BLM managed lands play a significant role in the recreation setting. The major activities include; hunting for big game (bighorn sheep, deer) and small game (chukar, rabbit, dove, etc.), hiking, mountain climbing, camping, photography, sightseeing, rockhounding, and off-road vehicle

(ORV) driving. Use is also made of Inyo National Forest (U.S. Forest Service), and Death Valley National Monument (National Park Service), for activities similar to those on BLM managed lands except for ORV on NPS lands.

ORVs are used for home-to-site transport and may be used in the recreational activities. Competitive events have been scheduled such as the Frontier 500 race. No ORV events are authorized within the WSAs. However, individual ORV users may penetrate WSA boundaries.

SOILS

The RMP area is located in the southern portion of the Basin and Range Physiographic Province which transcends into the Mohave Desert and includes a number of generally north-south oriented mountain ranges and intervening undrained basins. The landscapes are dominated by flat playas, level basin fill plains and long, gently sloping alluvial fan piedmonts which merge upwards onto relatively broad bedrock pediments. Pediments extend into the mountains. The mountain slopes are sheer and angular with extensive rock outcrops.

Field work on two third order surveys was completed by the Soil Conservation Service (SCS) and BLM in 1983 on all public lands in the RMP area. These surveys, Esmeralda County (#796) and Nye County SW (#785) will be published some time in the future and were initiated in 1981 and 1979, respectively. Advance reports contain such information as physical and chemical properties, in addition to soil series and vegetation (ecological site) compositions of delineated mapping units. Land capability classifications ratings and other interpretations are also included. These surveys will be available at the Las Vegas and Battle Mountain District offices upon publication.

FORESTRY

All forest lands in the RMP area are classified non-commercial. There are presently 77,400 acres of productive pinyon and juniper woodland in the RMP area, based on the BLM forest inventory of ten percent or greater pinyon and juniper canopy cover. The BLM Woodland Forest Inventory was completed in 1982. This woodland acreage is primarily in the Silver Peak Range, Palmetto Mountains, Grapevine Mountains, Gold Mountain, Montezuma Range and the Mount Stirling area.

There are two greenwood cutting areas and one Joshua tree harvest area in Planning Area A. The two greenwood areas were established in the Palmetto Mountains and Silver Peak Range and the Joshua harvest area is located in the Magruder Mountain area.

Annual harvest in the RMP area for 1983 was 347 cords and 2,159 Christmas trees. At present harvest levels there is no danger of demand exceeding supply.

Three WSAs in the RMP area contain wooded areas. The Silver Peak Range WSA contains about 20,000 acres of woodland, the Grapevine Mountains WSA contains about 5,000 acres of woodland and the Pigeon Spring WSA contains about 3,575 acres of woodland. Together the WSAs comprise 37 percent of the total woodlands in the RMP area.

The inaccessibility of the WSAs and steepness of terrain combined with their considerable distance to population centers have minimized demand for the resource from the WSAs. The greenwood cutting areas are expected to satisfy all demands in the foreseeable future.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ESMERALDA PLANNING AREA
Resource Management Plan
and
Environmental Impact Statement

ALLOTMENT BOUNDARIES

1984

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ESMERALDA PLANNING AREA
Resource Management Plan
and
Environmental Impact Statement

LAND DISPOSAL AND CORRIDORS

Preferred Alternative

1984

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ESMERALDA PLANNING AREA
Resource Management Plan
and
Environmental Impact Statement

LAND DISPOSAL AND CORRIDORS

Alternative A • Maximum Designation

1984

PLANNING CORRIDORS

UTILITY CORRIDORS

LAND DISPOSAL

PATENTED LANDS

NATIONAL FOREST

NATIONAL MONUMENT

U.S. FISH AND WILDLIFE

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ESMERALDA PLANNING AREA
Resource Management Plan
and
Environmental Impact Statement

LAND DISPOSAL AND CORRIDORS

Alternative B • Moderate Designation

1984

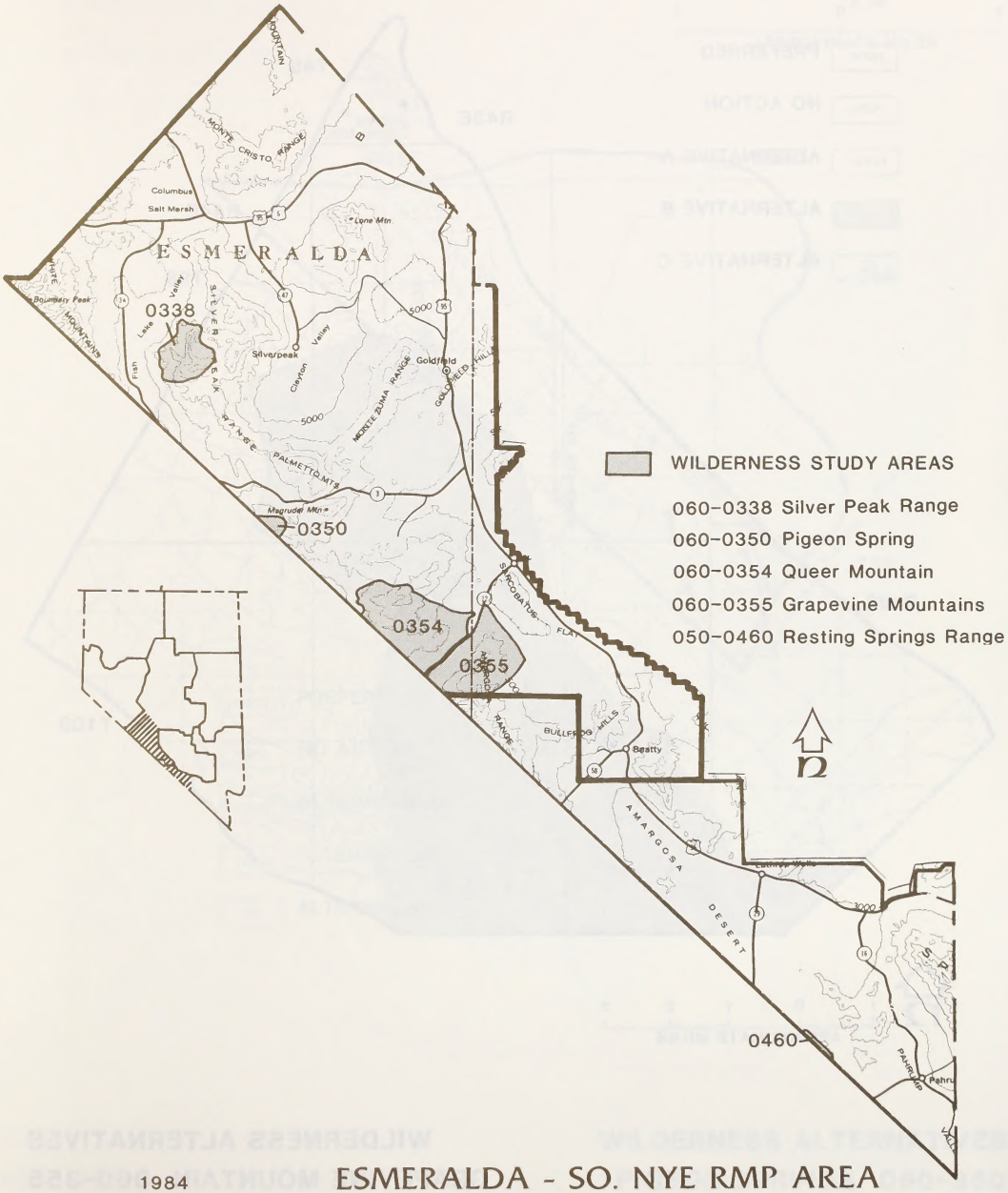
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ESMERALDA PLANNING AREA
Resource Management Plan
and
Environmental Impact Statement

LAND DISPOSAL AND CORRIDORS

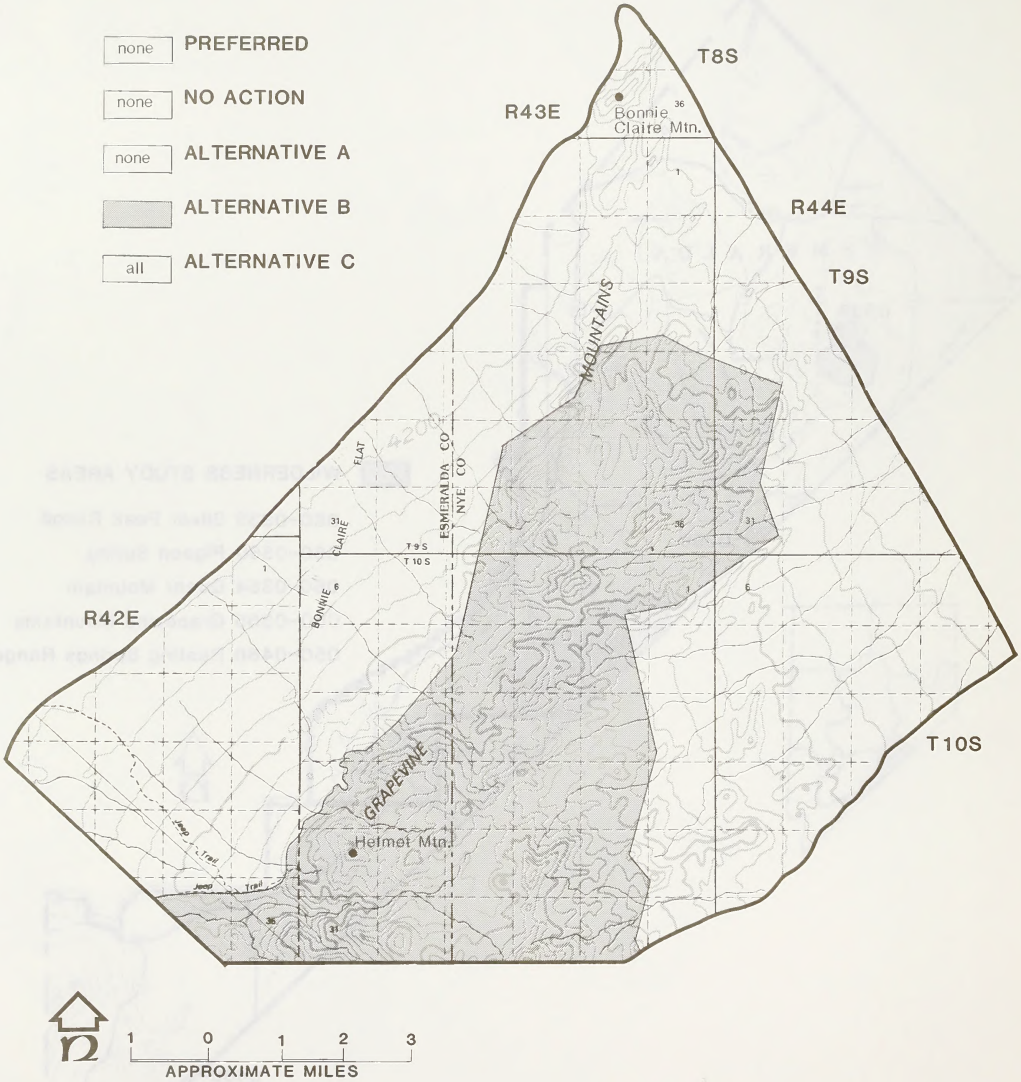
Alternative C • Minimum Designation

1984

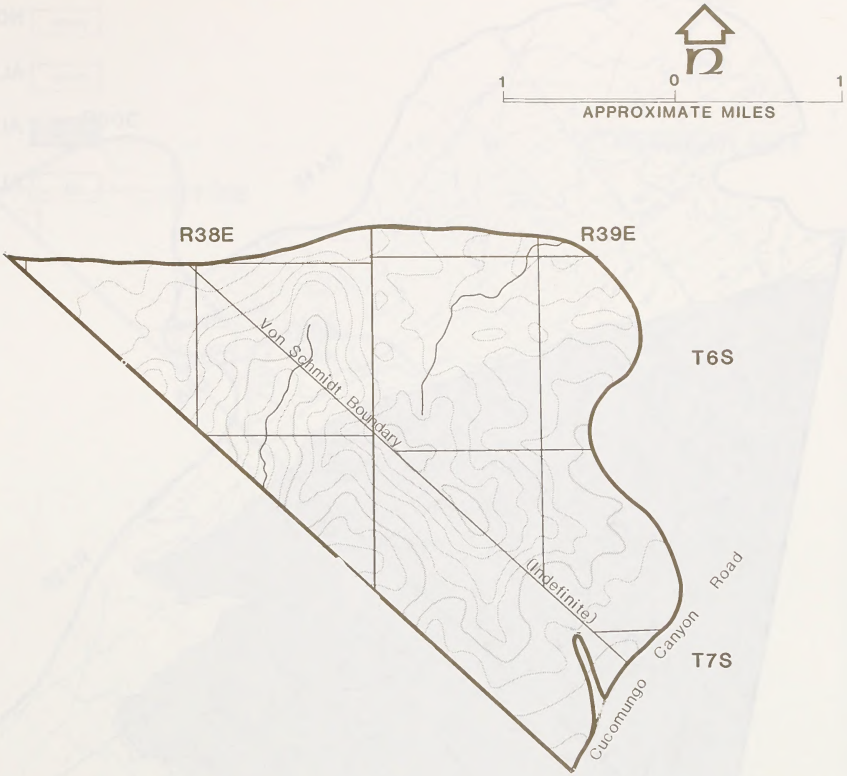


1984

ESMERALDA - SO. NYE RMP AREA



WILDERNESS ALTERNATIVES
GRAPEVINE MOUNTAIN 060-355



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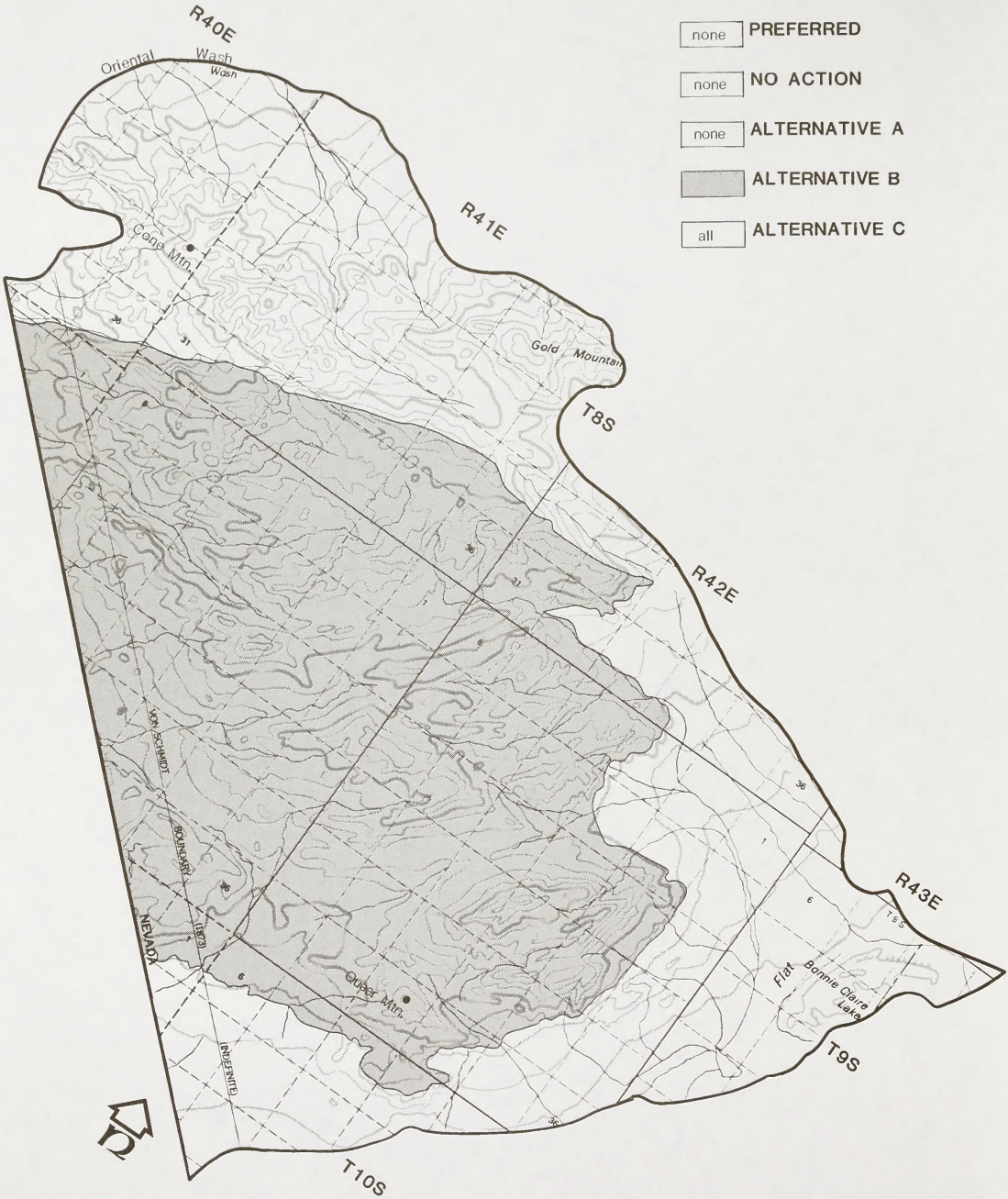
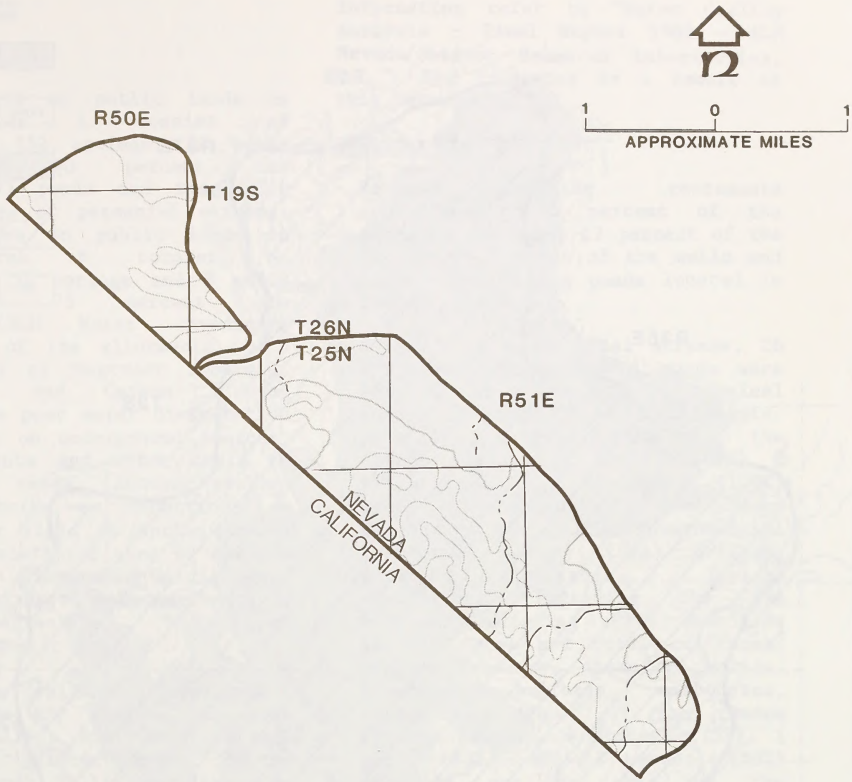
WILDERNESS ALTERNATIVES
PIGEON SPRINGS 060-350



WILDERNESS ALTERNATIVES
QUEER MOUNTAIN 060-354



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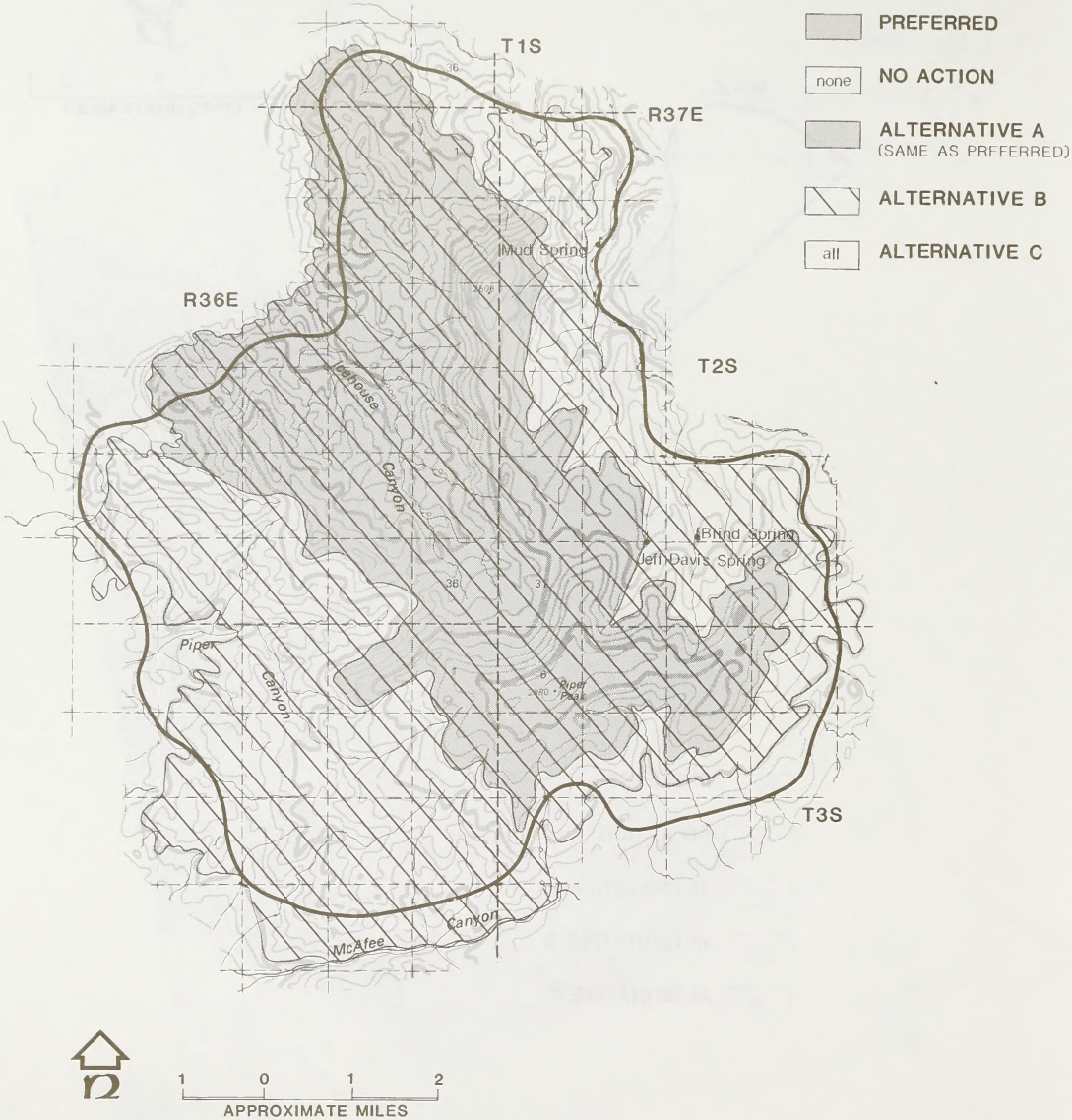
all	ALTERNATIVE C

WILDERNESS ALTERNATIVES
RESTING SPRING RANGE 050-460



WILDERNESS ALTERNATIVES
SILVER PEAK RANGE 060-338

WATER RESOURCES

WATER QUANTITY

Water resources on public lands in Planning Area A consist of approximately 152 springs, 82 wells (approximately 40 percent are abandoned), 35 ponds and reservoirs and 10.4 miles of perennial streams. Water resources on public lands in Planning Area B consist of approximately 51 springs and 8 wells (approximately 75 percent are abandoned) (BLM Water Inventory, 1983). Most of the allotments, with the exception of Magruder Mountain, Ash Meadows and Carson Slough, currently have poor water distribution and must rely on underground sources, water catchments and water hauls to meet required needs. Another problem which contributes to reductions or loss of water yield is spring source trampling. Beneficial uses of surface water include: livestock, wildlife and wild horse and burro watering; aquatic habitat, recreation, irrigation, mining and domestic use.

There are six designated hydrographic basins in the RMP area. They are: Fish Lake Valley, Big Smoky Valley/ Tonopah Flat, Ralston Valley, Indian Springs, Pahrump Valley and Amargosa Valley These designated basins are water basins where ground water yield equals or exceeds recharge. In designated areas, the Nevada State Water Engineer identifies a preferred use such as domestic, municipal, quasi-municipal, industrial, irrigation, mining and stock watering uses. Generally, ground water is suitable for livestock, wildlife and wild horse and burro watering.

WATER QUALITY

A water quality sampling program was conducted in 1982 to obtain water quality data for the RMP area. A private contractor analyzed the water samples for biological, chemical and physical properties. For detailed information refer to "Water Quality Analysis - Final Report 1982 - BLM Nevada/Chinook Research Laboratories, Inc." The following is a result of this inventory.

Planning Area A

Random sampling represents approximately 75 percent of the perennial streams, 17 percent of the springs, 9 percent of the wells and 11 percent of the ponds located in Planning Area A.

A total of 3 perennial streams, 26 springs, 3 wells and 4 ponds were sampled for a variety of chemical and biological constituents. Results indicated that of the sources sampled, 11 springs (42%), 2 wells (66%) and 4 ponds (100%) exceed a variety of secondary parameters set in the Environmental Protection Agency (EPA) drinking water standards. Typical constituents exceeding the EPA secondary drinking water standards include fecal and total coliforms, arsenic, mercury, dissolved solids, manganese, sulfates, carbonates, copper and iron. Of the random sources sampled, 4 springs (15%), 1 well (33%) and 2 ponds (50%) exceeded one or more of the recommended limits for metals, nitrates or soluble salts for livestock use set by the Food and Agricultural Organization (FAO) 1976. Six springs (23%), two wells (66%) and four ponds (100%) exceeded one or more of the recommended limits set by the FAO for metals, salts, pH, arsenic and total dissolved solids. Water Quality for the three perennial streams met all designated standards.

Planning Area B

Random sampling represents approximately 17 percent of the springs located in Planning Area B.

A total of nine springs were sampled

for a variety of chemical and biological constituents. Results indicate that of the sources sampled, 8 springs (89%) exceed a variety of secondary parameters set in the EPA drinking water standards. Typical constituents exceeding this standard include fecal and total coliforms, dissolved solids, sulfates and manganese. All nine springs sampled met the criteria designated for livestock use. Recommended limits for dissolved solids set by the FAO are exceeded in two springs.

The majority of the constituents listed above, which exceed various standards, are inherent in the water as a result of the aquifer geologic material or surface strata. However, high levels of fecal coliform are directly related to unrestricted access of livestock, wild horses and burros, and wildlife to the spring source. All three of the spring sources sampled for both total and fecal coliforms exceed the established standards for drinking water.

VEGETATION

INTRODUCTION

The Esmeralda-So. Nye Co. RMP area supports vegetation typical of the Great Basin and Mohave desertscrub biomes. The extremes of climate, elevation, exposure and soil type all combine to produce a diverse growth environment for a wide variety of plants. Vegetation varies from creosote communities to coniferous woodlands. The boundaries of these vegetative zones can be gradual or abrupt, depending on the extremities of the factors listed above and the topography of the area.

VEGETATIVE COMMUNITIES

Range conservationists from the Soil Conservation Service (1979-1981) identified specific ecological sites for the entire RMP area. "An ecological site is a kind of land which differs from other kinds of land in its potential natural community and physical site characteristics, and thus also differs in its ability to produce vegetation and its response to management (Range Inventory Standardization Committee, 1983)." Because of time and cost constraints only ecological sites within grazing allotments were considered for vegetative rating analysis. This "inventory area" covers 2,666,088 acres (70 percent) of the total 3,756,758 acres in the RMP. See Appendix L for a description of range sites in the RMP area.

STATUS OF VEGETATION OF ECOLOGICAL SITES AND APPARENT ECOLOGICAL TREND

The vegetative status of ecological sites and the resource value rating of seedings were estimated by SCS and BLM personnel from December, 1983 through January 1984 (for a description of survey methods used see Appendix E). A summary of acreage of public land within each ecological seral stage (Table 3-1) shows 14,028 acres (0.5 percent) in an early seral stage of succession, 402,702 acres (15 percent in mid seral, 2,040,929 (77 percent) in late seral, and 4,195 acres (0.2 percent) at potential.

Seedings were rated for livestock forage value. Of the total 2,410 acres of seedings all have a fair resource value rating (RVR) for livestock forage.

Eight percent of the inventory area (201,824 acres) is unproductive (i.e., rock outcrops, playas, badlands, etc.).

The apparent trend of ecological sites was estimated during December, 1983 and January, of 1984 by SCS and BLM personnel. This estimated apparent ecological trend data was supplemented by four years of cover trend data from nine permanent photo plots in the Magruder Mountain allotment. Frequency trend plots were established in the Monte Cristo allotment in 1982 but subsequent readings will not be

TABLE 3-1
ESTIMATED PRESENT VEGETATION STATUS OF ECOLOGICAL SITES BY ALLOTMENT

Allotment	Total Acres	Vegetation Status: Non Productive Acres	Non Productive %	Early Seral Acres	Early Seral %	Mid Seral Acres	Mid Seral %	Late Seral Acres	Late Seral %	Natural Potential Acres	Natural Potential %	Other a/ Acres	Other a/ %
Planning Area A													
Emigrant Peak	17,382	1,954	11	0	-	2,365	14	13,063	75				
Icehouse	78,923	7,301	9	0	-	14,301	18	57,321	73				
Magruder Mtn	625,015	35,012	5	9,706	2	103,686	17	475,309	76	32	T	1270	T
Monte Cristo	496,018	53,149	11	0	-	28,918	6	413,344	83	607	T		
Montezuma	538,297	29,791	5	0	--	153,364	30	355,019	65	123	T		
Razorback	72,880	1,454	2	0	-	10,901	14	60,525	84				
Red Spring	144,277	10,063	7	1,806	1	13,410	9	118,998	83				
Sheep Mtn	88,435	6,153	7	0	-	72	T	82,210	93				
Silver King	8,969	483	5	0	-	0	0	8,486	95				
Silver Peak	319,553	27,633	9	2,516	1	20,736	7	268,668	83				
Springdale 2	1,466	91	6	0	-	812	56	563	38				
White Sage	10,315	738	7	0	-	568	6	9,009	87				
White Wolf	21,567	1,172	6	0	-	3,891	18	16,504	76				
Yellow Hills	62,203	8,643	14	0	-	365	1	53,195	85				
Sub Total	2,485,300	183,637	7	14,028	1	353,389	14	1,832,214	78	762	T	1270	T
Planning Area B													
Ash Meadows	120	0	-	0	-	120	100	0	-				
Carson Slough	13,842	415	3	-	-	5,591	40	4403	32	3,433	25		
County Line Grapevine	6,720	0	-	0	-	5,920	88	800	12				
Rock Valley	6,844	448	7	0	-	2,737	40	3,659	53				
Mt. Sterling	153,262	17,324	11	0	-	34,945	23	99,853	65	1,140	1		
Sub Total	180,788	18,187	10	0	-	49,313	27	108,715	60	3,433	2	1,140	1
Grand Total	2,666,088	201,824	8	14,028	T	402,702	15	2,040,929	77	4,195	T	2,410	T

a/ 2410 acres of seeded range with a fair livestock resource value rating

made until the spring of 1985 according to the Tonopah Resource Area monitoring schedule. A summary of apparent ecological trend data (Table 3-2) for the entire inventory area is: 466,739 acres (17 percent) in apparent downward trend, 1,975,482 acres (74 percent) with no apparent trend, and 19,633 acres (1 percent) in apparent upward ecological trend.

Of the 2,410 total acres of seedings all have an apparent downward trend in RVR for livestock.

Phenology data has not been recorded in the RMP area. However, data is available for adjacent areas. The pertinent phenology information found in the Tonopah Grazing EIS, the Lahonton RMP/EIS, publications from the Nevada Test Site, and from the 1979 Clark County Range Survey will be used for grazing system and season-of-use recommendations for some "I" category allotments.

RIPARIAN VEGETATION

Small springs, wet meadows, saline meadows, streams, and reservoirs provide critical habitat for wildlife in the RMP area. In our discussion of riparian areas, "riparian" will be described as a biological zone influenced by the presence of water and also used to refer to vegetation that grows along stream or around springs. Within the term "riparian", we will also discuss impacts to: 1) streams, areas with a perennial water flow; 2) springs, a source of water issuing from the ground; 3) wet meadow, a wet area with potential native vegetation of sedges, rushes and bluegrass; 4) saline meadow, a wet area with potential native vegetation of alkali sacaton, basin wildrye, inland saltgrass and baltic rush. Approximately 6.3 miles of cold water fisheries and 4.1 miles of riparian habitat supporting the Amargosa toad exist in the RMP area (see Table 3-3). Acreages were estimated using procedures outlined in Appendix I.

Data on the present condition of streamside and spring associated vegetation is lacking. However, ecological status and apparent trend were estimated for wet and saline meadow ecological sites during the range survey mentioned in the above section. Also, see Appendix E.

A summary of data from Table 3-3 shows that 100% (95 acres) of wet meadow sites are in mid seral status with 34% (32 acres) in apparent downward trend and 66% (63 acres) having no apparent downward trend. Approximately 98% (6,153 acres) of saline meadow sites are in mid seral status with 90% (5,630 acres) having a downward trend and (8%) (523 acres) with no apparent trend. About 2% (112 acres) of saline meadow sites are in late seral status with no apparent trend.

Livestock and wild horses currently overgraze the riparian habitat associated with springs throughout the RMP area, especially in allotments and use areas grazed yearlong. This leads to a reduction in ground cover and to soil compaction. This reduces forage and cover for wildlife, and reduces reproduction of riparian plant species. It also can lead to a decrease in water quality and quantity at unprotected springs. Riparian areas are currently unprotected from livestock and wild horse use.

SENSITIVE SPECIES

No officially listed Federal or state threatened or endangered (T/E) plants are known to occur in the RMP area. However, the Northern Nevada Native Plant Society (NNNPS) maintains an annually revised list of candidate species for threatened/endangered status and "species of special concern." The species identified on this list represent the "sensitive species" for Nevada and constitute the plants for which the Bureau has special concerns. In the Ash Meadows area, a number of documents addressing

TABLE 3-2
APPARENT ECOLOGICAL TREND BY ALLOTMENT

Allotment	Total Acres	Ecological Status: Non Productive Acres	Non Productive %	Downward Acres	Downward %	Not Apparent Acres	Not Apparent %	Upward Acres	Upward %	Other Acres	Other %
Planning Area A											
Emigrant Peak	17,382	1,954	11	1,073	6	14,355	83	0	0	0	0
Icehouse	78,923	7,301	9	34,022	42	35,398	41	2,202	3	0	0
Magruder Mtn a/	625,015	35,012	5	8,409	1	565,501	90	14,723	4	1,270	-
Monte Cristo	496,018	53,149	11	206,516	42	236,353	47	0	0	0	0
Montezuma	538,297	29,791	5	782	-	507,712	95	12	-	0	0
Razorback	72,880	1,454	2	638	1	70,788	97	0	0	0	0
Red Spring	144,277	10,063	7	56,455	392	77,759	54	0	0	0	0
Sheep Mtn	88,435	6,153	7	10,868	12	71,414	81	0	0	0	0
Silver King	8,969	483	5	0	0	8,486	95	0	0	0	0
Silver Peak	319,553	27,633	9	115,015	36	176,905	55	0	0	0	0
Springdale 2	1,466	91	6	0	0	1,375	94	0	0	0	0
White Sage	10,315	738	7	378	4	9,199	89	0	0	0	0
White Wolf	21,567	1,172	6	9,473	45	10,922	49	0	0	0	0
Yellow Hills	62,203	8,643	14	23,110	37	30,450	48	0	0	0	0
Subtotal	2,485,300	183,637	7	466,739	19	1,816,717	73	16,937	1	1,270	-
Planning Area B											
Ash Meadows	120	0	-	0	0	120	100	0	0	0	0
Carson Slough b/	13,842	415	3	0	0	13,427	87	0	0	0	0
County Line Grapevine	6,720	0	-	0	0	6,720	100	800	0	0	0
Rock Valley	6,844	448	7	0	0	6,396	93	0	0	0	0
Mt. Sterling	153,262	17,324	11	0	0	132,102	86	2,696	2	1,140	0
Subtotal	180,788	18,187	10	0	0	158,765	88	2,696	1	1,140	1
Grand Total	2,666,088	201,824	8	466,739	17	1,975,482	74	19,633	1	2,410 c/	-

a/ Data supplemented with four years of cover trend data from nine permanent plots.
b/ Allotment encompasses 5,873 unfenced private acres; of this total, 5,443 acres are in static trend; 423 acres, upward trend, and 7 acres are non-productive
c/ The total 2,410 acres of seeding are in a downward apparent trend in livestock resource value rating.

TABLE 3-3
ESTIMATED TYPE AND ACRES OF RIPARIAN VEGETATION
BY PLANNING AREA

Allotment	Acres of Riparian Vegetation							
	Streams	Springs	Wet Meadows			Saline Meadows		
			Acres	Ecological Status	Apparent Trend	Acres	Ecological Status	Apparent Trend
Planning Area A								
Emigrant Peak		2						
Icehouse	19	3	10	M a/	b/	800	M	
Magruder Mtn.		32						
Monte Cristo		11				3500	M	
Montezuma	50	12				114	58M,56L	NA
Razorback		2				31	L	NA
Red Springs	36	5	10	M		1,000	M	
Sheep Mtn.		4				10		
Silverking								
Silverpeak		34				320	M	
Springdale #2		2				25	L	NA
White Sage								
White Wolf								
Yellow Hills								
Other	20							
Subtotal	125	107	20			5800		
Planning Area B								
Ash Meadows		6	12	M				
Carson Slough			63	M	NA	430	M	NA
Grapevine Rock Valley		3				15	M	NA
Mt. Stirling		13						
Other BLM unprotected		21				20	M	NA
Other BLM protected		25						
Subtotal		68	75			465		
Grand Total	125	175	95			6,265		

a/ M = Mid Seral Ecological Site Status, L = Late seral
b/ = Apparent Downward Ecological Trend, NA = No Apparent Trend

sensitive species have been written. In the Federal Register (Oct. 13, 1983) "critical habitats" were identified for 7 of the sensitive species that are being proposed for Federal endangered listing. These critical habitats represent 60 acres in the Ash Meadows allotment; 620 acres in the Carson Slough allotment; and 60 acres in the Grapevine Rock Valley allotment. The Ash Meadows allotment is of greatest concern because approximately 1/2 of the allotment contains critical sensitive species habitat. The greatest threats to the sensitive species found in the RMP area are; 1) Land disposal; 2) Grazing use and trampling by livestock; and 3) Diversion of waters (Threatened and Endangered Plants of Nevada, 1980). Also, see Wildlife Section, Planning Area B.

Table 3-4 represents the sensitive species known to occur within the RMP area.

WILDLIFE

AQUATIC HABITAT AND RIPARIAN HABITAT

Planning Area A

Important aquatic habitats within the planning area include; Amargosa River, and Perry Aiken, Indian, and Leidy creeks.

Perry Aiken, Indian and Leidy creeks provide a total of 6.3 linear miles of Brook Trout Fishery on public land. Based on 1982 stream inventories the Nevada Department Wildlife (NDOW) rated Perry Aiken as best (1), while Indian and Leidy rated as (3) and (4) respectively. Streams are rated on parameters such as pool ratio, amount of stream cover, bank stability and water temperatures.

The Amargosa River between Springdale and Beatty provides 4.1 linear miles of non-continuous habitat on public land for the Amargosa speckled dace. The Amargosa speckled dace is a species of non-game fish which is being given special attention by the NDOW and BLM because it is suspected of being in jeopardy.

Riparian habitat is estimated to represent less than .01 percent of the total planning area. Many wildlife species either depend on or use riparian habitat more than any other habitat type. Research shows that the riparian habitat type can support a higher species diversity and population density than any other habitat type.

Riparian habitat within the planning area is limited to the Amargosa River, Perry Aiken, Indian and Leidy creeks and perennial springs located throughout the planning area.

Riparian vegetation is crucial to the brook trout fishery present in Perry Aiken, Indian and Leidy creeks by providing temperature regulation, flow characteristics, sediment abatement and stability and external food and energy sources for aquatic organisms.

Riparian habitat supports upland game animals such as the chukar partridge, quail, dove and cottontail; an amphibian such as the Amargosa toad; non-game animals such as the harvest mouse and burrowing owl; and raptors such as northern harrier and red-tailed hawk. Most riparian habitats are in poor condition because of trampling and grazing by livestock and wild horses.

Planning Area B

Ash Meadows is a very unique area located in the southeastern portion of the Amargosa Desert and provides aquatic riparian habitat for 20 endemic and 2 rare animal species (5 fish, 14 molluscs, 2 insects, and 1 mammal). It is typified by gently

TABLE 3-4
SENSITIVE PLANTS

Proposed for Federal Endangered Listing

Astragalus phoenix a/ b/
Centuarium namphilum var namaphilum a/b/
Grindelia fraxino - pratensis a/b/
Ivesia eremica a/ b/
Mentzelia leucophylla a/
Enceliopsis nudicaulis corrugata a/
Nitnophila mohavensis a/

Recommended for Federal Threatened List

Cordylanthus tecopensis
Erigeron bifurcatum
Antennaria soliceps
Phacelia monoesis
Penstemon pahutensis
Penstemon fruscticformis ssp amargosa

Watch Category

Arctomecon merrianii
Asclepias eastwoodiana
Astragalus funereus
Brichellia knappiana
Calochortus striatus
Coryphantha vivipara var rosea
Crypthantha hoffmannii
Cymoterus riplayi var. saniculoides
Lathyrus hitchcockianus
Penstemon arearius
Salvia funera
Sclerocactus polyancistrus

a/ All in Ash Meadows, Nevada.
b/ These species are protected by NRS 527,270 as a critically endangered plant species.

Source: Sensitive plant species for Nevada, March, 1984

sloping terrain watered by numerous springs. Major springs include: Fairbanks, Soda, Longstreet, Five, Scruggs, Marsh, Indian, School, Devils Hole, Crystal, Collins Ranch, Bradford, Tubbs, Forest, Point of Rocks, Jackrabbit, Big and Bole Springs. Ash Meadows is drained by Carson Slough, a through-flowing tributary of the Amargosa River.

Of the 20 endemic animal species found in Ash Meadows, 4 are Federally listed as endangered, one is proposed for endangered listing and 14 are candidates for future listing as either threatened or endangered (See Table 3-5).

The 1980 revised Ash Meadows habitat management Plan (HMP), was prepared for the purpose of protecting and enhancing the habitats of endemic and rare animals and plants present in Ash Meadows. Planned actions of the HMP, which have been partially implemented to date, were developed within the constraints of Bureau policy and current management. Wild horses are currently identified for removal from Ash Meadows to protect these endemic species and their habitat from trampling and grazing.

The only other riparian habitat within the planning area is the limited number of perennial springs in the Spring Mountains. Most of these spring riparian habitats are in poor condition because of trampling by livestock and wild horses.

TERRESTRIAL HABITAT

No condition or trend studies have been initiated in the RMP area for terrestrial wildlife habitat. In general most of the year-long mule deer ranges, summer bighorn sheep ranges, and elk winter range in the RMP area are lacking in sufficient numbers of permanent waters. Also, most of the chukar partridge summer areas are insufficiently watered. To date the only activity plans prepared in the RMP area are the Ash Meadows and Silver Peak HMPs both of which have been partially implemented. Numerous species of wildlife inhabit the RMP area. No Federally classified threatened or endangered terrestrial wildlife species are known to inhabit the RMP area. Only the following wildlife species are discussed.

Planning Area A

Desert Bighorn Sheep: Current distribution limits for bighorn sheep in the planning area indicate 217.1 square miles of habitat (see Table 3-6). This habitat is provided by four mountain ranges; Lone Mountain, Monte Cristo, Silver Peak, and Stonewall (see Wildlife Habitat-Bighorn Sheep Map).

The available summer range within a two-mile radius of free water sources is considered to be the major limiting factor in determining bighorn numbers. Regardless of the total habitat available for each bighorn herd, all of the herd must survive a critical summer period in a small foraging area. It is crucial to the survival of bighorn in the planning area that critical summer use areas within a two-mile radius of water sources remain relatively undisturbed.

Rocky Mt. Mule Deer: Current distribution limits for mule deer in the planning area indicate 578.9 square miles of habitat (see Table 3-7). This habitat is provided by eight mountain ranges; Amargosa, Gold Mountain, Lone Mountain, Magruder/Sylvania, Monte Cristo, Montezuma, Silver Peak/Palmetto, and Stonewall (see Wildlife Habitat-Mule Deer and Elk Map).

Most of the deer habitat within the planning area is considered to be marginal, and because of insufficient data necessary for determining herd distribution, has

TABLE 3-5
ENDEMIC & RARE ANIMAL SPECIES OF ASH MEADOWS

Common Name	Federal Listing Status a/	Scientific Name
Springs/Riparian Habitats		
Fishes:		
Ash Meadows Amargosa pupfish	E	(Cyprinodon nevadensis mionectes)
Ash Meadows specked dace	E	(Rhinichthys osculus nevadensis)
Devils Hole pupfish	E	(Cyprinodon diabolis)
Warm Springs pupfish	E	(Cyprinodon nevadensis pectoralis)
Ash Meadows killfish b/	-	(Empetrichthys merriam:)
Molluscs		
Point of Rocks-Springs snail	P	(Fluminicola erythropoma)
Sporting goods Tryonia	P	(Tryonia sp.)
Indeterminate Nevada spring snail	P	Undescribed genus and species
Small slender Tryonia	P	(Tryonia sp.)
Point of Rocks Tryonia	P	(Tryonia sp.)
Median gland Nevada spring snail	P	Undescribed genus and species
Minute slender Tryonia	P	(Tryonia sp.)
Small solid Tryonia	P	(Tryonia sp.)
Large-gland Nevada Spring Snail	P	Undescribed genus and species
Longstreet Spring Snail b/	P	Undescribed genus and species
Devils Hole Amargosa Tryonia	P	(Tryonia sp.)
Ash Meadows virile Amargosa snail	P	(Fontellicella sp.)
Oasis Valley spring snail c/	-	(Fontellicella micrococcus
Amargosa Assiminea snail	-	(Assiminea sp.)
Mammals		
Ash Meadows vole b/	P	(microtus montanus Nevadensis)
Insects		
Devils Hole riffle beetle	P	(Stenelmis calidae calidae)
Point of Rocks Springs naucorid	PE	(Ambrysus amargosus)

a/ Federal Listing Status
E = Listed as endangered
P = Proposed either threatened or endangered listing
PE = Proposed as endangered listing

b/ Species unseen for several years and probably extinct.

c/ All animal species listed are endemic to Ash Meadows except these 2 snails.

TABLE 3-6

BIGHORN POPULATION ESTIMATES AND REASONABLE NUMBERS
ALONG WITH RESPECTIVE AUM DEMAND AND SQUARE MILES OF HABITAT

Habitat Area a/	1982 Pop. Est. b/	Reasonable Nos. b/	AUM DEMAND 1982	AUM DEMAND Reasonable Nos.	Current Sq. Mi.	Historical Sq. Mi.	Suitable Sq. Mi.	Total Sq. Mi.
Amargosa		192		461		46.9		46.9
Bare Mt.		169		406			41.1	41.1
Goldfield.		114		274		27.9		27.9
Gold Mt.		694		1666			169.2	169.2
Lone Mt.	221	250	531	600	28.7	44.8		73.5
Magruder/Palmetto		595				145.2		145.2
Monte Cristo	81	491	195	1179	59.4	60.4		119.8
Montezuma		242		581		59.1		59.1
Sawtooth		99		238	24.2			24.2
Silver Peak	118	1,135	284	2,724	124.4	152.5		276.9
Stonewall c/	60	143	144	104	4.6	5.9		10.5
Total	480	4,024	1,154	9,661	217.1	566.9	210.3	994.3

a/ All bighorn sheep habitat areas are in Planning Area A.
b/ 1983 NDOW.
c/ Values only represent portion of habitat area within RMP area.

TABLE 3-7

MULE DEER AND ELK POPULATION ESTIMATES
AND REASONABLE NUMBERS ALONG WITH RESPECTIVE AUM DEMAND
AND SQUARE MILES OF HABITAT

Habitat Area	Planning Area	Animal Species a/	1982 Pop.Est	Reasonable No. b/	AUM Demand 1982	AUM Demand Reasonable No.	Sq/Mi. Habitat
Amargosa	A	D	36	80	108	240	16.6
Gold Mountain	A	D	24	60	72	180	11.8
Lone Mountain	A	D	48	100	144	300	16.0
Magruder/Sylvania	A	D	120	400	360	1200	39.0
Monte Cristo	A	D	72	100	216	300	100.0
Montezuma	A	D	24	80	72	240	14.4
Silver Peak/Palmetto	A	D	120	600	360	1800	372.7
Stonewall c/	A	D	19	38	57	114	8.4
Spring Mountains c/	B	D	41	135	123	405	58.0
Spring Mountains c/	B	E	14	33	84	198	58.0
Total			518	1626	1596	4977	694.9

a/ D= mule deer, E = Elk
b/ NDOW 1983
c/ values only represent portion of habitat area within planning area

been classified as yearlong habitat. These marginal deer ranges are typified by monotypic stands of pinyon and juniper, lacking in preferred forage species such as bitterbrush, buckbrush and serviceberry. However, these ranges do provide adequate thermal and escape cover.

Mt. Lion: Mt. lions inhabit the Silver Peak Range, Palmetto Mountains, Magruder/Sylvania Mountains, Monte Cristo Range and Montezuma Range on a yearlong basis and on a seasonal/transient basis in the Amargosa Range, Gold Mountain/Slate Ranges, Bullfrog Mountains, Lone Mountain/Weepah Hills, and East Goldfield Hills. Yearlong habitat represents 795 square miles and seasonal/transient 330 square miles. All of the yearlong ranges are considered to be fair to good habitat because they provide adequate ungulate prey species and suitable escape terrain.

Furbearers: The following furbearing mammals occur within the planning area; bobcat, gray fox, kit fox, coyote, spotted skunk, striped skunk, long-tailed weasel, short-tailed weasel, badger, opossum, ring-tailed cat, raccoon, and yellow porcupine. Legal harvest for the Esmeralda County part of the planning area has varied from no fur harvest of any species in 1972, to a record high year of 1979, when 553 coyotes, 289 bobcat, 123 gray fox, 62 kit fox, 14 badger, 2 spotted skunks and 26 ring-tailed cats were harvested by trappers.

Chukar Partridge: Today viable chukar partridge populations exist in the Amargosa Range, Bullfrog Hills, Gold Mountain, Magruder Mountain, Monte Cristo Range, Montezuma Range, Palmetto Mountain, Silver Peak, Stonewall Mountain, and White Mountains.

Two of the most critical habitat features are permanent waters and adequate rocky talus slopes within 0.5 mile of permanent waters. Also, chukar brood survival is dependent on the forage and the insect life that the forage supports within the 0.5 mile radius of a permanent water source.

Quail: Three quail species occur in the planning area; Gambel's, mountain and valley. The most abundant are Gambel's quail occurring primarily in the desert shrub plant community in the Amargosa Range and Bullfrog Hills. The second most abundant are valley quail, limited to the agricultural lands in Fish Lake Valley. The least abundant, mountain quail, are found in Mountain Brush types in the Magruder/Sylvania, Palmetto, Silver Peak and White Mountain Ranges.

Mourning Doves: Mourning doves are distributed throughout the planning area during the spring through fall period with high density populations concentrating in the agricultural areas of Fish Lake Valley.

Sage Grouse: Because of the absence of sufficient data, it is assumed that sage grouse still inhabit their historical ranges in the Silver Peak, Magruder, Palmetto, Stonewall and White Mountains. The White Mountains are considered to be good habitat while the other four ranges provide marginal habitat. Strutting sage grouse habitat can be found on public land along the Indian and Davis drainages of the White Mountains. There are no inventories to delineate key habitat within these mountain ranges, but in general, each sage grouse habitat must contain wintering areas, strutting/breeding complexes and meadows.

Waterfowl: Waterfowl use within the planning area is limited to late fall, winter and spring periods with minimal nesting and brooding populations. Most of the habitat within the planning area is limited to the upper and lower McNett Lakes in Fish Lake Valley and Silver Peak Pond in the Silver Peak Range.

Non-game Wildlife There are numerous species of nongame wildlife present within the planning area. Most of NDOW, USFWS, and BLM efforts have been concentrated on species which are suspected of being in jeopardy. These include most raptors, the desert tortoise, spotted bat and Amargosa toad.

Many of the raptor species (American kestrel, prairie falcons, red-tailed hawks, golden eagles, etc.) nest in Planning Area A.

Baseline inventories by NDOW and BLM indicate that the desert tortoise ranges as far north as Beatty, with the nearest sustaining population occurring in the Last Chance Range, about 10 miles north-northwest of Pahrump.

The spotted bat has been reported in the White Mountains and Silver Peak Range. Its habitat is characterized by caves in the pinyon vegetation type in proximity of free water.

The Amargosa toad, like most amphibians, can be found in proximity of free water. The Amargosa toad is limited to that portion of the Amargosa River between Springdale and Beatty and 2 springs north of Beatty named Crystal and Indian. The Amargosa River only provides 4.1 linear miles of non-continuous habitat on public land, and is interspersed with private land.

Planning Area B

Rocky Mountain Mule Deer and Elk: The Mount Stirling area of the Spring Mountains provides 58 square miles of yearlong mule deer habitat and 58 square miles of elk winter range (Table 3-7). The 1975 Mount Stirling burn provided excellent forage for both deer and elk. Since then, the burn has been over-utilized by deer, elk, livestock and wild horses. The burn is almost 10 years old and its usefulness for wildlife is marginal.

Furbearers: The following furbearing mammals occur within the planning area; bobcat, gray fox, kit fox, coyote, spotted skunk, striped skunk, badger, ring-tailed cat, raccoon, and yellow porcupine.

Chukar Partridge: The following springs in the Mount Stirling area support healthy populations of chukar partridge; Jaybird, Rock, Bill Smith, Gold and Big Timber. The 1975 Mt. Stirling wildfire opened up the blackbrush community and allowed for the invasion of cheatgrass, which enhanced chukar habitat.

Gambel's Quail: Gambel's quail habitat in the Mount Stirling area is limited by water. The availability of water and the various thickets and mesquite groves make parts of Ash Meadows good habitat. However, the surrounding desert plant community is lacking in many of the quail's preferred forage plants.

Doves: Mourning doves nest in Amargosa Valley and Ash Meadows. White-winged doves are suspected of nesting in Amargosa Valley. Nesting usually occurs on the ground or in trees near accessible waters such as springs, seeps, ponds, and creeks. These easily accessible waters are necessary to perpetuate the species.

Waterfowl: Waterfowl use within the planning area is limited to late fall, winter, and spring periods with minimal nesting and brooding populations. Most of the habitat is within Ash Meadows except for grazing of agricultural areas in Amargosa Valley

Non-game Wildlife: There are numerous species of non-game wildlife present within the planning area. Most of NDOW, USFWS, and BLM efforts have been concentrated on species which are suspected of being in jeopardy. These include most raptors, desert tortoise, spotted bat and Giuliani's dune scarab beetle.

Many of the raptor species (American kestrels, prairie falcons, red-tailed hawks, golden eagles, etc.) nest in the planning area.

Baseline inventories by NDOW and BLM indicate that a sustaining population of desert tortoise exists in the Last Chance Range, about 10 miles north-northwest of Pahrump.

The spotted bat is suspected of inhabiting the Spring Mountain Range. Its habitat is characterized by caves in the pinyon vegetation type in proximity of free water.

The Giuliani's dune scarab beatle is found only on two sand dunes within the planning area; Big Dune and Lava Dune. Big Dune provides 1.14 square miles of habitat and Lava Dune 0.73 square miles of habitat with 0.11 square miles of habitat on private land. A Conservation Agreement (CA) has been initiated between U.S. Fish & Wildlife Service and the BLM for the purpose of aiding in the conservation of the dune beetle. One of the actions of the CA will be the preparation of an HMP. If management outlined in the CA is not adequate to protect the beetle, action may be initiated to list this species.

Wild Horses and Burros

The RMP area contains all or portions of 13 wild horse and burro herd areas. Of the 13 areas, 6 of the areas support both horse and burro populations, 6 areas support horse populations and 1 area supports only a burro population. These areas, as shown on the Wild Horse and Burro Management Area Map, collectively support an estimated population of approximately 1,127 horses and approximately 357 burros (1982 census data) (see Table 2-6). Various herd areas are proximate to each other and migrations between areas are common. Some outward movement of animals is also occurring from various herd areas. Wild horses are currently identified for removal from Ash Meadows to protect endemic and rare species and their habitat from trampling and grazing.

Wild horse and burro numbers within the RMP area represents approximately five percent of Nevada's wild horse and burro population, and approximately three percent of the Nation's wild horse and burro population. The first aerial census of the area was conducted in 1974 utilizing a B-1 helicopter. This census was believed to be a comprehensive survey of the Esmeralda-So. Nye RMP Area. Approximately 50 horses have been removed from the Fish Lake Valley area along the U.S. Forest Service/BLM boundary.

Data collection on wild horse and burro populations (other than aerial) within the RMP area has been restricted to field observations. Specific data on the recruitment rate, fecundity rate, survival and mortality are non-existent within the RMP area, therefore, for analysis purposes, some assumptions have been made based on the literature available. One assumption is that horse and burro populations in the RMP area are increasing at a rate of six percent

per year. This estimate was based on independent work done by Wolfe (1980), Caughley (1977), and Woodward (1979). Another assumption made was that the minimum population levels for a viable herd would be 50 animals (National Academy of Science, 1980).

Data on animal condition is also scarce. However, visual observations and the belief that the populations are increasing would tend to indicate that overall, the horses and burros are in at least fair condition.

There is currently no vegetative allocation to wild horses and burros in the RMP area. Vegetative conditions within the 13 herd areas varies. Competition for forage may occur between horses and burros, and cattle, as their diets overlap considerably. Habitat conflicts between horses, burros, cattle and wildlife also occur and are related to the availability and distribution of water in specific areas. Waters within the Silver Peak, Stonewall, Paymaster/Lone Mountain and Bullfrog herd areas are especially limited. In these areas, the competition for forage and space is increased. Grazing pressure from burros may also be impacting the Amargosa toad, a sensitive animal species, and its habitat near Beatty, NV. There are no guidelines for evaluating wild horse forage conditions, therefore, wild horse forage condition will be considered the same as livestock forage condition.

Currently there is a concern over wild horse and burro use of private lands within or adjoining the Amargosa and Goldfield herd areas. This use has created a manageability problem with horse harrassment both on private and public lands.

LIVESTOCK GRAZING

The Esmeralda-So. Nye RMP Area contains approximately 3.75 million acres of land. Most of this land (2,666,088 acres) is within grazing allotments. Total grazing preference is 49,979 AUM's with an average three to five year licensed use of 46,013 AUM's (see Table 3-8). For analysis purposes the preference and 3-5 year average use levels for the Montezuma allotment were analyzed at 10,900 AUMs. This value is 2,800 AUMs over the official current preference. However, reinstatement of these 2,800 AUMs depends on the completion of a fence which is currently under construction and will be finished prior to plan implementation. It was necessary to use the higher figure to analyze impacts of grazing use which will be in effect at that time and would arise from management decisions outside the scope of the plan. Four allotments encompassing 27,526 acres in Nye County, are classified as ephemeral range and therefore have no specific grazing preference.

There are 19 allotments in the RMP area ranging in size from 120 to 625,015 acres. Authorized use of forage by cattle averages 57 AC/AUM. There is no authorized grazing by domestic sheep. Two of the allotments, Monte Cristo and Silver King, are administered under the Tonopah Experimental Stewardship Program. None of the other 17 allotments are administered under AMPs. The total acreage under the experimental stewardship program is 504,987 or 19 percent of the RMP area.

Eight of the allotments are grazed yearlong. These allotments include 1,858,554 acres or approximately 70 percent of the RMP area. The other allotments are grazed at various times of the year to supplement other feed sources.

The majority of the RMP area is unfenced. Magruder Mountain (625,015

TABLE 3-8
OVERVIEW OF LIVESTOCK GRAZING

Allotment	Grazing Preference (AUMs)	Average 3-5 Year Licensed Use (AUMs)	Period of Use	Kind of Livestock	Acres of Public Land	County
Planning Area A						
Emigrant Peak	372	0	-	Sheep	17,382	Esmeralda
Ice House	1,203	1,200	12/1-3/31	Cattle	78,923	Esmeralda
Magruder Mt.	12,340	12,340	Yearlong	Cattle	625,015	Esmeralda/Nye
Monte Cristo	9,352	9,352	11/15 to 6/10	Cattle	496,018	Esmeralda
Montezuma	10,900 a/	10,900 a/	Yearlong	Cattle	538,297	Esmeralda/Nye
Razorback	1,344	1,344	Yearlong	Cattle	72,880	Nye
Red Spring	2008	1,739	5/15 to 7/15	Cattle		
	760	760	10/1 to 12/31	Cattle	144,277	Esmeralda
Sheep Mt.	1,740	1,705	Yearlong	Cattle	88,435	Esmeralda
Silver King	150	150	12/1/5/31	Cattle	8,969	Esmeralda
Silver Peak	5,973	3,777	Yearlong	Cattle	319,553	Esmeralda
Springdale #2	24	24	Yearlong	Cattle	1,466	Nye
White Sage	600	600	12/1-7/31-10/1-11/30	Cattle	10,315	Esmeralda
White Wolf	501	501	9/15-1/15	Cattle	21,567	Esmeralda
Yellow Hills	1,212	1,052	Yearlong	Cattle	62,203	Esmeralda
Subtotals	48,479	45,444			2,485,300	
Planning Area B						
Ash Meadows	N/A d/	0 e/	N/A d/	Cattle	120	Nye
Carson Slough	N/A d/	0 e/	N/A d/	Cattle	13,842	Nye
County Line	N/A d/	0 c/	N/A d/	Cattle	6,720	Nye
Grapevine-Rock Valley	N/A d/	0 e/	N//A d/	Cattle	6,844	Nye
Mount Stirling	1,500	569 b/	Yearlong	Cattle	153,262	Nye
Subtotals	1,500	569			180,788	
Grand Totals	49,979	46,013			2,666,088	

a/For analysis purposes full preference of 10,900 AUMs was used in place of current preference of 8100 AUMs. Full preference expected to be reinstated after completion of pending fence construction.
b/Two year average. No use occurred one year.
c/Reinstated after completion of pending fence construction
d/Ephemeral range. No preference. No season of use.
e/No use applied for.

acres) is the only allotment with a fenced boundary. The Death Valley boundary fence and the west bombing range fence, both planned for FY84, will give Montezuma allotment (538,297 acres) a high degree of boundary fencing. Internal fencing is nonexistant.

Approximately, 1,270 acres in Magruder Mountain and another 1,140 acres in Mount Stirling allotment have been seeded primarily to crested wheatgrass.

The Monte Cristo experimental stewardship plan was initiated on March 1, 1982. The allotment is used as the third pasture in a three pasture rest-rotation grazing system. Under the system, 27,528 AUMs are grazed from November 4 to June 30 every third year. Since the Monte Cristo allotment is not fenced from the adjacent pasture, nominal grazing use is to be expected during rest years due to livestock drift. The cattle are moved through water manipulation. Assorted range improvements are planned to enhance the overall effectiveness of the grazing treatments.

The Silver King Stewardship Proposal was approved on September 9, 1982. The allotment is grazed from early winter until late spring. Grazing pressure is reduced sufficiently prior to the end of the growing season to assure that plant growth requirements are met.

The remaining 16 allotments are not under any specific management plan. An AMP was written for the Magruder Mountain allotment in 1971 and accepted by the operator at that time. A three pasture rest-rotation system was proposed. The AMP was never fully implemented. To date all external boundary fences have been completed, however, no internal fences have been constructed.

Four allotments in So. Nye County are classified as ephemeral and livestock use is authorized when applied for, given that sufficient forage is available. A grazing preference of 1,500 AUMs was established by range survey and District Manager's decision in 1975 for the fifth grazing allotment in So. Nye County, Mount Stirling.

Range improvements, under Section 4 permits or cooperative agreements, have been developed to facilitate livestock management and resource protection. For the past five years, the majority of range improvements in the RMP area have been funded by county range improvement funds and private contributions. This funding has been substantial in the Magruder Mountain allotment.

Licensed temporary non-renewable use is, at times, granted on any of the allotments for additional AUMs when range conditions permit.

The four main problems associated with livestock grazing are: (a) Poor livestock distribution due to lack of water; (b) Lack of rest on allotments grazed yearlong or during spring growth each year; (c) Trampling of spring sources and overutilization of forage near water sources due to compounded grazing pressure of livestock and wild horses and/or burros; (d) Trampling of riparian areas.

Specific problems are addressed on an allotment basis in Appendix C.

LAND TENURE AND UTILITY CORRIDORS

LANDS

The BLM administers approximately 91 percent of the land within the RMP area. See Table 3-4 for a breakdown of the land status by planning area.

TABLE 3-9
LAND OWNERSHIP PATTERN

Land Status	Acres
Planning Area A	
BLM	2,689,230
Forest Service	29,450
Private	68,544
Subtotal	2,787,224
Planning Area B	
BLM	735,547
Park Service	111,600
Fish & Wildlife Service	11,173
Private	101,214
Subtotal	969,534
Total	3,756,758

Most public lands occur in large blocks with private lands occurring in relatively small concentrations. Population in Planning Area A is concentrated in four locations. They are Beatty, Goldfield, Silverpeak, and Fish Lake Valley. Population in Planning Area B is concentrated in the Amargosa-Ash Meadows-Lathrop Wells area and Pahrump.

There are parcels of public land in proximity to all population centers which have the potential for satisfying demand for residential, commercial, industrial, recreation and public purpose needs. In the Fish Lake Valley and Amargosa-Ash Meadows area, public land is also available for agriculture.

During scoping a need was identified by the Amargosa Planning Board for a block of public land from Lathrop Wells south into Amargosa Valley. This land was identified for the purpose of developing an industrial park which would service any new facilities on the Nevada Test Site (e.g., the proposed nuclear repository). Also, during scoping, the Pahrump Planning Board identified an extensive block of land for community expansion. These acreages are represented under Alternative A in Chapter 2.

Currently there are many isolated parcels either completely encompassed or bordered on three sides by private land. Because of their isolation these parcels are difficult to manage for multiple use by the BLM.

UTILITY CORRIDORS

At present there are no designated utility or planning corridors within the RMP area. The RMP area is traversed with approximately 485 miles of existing minor (less than 138KV) transmission lines and/or rights-of way. A major north-south Western Area Power Administration 750 KV direct current right-of-way is included in this total.

The utility sector has expressed a strong need for the establishment of utility and planning corridors in the area. Their rationale is that long-range planning indicates that the Henderson route will become too utilized and that the RMP area will be a major link between the Intermountain West and the load center in the West. The concept of the link is that future transmission lines would come across the north end of the Nevada Test Site and then either go west or south into California.

In addition, Sierra Pacific Power Company is actively conducting geothermal flow tests in Fish Lake Valley. If these tests prove to be economically feasible, an east-west corridor would be needed to transmit power from potential geothermal facilities.

GEOLOGY, ENERGY AND MINERALS

GEOLOGY

The Esmeralda-So. Nye RMP area is underlain by a wide variety of rocks that range in age from Precambrian to Quaternary and consist of sedimentary, igneous and metamorphic types. Upper Precambrian and lower Cambrian rocks are widely exposed and composed of quartzite, siltstone, shale or schist and minor amounts of limestone and

dolomite. Paleozoic rocks have a distribution similar to that of younger Precambrian. Tertiary rocks are extensively exposed and include welded and nonwelded ash flows, lava flows, volcanic breccia and fresh water sedimentary rock. The volcanic rocks range in composition from rhyolitic to basaltic, those having the composition of quartz latite are the most common. The thickness and lithologic character of the Tertiary section differ greatly from one range to another.

The intermountain basins in the area are covered by Tertiary and Quaternary alluvial fans and playa lake deposits. In some areas the fans are thin and overlie rock-pediment surfaces. Elsewhere the fans and playa lake deposits are 2,000 or more feet thick.

Several patterns of structural deformation are recognized in the area. The Precambrian and Paleozoic rocks have been moderately to intensely deformed by folding, thrust and related tear faulting, and strike-slip faulting, mainly in Cretaceous time. Basin-range faults, ranging in age from Miocene to Holocene, are present throughout most of the area. Mountain ranges are commonly bounded by such faults.

METALLIC MINERALS

Antimony, copper, gold, iron, lead, lithium, mercury, molybdenum, silver, tungsten and zinc have been produced commercially in the RMP area. Gold by far has been the most important product, with more than 70% of the recorded production coming from the Goldfield District. At least 98 percent of the production from this District was from a belt less than a mile long and a few hundred feet wide in Tertiary volcanic rocks. One of the world's principal sources of lithium is found within Clayton Valley in the north-central part of the RMP area. Since 1965 the light metal has been produced from brines pumped from the valley fill.

NON-METALLIC MINERALS

Non-metallic and industrial minerals that have been produced commercially are: alum and sulfur, bentonite, barite, borates, diatomite, dimension stone, gems and gem material, fluorspar, perlite, pumice, sand and gravel, silica, soapstone and volcanic cinder. The Bare Mountain Mining District has produced fluorspar valued at more than $2 million. The Ash Meadows Mining District recorded bentonite production valued at over $3 million.

ENERGY MINERALS

Geothermal resources and coal are the only energy minerals known to occur within the RMP area in significant amounts. There are no known economic deposits of oil and gas, oil shale, tar sands, uranium or other energy minerals.

Exploration and development of geothermal resources has taken place over the past ten years and continues to date. The most promising prospect is located in Fish Lake Valley in the northwest portion of RMP area, where there are 25,000 acres under lease.

In 1893, coal was discovered in an area at the northeast end of the Silver Peak Mountains known as the Coaldale District. The coal is of poor quality and only a small amount has been produced commercially.

Limited exploration for gas and oil in Fish Lake Valley and other areas has been performed. No appreciable amount of this resource has been detected.

GRAPEVINE MOUNTAINS

Most of the WSA is composed of Tertiary volcanic rocks; rhyolites, dacites, andesites and Timber Mountain tuff. The non-mountainous portions of the WSA are covered by Quarternary alluvium. The Tertiary rocks are broken by a few east-west faults with substantial displacement and by more numerous northeast trending faults.

Precambrian and Paleozoic sedimentary rocks, intruded by Jurassic quartz monzonite, are believed to underlie the Tertiary volcanics. These older, potentially more mineralized rocks may be exposed by faulting in small areas of the WSA. In the southwestern part of the WSA is a small area of granitic rocks which may be part of the Sylvania pluton which is mineralized further north in the Gold Mountain District.

The only patented claims in the vicinity are in the Gold Mountain District. There are a great many unpatented claims in that area also. Within the WSA are 41 acres of pre-FLPMA claims and 1,154 acres of post FLPMA claims. Nothing is known about the pre-FLPMA claims; the post-FLPMA claims are all located in one block in the granitic rocks.

The southern portion of the mountainous terrain, comprising about 30 percent of the WSA, is classified as moderately favorable for metallic minerals, because that is where the Paleozoic sedimentary rocks and Jurassic intrusives are most likely to occur. Metals which occur in similar rock types to the north are gold, silver, and base metals. The remainder of the WSA, is classified as having low favorability for metallics.

The WSA has moderate favorability for sand and gravel deposits on the bajadas. These deposits have been utilized at two sites by the Nevada Department of Transportation for a number of years. However, numerous reserves are available outside the WSA. No other nonmetallic minerals are known to occur in the WSA. However, since any mineral material may have a market as a nonmetallic resource, the remainder of the WSA is rated as having low favorability for nonmetallilcs.

The entire WSA has a low favorability for uranium. There is some possibility for fracture-filled, caldera-related or intrusive contact uranium deposits in the mountainous portion and for deposited uranium in reduced zones in the permeable alluvium. There are no known occurrences or uranium claims in the WSA. There are no oil and gas leases or applications and no favorability for oil and gas due to the absence of source rocks. The WSA has a moderate favorability for geothermal resources. It is in a portion of the Basin and Range where deep-seated normal faults are known to be conduits for late Cenozoic volcanics and thermal waters. The WSA is cut by numerous faults. No exploration has been done in the WSA and and there are no leases or applications.

PIGEON SPRING

In most of the Pigeon Spring WSA, the bedrock is Jurassic quartz monzonite, which is intruded into a thick series of Precambrian to Paleozoic sediments. The only exposed sediments are small areas of hornfels, Wyman Formation and marbleized Reed Dolomite. These two Precambrian formations are the oldest in the sedimentary series. A narrow band of Tertiary olivine basalt runs across part of the WSA.

There are a few patented claims southwest of the WSA. There are hundreds of unpatented claims surrounding the WSA, mostly concentrated in the vicinity of the molybdenum area and also in the talc-bearing area. Inside the WSA are 260 acres of pre-FLPMA claims and 300 acres of post-FLPMA claims. Most of the claims in the WSA are placer claims.

The entire Pigeon Spring WSA is classified as highly favorable for metallic minerals, placer gold, molybdenum, silver, tungsten, lead and zinc. The WSA has a low favorabiblity for nonmetallic minerals. The quartz monzonite rock type is not a suitable host rock for the talc deposits found to the north. There are no oil and gas applications or leases. The WSA

has no indication of favorability for oil and gas. There are also no geothermal applications and low favorability for geothermal resources.

QUEER MOUNTAIN

Most of the WSA is composed of Tertiary volcanic rocks; rhyolites, dacites, andesites and Timber Mountain tuff. The non-mountainous portions of the WSA are covered by Quaternary alluvium. Precambrian and Paleozoic sediments intruded by Jurassic quartz are exposed on the north end of the WSA. All known mineralization is located in these older rocks. The Paleozoic and Precambrian sediments and the Jurassic intrusive rocks are believed to underlie the Tertiary volcanics throughout the WSA. Small areas of the older rocks may be near the surface or exposed by faulting in other parts of the WSA. The tertiary rocks are broken by a few east-west faults with substantial displacement and by more numerous northeast trending faults.

All of the patented claims in the vicinity are in the Gold Mountain district outside but close to the WSA. Numerous unpatented claims are located in this area also. Within the WSA are 402 acres of pre-FLPMA claims and 305 acres of post-FLPMA claims. All of these are located on the north end of the WSA near either the Gold Mountain District or the Silver Mountain prospects.

Three areas constituting about 43 percent of the WSA are classified as moderately favorable for metallic minerals, gold, silver and base metals. One area, located in the northeast corner, includes Gold Mountain and is adjacent to the Gold Mountain District. Another area is in the northwest corner adjacent to the Silver Mountain prospects. Both areas contain outcrops of the mineral bearing Precambrian and Paleozoic sediments and Jurassic intrusives.

The third area is located in the eastern corner of the WSA. The remainder of the WSA, is classified as having low favorability for metallic minerals. Although this portion is capped by Tertiary volcanics, there is some potential for outcrops of the mineral bearing older rocks.

The WSA has moderate favorabililty for sand and gravel deposits on the bajadas. No other nonmetallic resources are known to occur in the WSA. However, since any mineral material may have a market as a nonmetallic resource, the remainder of the WSA is rated as having low favorability for nonmetallics.

The entire WSA has a low favorability for uranium. There is some potential for fracture-filled, caldera-related or intrusive contact uranium deposits in the mountainous portion and for deposited uranium in reduced zones in the permeable alluvium. Several radioactive occurrences have been identified near the north boundary. These are probably too small or low graded to be of significance.

There are no oil and gas leases or applications and no favorability for oil and gas due to the absence of source rocks. The WSA has a moderate favorability for geothermal resources. It is in a portion of the Basin and Range region where deep-seated normal faults are known to be conduits for Late Cenozoic volcanics and thermal waters. The WSA is cut by numerous faults. No exploration has been done in the WSA and there are no leases or applications.

RESTING SPRING RANGE

The northern Resting Spring Range which contains the WSA is largely composed of Precambrian and Cambrian marine sediments which have been displaced by normal faults usually less than one mile in length. The Furnace Creek Fault zone, over 18

miles long, terminates southward at the southwestern flank of Shadow Mountain. Another major normal fault passes through Stewart Valley and bounds the Resting Spring Range on its eastern flank. Quaternary alluvial fan deposits cover much of the lower slopes. Miocene tuffaceous lake beds occur north of the WSA and in small areas inside the north boundary.

There are no mining claims in the WSA. Anaconda has a large block of claims for zeolites north and west of the WSA.

The entire WSA is classified as having a low favorability for metallic minerals with a low level of confidence. No deposits, prospects, or claims are known in the WSA or immediate vicinity. However, there are some outcrops of the Stirling quartzite and Wood Canyon Formation which are known to be favorable for gold mineralization elsewhere in the region.

The entire WSA also has a low favorability for nonmetallic minerals. Tertiary lake beds similar to those which produce zeolites further north are located along the north boundary. However, no zeolite beds are known within the WSA.

The WSA has no favorability for uranium, based on a lack of source rocks. It also has no favorability for oil and gas for the same reason. The WSA has a low favorability for geothermal resources. Thermal waters are located north of the WSA in Ash Meadows. No oil and gas or geothermal leases or applications are in the WSA.

SILVER PEAK RANGE

Pre-Tertiary rocks are exposed in the Silver Peak Range only near the northern and southern edges, with a few small exposures near the west edge. Most of this part of the Silver Peak Range is a volcanic pile built in Pliocene time around a vent area in the center of the range. The site of the vent is marked by a caldera filled by later eruptions around the edges of the caldera.

Patented claims in the vicinity are all in the Mineral Ridge and Red Mountain Districts, well to the east of the WSA. There are a great many unpatented claims outside the WSA most of which are in the two mining districts. Two large blocks of claims are located adjacent to the WSA in altered rocks which may be an extension of the Red Mountain District. One block claimed by the Sunshine Mining Co. is located near the east boundary in the vicinity of Mud Spring. The other block is adjacent to the north boundary. Within the WSA itself, there are 186 acres of claims of which 62 acres are pre-FLPMA. Nothing is known about these claims except for the few on the west boundary which are probably associated with the Dyer District.

One area constituting 3.5 percent of the WSA is classified as highly favorable for metallic minerals and is located along the eastern boundary. Another area constituting 74 percent of the WSA is classified as having a moderate potential for minerals. This area contains the northern, central and western portions of the WSA. No mineralization has been established within the WSA and claim activity is minimal. Tertiary volcanic rocks cover the older, more prospective rocks in most of the WSA. However, the Red Mountain District may extend into the WSA. Also, young calderas such as the Silver Peak caldera are often sources of mineralization. There are some exposures of intrusive rocks and possibly altered sediments which may also prove favorable for minerals. Gold, silver, base metals and tungsten are the most likely minerals to be found in the WSA.

No non-metallic resources are known to occur in the WSA. However, since any mineral material may have a market as a non-metallic resource, the entire

WSA is rated as having a low favorability for nonmetallics.

There are no oil and gas leases or applications in the WSA. The WSA has no indicated favorability for oil and gas.

There are no geothermal applications or leases in the WSA but there are two large blocks of leases adjacent to the northwestern and eastern boundaries. Geothermal exploration is taking place in adjacent Fish Lake Valley where there are over 25,000 acres of leases. The entire WSA is rated as moderately favorable for geothermal resources.

WILDERNESS

INTRODUCTION

Five wilderness study areas (WSAs) totalling 189,675 acres are within the So. Nye-Esmeralda RMP Area and constitute 6 percent of the total BLM managed acres in the RMP area. Four of the WSAs are contiguous to WSAs of the California Desert Conservation Area (BLM) and/or Death Valley National Monument. The WSAs, their acreages, and the acreages of the contiguous WSAs, are shown in Table 3-10.

Two of the WSAs, Pigeon Spring and Resting Spring Range, do not meet the wilderness criteria on their own merits (see Appendix D for an explanation of the wilderness criteria.) They were designated WSAs because they were natural and adjacent to already designated California WSAs. The other three WSAs meet the mandatory wilderness characteristics. They are over 5,000 acres and are primarily natural. Table 3-11, Wilderness Suitability Criteria Matrix, displays the wilderness values of all the WSAs.

Portions of all WSAs offer outstanding opportunities for solitude and the Silver Peak Range WSA also offers outstanding opportunities for primitive recreation. The other four WSAs offer opportunities for primitive recreation but they are not outstanding. All the WSAs have opportunities for several types of primitive and unconfined recreational activities. These include hiking/backpacking, sightseeing, nature study, bird watching, photography, camping, picnicking, rockhounding, vegetative collecting, bird hunting, small game hunting, trapping, rock scrambling/climbing, horseback riding/packing.

The Esmeralda-So. Nye RMP Area Wilderness Technical Report (USDI, BLM, 1984) provides more detail about wilderness and other resource values found in each WSA.

DIVERSITY CRITERIA

The Wilderness Study Policy requires that opportunities to expand the diversity of the National Wilderness Preservation System (NWPS) be considered in the study process. Ecosystems, geographical representation and access to major population centers are the three factors of diversity to be evaluated.

The WSAs are composed of Pinyon and Juniper Woodland (Silver Peak Range, Pigeon Spring, Grapevine Mountains), Great Basin Sagebrush (Silver Peak Range), Saltbush-Greasewood (Silver Peak Range, Queer Mountain, Grapevine Mountains), and Creosote Bush (Resting Spring Range) ecosystems. None of these ecosystems are well represented among the designated wilderness areas but all are well represented among other WSAs which may be recommended for wilderness.

The State of Nevada is underrepresented in the NWPS with only one designated area, the Jarbridge Wilderness, on the Oregon border.

All of the WSAs are within 250 miles of 9 to 18 major metropolitan areas,

TABLE 3-10
WILDERNESS STUDY AREA ACREAGES

WSA Number	Name	Contiguous California BLM WSAs	Contiguous Death Valley National Monument WSAs
NV-060-355	Grapevine Mountains 66,800 acres[a]		No. 4 138,900 acres
NV-060-350	Pigeon Spring 3575 acres	#111 Sylvania Mts. 14,983 acres	
NV-060-354	Queer Mountain 81,550 acres	#119 Little Sand Springs 32,876 acres	No. 1 19,900 acres
NV-060-460	Resting Spring Range 3,850 acres	#145 Resting Spring Range 89,772 acres	
NV-060-338	Silver Peak Range 33,900 acres		

[a] During the inventory process, the size of this WSA was reported to be 69,000 acres. During this study phase, a more accurate acreage count came up with 66,800 acres. No boundary changes were made.

TABLE 3-11
WILDERNESS SUITABILITY CRITERIA MATRIX

Criteria	Grapevine Mtns. 355	Pigeon Spring 350	Queer Mtn. 354	Resting Spring Range 460	Silver Peak Range 338
Size	66,800 acres	3,575 acres	81,550 acres	3,850 acres	33,900 acres
Naturalness	Most of the WSA is natural. One fence-line and 1 area of mineral assessment. Outside roads and powerlines affect area within 1 mile of north-east and northwest boundaries.	2/3 of WSA is natural. Former mining activities, ways and 1 cherrystem affect area within a mile of the south and east boundaries.	Most of the WSA is natural. Prospecting impacts the northwest flank of Gold Mountain. Ways and the outside highway and powerline affect the area within 1 mile of south boundary.	Natural except for road which divides WSA.	Natural. Only 1 abandoned water trough found in WSA. Outside sights and sounds are insignificant.
Solitude	Opportunities outstanding in mountains, large size, blocky shape, topographic screening. Poor on bajadas.	Poor opportunities. Too small. Adjacent CDCA area does have outstanding opportunities.	Opportunities outstanding in mountains. Large size, blocky shape. Poor on bajadas.	By itself, poor opportunities, too small and no screening. Narrow shape. Adjacent CDCA area has opportunities for solitude.	Outstanding. Rugged topography screens visitors in most of the WSA and dense, pinyon-juniper in the remainder.
Primitive Recreation	Less than outstanding. Attractions are limited. Rugged portion is very narrow. No water. Adjacent NPS WSA has outstanding opportunities.	By itself, not outstanding, too small, lacks diversity and variety of attractions.	Not outstanding. Lacks scenic diversity, attractions limited. No water. Adjacent CDCA area has excellent opportunities.	Poor opportunities. Too small, lacks diversity and scenic attractions.	Outstanding. High quality scenery, diverse topography and plant communities, water, riparian areas, opportunities to see bighorn sheep and wild horses, numerous destinations, and attractions.
Special Features	Wild horses	None known	Wild horses	None known	Bighorn sheep, archaeological resources, wild horses, and evidence of vaolcanism-a caldera, obsidian petrified wood

TABLE 3-11
WILDERNESS SUITABILITY CRITERIA MATRIX (continued)

Criteria	Grapevine Mtns. 355	Pigeon Spring 350	Queer Mtn. 354	Resting Spring Range 460	Silver Peak Range 338
Multiple Resource Benefits	Deer and horse habitat protected. View of range from Highway 72 protected.	Deer habitat protected.	Deer & horse habitat protected. View of range from Highway 72 protected.	Horse habitat is protected.	Bighorn sheep, deer and horse habitat and riparian areas protected. Archaeological resources protected. View of range from Fish Lake Valley protected.
Diversity					
Natural Systems	None of the ecosystems are well represented in the NWPS except for the Creosote Bush ecosystem found in Resting Spring. All are well represented among other areas under consideration.				
Opportunities Near Population Centers	All are within 1 day's drive of 9 to 18 major metropolitan areas. Numerous wilderness areas or other WSAs are closer to the cities.				
Geographic Distribution	Nevada is underrepresented in the NWPS. Nearest wilderness areas are in the Sierra Nevada. Numerous other WSAs are in the Nevada and California deserts.				
Manageability	Difficult to control ORVs on bajadas. Only 1 area of mining claims.	Unmanageable. 1/6 of area claimed with high mineral potential. ORVs hard to control on south and east end. Poorly defined boundaries.	Difficult to control ORVs on flats and in large washes. Mining claims may be developed on north end due to high potential. North boundary hard to identify.	80% is unmanageable. Terrain is too accessible.	Poorly defined boundaries would be hard to manage. No other problems.

mainly in California. At least 13 designated wilderness areas and over 200 wilderness study areas are within the same distance of all of these cities. Designation of the WSAs would not significantly add to the opportunities available to the residents of those cities.

Overall, designation of the WSAs would add to the diversity of the NWPS increasing the representation of the State of Nevada and the Great Basin ecosystems and landforms. However, numerous other areas being considered for wilderness designation could fill the same niche represented by these WSAs.

GRAPEVINE MOUNTAINS WSA

Grapevine Mountains WSA was known as Bonnie Claire Flats WSA during the inventory process. The name was changed to reflect the dominent topographic feature.

The WSA is located 20 miles northwest of Beatty along the California/Nevada border in Esmeralda and Nye Counties. Access is via State Highway 72 (Scotty's Junction Road) which parallels the northwestern boundary. The 66,800 acre Grapevine Mountains WSA is contiguous to Death Valley National Monument WSA No. 4. The National Park Service area has been administratively endorsed as suitable for wilderness designation. Grapevine Mountains WSA meets the wilderness criteria on its own merits so its designation is not dependent on the status of the National Park Service unit.

The WSA contains a highly dissected ridgeline which is the northern end of the northwest-trending Grapevine Mountains. That part of the range within the National Monument is extremely rugged and impressive with numerous steep walled canyons and a rapid elevation gain of 7,000 feet. Several peaks over 8,000 feet are just outside of the BLM boundary. Since the BLM portion contains the end of the range and its foothills, it is somewhat less rugged and elevation changes are not as extreme. Numerous peaks are over 7,000 feet with the highest at 7,694. The WSA also includes two broad bajadas which drain the range towards Sarcobatus Flat on the northeast and Bonnie Claire Flat on the northwest. The lowest point on the bajadas is 4,000 feet. The majority of the WSA is volcanic and composed of rhyolites, dacites, andesites and tuffs. The southend is quite colorful with bands of white and various reddish hues.

This WSA is located in a transitional vegetation zone. Most of the WSA is vegetated with shrubs and cactus of the saltbush/greasewood community but patches of creosote bush and Joshua trees also occur. The higher elevations on the south end of the WSA are forested with pinyon pines and junipers. No springs or streams occur in the WSA.

Human activities inside and outside the Grapevine Mountains WSA are substantially unnoticeable with a few exceptions. Naturalness is impaired within a mile of both the northeast and northwest boundaries due to the effects of sand and gravel pits just inside the northwest boundary and the outside sights and sounds of Highway 72, which constitutes the northwest boundary, the northeast boundary road, and powerlines paralleling both roads. Several sections on the western edge of the northwestern bajada are also affected by three miles of "two track", or way, and three short sections of cat work. Outside sights and sounds render the affected area as unnatural. The mountainous portion of the WSA is natural. This portion is also unaffected by outside sights and sounds since the WSA is large, adjacent to other WSAs and in an area with little development other than historic mining activity.

The size of the area, 66,800 acres, and rectangular configuration are adequate to offer outstanding opportunities for solitude. There are no cherrystems. Topographic screening is outstanding in the mountainous portion which makes up about half of the WSA. The ridgeline of the range is highly dissected creating numerous peaks, narrow canyons and other very rugged features. There are about 5,000 acres on the south end of the range that are forested with pinyon pine and junipers in varying densities. The heavily forested east and north slopes offer outstanding vegetative screening. Several long broad washes, which drain the east slope, do not provide substantial screening. With this exception, a visitor could find a secluded spot anywhere in the mountainous portion of the WSA.

The other half of the WSA consists of the sweeping bajadas on either side of the range. Topographic and vegetative screening is minimal in this portion. Also, opportunities for solitude on the bajadas are affected by activities on the boundary roads particularly Highway 72. A visitor would have a difficult time finding seclusion on the bajadas.

Considered alone, primitive recreation opportunities are not outstanding in the Grapevine Mountains WSA. The bajada offers minimal recreational opportunities, and the range is narrow, lacks water, and has less than outstanding features. It is easily accessible, with rugged and in some areas, very colorful scenery. Opportunities to view wild horses and mule deer are available but limited. The Grapevine Mountains WSA is, from a recreational as well as a geologic standpoint, a northerly extension of the Grapevine Mountains which lie to the south in Death Valley National Monument. The most dramatic scenery and best opportunities are to the south. This WSA is a good recreational complement to the area to the south but does not compare in quality.

A small herd of wild horses (19) live in the Gold Mountain herd area and are the only special feature of the WSA.

Mining claims and the potential for indiscriminate vehicle use may affect the wilderness character of the WSA. Forty-one acres of pre-FLPMA claims are located on the northwest flank of the range. The remainder of the claims are located in one large block, 1,154 acres, covering Helmet Mountain and the large canyon due south of it, an area of high wilderness values.

About one half of the WSA is bajadas sloping from the mountains to the boundary roads. This terrain is readily accessible to vehicles. There are no physical barriers to ORV use within one to four miles of the boundary on both sides of the range. The isolated small mountains on the north tip of the WSA are cut off from the range by sloping, driveable terrain. In addition, broad washes drain the east side allowing vehicle access one or two miles into the mountains. Vehicles cannot cross the range as the ridgeline and west side are rugged. The bajadas cannot be closed to vehicles without the enforcement intensity found in the National Monument.

PIGEON SPRING WSA

The Pigeon Spring WSA lies along the California border, ten miles west of Lida, Nevada in Esmeralda County. The 3,575 acre WSA is contiguous to a California Desert Conservation Area (CDCA) WSA, No. 111, Sylvania Mountains, 14,983 acres. The 1980 Wilderness Inventory determined that the Pigeon Springs WSA did not meet the wilderness criteria for size, solitude, and primitive recreation except when considered in conjunction with the California WSA. Should the California WSA be eliminated from wilderness consideration, this WSA would also be eliminated. The California Desert Conservation Area Plan has recommended that their WSA be

designated nonsuitable for wilderness. However, both remain WSAs until Congress acts on the recommendation.

Pigeon Spring WSA contains the upper drainages of Cucomunga Canyon in the Sylvania Mountains. The central feature is 1 1/2 miles of a steep-walled canyon that continues on to the California side. The rest consists of broader drainages and rolling ridges. Elevations vary from 6,400 to 8,160 feet. It is forested with pinyon pine and juniper throughout. No springs or streams occur in the WSA.

Naturalness is substantially impaired within one mile of the south and east boundaries. Mining interest and the accessibility of the relatively level terrain on the periphery of the WSA has lead to the development of several, short (less than 1/2 mile) ways. At least three ways branch off of the 1 1/2 mile section of boundary that follows Cucomunga Canyon Road on the southeast. In addition, the cherrystem found in this section is not large enough to contain the entire area disturbed by mining activities. About 80 to 100 acres are affected by mining excavations, spoil piles and access routes. Two additional ways branch off of the mining spur roads that form the eastern boundary. Also, one way branches off of the north boundary and enters the WSA.

The WSA is surrounded by historic and active mining areas of which the active mining operations in Sylvania Canyon are the most extensive and significant. These activities are visible from high points in the WSA, but the rest of the unit is screened by topography.

By itself, this area is too small (3,575 acres) to offer outstanding opportunities for solitude. Topographic screening is outstanding in the rugged main canyon and along the main ridge which parallels the Von Schmidt line. Dense pinyon and juniper stands also provide screening along this ridge. The broader drainages and less steep terrain of the remainder of the WSA do not offer outstanding screening. Although some of the north and east slopes in this portion do have dense pinyon and juniper cover, the majority is lightly forested. Also, ways and cherrystem roads lessen the opportunity to achieve solitude in this area.

Standing alone, the Pigeon Spring WSA does not offer outstanding opportunities for primitive recreation. It is too small and offers only two attractions; the steep walled canyon and the high point of the ridge which is the highest point in the Sylvania Mountains. This ridge offers good views of the White Mountains. The scenery within the WSA is not diverse in landform or vegetation. Visitors have a fair opportunity to view mule deer in any season. The area is not suited for backpacking because of its small size. A visitor is never more than 1 1/2 miles from a boundary. However, the steep-walled canyon is a suitable destination for backpackers coming from the California side. Hunting is available but nothing is known about quality or quantity. The California District of BLM (CDCA Plan) considers the Cucomunga Canyon Road, on the south boundary, an intensive use area for camping, ORVs, sightseeing, painting and photography.

Three types of manageability problems affect the WSA, mining claims, the potential for indiscriminate vehicle use and poorly defined boundaries. Nearly one sixth of the WSA is covered by mining claims.

Random vehicle use on the south and east edges of the WSA presents a manageability problem. CDCA Plan has identified Cucomunga Canyon Road as an intensive recreational use zone with ORV access one of the principle activities. Several ways which may be

either the result of mining or ORV play penetrate the WSA in this area. Numerous other ways occur on the California side. Since the slopes are fairly gentle in this area and the pinyon and juniper trees are scattered, closing these ways will be difficult.

The northern and northeastern WSA boundary is poorly defined and cannot be located on the ground.

QUEER MOUNTAIN WSA

The Queer Mountain WSA is located 20 miles northwest of Beatty along the California/Nevada border in Esmeralda County. The 81,550 acre Queer Mountain WSA is contiguous to the CDCA's WSA, Little Sand Springs, and Death Valley National Monument WSA No. 1. The CDCA Plan has recommended that Little Sand Springs be designated wilderness and the National Park Service has administratively endorsed their area for wilderness. Queer Mountain WSA meets the wilderness criteria on its own merits; its designation is not dependent on the status of the California units.

The roughly rectangular Queer Mountain WSA contains an upland of east or northeast trending ridges and valleys. Broad bajadas slope towards Oriental Wash on the north and Bonnie Claire Flat and Grapevine Canyon on the east and south. Elevations range from 4,000 feet near Grapevine Canyon in the southern tip to the 7,952 foot elevation of Gold Mountain on the north. This 4,000 feet elevation gain occurs gradually over the 14 mile length of the WSA, so much of the unit's terrain appears rolling rather than precipitous. The majority of the WSA is volcanic in origin. The exception is the north end which contains sedimentary rocks intruded by quartz monzonite. The WSA is located in a transitional vegetation zone. Most of the WSA is vegetated with shrubs and cactus of the saltbush/greasewood plant community, but patches of creosote bush and Joshua trees more typical of the Las Vegas area also occur. Gold Mountain and its surrounding ridges are thinly forested with pinyon pine and juniper. No springs or streams occur in the WSA.

The two areas of the WSA where naturalness is impacted are the southern bajada that slopes down to Highway 72 and the north slope and bajada of Gold Mountain.

Four ways totalling three miles in length enter the WSA along the south boundary. The impact on naturalness of these four ways is localized. More significant are the outside sights and sounds of the bordering highway and powerline which can easily be seen on the gently sloping, sparsely vegetated bajada.

Extensive mining activity has occurred on the north slope of Gold Mountain mainly outside the WSA boundary. Five ways totalling about five miles in length enter the WSA and connect outside roads to a cluster of minor diggings on the north and south sides. These intrusions substantially impair naturalness in the immediate area. Topography adequately screens the rest of the WSA from these signs of human activity. The roads, ways and mineral activity outside the WSA due north of Gold Mountain have little effect on the WSA. The rugged canyons and rapid elevation gain in this portion of the WSA screen the visitor and provide a feeling of distance.

No other outside sights have any substantial effect on the feeling of naturalness in the WSA. Queer Mountain WSA is large, adjacent to other WSAs and located in an area with little development other than historic mining activity.

The size of the area, 81,550 acres, and blocky configuration are adequate to offer outstanding opportunities for solitude. There are no cherrystems.

Topographic screening is outstanding in most of the mountainous portion of the WSA because of the numerous ridges, canyons, hills, peaks and other features. A visitor could find a secluded spot almost anywhere in this part which is about two thirds of the WSA.

Some of the large valleys, particularly on the south end, are too broad, straight and uniform in slope to offer outstanding screening. The bajadas on the north and south sides provide minimal topographic and vegetative screening and are affected by the intruding ways and Highway 72 near the south boundary. Secluded spots would be difficult to find in those portions.

Vegetation does not provide substantial screening in any part of the WSA. The pinyon and juniper trees in the Gold Mountain area are too widely scattered to effectively screen visitors from each other. The rest of the WSA is vegetated with low desert shrubs.

Primitive recreation opportunities are not outstanding in the Queer Mountain WSA. The WSA lacks diversity in vegetation, geology and landforms, and does not have truly outstanding features. Its principal attraction is solitude. Excellent access and proximity to other wild areas are advantages. The lack of water affects the quality of backpacking, camping and horse use as well as the abundance and diversity of wildlife.

Three types of manageability problems affect the Queer Mountain WSA, mining claims, a poorly defined boundary, and the potential for indiscriminate vehicle use. All of the mining claims found in the WSA are located in a band across the north end in an area identified as moderately favorable for metallic mineral resources. Since this area is also adjacent to the formerly productive Gold Mountain District, some of these claims would probably prove valid and be developed after designation.

The second problem is the poorly defined north boundary which follows no definable features for most of its length.

ORV control will be very difficult in this WSA. Bajadas on the north, east and south sides present no physical barriers to ORV use within several miles of the boundaries. Nine ways presently occur on these bajadas. Also, numerous driveable washes connect through the center of the WSA.

RESTING SPRING RANGE WSA

The Resting Spring Range WSA is located 10 miles west of Pahrump along the California/Nevada border in Nye County. The 3,850 acre WSA is divided into two parts by a maintained dirt road which branches off the Ash Meadows Road. The northern portion is 1,050 acres and the southern portion is 2,800 acres.

The WSA is contiguous to the CDCA's WSA, Resting Spring Range. The 1980 Wilderness Inventory determined that the Nevada WSA did not meet the wilderness criteria for size, solitude and primitive recreation except when considered in conjunction with the California WSA. Should the California WSA be eliminated from wilderness consideration, the Nevada WSA would also be eliminated. The CDCA Plan has recommended that the California WSA be designated nonsuitable for wilderness. However, both remain WSAs until Congress acts on the recommendation.

The Resting Spring Range WSA contains the foothills and lower drainages of the narrow, north-south trending Resting Spring Range located to the south in the California WSA. Elevations range from 2,400 feet on the north end to 3,900 feet near the California line. Most of the WSA is composed of sedimentary rocks, primarily limestone. Volcanic ash beds occur in small areas near the boundaries. The WSA is vegetated with

creosote bush, blackbrush, shadscale and other low desert shrubs and cacti. No springs or streams occur in the WSA.

No unnatural intrusions have been found in the WSA other than several bladed spots immediately adjacent to the road which divides the unit. That road, which is technically outside the WSA, is the most significant sign of human activity. It affects naturalness in the immediate vicinity of the 3/4 mile segment which divides the WSA.

The ranches, roads, mines and other developments of Ash Meadows, two miles to the north, and Stewart Valley, two miles to the southeast, are visible from the high points of the WSA. However, they do not have a significant impact on naturalness within the WSA.

By itself, this WSA is too small (3,850 acres) to offer outstanding opportunities for solitude. Its long narrow shape, divided in two by the intrusion road, is the worst possible configuration for providing opportunities for solitude. The WSA is never more than 1-1/4 miles wide. The road which bisects the WSA lessens the opportunities for solitude in the immediate vicinity. This particularly affects the northern portion which is only 1,050 acres.

Some topographic screening but no vegetative screening is available in the foothills and broad washes which make up the WSA. Only a limited number of visitors could find seclusion in the area.

By itself, the Resting Spring Range WSA does not offer outstanding opportunities for primitive recreation. The entire WSA is accessible to dayhikers and horseback riders, but it lacks special attractions. The landforms and plant life are not diverse or particularly scenic, and the hills are not high enough to be challenging. The area is not suited for backpacking because of its small size and narrow configuration. Visitors have some opportunity to see wild horses.

The small northern unit is not manageable as wilderness and neither is much of the southern unit. ORVs and poorly defined boundaries are manageability concerns. Large, driveable washes penetrate all parts of the WSA. At least 80 percent of the small northern unit is affected. Most of these washes drain towards the well-traveled, nearby, Ash Meadows Road.

With the exception of the southwest boundary which follows the California line, boundaries are impossible to locate on the ground. Portions seem to follow the Von Schmidt line but others seem to have been drawn free hand for the purpose of putting a buffer between the WSA and the Ash Meadows Road.

SILVER PEAK RANGE WSA

The Silver Peak Range WSA is located 10 miles west of the town of Silver Peak and 40 miles southwest of Tonopah in Esmeralda County. The 33,900 acre WSA is roughly rectangular, eight miles east to west and six miles north to south, with a three mile wide projection on the north end.

The WSA contains the northwest corner of the Silver Peak Range. The central feature is a flat-topped, treeless, three-mile long summit ridge with Piper Peak, 9,450 feet, its highest point. The rest of the WSA consists of the rugged canyons and ridges that radiate from the summit ridge. Two long drainages, Icehouse and Piper, cut canyons through colorful formations of white, pink and green tuffs and other volcanic rocks. Upper elevations are heavily forested with pinyon pine and juniper except for the distinctive sagebrush "meadows" on the summit ridge and other flat-topped

ridges in the WSA. Below 7,000 feet to the WSA's lowest point at 5,500 feet are desert shrub communities of shadscale and rabbit brush. Numerous springs, but no year-round streams, occur in the WSA.

The Silver Peak Range WSA is remarkably pristine. Outside sights include views of human activity but not to the extent that the overall feeling of naturalness is impaired. Only three human improvements are found within the WSA itself. A U.S. Forest Service solar powered repeater is located near the summit of Piper Peak. An area of mining assessment work consisting of two bladed cuts and about a half mile of bladed access road is located near the west boundary. Only Blind Spring is developed. Improvements consist of an abandoned wooden trough, broken pieces of pipe and a small, six-foot diameter, rock lined pond. None of these improvements detract from the naturalness of the area as a whole.

This WSA offers outstanding opportunities for solitude because of a combination of topographic and vegetative screening. The size of the area, 33,900 acres, and the configuration are adequate to offer opportunities for solitude. The exception is the narrow, three-mile wide, northern extension. However, this extension is divided by a 2,000 foot ridge drained by narrow canyons. Visitors would be screened from each other and the outside in spite of being within 1 1/2 miles from the boundary. The rugged canyons and "badlands" topography on the north and west side of the WSA have sufficient topographic screening to offer outstanding opportunities for solitude in spite of the low growing vegetation. Although the southeast and northeast slopes are less rugged, they are forested with pinyon pine and juniper which offers excellent screening. The flat, bold summit ridge does not offer any screening, so increased visitor use of the ridge will diminish the opportunities for solitude. However, the variety of other attractions including Piper Canyon, Icehouse Canyon and the northern ridge will help disperse visitors. The numerous useable springs will disperse campers.

The Silver Peak Range WSA offers an outstanding opportunity for primitive recreation. A diversity of high quality opportunities are available and dayhiking and backpacking are outstanding opportunities. The varied topography, attractive rock formations, diverse plant communities including lush riparian areas, water, high interest animals--bighorn sheep, mule deer, chukar and wild horses, outstanding views and variety of destinations are its best features.

The Silver Peak Range WSA has outstanding special features. A large herd (118 animals) of desert bighorn sheep inhabits the Silver Peak Range. About 50 percent of of their crucial summer habitat is within the WSA. The largest herd of wild horses in the Esmeralda RMP area (300 animals) inhabits the Silver Peak Herd Area. The WSA makes up about 15% of the herd area. The WSA has excellent examples of volcanic activity. The most significant feature is the Silver Peak caldera, a four mile by eight mile long collapsed magma chamber that has since been filled by later lava flows. The caldera underlies the northeast portion of the WSA. Obsidian pebbles and petrified wood are common in Icehouse Canyon wash.

Only two archeological sites have been located, but the numerous sources of food and water, a source of obsidian and proximity to Fish Lake indicate a high favorability for prehistoric resources.

The most significant manageability issue in this WSA is the existing boundaries which cannot be located on the ground, described or accurately mapped.

Random vehicle access is not a concern due to the rugged terrain. Mineral development concerns are minimal because only 186 acres of mining claims and no leases are located in the WSA.

SOCIAL VALUES

WILDERNESS

Wilderness is one of the most visible and controversial issues in Planning Area A. Resistance to wilderness was and continues to be widespread, particularly concerning the Silver Peak Range WSA. The resistance to wilderness primarily concerns the issue of minerals potential. One mining sector spokesperson cautioned against using the term "economic mineral deposit" without carefully weighing all the factors. His rationale was that technology in the mining and related fields is continually improving making a deposit which might now be uneconomic into a productive and profitable mine a few years from now. Any program that places or has the potential of placing constraints on minerals development activities is viewed by the mining sector with apprehension if not alarm!

A number of comments received during the scoping process, primarily from mining interests, reject wilderness areas within Esmeralda County on the basis that the WSAs within the area lack unique wilderness characteristics. Specific comments indicated that the lack of water, trees and ground vegetation preclude wilderness participants from enjoying any degree of solitude, especially in the Silver Peak Range and Queer Mountain areas. The majority of the comments received from residents of Planning Area A place the recreational values of these two areas in the below average to poor category.

As is the case in other parts of the Great Basin area, the term "wilderness" evokes strong feelings from proponents and opponents of the concept that some areas should remain essentially unmodified by human development. Local opponents interpret it as an area "locked up" against any other uses other than occasional solitary enjoyment by those whose livelihood does not depend on economic use of resources in the areas they endorse for wilderness management. Locally, "there is resentment of the suggestion that any publicly owned open spaces should be encumbered by regulations against particular uses. Unregulated public access to these lands is jealously guarded as a birthright." (Nevada Division of State Parks, letter to Area Manager, dated April 4, 1983).

Although no input was received during the scoping process from individuals or stakeholder groups who are proponents of wilderness, it can be expected that their positions have changed little, if at all, from the positive support given the wilderness program in the initial, intensive inventory phase.

LANDS TENURE AND UTILITY CORRIDORS

There has been considerable concern expressed by residents of the RMP area regarding disposal of as well as specific uses of public lands. The issue essentially concerns perceptual differences over which lands are best suited for community expansion; which lands (if any) should be withdrawn for wilderness; which lands should be made available for mining, agriculture and other public purposes; or which lands should be made available to the private sector for whatever use it may deem appropriate.

In an effort to identify lands which the Nye County Planner and the Amargosa and Pahrump Planning Boards feel should be analyzed in one or more of the alternatives for disposal, the Bureau of Land Management's Las Vegas District Office requested in January, 1984, that a map be submitted by those

agencies identifying specific lands they would recommend for disposal. In March, 1984, a map was submitted by the Nye County Planner identifying 74,560 acres that were recommended for disposal in Amargosa Valley. The proposed use of this acreage was for development of an industrial park to serve a potential nuclear waste repository site which may be located on the Nevada Test Site.

Residents of the area still express considerable concern over the possibility of future withdrawals that may be requested of the Bureau of Land Management by the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service proposes to acquire approximately 14,164 acres of private land, withdraw 2,681 acres of public land; and cooperatively manage with the Bureau of Land Management an additional 6,602 acres of public lands--all for the purpose of establishing Ash Meadows National Wildlife Refuge in Nye County. (Ash Meadows Environmental Assessment, Dept. of Interior, USFWS, Region I, Portland, Oregon, May 1984).

RMP Area residents feel that the Fish and Wildlife Service will, at some future point in time, request additional withdrawals from the Bureau of Land Management for public lands in or immediately adjacent to the wildlife refuge to place the refuge under the management control of one federal agency rather than two and to consolidate the acreage into logical management units. The wildlife refuge issue has become and remains a highly visible and emotional issue with residents of the area. Any effort to increase federal holdings to expand the refuge at some future date is likely to be met with considerable local opposition.

Lands previously identified for disposal included approximately 200 acres of public lands immediately adjacent to Beatty and approximately 250 acres of public land immediately adjacent to Lathrop Wells for disposal. Sale of these parcels would probably meet with mixed response from local residents. Comments from public meetings held in Beatty in April, 1983, indicate that those residents (business persons, realtors, etc.) who are considered by other community residents to be pro-development would welcome the opportunity this would provide for community expansion. Others, however, would support the sales only if BLM could find a way to place stipulations on those sales that would require the purchasers to make use of the parcel within a specified period of time. This, in their opinion, would keep out land speculators and assure orderly community growth. These same individuals also propose that land sales be spaced out over a given period of time to also assure orderly community growth.

There is strong support from the utilities sector for making utility corridor planning a key issue in the development of the resource management plan. Their rationale is that long-range planning indicates that as the Henderson route area becomes too utilized, utility corridors within the RMP Area will become a vital link between the resources in the Intermountain West and the load center in the West. Little additional comment has been generated by this issue either among area residents or from sources external to the RMP area.

RANGELAND MANAGEMENT

Ranching attitudes in the RMP Area are similar to those in other rural resource areas in Nevada. The ranching sector strongly feels that the production of food and fiber should be the first priority on public lands and opposes the assignment of grazing areas to wilderness preservation, for wild horse grazing, or for other uses that may preclude or interfere with grazing. The major concern from the ranching sector

regarding wilderness involves the constraints that would be placed on future range improvements if those wilderness study areas are ultimately included in the National Wilderness Preservation System. From those ranchers who have improved existing waters or developed new waters on their allotments concern was expressed that the additional AUMs that may develop as a result of those water improvements would be assigned to wild horses.

Ranching is valued as a source of identity for many area residents, both those who are an integral part of the ranching sector as well as for those nonranching residents who identify with ranching by virtue of their sharing a common rural background. It could be expected that nonranching area residents would generally be supportive of the ranching sector in opposing any constraint that has the potential of adversely impacting the ranching sector. While there appears to be support within the ranching sector for disposal of public lands to provide for community expansion and/or agricultural development, there is strong opposition locally to any proposal for additional Federal withdrawals which would "lock-up" those withdrawn lands.

ECONOMIC CONDITIONS

Because specific income and employment data are not available for Beatty and Pahrump Townships, the affected environment, for purposes of economic analysis, must necessarily be defined to include all of Nye, together with Esmeralda County. Wherever possible, the analysis will focus on the specific affected area. However, due to data limitations, analysis of potential effects must largely be inferred from County-wide data.

POPULATION

The population of Esmeralda County declined from about 9,000 in 1910 to 380 in 1965. Since then it has grown gradually to an estimated 1983 population of 920. Both Esmeralda and Nye Counties remain predominately rural and sparsely populated, with population density in Esmeralda County less than 0.3 persons per square mile and Nye County about 0.9 persons per square mile.

Population growth is expected to continue throughout the region. The most rapid growth is projected for the Pahrump Valley. Table 3-12 shows population data and projections for the study area.

INCOME AND EMPLOYMENT

Tables 3-13 and 3-14 display employment and income data for Esmeralda and Nye Counties, by industrial sector. Figures for 1981 show mining, government, construction, and agriculture to be the primary sources of employment in Esmeralda County; with services, mining, government, and trade of the greatest significance in Nye County.

Unemployment rates reported for June, 1982 were 14.4 percent for Esmeralda County and 6.2 percent for Nye. The Nevada state average was 9.3 percent at that time. Rates reported for June, 1983 show unemployment to be continuing at approximately the former rates with 14.2 percent for Esmeralda County, 7.4 percent for Nye, and a Nevada state average of 9.0.

Annual per capita income figures for 1981 show Esmeralda ($9,528) and Nye ($8,650) counties to be among the less prosperous of the State's 17 counties. Ranked 10th and 15th, respectively, these figures are considerably below the Nevada state average of $11,582.

AFFECTED SECTORS

Mining and livestock-oriented agriculture are the major basic industries, and most of the commodities are either imported or exported.

TABLE 3-12
AFFECTED AREA POPULATION AND PROJECTIONS

Location	1970	1980	% Change 1970-1980	1983 Estimate	2000 Projection
Esmeralda County	629	777	23.5	920	1379
Nye County	5,599	9,048	61.6	15,490	17,294
Beatty Township	1,131	3,524	211.6	4,158 a/	6,736
Pahrump Township	963	1,358	41.0	1,602 a/	2,596

a/ 1983 Estimates for Beatty and Pahrump townships are BLM NSO estimates.

Source: 1970 and 1980 Census. 1983 Estimates and Projections for the year 2000 are from UNR, Bureau of Business and Economic Research.

TABLE 3-13
ESMERALDA COUNTY
1981 EMPLOYMENT AND INCOME

	Employment		Income	
SECTOR	Persons	Percent	$1,000	Percent
Agriculture	58	13.5	564	7.1
Mining	173	40.3	4,681	58.9
Construction	62	14.5	1,389	17.5
Manufacturing	0	0	0	0
Trade	39 a/	9.1	341 a/	4.3
Services	8 a/	1.9	51 a/	0.6
Government	76	17.7	838	10.6
Other	13	3.0	83	1.0
Total	429	100.0	7,947	100.0

a/ BLM Estimates

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, April 1983.

TABLE 3-14
NYE COUNTY
1981 EMPLOYMENT AND INCOME

SECTOR	Employment		Income	
	Persons	Percent	$1,000	Percent
Agriculture	177	2.0	489	0.2
Mining	1,537	17.7	44,624	21.1
Construction	371	4.3	8,940	4.2
Manufacturing	91	1.0	2,350	1.1
Trade	490 a/	5.6	5,204 a/	2.5
Services	4,501	51.7	127,250	60.2
Government	775	8.9	11,662	5.5
Other	763	8.8	10,898	5.2
Total	8,705	100.0	211,417	100.0

a/ BLM Estimates

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, April 1983.

Mining

The importance of mining and its impact on employment, income, and social values of the area can be readily assessed by the value of non-fuel mineral production. In 1980, Esmeralda County provided $21.6 million, and Nye County $45.5 million of mineral production. Taken together ($67.2 million), this represents slightly more than 17 percent of the total state production ($394.2 million).

In 1981 mining provided 40.3 percent of the employment and 58.9 percent of the income in Esmeralda County, and 17.7 percent of total employment and 21.1 percent of total income in Nye County.

Agriculture

Agricultural production in the RMP area consists of cattle, hay, alfalfa, and cotton. Livestock predominates. Cash receipts from marketings in 1981 totaled $2.0 million in Esmeralda County with $1.2 million from meat animals and other livestock and $0.8 million from crops. Nye County cash receipts totaled $4.6 million, with 3.0 million from livestock and $1.6 million from crops.

Agriculture accounts for about 7 percent of total labor and proprietor income in Esmeralda County, and provides 13.5 percent total employment. The majority of agricultural production occurs in Fish Lake Valley.

While of lesser significance to the Nye County economy, providing less than 1 percent of income and only about 2 percent of total employment, agriculture in Nye County remains tied to public land grazing for its viability. Cattle and hay production occur in southern Nye County at Pahrump, Beatty, and the area south of Lathrop Wells. Pahrump is the only cotton producing area in the State, though much of this land has been converted to subdivisions in recent years.

Agriculture within the planning area contributes little indirect income to either Esmeralda or Nye Counties because most farm inputs are purchased outside of the counties, primarily in Bishop, California.

Gross income for ranch operations in the area for 1981 is estimated at $1.2 million, with a total estimated net ranch income of approximately $291,000. Average net ranch income per AUM is estimated at a low $4.24.

Livestock have been using about 46,013 AUMS of public land forage in the RMP area. This accounts for about 67 percent of the total forage requirement and depicts the high average dependency on the public lands. Of the 16 active permittees in the area, 6 were classified as having permits for year round use of the public range with an average herd size of 400 head. Five of these yearlong operations are licensed under section 15, with no base properties, and are, therefore, 100 percent dependent on BLM administered range land. Two of those year-round operators have additional California BLM lands for their use but all 6, nonetheless, could be severely impacted by adjustments in use.

Season-of-use for 6 additional permittees, with an average herd size of 700 head, varies from spring through late fall. Ephemeral range is utilized by 4 operators.

Cow-calf operations predominate in the RMP area. The 4 ephemeral range operators conduct yearling operations when range forage is available. Table 3-15 describes the typical ranch budget utilized for analysis of operations in the area. This budget has been adapted from a study by Resource Concepts, Inc. (1981).

TABLE 3-15
COSTS AND RETURNS FOR CATTLE OPERATIONS
(Values are in $ Per Cow)

Sales		
	Steer calves	100.69
	Heifer calves	58.63
	Cull cows	47.71
	Cull bulls	6.76
	Total Sales	213.79
Production Costs		
A.	Cash Costs	
	Raised Alfalfa Hayfed	10.33
	Raised Grass Hayfed	3.44
	Government grazing fees	20.27
	Hird Labor	8.99
	Veterinary Expenses	1.81
	Hird Trucking	2.33
	Marketing Commission	1.28
	Fuel	24.41
	Repairs and Maintenance	10.29
	Accounting	2.06
	Brand Inspection	.33
	Salt and Minerals	1.25
	Fencing	2.56
	Bull	25.21
	Horses	1.55
	Taxes	7.66
	Dues	.90
	Other Cash Costs	7.68
		132.35
B.	Other Costs	
	Family Labor	86.01
	Depreciation	30.61
	Interest on brood stock	74.75
	Interest on equipment and buildings	3.64
	Total Other Costs	195.01
Total Costs		327.36
Return above cash costs		81.44
Return above cash costs and family labor		-4.57
Return to total investment 1/		-35.18
Net ranch income 2/		50.83

1/ Return to total investment equals sales (gross income) minus cash costs, depreciation, and family labor. No estimate is included for interest on land or for opportunity cost.

2/ Net ranch income is calculated by deducting cash costs and depreciation from sales (gross income). The remaining revenue (net ranch income) is available to service long-term debts on land and capital, to provide income to family labor, and to provide a return to risk and management.

Historically, the economic benefits derived by area ranchers from the use of public range have exceeded the fees they are charged. The existence of this imbalance, or "consumer surplus," has meant that ranchers are willing to pay extra for the opportunity to use public lands, thereby, causing the grazing permit to acquire a market value (Vale, 1979; Neilson and Workman, 1971). The permits can be bought or sold in the market place, or used as collateral for loans (Corbett, 1978). Although not officially recognized as real property, BLM permits have nonetheless become an integral element in the capital and credit structure of area ranchers. Currently, the market value of Federal AUMs averages about $50 (Falk, 1980). At an average market value of $50 per AUM, BLM grazing permits contribute $2,498,950 to the wealth of area ranchers.

LANDS

Potential changes in the proportionality between public and private lands could affect both the tax base and BLM payments to the counties in lieu of property taxes. Assessed valuation for Esmeralda and Nye Counties in the fiscal year 1982-83 amounted to $23,376,387 and $252,225,034 with tax rates per $100 of assessed valuation at 1.4417 and 1.3522, respectively. BLM payments in lieu of property taxes for fiscal year 1982 amounted to $35,703 for Esmeralda County and $314,390 for Nye County.

Forest Products

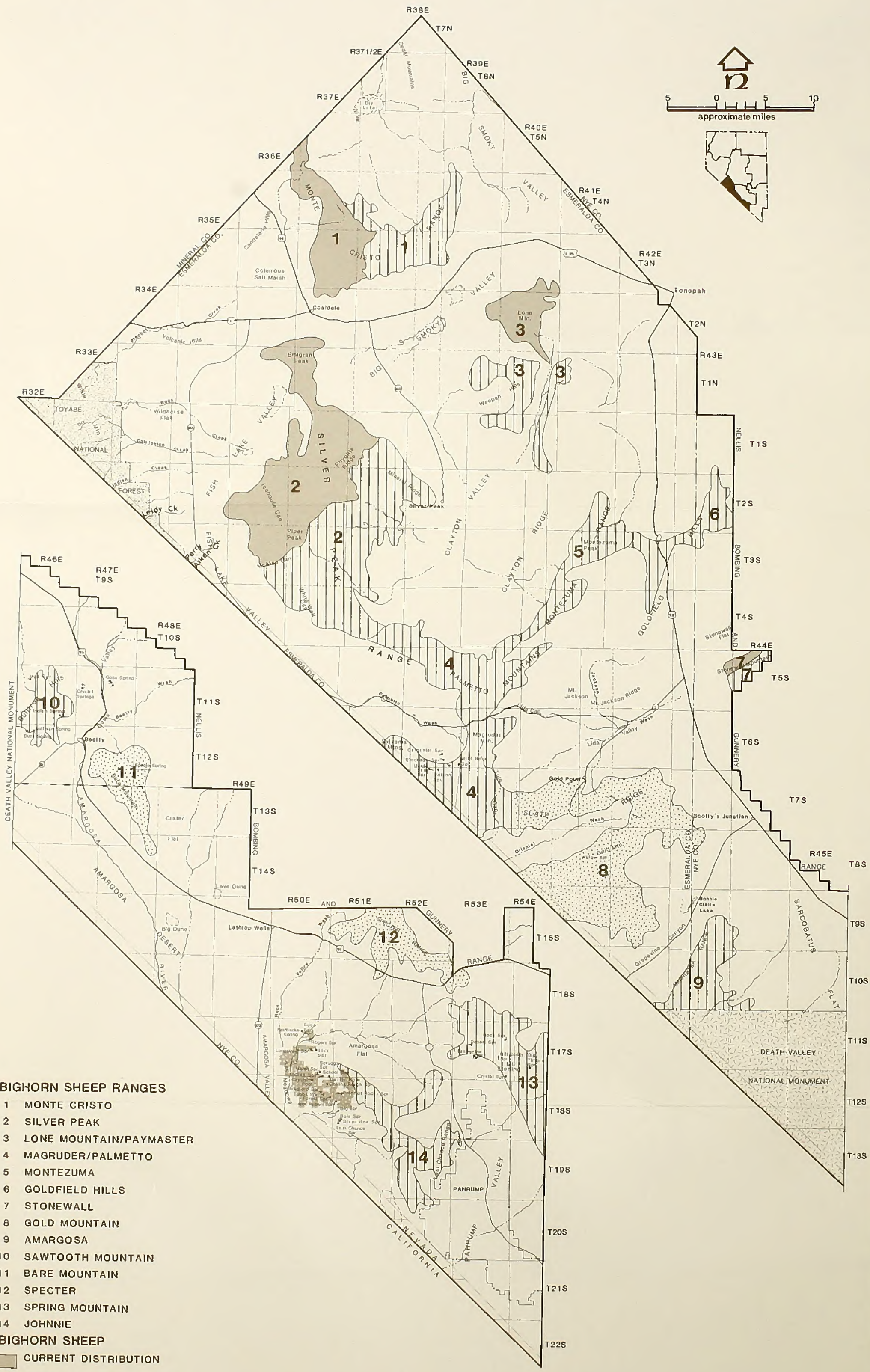
Forest products currently harvested from the public lands in the RMP area provided $8,549 to BLM in permit sales during fiscal year 1983. Total retail value of these products is estimated at $61,088.

Permit sales and the harvesting of forest products will not be significantly affected by any proposed management actions and will not be further considered in the analysis.

Wildlife and Recreation

The alternatives would affect wildlife populations in some portions of the RMP area. These population adjustments are expected as a result of alteration of habitat conditions, as well as changes in the amount of vegetation allocated to wildlife. Adjustments in wildlife population will influence the number of hunter days, thereby, impacting expenditures, income, and employment. However, wildlife associated recreation expenditures are considered to contribute less than 5 percent of local economy income and employment, and adjustments in wildlife population will not be of sufficient magnitude to have any significant impact.

While other recreational activities contribute to the area economy as well, these activities, are not expected to be significantly affected and will also not be considered in the impact analysis.



UNITED STATES DEPARTMENT OF THE INTERIOR
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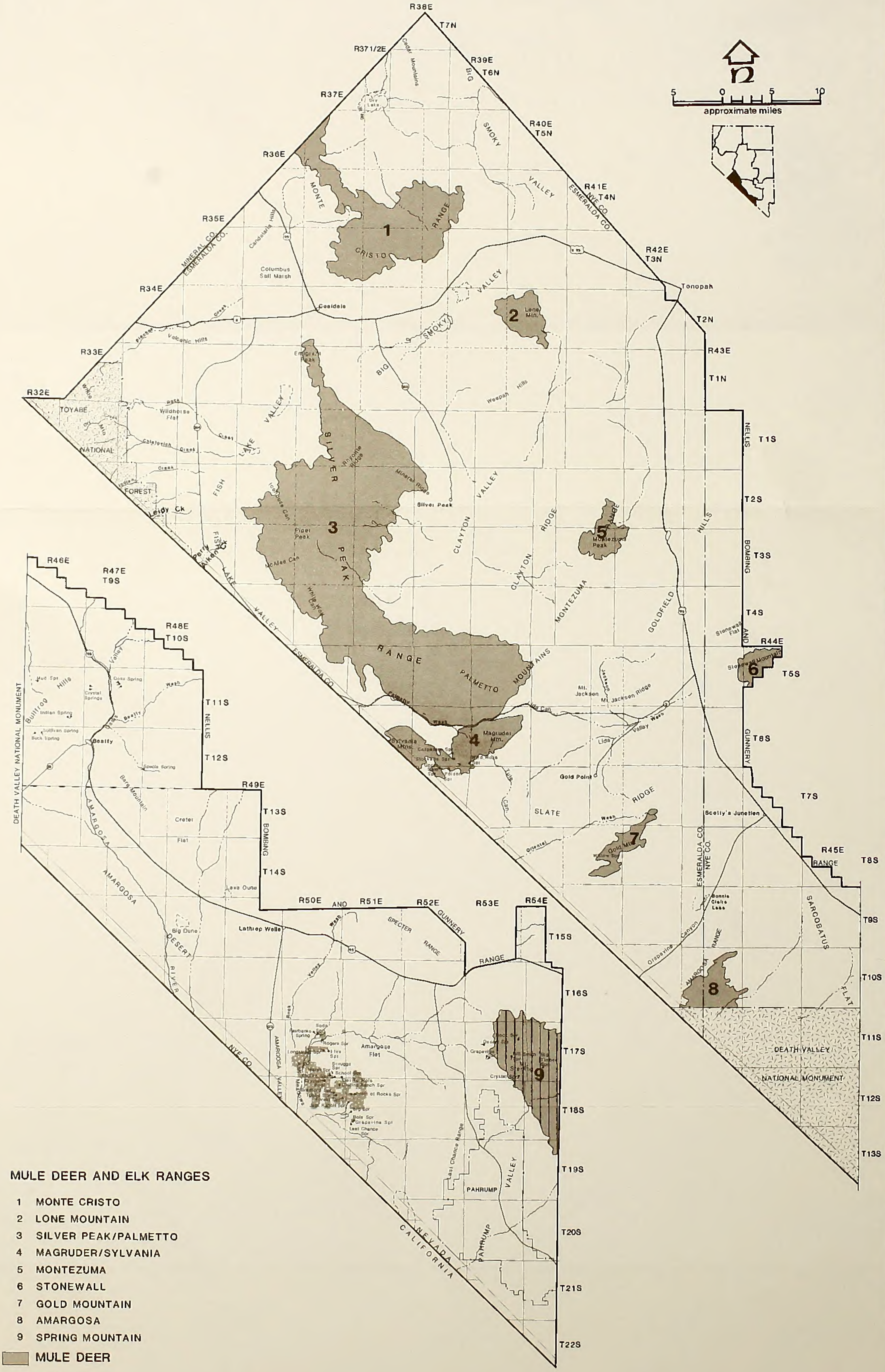
ESMERALDA PLANNING AREA
Resource Management Plan
and
Environmental Impact Statement

WILDLIFE HABITAT
BIGHORN SHEEP

1984



MULE DEER AND ELK RANGES

1 MONTE CRISTO
2 LONE MOUNTAIN
3 SILVER PEAK/PALMETTO
4 MAGRUDER/SYLVANIA
5 MONTEZUMA
6 STONEWALL
7 GOLD MOUNTAIN
8 AMARGOSA
9 SPRING MOUNTAIN

▨ MULE DEER

▥ ELK

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ESMERALDA PLANNING AREA
Resource Managment Plan
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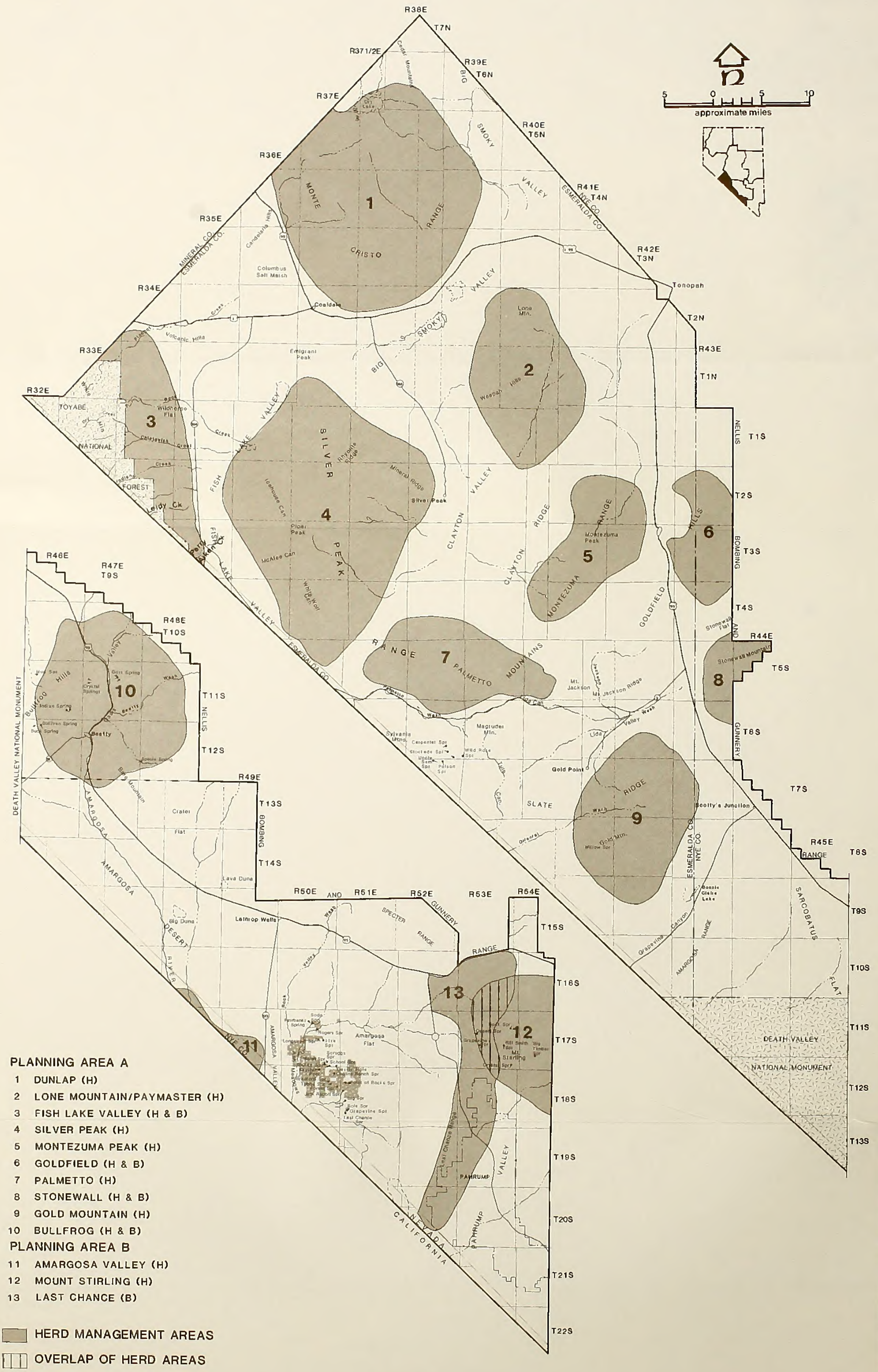
WILDLIFE HABITAT
MULE DEER AND ELK

1984



UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ESMERALDA PLANNING AREA
Resource Management Plan
and
Environmental Impact Statement

WILD HORSE AND BURRO HERD MANAGEMENT AREAS

1984

CHAPTER 4

Environmental Consequences

Chapter 4
ENVIRONMENTAL CONSEQUENCES

This section presents the scientific and analytic basis for comparison of the alternatives and selection of the resource management plan. As outlined in CFR 1502.2(b), the discussion of environmental consequences is in proportion to the significance of projected impacts.

Discussion of impacts is also limited by data availability. Knowledge of the area and professional judgment, based on observation and analysis of conditions and responses in similar areas, have been used to infer environmental impacts where data is limited. Data gaps are identified where applicable.

Numbers given are approximate projections. The reader should not infer that they reflect precise "down to the last acre" estimates.

The administrative action of designating utility corridors does not extend to the impacts of actual utility transmission line construction. The impacts from actual placement and construction of transmission lines will be addressed in future site-specific environmental analysis documents except where rights-of-way were granted before FLPMA.

Impacts to recreation and cultural resources will be discussed in general, rather than alternative specific, terms due to the lack of site-specific data. Impacts to forestry will also be discussed in general terms due to the lack of identified conflicts. Impacts to other resources will be alternative specific.

This chapter will also include the relationship between short-term use of man's environment and the maintenance and enhancement of long-term productivity and irreversible or irretrievable commitment of resources. Actions committing future generations to continue a similar course are considered irreversible. Irretrievable is defined as not replaceable. All adverse impacts identified are considered to be unavoidable.

ASSUMPTIONS FOR ANALYSIS

1. Funding and personnel will be sufficient to implement the selected resource management plan.

2. Short-term impacts are defined as those which occur within 5 years after implementation of the plan. Long term impacts are those which occur from 6 to 20 years.

3. Baseline data for vegetation condition and trend, and other parameters is the best available. While this data is not adequate by itself for making forage allocation decisions, it is adequate for planning and analysis purposes. Data was extrapolated when necessary to cover areas for which no data was available.

4. For analysis purposes, monitoring of livestock, wildlife and wild horses and burros would be a component of the Preferred Alternative only.

5. For analysis purposes, it was assumed that the entire pool of land identified for disposal in Alternatives A, B and C would be disposed of.

6. Impacts are direct unless otherwise noted as being indirect or cumulative.

Other assumptions used in the analysis for specific resources are outlined in impact analysis methodologies found in the appendices.

GENERAL IMPACTS

CULTURAL RESOURCES

Due to incomplete cultural resources data for the Esmeralda-So. Nye RMP Area, it is impossible to predict the exact numbers and types of cultural resource sites which would be impacted as a result of implementation of the proposed resource management plan.

Most potential adverse impacts to historic and prehistoric sites would be avoided through adherence to current procedures outlined in the "Management Common to All Alternatives" section of Chapter Two.

Aside from vandalism (surface collection of artifacts, defacement, or unauthorized excavation), considerable destruction may occur as a result of grazing (Roney, 1977). Trampling by cattle, wild horses, and big game, as well as disturbances resulting from range improvement projects, cause potentially significant impacts to cultural resources. Overgrazing and reduction of vegetation can result in accelerated erosion and deterioration of cultural resource sites.

The development of rangeland improvements where relocation is not possible could potentially directly impact cultural resources. But since these areas are site-specific, the completion of the required cultural resource surveys and data recovery or salvage prior to construction would result in quantitative and qualitative increases in cultural resource information necessary for both management and scientific needs. However, salvage operations may also adversely impact cultural resources by effectively destroying the site and removing it from future research considerations.

The disposal of up to 245,807 acres of public land may result in increased impacts to cultural resources. Though each disposal action would be analyzed and potential impacts would be mitigated on a case-by-case basis, irretrievable impacts to cultural resources may occur if excavation is necessary to salvage cultural resource information prior to disposal.

Limited funding for rangeland improvements and land disposal would adversely impact cultural resources by leading to under-funded "patchwork" salvage actions that would not adequately address the values present.

Cultural resources would generally benefit from wilderness designation because of the increased protection from surface-disturbing activities and vandalism. Some adverse impacts could be experienced as a result of increased costs and manpower for archaeological investigations, decisions not to allow research or stabilization projects. Overall, beneficial impacts to cultural resources through wilderness designation would outweigh potential adverse impacts. Cultural resources could be adversely impacted through development and unrestricted vehicle travel in areas not recommended for designation.

RECREATION

The short-term impacts on the major types of recreational use in the RMP area would be minimal. Over the

long-term, non-designation of WSAs would have an adverse impact on primitive and unconfined recreational activities (camping, hiking, etc.) due to conflicts with other resources. Big game hunting pressures, because they are controlled by the number of permits issued by the Nevada Department of Wildlife, would probably remain the same, if the present big game numbers are maintained. Non-designation would have a long term beneficial impact on ORV use. As mineral prospecting and activities opened new roads into the area, the ORV users would make use of these roads and trails. This increase may be slight, tied mainly to population increases and rate of mineral exploration.

Designation of the WSAs would, over the long-term, have a beneficial impact on the primitive recreational resource, as well as, protection for special recreation sites and unique geological features. Designation would also beneficially impact visual resources in that visual values in designated wilderness areas would be preserved, protected and managed according to VRM Class 1 objectives.

There would be no impacts resulting from ORV designations as outlined in Chapter 2 under the heading "Management Guidance Common to All Alternatives." Current identification and management of closed, limited and open areas are outlined in the Esmeralda and Stateline MFPs. During the development of this plan, their decisions were reviewed. No problems were identified with these decisions and, therefore, no change was made from current management.

FORESTRY

Impacts on forestry products would be minimal in both the short-and long-term and would result from either designation or nondesignation of various acreages as wilderness under the five alternatives.

Under the Preferred Alternative and Alternative A, harvest of 6,186 acres of pinyon and juniper would be precluded due to wilderness designation of a portion of the Silver Peak Range WSA. This comprises eight percent of the total woodlands in the RMP area.

Under the No Action Alternative, all woodlands in the RMP area would be open.

Under Alternative B, harvest of 23,502 acres of pinyon and juniper would be precluded due to wilderness designation in the Grapevine Mountains, Pigeon Spring and Silver Peak Range WSAs. This comprises 30 percent of the woodlands in the RMP area.

Under Alternative C, harvest of 28,575 acres of pinyon and juniper would be precluded due to wilderness designation in the Grapevine Mountains, Pigeon Spring and Silver Peak Range WSAs. This comprises 37 percent of the woodlands in the RMP area.

None of these impacts are considered significant due to the relatively low demand for forest-products in the RMP area and the availability of ample supplies outside of the WSAs. In addition, historically, most harvest activities take place outside of the WSAs due to their rugged terrain and remoteness from population centers.

PREFERRED ALTERNATIVE

WATER RESOURCES

There would be a slight improvement in water quantity and quality.

WATER QUANTITY

Water developments in six category I and three category M allotments would help to resolve water distribution problems in those allotments. Water availability would remain a problem in

most of the remaining allotments. Wildlife water projects in the Silver Peak Range, Monte Cristo Range and Bare Mountain HMP areas would improve wildlife habitat. Six spring development projects in four wild horse and burro management areas will provide increased quantity of water in those areas and may improve distribution.

WATER QUALITY

The State of Nevada and BLM have a Memorandum of Understanding (USDI, BLM and Nevada Division of Environmental Protection, 1980) agreeing that BLM resource management plans will incorporate "Best Management Practices" to eliminate or reduce water pollution from diffuse sources from the use, maintenance, or improvement of soil, water, and plant resources". Adherence to this policy would improve overall water quality.

In addition, improvements to water quality would be expected for the three streams and 12 springs protected under this alternative. Implementation of intensive management on six allotments would result in better livestock distribution and would improve the quality of water sources in those allotments.

VEGETATION

In the long-term, approximately one percent of the plant communities in the inventory area would advance toward their natural potential. Downward trend would be halted or reversed. Production of forage species would increase, providing 798 AUMs of new forage for both native and domestic grazing animals.

Within two I allotments, Magruder Mtn. and Montezuma, there would be an increase of 27,656 acres of vegetation (1% of the inventory area) in a late seral successional stage. There will also be a decrease of 32,534 acres (1% of the area) in the mid seral stage. Some 6,784 acres (less than 1% of the inventory area) in the late seral stage would reach their ecological potential. A slight increase (333 acres) of early seral plant communities would occur (see Table 4-1) (see Appendix F, for methodology for successional change). Forage condition on 1,270 acres of seeded range would improve from fair to good on the Magruder Mtn. Allotment.

In the remaining, four I allotments, Icehouse, Red Springs, Silverpeak, and Mt. Stirling, no change in succession is expected. Downward trend would be arrested or reversed. Livestock forage resource value rating on 1,140 acres of seeded range would improve from fair to good on the Mt. Stirling allotment.

In the five M allotments practically no change in condition is expected. Downward trend would be arrested or reversed.

In the eight C allotments no change in succession is expected. Downward trend would be stopped or reversed.

These beneficial impacts are due to; (a) the implementation of allotment management plans on the six I allotments, (b) the continuation of the grazing schedule on the Monte Cristo allotment (classified M), (c) the implementation of range improvements and developments on the six I allotments plus 3 M allotments, and (d) the necessary adjustments of livestock, and wild horses and burros identified through a range monitoring program on all I, M, and C allotments.

All these actions are to be completed within the short-term with the exception of adjustments from monitoring which would be ongoing through the long-term. The AMPs prescribed would allow rest for plants preferred as forage by livestock during the plant's growing season. These grazing plans would also promote proper utilization of forage plants as

TABLE 4-1
ESTIMATED VEGETATION STATUS OF ECOLOGICAL SITES AFTER 20 YEARS AFTER IMPLEMENTING THE PREFERRED ALTERNATIVE

Allotment	Total Acres	Vegetation Status: Non Productive Acres	Non Productive %	Early Seral Acres	Early Seral %	Mid Seral Acres	Mid Seral %	Late Seral Acres	Late Seral %	Natural Potential Acres	Natural Potential %	Other 1/ Acres	Other 1/ %
Planning Area A													
Emigrant Peak	17,382	1,954	11			2,365	14	13,063	75				
Icehouse	78,923	7,301	9			14,301	18	57,321	73				
Magruder Mtn	625,015	35,012	5	9,348	2	85,829	14	488,980	78	3,381	T	1	2,465
Monte Cristo	496,018	53,149	11			28,918	6	413,344	83	607	T		
Montezuma	538,297	29,791	5	691	T	138,687	30	369,004	65	124	T		
Razorback	72,880	1,454	2			10,901	14	60,525	84				
Red Spring	144,277	10,063	7	1,806	1	13,410	9	118,998	83				
Sheep Mtn	88,435	6,153	7			72	T	82,210	93				
Silver King	8,969	483	5					8,486	95				
Silver Peak	319,553	27,633	9	2,516	1	20,736	8	268,668	83				
Springdale 2	1,466	91	6			812	56	563	38				
White Sage	10,315	738	7	52	T	516	6	9,009	87				
White Wolf	21,567	1,172	5			3,891	18	16,504	77				
Yellow Hills	62,203	8,643	14			365	1	53,195	85				
Sub Total	2,485,300	183,637	7	14,413	T	320,803	13	1,959,870	79	4,112	T	2,465	T
Planning Area B													
Ash Meadows	120					120	100						
Carson Slough	13,842	415	3			5,591	40	4,403	32	3,433	25		
County Line Grapevine	6,720					5,920	88	800	12				
Rock Valley	6,844	448	7			2,737	40	2,737	40	3,659	53		
Mt. Sterling	153,262	17,324	11			28,547	21	106,251	67			1,140	1
Sub Total	180,788	18,187	10			42,915	23	115,113	64	3,433	2	1,140	1
Grand Total	2,666,088	201,824	8	14,413	T	363,718		2,074,983		7,545	T	3,605	T

1/ 2410 acres of seeded range with a poor livestock resource value rating

would the development of range improvements and the adjustments from monitoring.

The slight adverse impact of 333 acres declining to an early seral stage is the result of past overuse by both livestock and/or wild horses and burros. The downward trend would not be reversed by the proposed actions and, therefore, would further regress to this early state.

Increases in forage production resulting from the natural plant succession described would occur in two I allotments, Magruder and Montezuma. This increase amounts to 330 AUMs (see Appendix G for methodology for forage production changes).

Some 153 AUMs of forage would be added through the improved condition of 2,410 acres of existing crested wheatgrass seedings in the Magruder and Mt. Stirling allotments.

Areas proposed for seedings and watershed rehabilitation have moderate potential and are presently in an early or mid seral stage. These are in vegetative communities dominated by big sagebrush. The conversion of these communities to introduce grassland species would result in an increase of 315 AUMs. These conversions would occur in the Magruder Mtn. Allotment.

RIPARIAN VEGETATION

Some 75 acres of streamside riparian vegetation would improve in condition or remain in their present condition; 50 acres would remain in their present condition or decline. The vegetative succession of approximately 540 acres of meadows would approach its natural potential, while 5,470 acres would be maintained in their present status. About 350 acres of meadows would regress in successional status. About 35 acres of spring associated vegetation would improve, 115 acres are expected to remain in their current condition or decline and 25 acres would continue to be protected.

All impacts identified in this riparian section are expected in the long-term. Except where vegetation status changes are predicted; a decline in condition should be interpreted as a decrease of plant diversity, ground and/or canopy cover; any improvements in condition as an increase of plant diversity, ground cover and/or canopy cover (see Appendix I, Methodology for Determining Impact to Riparian Vegetation).

Some 55 acres of streamside riparian vegetation would improve or remain in their current condition due to construction of protective fencing. Approximately 50 acres would not be protected under this alternative. This streambank vegetation would be rested periodically from livestock grazing under a grazing treatment. This rest is not expected to offset the periodic intensified use when all livestock are concentrated into the pasture in which this riparian vegetation exists. The condition of this vegetation is expected to decline or remain unchanged. Twenty acres of streambank vegetation would not be affected by livestock or wild horses; therefore, their condition is not expected to change.

As described above, grazing pressure would increase periodically in some I allotments due to grazing systems. This impact would affect some unprotected wet and saline meadows in the same fashion as streamside vegetation. As a result, 20 acres of wet meadows in mid seral successional status would regress to early seral status, as would 320 acres of saline meadows. Another 58 acres of unprotected saline meadows in mid seral status and 56 acres of saline meadows in late seral status would remain unchanged in status but would decline to a downward trend. Within

other I allotments, however, the acreage of wet and saline meadow types is great enough to be targeted as key areas to be specifically managed. Therefore, these areas would benefit by grazing systems and monitoring. About 5,300 acres of saline meadows would be maintained in mid seral status as a result of these actions and the continuation of the grazing schedule in one M allotment.

In other M and C allotments, 10 acres of unprotected saline meadows would regress from mid seral status to early seral status; 25 acres in mid seral and 31 acres in late seral would remain unchanged but would decline from no apparent trend to a downward trend.

An estimated 5 acres of spring associated vegetation would improve as a result of constructing protective fences. Although 105 acres of spring associated vegetation would be periodically rested due to implementation of proposed AMPs, the consequential increase in use (discussed above in the paragraph related to streambank vegetation) would cause an expected decline in condition or no change in current condition. Another 10 acres are expected to remain in present condition or decline in M and C allotments.

In Ash Meadows, 30 acres of spring associated vegetation would improve, while 75 acres of wet meadow would progress from mid seral to late seral status. Six of the 30 acres and 12 of the 75 acres would be beneficially impacted from the closure of the Ash Meadows ephemeral allotment to livestock grazing. The remaining acres of improved spring associated vegetation and wet meadow along with 465 acres of saline meadows (progressing from mid to late seral status) would be the result of continuing existing management. No impacts to riparian vegetation from livestock grazing in the Carson Slough or the Grapevine-Rock Valley ephemeral allotments are perceived. This is unlike the Ash Meadows allotment, which, in spite of the standards used for ephemeral licensing (see "Management Guidance Common to All Alternatives" section) has a high probability for negative impacts from grazing and trampling. This is because 10 percent of the Ash Meadows allotment supports riparian vegetation compared to only 3 percent and .2 percent for Carson Slough and Grapevine-Rock Valley, respectively. Also, outflow from Jackrabbit Spring comprises the primary water source for livestock using the Ash Meadows allotment. This would further increase the probability that cattle will trample or consume the associated riparian vegetation along the outflow.

Twenty-five acres of spring and spring outflow associated vegetation are currently fenced in the Ash Meadows area and are not expected to change in condition.

All land disposal actions are discretionary and are preceded by a land report/environmental assessment. Any public lands identified as supporting riparian vegetation would not be disposed of.

SENSITIVE PLANTS

Seven hundred and forty acres of critical habitat of proposed endangered plant species would be protected from trampling and grazing.

The Ash Meadows area is extremely important due to the large concentration of sensitive species. The closure of the Ash Meadows allotment to cattle grazing would benefit sensitive plants and assure additional protection of these species from livestock grazing use. This allotment was closed to livestock grazing to protect the large acreage (60 acres) of critical habitat for the *Nitrophila mohavensis*, *Ivesia eremica* and *Centuarium namaphilum var.*

namaphilum that occurs in the allotment. Issuance of ephemeral cattle grazing permits in the Grapevine-Rock Valley and Carson Slough allotments would result in grazing and trampling of the plants. Section 7 consultation with the U.S. Fish and Wildlife Service must occur prior to issuing an ephemeral grazing permits on these two allotments.

To what extent sensitive species occupy lands proposed for disposal is not known. However, the land report/environmental assessment process would specifically address the impacts of the land disposal on all sensitive species.

WILDLIFE

Terrestrial wildlife habitat is expected to improve.

Due to the adverse impacts of present livestock and wild horse and/or burro grazing levels, wildlife habitat is expected to remain in its present condition or decline in the short term.

Through monitoring, activity plan implementation and management actions, wildlife habitat is expected to improve in the long term.

Wilderness designation of 17,850 acres of Silver Peak Range wilderness study area would benefit wildlife habitat. Wildlife habitat would be protected from road construction and possible mining activity. Reclusive species such as the bighorn sheep, mountain lion and spotted bat would benefit most from wilderness designation because of the reduction in human harrassment due to reduction in vehicular access.

Proposed utility corridors would adversely affect the habitats of mule deer.

Proposed utility corridors would adversely affect 23,339 acres of mule deer habitat and 8,901 acres of bighorn sheep habitat though not significantly. These corridors have existing rights-of-way and only trasverse edges of winter habitat.

The pool of land identifed for disposal contains aquatic and streambank habitat.

The pool of lands identified for disposal in this alternative contains crucial habitat for the Amargosa speckled dace and Amargosa toad along the Amargosa River between Beatty and Springdale. Disposal of land containing this habitat would be a significant adverse impact to the Amargosa speckled dace and Amargosa toad. However, all land disposal actions are discretionary and are preceded by a land report/environmental assessment. This process would identify any sensitive, threatened or endangered species habitat and provide for mitigation and/or avoidance of possible adverse impacts to the habitat.

Bighorn sheep numbers would increase in the Silver Peak, Monte Cristo, and Lone Mtn. Ranges. Numbers would remain static in the Stonewall Range. Reintroductions would be made in the Amargosa, Magruder/Palmetto, Montezuma, Goldfield and Sawtooth Ranges. Introductions would be made in the Bare Mtn. and Gold Mtn. Ranges.

No increase in bighorn sheep numbers are expected in the short-term due to competition with livestock and wild horses and/or burros for water, space, and forage. Through monitoring, implementation of activity plans and other management actions, bighorn sheep numbers are expected to increase in the long-term. In most ranges, reasonable numbers would not be achieved because of the lack of necessary funds needed for water development.

The Silver Peak Range would see an increase of 542 bighorn sheep and the Monte Cristo range 288 bighorn with

partial water development and reintroduction in the long term. The Stonewall population would remain static and the Lone Mtn. population would increase by 29 bighorn in the long-term. Bighorn would be introduced or reintroduced into the following ranges and are expected to increase to: 116 bighorn in the Bare Mtn. Range, 47 bighorn in the Amargosa Range, 200 bighorn in the Magruder/Palmetto Range, 40 bighorn in the Montezuma Range, 42 bighorn in the Goldfield Range, 60 bighorn in the Gold Mtn. and 14 bighorn in the Sawtooth Range, all without water development in the long-term.

Mule deer numbers would increase in the Amargosa, Gold Mtn., Lone Mtn., Magruder/Sylvania, Monte Cristo, Montezuma, Silver Peak/Palmetto, and Stonewall Ranges. Both mule deer and elk would increase in the Mt. Stirling portion of the Spring Mtn. Range.

No increase in mule deer numbers are expected in the short term due to competition with livestock and wildhorses and/or burros for water, space, and forage. Though diet overlap between wild horses/burros and mule deer is minimal in most Nevada deer ranges, diet similarities are believed to be greater in southern Nevada ranges because of the lack of preferred forage species. Through monitoring, implementation of activity plans and other management actions, mule deer are expected to increase in the long-term. In some ranges reasonable numbers would not be achieved because of the lack of necessary funds needed for water development.

The Silver Peak/Palmetto Range should see an increase of 270 mule deer and the Monte Cristo Range 28 deer with water development in the long-term. The following mule deer populations would increase respectively; Amargosa by 20 , Gold Mtn. by 36, Lone Mtn. by 52, Magruder/Sylvania by 180, Montezuma by 56 and Stonewall by 19 in the long-term. The Mt. Stirling area of the Spring Mtn. Range would show an increase of 94 deer and 19 elk in the long-term with water development.

Some 75 acres of streambank riparian habitat should improve in condition or remain in their present condition; and 50 acres would remain in their present condition or decline. An estimated 540 acres of meadow riparian habitat would improve in condition, 5,470 acres would be maintained in their present condition, and 350 acres would decline in condition. About 35 acres of spring riparian habitat would improve, 115 acres are expected to remain in current condition or decline and 25 acres would remain protected.

For the reasons why the different types of riparian habitat are changing or not changing in condition, see the "Riparian Vegetation" section of this alternative.

The loss or decline of the condition of any type of riparian habitat would adversely impact wildlife populations which depend on these habitats. Any loss or decline in these riparian habitats can result in the loss or decline of wildlife populations both in the short-and long-term. Conversely, improvement of riparian habitat would benefit wildlife populations which depend on these habitats, resulting in static or increased wildlife populations in the short-and long-term. Wildlife species most susceptible to change in riparian habitat condition include: fish, small non-game birds and mammals, amphibians, chukar partridge, quail, cottontail rabbit, raptors and predators.

Specifically, riparian habitats of the following proposed or listed endangered, threatened or sensitive species would be affected.

Some 3 acres of spring riparian habitat of the sensitive Amargosa toad and 50 acres of streambank riparian

habitat would be adversely impacted. The condition of one acre of spring riparian habitat at Indian Spring and two acres at Crystal Spring is expected to remain in the same or decline in condition. Approximately, 50 acres of streambank riparian habitat along the Amargosa River is expected to remain in the same or decline in condition. This same 50 acres of habitat along the Amargosa river is also essential to the sensitive Amargosa speckled dace.

Stream riparian habitat essential to the brook trout fishery and sage grouse would be beneficially impacted. The condition of 19 acres of stream riparian habitat along Leidy and 36 acres along Indian Creek are expected to remain in present condition or improve. This would benefit the brook trout fishery along both Leidy and Indian Creek and the sage grouse populations utilizing Indian Creek. The 20 acre brook trout fishery habitat along Perry Aiken Creek is expected to remain in present condition.

The following spring riparian habitats in Ash Meadows would be affected. Some 20 acres of endangered Warm Springs pupfish habitat would be beneficially impacted. Habitat conditions at N. Scruggs (7 acres), S. Scruggs (7 acres) and Marsh Springs (4 acres) would improve. Warm Springs pupfish habitat at School Springs (2 acres) would remain protected by fenced enclosure.

Some 29 acres of essential habitat of the endangered Ash Meadows Amargosa pupfish and Ash Meadows speckled dace would be beneficially impacted. Condition of six acres of unprotected spring riparian habitat supported by outflows of both Big Spring and Jackrabbit Spring would improve in condition. Habitat of both fish at Jackrabbit Spring (19 acres) and Big Spring (4 acres) would remain protected by fenced enclosure.

Fifteen acres of spring riparian habitat crucial to sensitive snails would be beneficially impacted. Habitat condition of the seven acres of minute slender tryonia habitat at S. Scruggs Spring and four acres of median gland Nevada spring snail habitat at Marsh Spring would improve in condition. Habitat of both the indeterminate Nevada spring snail and the sporting goods tryonia at Big Springs (4 acres) would remain protected by the fenced enclosure.

WILD HORSES AND BURROS

Wild horse and burro populations would be managed at current numbers within 13 designated herd management areas (HMAs).

Vegetative condition will be improved by the development of range, wildlife and wild horse and burro habitat improvement projects, as well as the implementation of more effective cattle grazing systems. The Silver Peak, Montezuma, Palmetto, Bullfrog, Gold Mountain, Stonewall and Goldfield HMAs would benefit the most from habitat improvements. Vegetative (forage) impacts are discussed further in the "Vegetative" section this alternative.

As vegetative condition improves and water availability and distribution improves, wild horse and burro physical condition would improve.

Existing rangeland monitoring studies, and newly established wild horse and burro, wildlife and range studies would be used to determine if management objectives are being reached, and when adjustments in herbivore use are necessary.

Proposed land sales in the Amargosa, Fish Lake Valley and Goldfield HMAs, may adversely impact horse and burro populations and could result in an additional conflict over use of private lands by horses and burros. These impacts would be mitigated to

some extent through the land report/environmental assessment process.

To maintain the current population levels within each HMA periodic removals may be necessary. As much as two percent injury or death loss of the animals captured may occur. These periodic removals are not expected to impact any specific traits found in these populations. These maintenance reductions, if necessary, would occur in site specific areas to improve horse and burro habitat and reduce potential conflicts. The Amargosa and Goldfield HMAs were modified slightly due to documented manageability problems within the herd areas.

LIVESTOCK GRAZING

Livestock use is projected to be 46,256 AUMs in the long term (an increase of 0.5% over current use).

Initially, livestock use would be authorized at the present 3-5 year average use for all allotments except Emimgrant Peak which would be initially grazed at preference. This allotment has not been used in five years. The total initial use level is 46,385 AUMs.

Class of livestock would be changed on the Emigrant Peak allotment from historical domestic sheep use to cattle use only. This would eliminate the chance for transfer of disease to native bighorn sheep which use the allotment in the spring and winter.

No changes in seasons of use other than what may be prescribed in the AMPs for the 6 I allotments are planned. This may be changed if monitoring shows a need, however.

Cursory plans for AMPs have been developed for analysis purposes. Some of the improvements have been identified by the range operator; some by the BLM (see also Appendix K). The final AMPs for these six I allotments would be developed through consultation and coordination with the permittes and other interest groups at the onset of plan implementation. Through this process these proposals may be modified.

Silverpeak/Icehouse - Three pasture grazing treatment with the two allotments as one grazing unit. Minimal interior fences using natural barriers. Develop water sources.

Magruder Mtn. - Vegetative treatments to halt watershed deterioration and provide more summer range. No interior fencing. Use to be controlled by manipulation of water sources (wells and pipelines). Develop water sources.

Red Springs - No interior fencing. Use to be controlled by manipulation of water sources. Develop water sources.

Montezuma - Three pasture grazing treatment. Minimal interior fencing taking advantage of existing highway and boundary fences. Develop water sources.

Mt. Stirling - No interior fencing. Strict dates on use of seeding.

Other management actions of this alternative include the continuation of the grazing schedule outlined in the Monte Cristo Stewardship Program and the development of water sources for the White Wolf and Razorback allotments to improve livestock distribution. Permittees would be required to maintain structural improvements. The implementation of AMPs on the Silverpeak, Icehouse, and Montezuma allotments would require the permittees to move all their livestock at least once a year. This requires increased labor costs due to the substantial job of gathering cattle dispersed over very large acreages.

These management actions would impact the range as described in the "Vegetation" section of this alternative. The improved seral status of ecological sites would result in increased forage production (see "Vegetation" section of Chapter 3). This increased production plus forage made available through new seedings would amount to an increase of 797 AUMs (Appendix G, Table G-4) in the long term. This forage increase is that portion of the total identified in the "Vegetation" section of this alternative which is available to livestock.

Approximately 43,191 acres of land (926 AUMs) would be lost in 8 allotments in the long-term through land disposal. The increases in available forage due to range management actions are more than offset by these losses from disposal. This would amount to a 0 .3 percent reduction in the initial livestock stocking rate for this alternative. However, a net increase of 0.5 percent over current use would occur as a result of stocking the Emigrant Peak allotment, currently unused, at preference.

The Ash Meadows ephemeral allotment would be closed to protect proposed endangered plant species and endangered fish habitat. There is no current leaseholder on this allotment. No preference would be affected.

No loss of forage is expected from the protection of riparian areas (see "Vegetation" impacts.)

Adjustments to the initial stocking rate due to new seedings would occur two years following the conversion. Adjustments due to land disposals and changes in native range forage production would occur in the long-term, the full impact being felt in 20 years.

LAND TENURE AND UTILITY CORRIDORS

LAND TENURE

Urban-suburban expansion would be accommodated and management of public lands would be enhanced.

The transition from Federal ownership of 94,949 acres of land would result in a 50 percent increase in the amount of private land in the RMP area and would be a beneficial impact. This would satisfy all future community urban-suburban expansion needs. If surplus ground water were to become available, agricultural development needs would also benefit. Included in the acreage are 5,240 acres that have been identified for disposal in the Lathrop Wells area to accommodate development of an industrial park. The need for this industrial park was identified by Nye County officials and would service a potential nuclear repository located on the Nevada Test Site.

Management of the lands resource, both public and private, would be enhanced by disposing of Federal land now intermingled with private lands.

Designation of 387 miles of planning and utility corridors will encompass approximately 54,000 acres of land identified for disposal in this alternative. This would not be significant since corridors range in width from three to five miles and provide adequate flexibility to route future transmission facilities around parcels identified for potential disposal.

UTILITY CORRIDORS

Utility companies would benefit from long-range planning for major facilities.

Designating 357 miles of utility corridors and identifying 30 miles of planning corridors would satisfy all identified needs of the utility

companies for the life of the plan. Designating these corridors would help utility companies plan for future rights-of-way and would expedite the approval process. Corridor planning would be consistant with land use planning for areas adjacent to the RMP area.

Land disposals in this alternative would not affect designation but may make construction planning within the corridors more difficult and costly. However, corridors would have a width of three to five miles and should provide adequate flexibility for location of rights-of-way.

ENERGY AND MINERALS

Energy and mineral exploration and development would be precluded or constrained on 17,850 acres within the Silver Peak Range WSA. There would be no impact to mineral and energy resources in the Pigeon Spring, Grapevine Mtns. Queer Mtn. and Resting Spring Range WSAs.

Valid claims made prior to designation could be developed, but no additional calims could be made after designation.

Approximately 13,830 acres of land identified as having a moderate potential and 60 acres of land identified as having high potential for metallic minerals would be withdrawn. Loss of access to this potential mineral would be an adverse impact.

The entire area has a moderate potential for geothermal resources. Loss of access to this potential is not significant due to the lack of geothermal development and/or leasing in the area.

WILDERNESS

Wilderness designation would protect wilderness values on 17,850 acres in one of the five wilderness study areas (WSAs).

The natural character of the designated portion of the Silver Peak Range WSA and the outstanding opportunities for solitude and primitive and unconfined recreation found in this WSA would be preserved.

Designation of this WSA would expand the ecosystem and geographic diversity of the NWPS. It would not significantly expand the opportunities for wilderness experiences available to residents of the metropolitan areas within a day's drive.

Wilderness values would not be protected on 171,825 acres. This includes all of the Grapevine Mtns., Pigeon Spring, Queer Mtn. and Resting Spring Range WSAs and 17,234 acres of the Silver Peak Range WSA. Wilderness values would be lost in the undesignated WSAs as surface disturbing activities including mining, road building and vehicle use would reduce their natural character and their outstanding opportunities for solitude and/or primitive recreation.

GRAPEVINE MOUNTAINS

Under this alternative none of the 66,800 acres of the Grapevine Mtns. WSA would be recommended as suitable.

Effect of Management Prescriptions

Mineral and energy prospecting and development would be allowed to occur. This would result in road building which would facilitate vehicle related recreation and woodcutting. This area includes about 19,420 acres with moderate metallic mineral potential in the southern one-of the mountainous area. Most of the surface disturbance will occur in this area. This will facilitate the removal of wood products from 5,000 acres of pinyon-juniper woodland on the south end of the range. Minimal mineral development is expected on the bajadas and northern portion of the range due to low mineral potential.

Gravel removal would continue on the bajadas.

Impacts Resulting from Affected Activities

Surface disturbing activities including mining, road building, vehicle use and gravel pits would have a negative impact on the wilderness values of the WSA.

Mineral prospecting is most likely to occur in the most rugged portion which has the highest wilderness values. The mountainous portion is all natural, unaffected by outside sights and sounds, and has outstanding opportunities for solitude based on a combination of size, topographic screening and some vegetative screening in the pinyon-juniper portion. The WSA has good, but less than outstanding, opportunities for primitive recreation. Values would be lost in the southern part of the range including the colorful canyons and peaks in the Helmet Mtn. area.

The northern part of the range will be less affected due to its low mineral value. Some of it would remain natural. However, since it is so narrow and would be surrounded by other areas of activity, outstanding opportunities for solitude would be lost.

Wilderness values would also be lost on the bajadas due to gravel pits and recreational vehicle use. The portion of the bajadas within one mile of the northeast and northwest boundaries is not natural now due to the effects of Highway 72, the northeast boundary road and powerlines. The remainder is natural except for three short ways and three short sections of cat work. This portion has some opportunities for solitude and primitive recreation but these are less than outstanding.

PIGEON SPRING

Under this alternative none of the 3,575 acres of the Pigeon Spring WSA would be designated as wilderness.

Effect of Management Prescriptions on Activities

Mineral and energy prospecting and development would be allowed to occur. This would result in road building which would facilitate vehicle related recreation and woodcutting. These activities would occur in all parts of the WSA because it all has a high potential for metallic minerals.

Impacts Resulting from Affected Activities

Surface disturbance, including road building, vehicle use and woodcutting, would cause a loss of the minimal wilderness values presently found in the WSA. Loss of wilderness values would not be significant because the values at risk do not meet the minimum wilderness criteria. This WSA was selcted because it is contiguous to a California Desert Conservation Area (CDCA) WSA and is predominantly natural. The area within one mile of the south and east boundaries is not natural due to the effects of five ways and mining activities in conjunction with one cherrystem. The remainder of the WSA is natural and this quality will be lost to development. The WSA does not offer outstanding opportunities for solitude or primitive recreation except when considered in conjunction with the adjacent CDCA WSA. The best opportunities the WSA offers are in the steep-walled canyon and on the main ridge. These areas will be impacted by mineral development.

QUEER MOUNTAIN

Under this alternative none of the 81,550 acres would be designated as wilderness.

Effect of Management Prescriptions on Activities

Mineral and energy prospecting and development would be allowed to occur. This would result in road building which would facilitate vehicle related recreation. About 34,000 acres in the northern portion and the eastern corner of the WSA have a moderate metallic potential. Most of the surface disturbance would be concentrated in these areas. Gravel would be removed on the bajada adjacent to Highway 72.

Impacts Resulting from Affected Activities

Surface disturbance, including road building and vehicle use, would cause a loss of naturalness and outstanding opportunities for solitude in the WSA. With two exceptions, the WSA is natural. The area within one mile of Highway 72 is not natural because of four ways within the WSA and the outside sights and sounds of the highway and bordering powerlines. The north and northwest slopes of Gold Mtn. are not natural because of five ways connecting areas of mineral assessment. The WSA has outstanding opportunities for solitude because of its large size, blocky configuration and topographic screening in the mountainous portion. Primitive recreation opportunities are available but less than outstanding. These wilderness values will be lost on the northern and eastern ends of the WSA. Some natural areas with limited opportunities for solitude will remain in the central mountainous portion.

RESTING SPRING RANGE

Under this alternative none of the 3,850 acres of the WSA would be designated.

Effect of Management Prescriptions on Activities

Mineral and energy exploration and development would be allowed but would be minimal due to the low mineral potential of the WSA. Recreational vehicle use will increase as adjacent Pahrump grows.

Impacts Resulting from Activities

Off-road vehicle use in the large, driveable washes that penetrate all parts of the WSA will cause a loss of the WSA's minimal wilderness values. Loss of wilderness values will not be significant because the values at risk do not meet the minimum wilderness criteria. This WSA was selected because it is contiguous to a CDCA WSA and is natural. ORV use will destroy naturalness by introducing signs of human activity. The WSA does not have outstanding opportunities for solitude or primitive recreation except when considered in conjunction with the adjacent CDCA WSA. Opportunities for solitude are less than outstanding because it is too small, has a narrow shape, is bisected by a road and lacks topographic and vegetative screening.

The WSA also lacks outstanding opportunities for primitive recreation because it is too small, too narrow, and lacks diversity and scenic attactions.

SILVER PEAK RANGE

Under this alternative 17,850 acres would be recommended as suitable including 1,184 acres that were not part of the original WSA. This added area is in the northwest corner of the WSA including the lower end of Icehouse Canyon. The boundary of the suitable area follows topographic lines and encompasses Piper Peak and all of Icehouse Canyon. The 13,234 acres that are recommended nonsuitable under this alternative are mainly in the southwestern part of the WSA including all of Piper Canyon. Additional acres were deleted along the southern, eastern and northeastern edges of the WSA including Blind Spring. A habitat management plan for

bighorn sheep in the Silver Peak Range will be implemented.

Effect of Management Prescriptions on Activities

Designated Area

Mineral and energy exploration and development would be excluded from the designated portion of the WSA except on 162 acres of existing claims should they prove valid and any other valid claims staked before designation. Road building and other forms of surface disturbance would also be excluded in this portion. Without roads, vehicle related recreation would be precluded due to the precipitous terrain.

Undesignated Area

Mineral and energy prospecting and development would be allowed to occur. This would result in road building which would facilitate vehicle related recreation and woodcutting. The deleted portions include 11,120 acres of moderate metallic potential and 1,410 acres of high metallic potential. Surface disturbance would be concentrated in these areas, particularly in the high potential area which includes everything east of the Mud Springs-Blind Spring line. Minimal mineral development would occur on the southeast face of Piper Peak due to its low mineral value.

Impacts Resulting from Affected Activities

Designated Area

Since surface disturbing activities including vehicle use are precluded, naturalnesss would be maintained. The designated portion is remarkably pristine containing only one human improvement, a solar-powered repeater which can be removed. Prohibitions on development and vehicle use would maintain outstanding opportunities for solitude in most parts of the designated area. The outstanding topographic and vegetative screening in Icehouse Canyon and the north slope of Piper Peak provide seclusion. Since the designated area is only one half the size of the original WSA it cannot provide as many secluded spots. Also, the designated portion of the bald summit ridge including Piper Peak is so narrow that opportunities for solitude would be adversely impacted by outside sights and sounds as mineral development increases on the undesignated lower slopes. Outside sights and sounds are insignificant in the remainder of the designated portion.

Outstanding opportunities for primitive recreation would be maintained in the designated portion. Dayhiking is outstanding because of the varied topography, attractive rock formations, diverse plant communities, water, wildlife, outstanding views and variety of destinations. Most of the key features in the WSA are within the designated portion. Backpacking would become less than an outstanding opportunity because of the reduced acreage. Other forms of primitive recreation are high quality but less than outstanding. Bighorn sheep, a special feature in wilderness, would increase due to implementation of a management plan. The increase in bighorns will increase hunting and viewing, resulting in an increase in primitive recreation opportunities.

The portion added to the original WSA would increase wilderness benefits by adding wilderness values and by creating a manageable boundary. All of the added area is natural and contributes to outstanding opportunities for solitude due to its rugged topography. These acres also contribute to recreation opportunities by protecting the lower end of Icehouse Canyon which would be part of most trips into the designated portion. The added area contains a spring and riparian area, bighorn

habitat and colorful and rugged cliffs which all add to the value of recreation experiences.

The boundary of the designated area could be located on the ground and consequently would be manageable.

Undesignated Area

Surface disturbance including road building, vehicle use, and woodcutting would cause a loss of naturalness and outstanding opportunities for solitude and primitive recreation on the 17,234 undesignated acres. The Mud Springs-Blind Spring area of high mineral values would be most impacted. This area has high wilderness values. It is natural; the only human improvement is an abandoned spring trough. The dense forest cover near the springs and the rugged topography along Mud Springs Wash provide outstanding opportunities for solitude. This area is too small to possess outstanding opportunities for primitive recreation on its own. However, it contributed to the overall rating of the WSA because of its water, forest cover, colorful cliffs along Mud Springs Wash and excellent opportunities to see or hunt for bighorn sheep.

High quality wilderness values would also be lost in Piper Canyon. It is natural and has outstanding opportunities for solitude due to its rugged topography. The colorful, volcanic badlands of Piper Canyon offer numerous destinations for hikers and an alternative route to Piper Peak.

SOCIAL VALUES

For the ranching community, the cumulative effect of maintaining the status quo, adding monitoring as an additional management tool to provide data on which to base future adjustments in grazing and to determine future range improvement projects, and adding $500,000 for range improvement projects would probably be considered a beneficial albeit an unquantifiable impact by many local residents, especially those who are actively involved in ranching within the RMP area. Although these impacts are perceptual, they can and probably would have a positive effect on how those individuals view themselves, their community, and their quality of life. However, maintaining the status quo over the long term, particularly in regards to managing wild horses and burros at current levels, would probably sustain, if not intensify the controversy that has existed and continues to exist between livestock and wild horse and burro interest groups. This would be particularly so if monitoring data were to indicate a downward trend in range conditions.

Managing big game habitat with the goal of achieving reasonable numbers would, in the long-term, increase the number of hunter days. From both an economic as well as a sporting point of view, this would be a beneficial impact, especially for hunters as well as those non-hunters who receive aesthetic enjoyment from the knowledge that provisions are being made to both protect and enhance wildlife numbers.

Identifying a pool of approximately 95,000 acres of public lands that would be made available for community expansion, for blocking up land patterns and for commercial or agricultural development in Fish Lake and Amargosa Valleys would probably be viewed positively by many, if not most, of the local residents since the majority of these lands have been made available in response to various governmental, private sector or individuals providing input into the BLM planning process. However, there would be some apprehension among a lesser number of area residents about the ultimate disposal of such a large amount of public land. It could be expected that there may be a significant political response to any attempt by BLM to dispose of public

lands on which grazing privileges are currently held unless: (a) grazing use is assured for at least two years from the date of permittee/lessee notification of sale; or (b) for leases or permits with more than two years of grazing use remaining, a condition of sale must providing for continued grazing until the lease or permit would have terminated; and/or (c) the permittee/lessee agreement to a waiver; and/or (d) the sale will not adversely affect the permittee/lessee's grazing preference.

Providing approximately 357 miles of designated corridors and 30 miles of planning corridors would be considered a beneficial impact, perhaps significantly so, by the utilities sector since this element of the preferred alternative responds to all currently identified planning needs of that sector.

Recommending 17,850 acres of the Silver Peak Range WSA area as suitable for wilderness designation would be a beneficial impact, perhaps significantly so, as far as preserving that amount of the area's high quality wilderness resources is concerned. The loss of 172,959 acres, approximately 91 percent of the total WSA acreage in the RMP area, as a result of those acres being recommended as nonsuitable for wilderness designation may be, in the long term, a significant adverse impact on those resources. Over a prolonged period of time, wilderness characteristics and values may be irretrievably lost as a direct consequence of those acres not being recommended as suitable. In view of the large percentage of WSA acreage being recommended as nonsuitable, it could be expected that implementation of the wilderness recommendations in this alternative would further strain the relations between the Bureau and those individuals and interest groups who advocate wilderness preservation and especially those who have actively endorsed wilderness designation for one or more of the five WSAs in the RMP area.

Of the 17,850 acres of the Silver Peak Range recommended as suitable, 13,380 acres are classified as moderately favorable for metallic minerals and 60 acres are classified as highly favorable for metallic minerals. Inclusion of those acres of favorable metallic mineral potential within the area recommended as suitable for wilderness designation could, for the minerals industry as well as the adjacent communities, represent an opportunity foregone. This would be an adverse impact, perhaps significantly so. Due to the paucity of site specific data, it is impossible to quantify at this point in time.

Mining based industries and their related interest groups would be expected to endorse the recommendation that 172,959 acres of the RMP area's WSAs are nonsuitable for wilderness designation. This would perceptually at least, be considered a significant beneficial impact by the mining sector. The implementation of this alternative would probably sustain if not heighten the level of conflict that has and continues to exist between wilderness and mining advocates, as they both assert that the public interest requires decisions more favorable to their respective constituencies at the local, regional and national levels.

ECONOMIC CONDITIONS

WILDERNESS

No significant impact to the area economy would occur as a result of wilderness designation.

Economic interest in the wilderness study areas derives from their use for grazing, recreation, forest products, mineral production, and tax revenues. Analysis of these productive uses of the potential wilderness resource

indicates that no significant alteration of the area economy would be expected to occur due to formal wilderness designations. While there would be some minor trade-offs in income and employment impacts, with particular activities such as recreation being enhanced and mineral extraction being discouraged, the basic structure of the economy will remain intact, with no significant impacts, either beneficial or adverse.

LAND DISPOSALS

This alternative identifies a total of 94,949 acres for possible transfer to private ownership. While it is unlikely that the total identified acreage would be successfully transferred within the 20-year period, changes within the land ownership pattern that might occur would significantly alter the tax base of Esmeralda County. Effects upon the tax base for Nye County would not be significant.

Based on estimated fair market value applied to potential highest and best use, and assuming that land values would not be affected by the disposal of all or a portion of this acreage, these lands are valued at $45.4 million. The sale of the total acreage available would add $7.5 million, or 32.3 percent, to the total assessed valuation (23.4 million) of Esmeralda County, and $8.3 million, or 3.3 percent, to the total assessed valuation ($252.2 million) of Nye County.

Local governments could suffer adverse financial effects from the transfer of these lands to private ownership, should the tax revenues fall short of the cost of providing public services. The provision of these services to new areas is likely to require greater capital outlay, and to be less cost efficient, than those contained within existing communities.

CORRIDORS

Because the procedures for right-of-way approval are simplified within designated corridors, the establishment of corridors in this alternative would result in some reduction of right-of-way planning costs to utility companies. On the other hand, since flexibility in future right-of-way location is limited within designated corridors it is possible that transmission lines could be longer. This might result in more frequent power losses and greater operating costs. In addition, utility system reliability might be affected because designated corridors provide limited opportunity for the separation of transmission lines.

Minor reductions in the value of private lands along future transmission lines could occur. Because transmission lines affect the scenic tranquility of adjacent lands, they are perceived as reducing the value of these lands. Such effects upon land values would likely be limited to the short-term, as there is no clear evidence that long-term land values are affected by transmission lines (Holberger, et al, 1975).

LIVESTOCK GRAZING

No significant impact will occur either to the livestock industry or to the local economy as a result of the implementation of this alternative. The initial authorization of an additional 372 AUMs on the Emigrant Peak allotment will increase total gross income for ranch operations in the RMP area by approximately $6,600 in the short-term. Net ranch income is estimated to grow by $1,580; with effects on the regional economy amounting to less than 1 additional job (approximately 700 hours of additional labor requirements) and a total area economy income increase of about $3,000.

Over the long-term, carrying capacity is expected to increase by an additional 797 AUMs. However up to 926 AUMs may be lost on lands identified for potential disposal, resulting in a decline of 129 AUMs from initial licensing levels. This would serve to reduce the short term gains in income by a very modest amount.

The 926 AUMs that may be lost to grazing are estimated to provide 416,500 in gross ranch income; $3,900 in net ranch income, and $7,500 in income within the regional economy on an annual basis.

Long-term forage availability at a level of 46,256 AUMs represents a net gain of 243 AUMs over current 3 to 5 year average existing use. With this small increase, ranch operation conditions and trends may be expected to continue as at present, with no change in the methods of ranching. Capitol value of area ranches, based on forage availability on the public range, should increase by approximately $12,000.

NO ACTION ALTERNATIVE

WATER RESOURCES

Water consumption by livestock, wildlife and wild horses and burros would remain essentially the same and thus would not affect water quantity. Water distribution would remain a problem, except in the Magruder Mountain, Ash Meadows and Carson Slough allotments.

Overall water quality would remain static or slightly improve through adherence to the 1980 Memorandum of Understanding betweeen the BLM and State of Nevada.

Vegetation

In the long term, approximately 7 percent of the plant communities in the inventory area would regress to an earlier seral stage. Generally, ecological trend would continue to be downward. Production of forage species would decrease, reducing the available forage for all grazing animals by 1,653 AUMs.

Within five of the 6 I allotments, there would be an increase of 28,687 acres of plant communities (1% of the survey area) in an early seral successional stage and 52,001 acres (2% of the area) in a mid seral stage. There would be a decrease of 76,679 acres (3% of the survey area) of vegetation in a late seral stage (see Table 4-2) (see Appendix F for methodology for succession changes). Ecological trend on these allotments would continue to be downward. Some 2,410 acres of range seedings would decline from a fair to a poor livestock forage value rating; 1,270 acres of seeding in the Magruder Mtn. allotment and 1,140 acres of seeded range in the Mt. Stirling allotment.

One allotment, Monte Cristo, is currently considered as an M allotment as it is used as one pasture in a three pasture rest rotation grazing system with two adjacent allotments outside this RMP area. For this no action analysis, impacts were analyzed as if the allotment was no longer part of this system. Rather, livestock use would be yearlong. This would result in an increase of 20,464 acres of vegetation (1% of the area) in an early seral stage, an increase of 62,753 acres (2% of the area) in mid seral status and a loss of 83,217 acres (3% of the area) from a late seral stage. Trend would also continue to be downward on this allotment.

These adverse impacts would result from the continued use of preferred forage species during the plant's growing season each year and continued over-utilization by livestock and/or wild horses/burros (see Appendix C, for a description overutilization problems). Also, water developments

TABLE 4-2

ESTIMATED VEGETATION STATUS OF ECOLOGICAL SITES AFTER 20 YEARS OF NO ACTION

Allotment	Total Acres	Vegetation Status: Non Productive Acres	Non Productive %	Early Seral Acres	Early Seral %	Mid Seral Acres	Mid Seral %	Late Seral Acres	Late Seral %	Natural Potential Acres	Natural Potential %	Other 1/ Acres	Other 1/ %
Planning Area A													
Emigrant Peak	17,382	1,954	11			771	4	12,185	71	2,472	14		
Icehouse	78,923	7,301	9	10,200	13	10,292	13	51,130	65				
Magruder Mtn	625,015	35,012	5	10,473	2	104,279	17	473,949	76	32	T	1270	T
Monte Cristo	496,018	53,149	11	20,464	4	91,671	18	330,127	67	607	T		
Montezuma	538,297	29,791	5	210	T	153,715	30	354,458	65	123	T		
Razorback	72,880	1,454	2	638	T	10,263	14	60,525	84				
Red Spring	144,277	10,063	7	6,479	4	25,455	18	102,280	71				
Sheep Mtn	88,435	6,153	7	52	T	5,021	6	77,209	87				
Silver King	8,969	483	5					8,486	95				
Silver Peak	319,553	27,633	9	15,353	5	59,748	19	216,819	67				
Springdale 2	1,466	91	6			812	56	563	38				
White Sage	10,315	738	7	234	2	455	4	8,888	87				
White Wolf	21,567	1,172	5	2,755	13	4,678	22	12,962	60				
Yellow Hills	62,203	8,643	14	219	T	1,821	3	51,520	83				
Sub Total	2,485,300	183,637	7	67,077	3	468,981	19	1,761,101	71	3,234	T	1,270	T
Planning Area B													
Ash Meadows	120					120	100	0	-				
Carson Slough	13,842	415	3	1,137	8	4,454	32	4,403	32	3,433	25		
County Line Grapevine	6,720					5,920	88	800	12				
Rock Valley	6,844	448	7			2,737	40	3,659	53				
Mt. Sterling	153,262	17,324	11			34,945	23	99,853	65			1,140	1
Sub Total	180,788	18,187	10	1,137	8	48,176	27	108,715	60	3,433	2	1,140	1
Grand Total	2,666,088	201,824	8	68,214	3	517,157	19	1,869,816	70	6,667	T	2,410	T

1/ 2410 acres of seeded range with a poor livestock resource value rating

installed at the lessee's expense or through county range improvement funds would not be sufficient to improve poor livestock and wild horse and burro distribution on the six I allotments and two M allotments. The lack of management would result in a decrease in the vigor of preferred forage plants resulting in a decrease of these species in the plant communities.

In the remaining four M allotments, there would be an increase of 3,679 acres (1% of the area) of early seral stage vegetation communities and 6,487 acres (10% of area) of mid seral communities. A loss of 8,664 acres of late seral communities is expected.

Of the four perennial C allotments, Emigrant Peak would have a 1,564 acre decrease in communities in a mid seral stage and 2,472 acres of vegetation would reach their natural potential. These beneficial impacts would be due to the continued lack of livestock grazing on this allotment. In the remaining three perennial C allotments, a 219 acre increase in early seral plant communities is expected along with a 1,456 acre increase in mid seral communities, and a 1,675 acre decrease in late seral communities.

As a result of the above changes in succession in both native and seeded communities, 1,653 AUMs of forage would be lost in the long term (see Appendix G for methodology for forage production changes).

RIPARIAN VEGETATION

No riparian vegetation would be impacted by land disposal. About 125 acres of streambank riparian vegetation would remain at its present condition or decline. Approximately 698 acres of meadow would remain in its present successional status while 5,662 acres would regress to an earlier seral stage. Approximately 126 acres of spring associated vegetation would remain the same or decline in condition. Twenty-four acres would improve and 25 acres would remain protected.

All impacts identified in this riparian section are expected in the long- term. Except where changes in vegetation status are predicted, a decline in condition should be interpreted as a decrease of plant diversity, ground and/or canopy cover; any improvement in condition as an increase of plant diversity, ground cover, and/or canopy cover.

About 55 acres of unprotected riparian vegetation associated with perennial streams would continue to be grazed by livestock; 50 acres would continue to be subject to burro grazing. This continued grazing would either cause the vegetation to remain at its present condition or deteriorate. Twenty acres would not be affected by either grazing animal.

About 5,300 acres of saline meadow and 20 acres of wet meadow would regress in succession from a mid seral stage to an early seral stage due to livestock grazing. Three hundred thirty-three acres of saline meadow would also regress from a mid to an early seral stage due to livestock and wild horses and burros grazing. Fifty-eight acres of saline meadow vegetation in a mid seral stage and 112 acres in a late seral stage would remain unchanged.

One hundred and twenty acres of spring associated vegetation would continue to be grazed as follows: 30 acres by livestock, 30 acres by wild horses and burros, and 60 acres by both livestock and wild horses and burros. The continued use at present levels would cause this riparian vegetation to either remain at its present level or decline.

In the Ash Meadows area, impacts to riparian vegetation would be identical to those of the Preferred Alternative

except within the Ash Meadows grazing allotment. Due to the small size of the lease plus the lack of other water sources and fencing, any number of livestock authorized to graze on this ephemeral permit are expected to trample and forage approximately 6 acres of riparian vegetation associated with outflow from Big and Jackrabbit Springs. Therefore, these 6 acres are expected to decline from their present condition when livestock grazing is authorized. Also 12 acres of wet meadow would regress from a mid seral stage of succession to an early seral stage.

Finally, 25 acres of spring and spring outflow vegetation is fenced. This vegetation would remain protected.

SENSITIVE SPECIES

Seven hundred and forty acres of critical habitat of proposed endangered plant species would be subject to trampling and grazing by livestock if ephemeral permits are issued in the Ash Meadows area.

Even though there has been no livestock grazing in the area in the past three-to-five years, the area remains open to livestock grazing on an ephemeral basis. Issuance of a grazing permit would adversely impact sensitive species in the Ash Meadows allotment and in the Grapevine-Rock Valley and Carson Slough allotments.

WILDLIFE

Terrestrial wildlife habitat is expected to remain in present or decline in condition.

Due to the adverse impacts of present livestock and wild horse and/or burro grazing levels, wildlife habitat is expected to remain in present or decline in condition both short-and long-term.

Utility corridors would adversely affect the habitats of big game.

Since rights-of way can be located anywhere, any special habitat area or feature can be impacted. If such an area or feature were involved, development of rights-of-way would lead to permanent roads dissecting crucial big game habitat. This would have an adverse impact on disturbance intolerant species.

Bighorn sheep numbers would remain static in their current mountain ranges.

No significant increases in bighorn sheep numbers are expected in both the short- and long-term due to competition with livestock and wild horses and/or burros for water, space and forage.

Mule deer and elk numbers would remain static in their current mountain ranges.

No significant increases in mule deer and elk numbers are expected in both the short-and long-term due to competition with livestock and wild horses and/or burros for water, space and forage.

About 125 acres of streambank riparian habitat would remain in present or decline in condition. The condition of an estimated 698 acres of meadow riparian habitat would remain unchanged, while 5,662 acres would decline in condition. Approximately, 126 acres of spring riparian habitat would remain in its present condition or decline, 24 acres would improve, and 25 acres would remain protected.

For reasons why the different types of riparian habitats are changing or not changing in condition, see the "Riparian Vegetation" section of this alternative.

The loss or decline of condition of any type of riparian habitat would adversely impact wildlife populations which depend on these habitats. Any loss or decline in these riparian habitats can result in the loss or decline of wildlife populations both in the short-and long-term. Conversely, improvement of riparian habitat would benefit wildlife populations which depend on these habitats, resulting in an increase of wildlife populations in the short-and long-term. Wildlife species most susceptible to changes in riparian habitat condition include: fish, small non-game birds and mammals, amphibians, chukar partridge, quail, cottontail rabbit, raptors and predators.

Specifically, riparian habitats of the following proposed or listed endangered, threatened or sensitive species would be affected.

Spring and stream riparian habitat of the sensitive Amargosa toad would be adversely impacted. The condition of one acre of spring riparian habitat at Indian Spring and two acres at Crystal Spring would decline in both the short- and long-term. Approximately 50 acres of streambank riparian habitat along the Amargosa River would decline in the short- and long-term. This same 50 acres along the Amargosa River are also essential to the sensitive Amargosa speckled dace.

Stream riparian habitat essential to the brook trout fishery and sage grouse would not be adversely impacted. The condition of 19 acres of stream riparian habitat along Leidy, 36 acres along Indian Creek, and 20 acres along Perry Aiken Creek is expected to remain in present condition. This would not adversely impact the brook trout fishery along Leidy, Indian and Perry Aiken Creek and the sage grouse populations utilizing Indian Creek.

The following spring riparian habitats in Ash meadows would be affected. Some 20 acres of essential habitat of the endangered Warm Springs pupfish would be beneficially impacted. Habitat condition at N. Scruggs (7 acres), S. Scruggs (7 acres) and Marsh Springs (4 acres) is expected to decline in both the short- and long-term. Warm Springs pupfish habitat at School Springs (2 acres) would remain protected by fenced enclosure.

Some six acres of essential habitat of the endangered Ash Meadows Amargosa pupfish and Ash Meadows speckled dace would be adversely impacted and 23 acres would remain protected. Habitat condition of six acres of unprotected spring riparian habitat supported by outflows of both Big Spring and Jackrabbit Spring is expected to decline in both the short- and long-term. Habitat for both fish at Jackrabbit Spring (19 acres) and Big Spring (14 acres) would remain protected by fenced enclosure.

Fifteen acres of spring riparian habitat crucial to sensitive snails would be beneficially impacted. Condition of seven acres of minute slender tryonia habitat at S. Scruggs Spring and the four acres of median gland Nevada spring snail habitat at Marsh Spring would improve in both the short- and long-term. Habitat of both the indeterminate Nevada spring snail and the sporting goods tryonia at Big Spring (4 acres) would remain protected by fenced enclosure.

LIVESTOCK GRAZING

Livestock use is projected be 44,949 AUMs in the long-term. This is a decrease of 2 percent from the current use levels.

Livestock use would continue at the present level. Problems and conflicts would continue (see Appendix C). As indicated in the "Vegetation" section forage production would decline for

all grazers. The loss of livestock forage would amount to 1,012 AUM's in the long term (see Appendix G, Table G-4).

WILD HORSES AND BURROS

Wild horse and burro populations would remain at their current levels. Wild horse and burro habitat would continue to be impacted by existing deficiencies and in some cases would decline as vegetative condition declines.

No projects to improve wild horse and burro habitat would be implemented under this alternative. Existing habitat deficiences in the form of poor water distribution and availability within the Silver Peak, Stonewall, Bullfrog and Payment/Lone Mountain Herd Areas would continue to impact wild horse and burro populations. Competition for water in specific areas would continue between livestock, wildlife and wild horses and burros thus impacting wild horse and burro populations.

Forage conditions in over half of the herd areas would decline as the condition and productivity of the vegetative community decreases (see "Vegetation" section of this alternative). The Dunlap and Silver Peak Herd Areas would show the greatest decline in vegetative condition. Such an impact to the vegetation would result in a decline in the health and productivity of the herds.

Under this alternative wild horse and burro populations would be kept at approximately the current population levels within each herd area. To maintain current population levels periodic removals would be necessary. As much as two percent death or injury loss could occur during these capture operations. These periodic removals are not expected to impact any specific traits found in these wild horse and burro populations.

During capture operations wild horse and/or burro numbers may be reduced in poor condition habitat sites, thus partially mitigating declines in vegetative condition attributed to overutilization. Additional data on these wild horse and burro populations may also be collected during the removal operations, however, no projects or further studies would be implemented.

LAND TENURE AND UTILITY CORRIDORS

LAND TENURE

Community expansion and agricultural development would be hindered.

Lands would only be available on a case-by-case basis. This would primarily be small acreage disposals around the population centers under the Recreation and Public Purposes Act.

UTILITY CORRIDORS

Utility companies would not benefit from long-range planning.

The lengthy application process and the uncertainty as to whether the right-of-way will be granted would not benefit utility companies and hinders development of accurate long-range plans.

ENERGY AND MINERALS

Energy and mineral resources would not be impacted by this alternative.

WILDERNESS

Wilderness values would not be protected on 189,675 acres, and none of this acreage would be added to the National Wilderness Preservation System (NWPS).

Impacts to the Grapevine Mtns., Pigeon Spring, Queer Mtn. and Resting Spring Range WSAs would be the same as those described in the Preferred Alternative. Wilderness values in the

Silver Peak Range WSA would be lost as surface disturbing activities including mining, road building and vehicle use degrades the natural character of the WSA and its outstanding opportunities for solitude and primitive recreation

SILVER PEAK RANGE

Under this alternative none of the 33,900 acres of the WSA would be designated suitable.

Effect of Management Prescriptions on Activities

Mineral and energy prospecting and development would be allowed to occur. This would result in road building which would facilitate vehicle related recreation and woodcutting. This area includes about 1,470 acres with high metallic mineral potential and about 24,950 acres with moderate mineral potential. Surface disturbance would be concentrated in these areas, particularly in the high potential area which includes everything east of the Mud Springs-Blind Springs line. Minimal mineral development is expected on the southeast face of Piper Peak due to its low mineral potential.

Impacts Resulting From Affected Activities

Surface disturbance, including road building and vehicle use, would have a negative impact on the wilderness values of the WSA. The only exception is the southeast face of Piper Peak which would remain relatively undisturbed. The WSA is remarkably pristine, containing only three minor human developments, a solar powered repeater, an abandoned spring development and an area of mineral assessment. Naturalness would decline as surface disturbance progresses. The outstanding opportunities for solitude found in the WSA would be lost due to mining and exploration activities and vehicle travel. The vegetative screening found in the eastern part of the WSA would deteriorate due to woodcutting along roads. Loss of naturalness and solitude would lead to a loss of the outstanding opportunities for hiking and backpacking and the other high quality primitive recreation opportunities found in the WSA. Backpacking would be most affected, as roads would divide the area into parcels too small to accommodate backpacking. Piper Peak may still be a suitable dayhike. Primitive recreation opportunities would be lost in Icehouse Canyon should a road be built into it.

SOCIAL VALUES

There would be no significant social impacts at the community level if this alternative were to be implemented. With the exception of wilderness, this alternative essentially maintains the management "status quo" particularly in regard to the range management and realty programs. Simply initiating a resource management planning process within a RMP area tends to create a adverse impact, i.e., a sense of uncertainty, for residents of the area and in particular for those in the area who are dependent on continued access to public lands in support of their livelihood. The implementation of this alternative would tend to diminish, if not negate, that sense of uncertainty.

Maintaining the status quo over the long-term, particularly in regard to managing wild horses and burros at current levels would probably sustain, if not intensify, the controversy that has existed and continues to exist between livestock and wild horse and burro interest groups.

The element of this alternative that proposes to handle land disposals on a case-by-case basis would probably not be supported as positively as would most of the other elements of the alternative. There appears to be

mounting social pressure to identify a pool of public lands for subsequent disposal.

Over a prolonged period of time, wilderness characteristics and values would probably be irretrievably lost in one or more of the wilderness study areas as a direct consequence of no wilderness study areas being recommended to Congress as suitable for wilderness designation. Should this occur, it would be a significant adverse impact on the local wilderness resource and on a national level, perhaps a significant adverse impact in the sense that one or more unique wilderness areas would be lost to the national wilderness inventory. From an individual perceptual and attitudinal point of view, this would probably be considered a significant adverse impact by many persons, especially those conservation, recreation, or environmentally oriented persons who have actively endorsed wilderness designation for one or more of the WSAs in the RMP area. It could be expected that those individuals and stakeholder groups would, at the local, regional and national levels, adamantly oppose the implementation of this element of this alternative.

It could be expected that the utilities sector would oppose the implementation of this alternative since there are no provisions for either designating planning or utility corridors. This could possibly have an adverse impact, perhaps significantly so, on the utility sector's long range planning programs. Developing rights-of-way on a case-by-case basis could increase the costs or perhaps even impede the developmenht of major power projects and their associated power distribution systems and make future energy development projects more difficult, time-consuming and expensive to plan. It could be expected that those utility companies with an interest in the RMP area would vigorously oppose the implementation of this aspect of the alternative.

In terms of visual impacts, this alternative has the potential of creating, in the long-term, a multiplicity of adverse visual impacts for those who live in or transit the RMP area. Depending on the number and location of these utility or transportation routes that would evolve over the long-term, it could be a significant adverse visual impact.

ECONOMIC CONDITIONS

WILDERNESS

No significant economic effects will result from non-designation of wilderness. No significantly beneficial economic advantages would be lost and no major adverse impacts avoided. However, wilderness recreation opportunities and their potential income effects would be foregone, along with the benefits of preservation for future generations. In turn, mineral development potential will remain unfettered and present recreation uses and trends, particularly off-road vehicle use, will be continued.

LAND DISPOSALS

Land sales would not result in significant economic impacts. Expression of interest for transfer of public lands to other ownership would continue to be considered on a case-by-case basis. However, without the encouragement of the specific management proposals provided under the other alternatives, it is expected that the present pattern of land ownership within the RMP area would remain substantially the same. The potential for economic development, or the possibility of realizing benefits that might derive from more efficient use of the land would be diminished.

CORRIDORS

This alternative would result in continued high up-front right-of-way planning costs to utility companies. Long time frames for processing major rights-of-way would continue. However, once future rights-of-way were obtained, construction and operation costs would be low compared to other alternatives since the entire RMP area would be potentially available. This would provide the greatest opportunities for shorter rights-of-way which provide lower construction costs and minimized operating costs, including maintenance and power loss. In addition, this alternative would provide for a high level of utility system reliability since it provides the greatest potential for maximizing the distance between current and future transmission lines.

This alternative would result in a decrease in the value of private lands near future transmission lines throughout the RMP area. Since transmission lines often affect the scenery as viewed from adjacent lands they are perceived as reducing the value of those lands. This would likely be limited to the short- term, as there is no clear evidence that long-term land values are affected by transmission lines (Holberger et al, 1975).

LIVESTOCK GRAZING

This alternative would introduce no changes in the administration of grazing on public lands, and livestock grazing would continue at its present level. Although this would have no immediate impact on area ranchers, the present downward trend in ecological range condition is likely to be accelerated by continued overgrazing of the vegetation resource. It is expected that the continuation of current grazing levels would result in a decline in forage availability of 1,064 AUMs over the long-term.

Economic effects of this forage loss would not be significant either to area ranchers or to the local economy. Total gross income may be reduced by about $190,00 with net income losses spread among all ranchers amounting only to $4,500. Less than one full-time equivalent job (2,000 hours) would be lost in the livestock industry, and only about one job would be lost in the area economy. The decrease in area economy income would be approximately $8,600. Over the long-term, ranch wealth may be expected to decline by about $53,000.

Impacts resulting from slowly declining available vegetation would occur over an extended period of time. Adjustment to these changing conditions by area ranchers, perhaps taking the form of improved technologies or other production function relationships, could mitigate some of this adversity.

ALTERNATIVE A

WATER RESOURCES

There would be a slight improvement in water quantity and quality.

Water Quantity

Water developments in six category I and three category M allotments would help to resolve water distribution problems in those allotments. Water availability would remain a problem in most of the remaining allotments. Wildlife water projects in the Silver Peak Range and Monte Cristo Range HMP areas would improve wildlife habitat. Six spring development projects in four wild horse and burro management areas would provide increased quantity of water in those areas and may improve distribution.

Water Quality

The State of Nevada and BLM have a Memorandum of Understanding (USDI, BLM

and Nevada Division of Environmental Protection, 1980) agreeing that BLM resource management plans will incorporate "Best Management Practices" to eliminate or reduce water pollution from diffuse sources from the use, maintenance, or improvement of soil, water, and plant resources. Adherence to this policy would improve overall water quality.

In addition, improvements to water quality would be expected for the 12 springs protected under this alternative. Implementation of intensive management on six allotments would result in better livestock distribution and should improve the quality of water sources in those allotments. Increased livestock numbers may result in a decline in water quality of unprotected water sources, however, reductions in wild horses and burros would partially offset this impact.

Wilderness designation of 17,850 acres of public land in the Silver Peak Range WSA would prevent degradation of water resources from potential surface disturbing activities, in the Ice House Canyon area.

VEGETATION

In the long-term, 5 percent of the plant communities would regress to an earlier successional stage. Some 1,695 acres of native forage would be converted to seeded range. The condition of existing seedings would improve. There would be a net loss of 661 AUMs of forage for all grazing animals.

In the Icehouse, Magruder Mtn., Red Springs, and Silverpeak allotments, all classified as I, there would be an increase of 17,779 acres of plant communities (1% of the area) in an early seral stage and a 20,429 acre (1% of the area) increase of those in the mid seral stage. Vegetation in a late seral stage would be reduced by 25,140 acres (1% of the area). A slight increase of potential plant communities is expected (276 acres) (see Appendix F for methodology for determining change in succession). Some 1,270 acres of seeded range would increase from a fair to a good livestock forage value rating on the Magruder Mtn. allotment.

The positive impacts from the implementation of AMPs and the construction of range improvements would be similar to those described in the Preferred Alternative. However, these beneficial impacts would not offset the impacts from an increase of livestock grazing on about one-half of the area within these four allotments. The general downward trend of these allotments would slow the vegetative recovery promoted by the AMPs. On the remaining one-half of this area, grazing pressure would be reduced or remain status quo. This would be the result of reducing wild horses and burros in the Fish Lake Valley, Silverpeak, and Palmetto herd areas.

In the Montezuma allotment (I) there would be a decrease of mid seral plant communities and an increase of those in late seral status (see Table 4-3). This is because 95 percent of the allotment is currently in static trend (see Table 3-2) and reductions of horses and burros in the Bullfrog, Stonewall, and Montezuma herd areas would reduce grazing pressure over 32 percent of the allotment.

No changes in succession are expected in the Mt. Stirling allotment (I) because of its apparent static trend. However, the livestock forage value rating would improve from fair to good on 1,140 acres of a seeded range as a result of improved control of grazing use through range improvements.

In the Monte Cristo allotment the increase of grazing pressure from livestock over 82 percent of the allotment would not be offset by the continued implementation of the

TABLE 4-3

ESTIMATED VEGETATION STATUS OF ECOLOGICAL SITES 20 YEARS AFTER IMPLEMENTING ALTERNATIVE A

Allotment	Total Acres	Vegetation Status: Non Productive Acres	Non Productive %	Early Seral Acres	Early Seral %	Mid Seral Acres	Mid Seral %	Late Seral Acres	Late Seral %	Natural Potential Acres	Natural Potential %	Other 1/ Acres	Other 1/ %
Planning Area A													
Emigrant Peak	17,382	1,954	11			2,365	14	13,063	75				
Icehouse	78,923	7,301	9	5,462	7	16,011	20	49,876	64	273	T		
Magruder Mtn	625,015	35,012	5	11,304	2	105,233	17	472,164	76	32	T	1,270	T
Monte Cristo	496,018	53,149	11	16,966	3	80,190	16	345,106	70	607	T		
Montezuma	538,297	29,791	5	2,050	T	151,809	29	354,520	66	127	T		
Razorback	72,880	1,454	2	345	T	12,341	17	58,740	81				
Red Spring	144,277	10,063	7	4,797	3	21,118	15	108,299	75				
Sheep Mtn	88,435	6,153	7	25	T	13,536	15	68,821	78				
Silver King	8,969	483	5			5,619	63	2,867	32				
Silver Peak	319,553	27,633	9	8,164	3	11,237	4	272,519	84				
Springdale 2	1,466	91	6			812	56	563	38				
White Sage	10,315	738	7	270	3	2,706	26	6,601	64				
White Wolf	21,567	1,172	5	1,432	7	5,951	28	12,971	60	41	T		
Yellow Hills	62,203	8,643	14	271	T	11.535	19	41,754	67				
Sub Total	2,485,300	183,637	7	51,086	2	440,3631	18	1,807,864	73	1,080	T	1,270	T
Planning Area B													
Ash Meadows	120					120	100						
Carson Slough	13,842	415	3			5,591	40	4,403	32	3,433	25		
County Line Grapevine	6,720	0	-			5,920	88	800	12				
Rock Valley	6,844	448	7			2,737	40	3,659	53				
Mt. Sterling	153,262	17,324	11			34,945	23	99,853	65			1,140	1
Sub Total	180,788	18,187	10			49,313	27	108,715	60	3,433	2	1,140	1
Grand Total	2,666,088	201,824	8	51,086	2	489,676	18	1,916,579	72	4,513	T	2,410	T

1/ 2410 acres of seeded range with a good livestock resource value rating

existing AMP nor a slight decrease (19 head) of wild horse numbers in the Dunlap herd area. This would result in an increase of early seral plant communities (see Table 4-3).

In the remaining M allotments, Razorback, Sheep Mtn., White Wolf, and White Sage, there would be a 2,072 acre increase in early seral communities and a 19,032 acre increase in mid seral communities. Some 21,304 acres (1% of the survey area) of late seral communities would regress. This adverse impact is due primarily to the increase in livestock grazing.

The Silver King and Yellow Hills allotments, both C, would have a 271 acre increase of early seral communities, a 16,789 acre increase of mid seral communities and a 17,060 acre decrease in late seral communities. This again is due to livestock increases. In Emigrant Peak, another C allotment, succession is not expected to change (see Table 4-3) because of its general static trend. Also, it would be stocked at preference after 5 years of no use. No changes in succession are expected in the Springdale #2 allotment (C) as the increase in livestock would be more than offset by the reduction in burros in the Bullfrog herd area.

In the ephemeral C allotments, succession would not change due to overall static trends. Continuing ephemeral livestock use is not expected to affect succession of native plant communities (see the "Management Guidance Common to all Alternatives" section).

There would be a decline in forage production from the changes in native plant communities resulting in a loss of 1,271 AUMs (see Appendix G for methodology for determining changes in forage production). The improvement in 2,410 acres of existing range seedings due to grazing schedules and livestock control through range improvements would provide an additional 186 AUM's in the Magruder Mtn and Mt. Stirling allotments.

An additional 500 acres of seedings over that planned in the Preferred Alternative would occur. See Preferred Alternative for a description of these sites. These vegetation conversions would result in an additional 424 AUMs in the Magruder Mtn. allotment.

The total net effect of the above impacts on forage production would be a decrease of 661 AUMs. See the Preferred Alternative for how adjustments in stocking levels would be implemented.

RIPARIAN VEGETATION

Some 125 acres of streambank riparian vegetation would be disposed of. The vegetative succession of approximately 528 acres of meadow would advance towards its natural potential plant community, while 5,470 acres would remain in their present seral status. About 362 acres of meadows would regress in successional stage. Some 29 acres of riparian vegetation associated with springs would improve, 91 acres would decline, 30 would either improve or remain the same, and 25 acres would remain protected.

All impacts identified in this riparian section are expected in the long- term. Except where vegetation seral status changes are predicted, a decline in condition should be interpreted as a decrease of plant diversity, ground and/or canopy cover; any improvement in condition as an increase of plant diversity, ground cover, and/or canopy cover.

Approximately 125 acres of riparian vegetation associated with perennial streams would be removed from public use and management through land disposal.

In those meadow plant communities used exclusively by livestock (see Appendix I for methodology for determining impacts to riparian vegetation), 20 acres of wet meadow and 5,300 acres of saline meadow, both with an apparent downward trend, would regress in vegetative succession from mid seral to early seral. This would be in response to increased foraging and trampling by the additional livestock.

In areas used by both livestock and wild horses and/or burros, another 330 acres of saline meadows in mid seral status, with apparent downward trend, would also regress to early seral status. This is in response to the combined use by the remaining wild horses and/or burros and increased numbers of livestock. Some 58 acres of saline meadows in a mid seral successional stage and 112 acres in late seral status would remain unchanged from this present status. Though the combined grazing and trampling by livestock and wild horses and/or burros would have an adverse effect on these communities by reducing vigor, diversity, and ground cover, a change in seral status would not be detected in the long-term due to the present stability of these vegetative communities (i.e. no apparent trend, see Table 3-3).

Due to increases in livestock numbers, 85 acres of unprotected riparian vegetation associated with springs would also decline in condition. Through construction of protective fences, 5 acres of spring vegetation would improve. The condition of another 30 acres would either remain static or improve with the reduction of wild horses and burros.

Impacts to riparian areas specifically in Ash Meadows would be identical to those described in the "Riparian Vegetation" section of the Preferred Alternative with the following exceptions.

Six acres of riparian vegetation associated with the outflow from Big and Jackrabbit Springs would decline in condition and 12 acres of wet meadow would regress from a mid to an early seral state. These impacts would result from the continuation of ephemeral livestock use in the Ash Meadows allotment.

SENSITIVE SPECIES

Seven hundred and forty acres of critical habitat of proposed endangered plant species would be subject to trampling and grazing by livestock if ephemeral permits are issued in the Ash Meadows area.

Impacts would be the same as those described in the No Action,"Sensitive Species" section.

The proposed land disposals would have the same impacts as outlined in the Preferred Alternative.

WILDLIFE

Terrestrial wildlife habitat would improve in some habitats and decline in others.

The combined impact of the increase in livestock and the more than offesetting reduction in wild horse and/or burro use would result in improvement in habitat condition in the Silver Peak, Stonewall, Monte Cristo, Amargosa and Montezuma Ranges and decline in habitat condition in the Lone Mtn., Magruder/Sylvania and Mt. Stirling portion of the Spring Mt. Ranges. The other habitats would remain in current condition.

Wilderness designation of 17,850 acres of the Silver Peak Range Wilderness Study Area would benefit wildlife habitat. Wildlife habitat would be protected from road construction and possible mining activity. Reclusive species such as the bighorn sheep, mountain lion and spotted bat would benefit most from wilderness

designation because of the reduction in human harrassment due to reduction in vehicular access.

Historical bighorn sheep habitat, sage grouse habitat, dune beetle habitat and aquatic habitat would be adversely affected by land disposal.

The disposal of 1,080 acres of historical bighorn sheep habitat in the Silver Peak Range would not be considered a significant impact. This historical bighorn habitat is already adversely impacted by its proximity to the town of Silver Peak.

Most of the sage grouse strutting ground habitat along Indian Creek would be significantly impacted by land disposal. This is the only sage grouse strutting ground habitat identified in the RMP area on public domain.

The disposal of Big Dune would significantly impact the Giuliani dune scarab beetle habitat. This disposal would eliminate 65 percent of the Giuliani dune scarab habitat within the RMP area.

The disposal of aquatic habitat along Indian, Leidy, and Perry Aiken Creeks on the east slope of White Mountains would significantly impact the brook and rainbow trout fishery. These three creeks represent the only trout stream fisheries on public land within the RMP area.

The disposal of aquatic habitat along the Amargosa River between Beatty and Springdale would significantly impact the Amargosa speckled dace and the Amargosa toad. This is the only place in Nevada where the Amargosa speckled dace is found. The Amargosa toad can only be found along the Amargosa River and in Indian and Crystal Springs near Beatty.

Proposed utility corridors would adversely affect the habitats of bighorn sheep and mule deer.

Proposed utility corridors would adversely affect 34,155 acres of mule deer habitat and 8,901 acres of bighorn sheep habitat. Of the 34,155 acres of affected mule deer habitat only 18,735 acres would be considered as a significant adverse impact in the long-term. This 18,735 acres encompassed by corridor V-T, traverses crucial summer mule deer habitat in the Magruder/Sylvania and Gold Mtn. mule deer ranges. This is only a proposed planning corridor and does not contain existing rights-of-way or a vehicular access route. A permanent vehicular access through crucial summer mule deer habitat would have deleterious effects on the Magruder/Sylvania and Gold Mtn. mule deer populations. The remaining 15,420 acres of mule deer habitat and 8,901 acres of bighorn sheep habitat would not be significantly impacted. These corridors have existing rights-of-way and permanent access routes and only traverse edges of winter habitat.

Bighorn sheep numbers would increase in Silver Peak and Monte Cristo Ranges, remain static in the Stonewall Range and decline in the Lone Mtn. Range.

Bighorn sheep would benefit from the combined impact of the increases in livestock and the reduction in wild horse and/or burro use. This would reduce the overall competition with bighorn for water, space and forage. With water development, the Silver Peak Range population would increase by 212 bighorn and the Monte Cristo Range by 162 bighorn. The Stonewall range population should remain static in the long-term.

The Lone Mtn. bighorn population would be adversely impacted by the combined impact of the increase in livestock and the reduction in wild horse and/or burro use. This would increase the overall competition with bighorn for water, space and forage. In the long-term the population would decline

by 13 bighorn, a 6 percent reduction. This would not be a significant impact.

Mule deer numbers would increase in the Amargosa, Monte Cristo, Montezuma, Stonewall and Silver Peak/Palmetto Ranges, remain static in the Gold Mtn. Range, and decline in the Lone Mtn., and Magruder/Sylvania Ranges. Mule deer and elk would be eliminated from the Mt. Stirling portion of the Spring Mtn. Range.

Mule deer would benefit from the combined impact of the increase in livestock and the more than offsetting reduction in wild horse and/or burro use. This would reduce the overall competition with mule deer for water, space and forage. With water development, over the long-term, mule deer herds would increase as follows: Amargosa Range, 20; Monte Cristo Range, 28; Montezuma Range, 56; Stonewall Range,14; and the Silver Peak/Palmetto Range, 154. The Gold Mtn. Range population would remain static.

The Lone Mtn. and Magruder/Sylvania mule deer populations and the mule deer and elk populations in the Mt. Stirling portion of the Spring Mtn. Range would be adversely impacted by the combined impact of the increase in livestock and wild horse and/or burro use. This would increase the overall competition with mule deer and elk for water, space and forage. In the long-term, the population would decline by 33 deer in the Magruder/Sylvania and 3 in the Lone Mtn. Ranges. A decline of 6 percent in the Lone Mtn. range would not be significant but the decline of 28 percent in the Magruder/Sylvania Range would be significant. In the long-term, deer and elk would be eliminated from the Mt. Stirling portion of the Spring Mtn. Range.

Approximately 125 acres of stream bank riparian habitat would be lost through land disposal. An estimated 528 acres of meadow riparian habitat would improve in condition, while 5,470 acres would remain in their present condition, and 362 acres would decline in condition. Twenty-nine acres of spring riparian habitat would improve, 30 acres would remain static or improve, 91 acres would decline and 25 acres would remain protected.

For reasons why the different types of riparian habitat are changing or not changing in condition, see the "Riparian Vegetation" section of this alternative.

The loss or decline of the condition of any type of riparian habitat would adversely impact wildlife populations which depend on these habitats. Any loss or decline in these riparian habitats would result in the loss or decline of wildlife populations both in the short- and long-terms. Conversely, improvement of riparian habitat would benefit wildlife populations which depend on these habitats, resulting in increases in wildlife populations in the short- and long-terms. Wildlife species most susceptible to changes in riparian habitat condition include: fish, small non-game birds and mammals, amphibians, chukar partridge, quail, cottontail rabbit, raptors and predators.

Specifically, riparian habitats of the following proposed or listed endangered, threatened or sensitive species would be affected. Spring and stream riparian habitat of the sensitive Amargosa toad would be adversely impacted. The condition of one acre of spring riparian habitat at Indian Spring and two acres at Crystal Spring would decline in both the short- and long-terms. Approximately 50 acres of streambank riparian habitat along the Amargosa River would be lost through land disposal. This same 50 acres along the Amargosa River is also essential to the sensitive Amargosa speckled dace.

Stream riparian habitat essential to the brook trout fishery and sage grouse would be adversely impacted. Thirty-six acres of stream riparian habitat along Indian Creek essential both to brook trout and sage grouse would be lost through land disposal. Stream riparian habitat also essential to brook trout along Leidy Creek (19 acres) and along Perry Aiken Creek (20 acres) would be lost through land disposal.

The following spring riparian habitats in Ash Meadows would be affected.

Essential habitat of the endangered Warm Springs pupfish would be beneficially impacted. Seven acres at N. Scruggs, seven acres at S. Scruggs and four acres at Marsh Springs would improve in the long-term. Some two acres at School Springs is protected by a fenced enclosure.

Some 23 acres of essential habitat of both the endangered Ash Meadows Amargosa pupfish and the Ash Meadows speckled dace would be beneficially impacted and 6 acres would be adversely impacted. Habitat at Jackrabbit (19 acres) and at Big Spring (4 acres) is protected by fenced enclosure. A total of six acres of unprotected spring riparian habitat supported by outflows of both Big and Jackrabbit Springs is expected to decline in condition in both the short- and long-terms.

Fifteen acres of spring riparian habitat crucial to sensitive snails would be beneficially impacted. Habitat condition of the seven acres of minute slender tryonia habitat at S. Scruggs Spring and four acres of median-gland Nevada spring snail habitat at Marsh Spring would improve. Four acres of habitat of both the indeterminate Nevada spring snail and the sporting goods tryonia at Big Spring are protected by a fenced enclosure.

WILD HORSES AND BURROS

Wild Horse and burro populations would be reduced to a minimum herd size (50 head) in all of the 13 designated herd management areas (HMAs). In areas where the current population is less than 50 head, the population would remain at the current levels. Land disposals proposed in this alternative would adversely impact the Bullfrog, Goldfield, Amargosa and Fish Lake Valley HMAs as wild horse and burro habitat would be lost.

The removal of wild horses and burros to the minmimum levels would result in a population of 410 horses and 143 burros within the RMP area. The actual capture operation may result in as much as a 2 percent injury and/or death loss of wild horses and burros. The remainder of the wild horses and burros that are captured would be placed with qualified individuals through the Bureau's Adopt-a-Horse Program. The wild horses and burros that remain in the HMAs may be adversely impacted in the long-term due to the loss of specific traits; and/or inbreeding in the small populations (Franklin, 1980; National Academy of Sciences, 1980).

Vegetative conditions within portions of the Silver Peak, Dunlap, Paymaster/Lone Mtn. and Palmetto HMAs would show a decline in productivity and condition due to increased cattle numbers. Portions of the Montezuma and Stonewall HMAs would show a slight improvement in vegetative conditions. The remaining HMAs would remain in a static condition (see the "Vegetation" section of this alternative).

Habitat improvements (water development) and site specific wild horse and burro removals would improve vegetative conditions within the HMAs.

Land disposals proposed in this alternative would result in a sale of 26 percent of the Amargosa HMA, 24

percent of the Bullfrog HMA, 32 percent of the Fish Lake Valley HMA, 36 percent of the Goldfield HMA, and 1 percent of the Silver Peak HMA. The sale of these lands would not result in a further reduction in population levels, however, the loss of habitat would adversely impact the population in all but the Silver Peak HMA, by the concentration of existing animals on a limited forage resource. In specific areas these sales may also compound the existing problems of horses and burros on private lands, as well as harrassment of the herds. The aforementioned impacts and acreages discussed apply only to the Nevada portions of the herd areas.

The designation of utility corridors would not impact wild horses or burros in the long-term. Impacts will be insignificant in the short-term.

LIVESTOCK GRAZING

In the long-term, livestock use is projected to be 43,480 AUMs, a 6 percent decrease from current use.

Initially, livestock use would be authorized at 62,012 AUMs, a 35 percent increase from the last three-to-five year average. All allotments would be grazed above preference except Emigrant Peak, Silver Peak, and Mt. Stirling, which would be grazed at preference.

Changes in class of livestock would be the same as in the Preferred Alternative.

No changes in seasons of use would occur other than that prescribed in the AMPs for the six I allotments.

AMPs would provide more uniform patterns of utilization. Rest would be scheduled for specific pastures through rest rotation in some allotments. In addition to the allotments affected in the Preferred Alternative, the Magruder Mtn. allotment permittee would experience increased labor costs for gathering cattle. Also, permittees would be responsible for maintenance of all improvements. These costs would be high in the Magruder Mtn. allotment. All these improvements would be completed within five years.

AMPs would include the following types of grazing systems in the order of priority listed.

Magruder Mtn. - Multi-pasture rest-rotation grazing system, with interior fencing. Vegetation manipulation to increase summer range. Develop water sources.

Montezuma - Same as the Preferred Alternative.

Silverpeak/Icehouse - Same as the Preferred Alternative.

Red Springs - Same as the Preferred Alternative.

Mt. Stirling - Same as the Preferred Alternative.

Other management actions would be the same as those described in the Preferred Alternative. However, more range improvements would be installed under this alternative (see Appendix L).

Adverse impacts to vegetation from increasing livestock would not be totally offset by these management actions nor horse and burro reductions. The regression in plant succession resulting in early seral communities would increase as described in the "Vegetation" section. Livestock forage production would also decline as a result decreasing livestock forage 1,049 AUMs from its current level. This translates to a 2 percent decrease from current use. This would be mitigated somewhat by the improvement in forage conditions of existing seedings through improved livestock control. This would amount to 153

AUMs increase in forage production on the Magruder Mtn. and Mt. Stirling allotments. An additional 424 AUMs would be available from watershed rehabilitation and brush conversions to seeded range in the Magruder Mtn. allotment. The net result of impacts to vegetation on livestock forage would be 472 AUMs decrease (1% of the current use level). This represents that portion of the 661 AUMs lost in vegetation production (identified in the "Vegetation" section of this alternative) which is available to livestock.

Approximately 113,262 acres (2,430 AUMs) would be disposed of, affecting 9 allotments. This, in addition to the AUMs lost from forage production, would total a loss of 2,902 AUMs of livestock forage, a six percent decrease from current livestock use and a 30% decrease from the initial stocking level of 62,012 AUMs (see Appendix G, Table G-3).

See "Livestock Grazing" section of the Preferred Alternative for a discussion of how adjustments in stocking rates would occur from each of the impacts described.

LAND TENURE AND UTILITY CORRIDORS

LAND TENURE

Maximum urban-suburban expansion would be accommodated and management of public lands would be enhanced.

The transfer from Federal ownership of 245,807 acres of land would result in a 128 percent increase in the amount of private land in the RMP area and would be a beneficial impact. This would provide for maximum urban-suburban expansion around adjacent communities by disposing of all land identified for this purpose by local planning boards and government representatives. If surplus ground water were to become available, agricultural development needs would also be met. However, due to limited funding and manpower, it is unlikely that the entire block of land identified would be disposed of in the long-term.

Management of the lands resource, both public and private, would be enhanced by disposing of Federal lands now intermingled with private lands.

Designation of 502 miles of planning and utility corridors will encompass approximately 75,966 acres of land identified for disposal in this alternative. This would not be signicant since corridors range in width from three to five miles and provide adequate flexibility to route future transmission facilities around parcels identified for potential disposal.

UTILITY CORRIDORS

Utility companies would benefit from long-range planning for major facilities.

Designating 422 miles of utility corridors and 80 miles of planning corridors would accommodate all short- and long-term plans of the utility industry and encompass all major existing facilities. Designating these corridors would help utility companies plan for future rights-of-way and would expedite the approval process. Corridor planning would be consistent with land use planning for areas adjacent to the RMP area. Land disposals in this alternative would not affect designation but may make right-of-way planning within the corridors more difficult. However, corridors will have a width of three to five miles and should provide adequate flexibility for location of rights-of-way.

ENERGY AND MINERALS

Energy and mineral exploration and development would be precluded or

constrained on 17,850 acres within the Silver Peak Range WSA. There would be no impact to mineral and energy resources in the Pigeon Spring, Grapevine Mtns., Queer Mountain and Resting Springs WSAs.

Valid claims made prior to designation could be developed, but no additional claims could be made after designation.

Approximately 13,830 acres of land identified as having a moderate potential and 60 acres of land identified as having high potential for metallic minerals would be withdrawn. Loss of access to this potential mineral would be an adverse impact.

The entire area has a moderate potential for geothermal resources. Loss of access to this potential is not significant due to the lack of geothermal development and/or leasing in the area.

WILDERNESS

Wilderness designation would protect wilderness values on 17,850 acres in one of the five wilderness study areas.

The impacts of this alternative are identical to those in the Preferred Alternative except that the populations of wild horses and desert bighorn sheep, both special features of wilderness, will be affected in the Silver Peak Range WSA.

SILVER PEAK RANGE

Under this alternative the impacts would be identical to the Preferred Alternative except for the impacts to wild horses and desert bighorn sheep, special features of wilderness. Wild horses will be reduced to minimum herd size.

Desert bighorn sheep will increase over the present situation but less than in the Preferred Alternative.

Viewing opportunities for both animals would be less than in the Preferred Alternative and bighorn sheep hunting opportunities would be less.

SOCIAL VALUES

At the individual rancher level, the potential for increased income as a result of a thirty percent AUM increase for livestock if this alternative were implemented would probably be both a perceptual as well as a material beneficial impact. The magnitude of the beneficial impact would vary on a case-by-case basis depending, among other things, on the distribution of AUM increases among the various allotments as well as the management strategy of each permittee. At a minimum, the potential for more income, increased property values, and perhaps somewhat more ease in obtaining loans could and probably would make those individual ranchers feel more positive about their quality of life.

It could be expected that those individuals and stakeholder groups who actively support the maintenance of wild horses and burros on public lands would view the implementation of this alternative as having a significant adverse impact on wild horse and burro numbers since wild horse numbers are reduced by forty-seven percent and burro numbers would be reduced by sixty percent. It could be expected that implementation of this alternative would probably tend to create additional tension and strife between livestock and wild horse and burro stakeholder groups because of the perceived inequity of AUM allocations between livestock and wild horses and burros.

Managing current big game habitat with the goal of achieving reasonable numbers would, in the long term, increase the number of hunter days. From both an economic as well as a sporting point of view, this would be a beneficial impact, although not of

major magnitude. The implementation of this aspect of this alternative would be viewed positively by hunters as well as those non-hunters who receive aesthetic enjoyment from the knowledge that provisions are being made to both protect and enhance wildlife numbers.

Identifying a pool of approximately 245,807 acres of public lands that could be made available for disposal in response to various governmental, private sector or individual applications would probably be seen by those entities and individuals as a significant beneficial impact. If for no other reason, the reduction of Federal land holdings within the RMP area over the long-term would probably subtly contribute to some persons within the area viewing the Bureau in a more positive light. However, there would be some apprehension among area residents about the ultimate disposal of such a large amount of public land. It could be expected that there could be a significant political response to any attempt by BLM to dispose of public lands on which grazing privileges are currently held unless grazing use is assured for (a) at least two years from the date of permittee/lessee notification of sale or; (b) for leases or permits with more than two years of grazing use remaining, a condition of sale providing for continued grazing until the lease or permit would have terminated; (c) permittee/lessee agreement to a waiver or; (d) the sale will not adversely affect the permittee/lessee's grazing preference.

The implementation of this alternative would have a beneficial impact on the utility sector's long-range planning programs since both designated and planning corridors are accommodated in this alternative.

Recommending 17,850 acres of the Silver Peak Range WSA as suitable for wilderness designation would be a beneficial impact, perhaps significantly so, as far as preserving that amount of the area's high quality wilderness resources is concerned. The loss of 172,959 acres, approximately 91 percent of the total WSA acreage in the RMP area, as a result of those acres being recommended as nonsuitable for wilderness designation may be, in the long- term, a significant adverse impact on those resources. Over a prolonged period of time, wilderness characteristics and values may be irretrievably lost as a direct consequence of those acres not being recommended as suitable. In view of the large percentage of WSA acreage being recommended as nonsuitable, it could be expected that implementation of the wilderness recommendations in this alternative would further strain the relations between the Bureau and those individuals and interest groups who advocate wilderness preservation and especially those who have actively endorsed wilderness designation for one or more of the five WSAs in the RMP area.

Of the 17,850 acres of the Silver Peak Range recommended as suitable, 13,830 acres are classified as moderately favorable, and 60 acres are classified as highly favorable, for metallic minerals. Inclusion of those acres of favorable metallic minerals developmental potential within the area recommended as suitable for wilderness designation could, for the minerals industry as well as the adjacent communities, represent an opportunity foregone. This could be an adverse impact, perhaps significantly so. Due to the paucity of site specific data, it is impossible to quantify at this point in time.

Mining based industries and their related interest groups could be expected to endorse the recommendation that 172,959 acres of the RMP area's WSAs are nonsuitable for wilderness designation. This would, perceptually at least, be considered a significant

beneficial impact by the mining sector. The implementation of this alternative would probably sustain, if not heighten, the level of conflict that has, and continues to exist between wilderness and mining advocates as they both assert that the public interest requires decisions more favorable to their respective constituencies at the local, regional and national levels.

ECONOMIC CONDITIONS

WILDERNESS

No significant impact to the area economy would occur as a result of wilderness designation.

Economic interest in the wilderness study areas derives from their use for grazing, recreation, forest products, mineral production, and tax revenues. Analysis of these productive uses of the potential wilderness resource indicates that no significant alteration of the area economy would be expected to occur due to formal wilderness designations. While there would be some minor trade-offs in income and employment impacts, with particular activities such as recreation being enhanced and mineral extraction being discouraged, the basic structure of the economy will remain intact, with no significant impacts, either beneficial or adverse.

LAND DISPOSALS

Under this alternative, a total of 245,807 acres of public land have been identified for possible transfer to private ownership. While it is highly unlikely that the total identified acreage would be successfully transferred within the 20-year period, such changes within the land ownership pattern that might occur could alter the tax base of Esmeralda and Nye counties to a significant degree.

Based on estimated fair market value applied to potential highest and best use, and assuming that land values would not be affected by the disposal of all or a portion of this acreage, these lands are valued at $114.7 million. The sale of the total acreage available would add $20.6 million, or approximately 88 percent, to the total assessed valuation ($23.4 million) of Esmeralda County, and $19.5 million or 7.7 percent, to the total assessed valuation ($252.2 million) of Nye County.

Nevertheless, local governments could suffer adverse financial effects, resulting from the transfer of these lands to private ownership, should the tax revenues fall short of the cost of providing public services. The provision of these services to new areas is likely to require greater capital outlay, and to be less cost efficient, than that which obtains within existing communities.

CORRIDORS

The general impacts of corridor designation would be the same for this alternative as discussed under the Preferred Alternative.

LIVESTOCK GRAZING

Ranch wealth, net ranch income, livestock industry employment and area economy employment would be significantly beneficially affected under this alternative, in the short-term. Ranch wealth would increase by $800,000, and net ranch income would increase by $68,000.

Livestock industry employment would increase by 8.8 full-time equivalents (2,000 hours) and total employment in the area economy would increase by about 15 jobs in the short-term. Area economy income could be expected to increase by slightly more than $129,000.

However, range improvements and vegetative manipulation projects would be unable to sustain a level of use of 60,319 AUMs in the long-term. It is expected that carrying capacity would eventually decline to 45,910 AUMs with additional loss of 2,430 AUMs from land disposal, reducing the total available AUMs to 43,480 in the long-term and resulting in moderately adverse economic effects.

In the long-term, ranch wealth would decline to $2.2 million, approximately $0.3 million below the present level, with gross income reduced by about $45,000 and net ranch income by $10,700 below current levels. Livestock industry jobs would decline by 2,800 hours of employment, and a total of 2.3 jobs would be lost in the area economy.

While these effects would be spread among all area ranchers, and are not sufficient to be considered significantly adverse, further declines might be expected to occur beyond the 20-year period as a result of destruction of the vegetative resource brought about by the initial implementation of such exploitative grazing levels.

The potential loss of 2,430 AUMs on lands identified for disposal accounts for most of the adverse economic impacts in the long-term. It is estimated that current livestock grazing on these lands contributes $43,300 in gross income and $10,300 in net income to ranching in the area. This provides 1.3 jobs in the agricultural industry and 2.2 jobs, total, in the regional economy, and contributes $19,700 to regional income.

ALTERNATIVE B

WATER RESOURCES

There would be a slight improvement in water quantity and quality.

Water Quantity

The impact to water quantity would be the same as that described under Alternative A

Water Quality

The State of Nevada and BLM have a Memorandum of Understanding (USDI, BLM and Nevada Division of Environmental Protection, 1980) agreeing that BLM resource management plans will incorporate "Best Management Practices" to eliminate or reduce water pollution from diffuse sources from the use, maintenance, or improvement of soil, water, and plant resources. Adherence to this policy would improve overall water quality.

In addition, improvements to water quality would be expected for the three streams and 12 springs protected under this alternative. Implementation of intensive management on six allotments would result in better livestock distribution and should improve the quality of water sources in those allotments. Decreased livestock numbers may result in an overall improvement in water quality of unprotected water sources, however, increases in wild horse and burro numbers would partially offset this effect.

Wilderness designation of 99,420 acres would provide added protection for water sources within the area recommended as suitable by preventing surface disturbing activities.

VEGETATION

In the long-term, approximately 3 percent of the plant communities would advance toward their natural potential while 1 percent would regress to an earlier seral stage. Some 695 acres of native range would be converted to seeded range. The livestock forage value of 2,410 acres of seeded range would improve. Forage production would increase by 779 AUMs for all grazing animals.

In the I allotments; Icehouse, Magruder Mtn., Montezuma, and Mt. Stirling, there would be an increase of 749 acres of plant communities (less than 1% of the inventory area) in an early seral stage. There would be a reduction of 105,865 acres (4% of the area) in a mid seral stage and an increase of 95,468 acres (4% of the area) of those in a late seral stage. Also 10,896 acres (less than 1% of the area) of vegetation would reach its potential natural plant community (see Appendix F for methodology for determining changes in succession). The propensity of change toward potential is due to a reduction of grazing pressure over 67 percent of the area covered by these allotments and the positive impacts of implementing AMPs (see "Vegetation" section of Preferred Alternative). This is the result of livestock reductions in areas used by cattle alone and where livestock reductions would more than compensate for the increase in wild horses and burros.

The increases of early seral communities is due to an increase in grazing pressure in ranges used exclusively by equines or where reductions in livestock would not outweigh the increases in wild horses and/or burros. This would occur on the remaining one third of the area. Similar impacts would occur on the Monte Cristo (M) allotment (see Table 4-4.)

In four M allotments; Razorback, Sheep Mtn., White Sage, and White Wolf, along with three C allotments; Silverking, Springdale #2 and Yellow Hills, there would be essentially no change in succession since only 10 percent of the area in these allotments would have an increase in grazing pressure from wild horses and/or burros. Recovery of the remaining 90 percent of the rangelands would be inhibited by the predominance of apparent downward or static trend and only low and moderate potential range sites. This is also similar to what would occur on the Red Springs (I) and the Emigrant Peak (C) allotments.

However, in the Silverpeak, another I allotment, succession would result in earlier seral communities (see Table 4-4) since one third of the allotment would be impacted by an increase of grazing pressure from wild horses in the Silverpeak HMA. The four ephemeral custodial (C) allotments; Ash Meadows, Grapevine-Rock Valley, Carson Slough, and County Line would remain unchanged in vegetation succession due to overall static trends. Ephemeral licensing practices on these allotments are not expected to impact the succession of vegetative communities (see the "Management Actions Common to All Alternatives" section of Chapter Two).

These changes in succession would cause a net increase in forage production of 418 AUMs (see Appendix G for methodology for changes in forage production).

Forage conditions would improve on 2,410 acres of seeded range from fair to good, due to better livestock control. This results in 187 AUMs increase in forage for cattle, wild horses and elk.

Vegetation conversions of 695 acres of early seral sage brush dominant bottomlands would increase forage by 174 AUMs for cattle and wild horses.

RIPARIAN VEGETATION

Some 50 acres of streambank riparian vegetation would decline in condition, 55 acres would improve, and 20 acres would remain in their present condition. The vegetation succession of approximately 528 acres of meadow would advance toward its natural potential plant community, while 5,490 acres would remain in their present seral status. About 342 acres of meadows would regress in successional stage. A projected 29 acres of spring

TABLE 4-4
ESTIMATED VEGETATION STATUS OF ECOLOGICAL SITES 20 YEARS AFTER IMPLEMENTING ALTERNATIVE B

Allotment	Acres	Vegetation Status: Total Acres	Non Productive %	Non Productive Acres	Early Seral %	Early Seral Acres	Mid Seral %	Mid Seral Acres	Late Seral %	Late Seral Acres	Natural Potential %	Natural Potential Acres	Other 1/ %
Planning Area A													
Emigrant Peak	17,382	1,954	11			771	4	12,185	71	2,472	14		
Icehouse	78,923	7,301	9	46	T	13,515	17	57,312	73	749	1		
Magruder Mtn	625,015	35,012	5	9,120	2	48,568	8	520,966	83	10,079	2	1,270	T
Monte Cristo	496,018	53,149	11	438	T	21,650	4	420,174	85	607	T		
Montezuma	538,297	29,791	5	25	T	110,885	21	397,473	74	123	T		
Razorback	72,880	1,454	2			10,901	14	60,508	84	17	T		
Red Spring	144,277	10,063	7	1,806	1	13,410	9	118,909	83	89	T		
Sheep Mtn	88,435	6,153	7			72	T	82,210	93				
Silver King	8,969	483	5					8,486	95				
Silver Peak	319,553	27,633	9	9,702	3	42,493	13	239,725	75				
Springdale 2	1,466	91	6			812	56	563	38				
White Sage	10,315	738	7			566	6	9,011	87				
White Wolf	21,567	1,172	5			3,891	18	16,504	77				
Yellow Hills	62,203	8,643	14			365	1	53,195	85				
Sub Total	2,485,300	183,637	7	21,137	1	267,899	11	1,997,221	80	14,136	1	1,270	T
Planning Area B													
Ash Meadows	120					120	100						
Carson Slough	13,842	415	3			5,591	40	4,403	32	3,433	25		
County Line	6,720					5,920	88	800	12				
Grapevine													
Rock Valley	6,844	448	7			2,737	40	3,659	53				
Mt. Sterling	153,262	17,324	11			27,581	18	107,217	70			1,140	1
Sub Total	180,788	18,187	10			41,949	23	116,079	64	3,433	2	1,140	1
Grand Total	2,666,088	201,824	8	21,137	1	309,848	11	2,113,300	79	17,569	1	2,410	T

1/ 2410 acres of seeded range with a good livestock resource value rating

associated vegetation would improve in condition, 36 acres would decline, 85 acres would improve or remain unchanged, and 25 acres would remain protected.

All impacts identifed in this riparian section are expected in the long-term. Except where the seral status changes in vegetation are predicted, a decline in condition should be interpreted as a decrease of plant diversity, ground and/or canopy cover; any improvement in condition as an increase of plant diversity, ground cover, and/or canopy cover.

Approximately 50 acres of riparian vegetation associated with a perennial stream would decline in condition due to increases in burros. Another 55 acres would improve due to protective fencing. Some 20 acres of streambank vegeation would not be affected by any action.

In those meadow plant communities used exclusively by livestock (see Appendix I for methodology for determining impacts to riparian vegetation) 20 acres of wet meadow and 5,300 acres of saline meadow would recover from a downward trend and remain in the present mid seral status. This would be in response to the reduction in livestock and in some cases, implementation of allotment management plans.

In areas used by both livestock and wild horses and/or burros, 330 acres of saline meadows in mid seral status, with an apparent downward trend, would regress to an early seral stage. This is in response to the increase in use by additional wild horses and/or burros. Although this use will also increase on 112 acres of late seral and 58 acres of mid seral saline meadows, a change in seral stage would not be detected in the long-term due to the present stability of these vegetative communities (i.e., no apparent trend, see Table 3-3). Some loss of vigor, diversity, and ground cover is expected in these latter communities, however.

Eighty-five acres of riparian vegetation associated with springs used exclusively by livestock would remain in their present condition or improve as a result of the reduction in livestock (see Appendix I for methodology in determining impacts to riparian vegetation). Another 5 acres of spring associated vegetation would improve through protective fencing. Thirty acres used exclusively by wild horses and/or burros would decline in condition in response to grazing and trampling by these animals.

Impacts to riparian areas specifically in Ash Meadows would be identical to those described in the "Riparian Vegetation" section of Alternative A.

Finally, 25 acres of spring and spring outflow vegetation is fenced. This vegetation would remain protected and is expected to remain in present condition.

SENSITIVE SPECIES

Impacts would be the same as those described under Alternative A.

WILDLIFE

Terrestrial wildlife habitat would improve in some habitat and decline in others.

The combined impact of the reduction in livestock and the less than offsetting increase in wild horse and/or burro use would result in the improvement in habitat condition in the Monte Cristo, Amargosa, Lone Mtn. Ranges and the Mt. Stirling portion of the Spring Mtn. Range) and decline in habitat condition in the Silver Peak, Stonewall, Gold Mtn., Magruder and Sylvania and Montezuma Ranges. The other habitats would remain in current condition.

Wilderness designation of 99,420 acres of wilderness study area would benefit wildlife habitat. Impacts are the same as identified in Alternative A.

Land disposals would not impact wildlife habitat.

Proposed utility corridors would adversely affect the habitats of bighorn sheep and mule deer.

Proposed utility corridors would adversely affect 19,615 acres of mule deer habitat and 5,659 acres of bighorn habitat. Of the 19,615 acres of affected mule deer habitat, only 18,735 acres would be considered as being significantly adversely impacted in the long-term. The remaining 880 acres of mule deer habitat and the 5,659 acres of bighorn habitat would not be significantly impacted. Justification for non-significant impacts is stated in Alternative A.

Bighorn sheep numbers would increase in the Lone Mtn. and Monte Cristo Ranges; remain static in the Stonewall Range and decline in the Silver Peak Range.

Bighorn sheep would benefit from the combined impact of the reduction in livestock and the increase in wild horse and/or burro use. This would reduce the overall competition with bighorn for water, space and forage. With water development, Lone Mtn. Range should increase by 6 bighorns and the Monte Cristo Range by 162 in the long-term. The Stonewall Range population would remain static in the long-term.

The Silver Peak Range bighorn population would be adversely impacted by the combined impact of the reduction in livestock and the increase in wild horses and/or burros. This would increase the overall competition with bighorn for water, space and forage. In the long-term, the population would decline by 31 bighorns. This would be a significant adverse impact and would mean a 26 percent reduction in the population.

Mule deer numbers would increase in the Amargosa and Monte Cristo Ranges. Both mule deer and elk numbers would increase in the Mt. Stirling portion of the Spring Mtn. range. Mule deer numbers would remain static in the Lone Mtn. Range and decline in the Gold Mtn., Magruder/Sylvania and Stonewall Ranges. Mule deer would be eliminated from the Montezuma and Silver Peak/Palmetto Ranges.

Mule deer and elk would benefit from the combined impact of the reduction in livestock and the less than offsetting increase in wild horse and/or burro use. This would reduce the overall competition with mule deer and elk for water, space and forage. With water development, mule deer herds in the Amargosa Range should increase by 20, and in the Monte Cristo Range by 14 in the long-term. With water development, the Mt. Stirling area of the Spring Mtn. Range would show an increase of 23 deer and 9 elk in the long-term. Mule deer numbers would remain static in the Lone Mtn. Range in the long-term.

The Gold Mtn., Magruder/Sylvania, Montezuma, Silver Peak/Palmetto and Stonewall Ranges mule deer populations would be adversely impacted by the combined impact of the reduction of livestock and the more than offsetting increase in wild horses and/or burros. This would increase the overall competition with mule deer for water, space and forage. In the long-term, the population could decline by 2 mule deer (8%) in the Gold Mtn. Range, 33 mule deer (28%) in Magruder/Sylvania Range and 3 mule deer (16%) in the Stonewall Range. The decline of 8 percent in Gold Mtn. would not be significant but the decline of 28 percent in the Magruder/Sylvania Range and 16 percent in the Stonewall Range would be significant impacts. In the long-term, deer would be eliminated from the Montezuma and Silver Peak/Palmetto Ranges.

Approximately 50 acres of streambank riparian habitat would decline from their present condition, 55 acres would improve, and 20 acres would remain in their present condition. An estimated 528 acres of meadow riparian habitat would improve, 5,490 acres would remain in their present condition, and 342 acres would decline in condition. Twenty-nine acres of spring riparian habitat would improve, 36 acres would decline, 85 acres would remain unchanged, and 25 acres would remain protected.

For reasons why the different types of riparian habitat are changing or not changing in condition, see the "Riparian Vegetation" section of this alternative.

The loss or decline of condition of any type of riparian habitat would adversely impact wildlife populations which depend on these habitats. Any loss or decline in these riparian habitats can result in the loss or decline of wildlife populations both in the short- and long-terms. Conversely, improvement of riparian habitat would benefit wildlife populations which depend on these habitats, resulting in an increase in wildlife populations in the short- and long-terms. Wildlife species most susceptible to changes in riparian habitat condition include: fish, small non-game birds and mammals, amphibians, chukar partridge, quail, cottontail rabbit, raptors and predators.

Specifically, riparian habitats of the following proposed or listed endangered, threatened or sensitive species would be affected. Spring and stream riparian habitat of the sensitive Amargosa toad would be adversely impacted. The condition of one acre of spring riparian habitat at Indian Spring and two acres at Crystal Spring would decline in both the short- and long-terms. Approximately 50 acres of streambank riparian habitat would decline in condition along the Amargosa River. These same 50 acres along the Amargosa River are also essential to the sensitive Amargosa speckled dace.

Stream riparian habitat essential to brook trout fisheries and sage grouse would be beneficially impacted. The condition of 19 acres of stream riparian habitat along Leidy and 36 acres along Indian Creek are expected to improve both in the long- and short-term. This would benefit the brook trout fishery along both Leidy and Indian Creek and the sage grouse populations utilizing Indian Creek. The 20 acres of brook trout fishery habitat along Perry Aiken Creek is expected to remain in present condition.

The following spring riparian habitats in Ash Meadows would be affected.

Some 20 acres of essential habitat of the endangered Warm Springs pupfish would be beneficially impacted. Habitat condition at N. Scruggs (7 acres), S. Scruggs (7 acres) and Marsh Springs (4 acres) is expected to improve in both the short- and long-terms. Warm Springs pupfish habitat at School Springs (2 acres) would remain protected by fenced enclosure and is expected to remain in present condition.

Some 6 acres of essential habitat of the endangered Ash Meadows Amargosa pupfish and Ash Meadows speckled dace would be adversely impacted and 23 acres would remain protected. Habitat condition of six acres of unprotected spring riparian habitat supported by outflows of both Big and Jackrabbit Springs is expected to decline in both the short- and long-terms. Habitat of both fish at Jackrabbit Spring (19 acres) and Big Spring (4 acres) would remain protected by fenced enclosure and is expected to remain in present condition.

Fifteen acres of spring riparian habitat crucial to sensitive snails would be beneficially impacted. Habitat condition of seven acres of minute slender tryonia habitat at S. Scruggs Spring and the four acres of median-gland Nevada spring snail habitat at Marsh Spring is expected to decline in both the short- and long-term. Habitat of both the indeterminate Nevada spring snail and the sporting goods tryonia at Big Spring (4 acres) would remain protected by fenced enclosure and is expected to remain in present condition.

WILD HORSE AND BURROS

This alternative maximizes the wild horse and burro resource. Wild horse and burro populations would be allowed to increase at a rate of 6 percent per year for a period of 5 years in each of the 13 designated herd management areas (HMAs).

The increase in wild horses and burros would result in a population of 1,513 horses and 477 burros. When this level is reached, periodic captures would be undertaken to maintain these numbers. These capture operations may result in as much as a 2 percent injury and/or death loss. No traits or characteristics unique to any herd would be affected by these periodic captures.

Vegetative conditions within the Mount Stirling HMA would improve noticeably, whereas the vegetative condition in the Palmetto, Paymaster/Lone Mtn., Dunlap and Stonewall HMAs would improve only slightly as a result of the implementation of this alternative. In the Silver Peak HMA, there would be a noticeable decline in vegetative condition, whereas the Fish Lake Valley, Montezuma, Bullfrog, and Goldfield HMAs would show a slight decline in vegetative condition (see "Vegetation" of this alternative). Herd condition and productivity would vary as habitat condition varies.

Vegetative condition would be further improved by the development of range, wildlife and wild horse habitat improvement projects, as well as the implementation of more effective cattle grazing systems. The Silver Peak, Montezuma, Palmetto, Bullfrog, Gold Mtn., Stonewall and Goldfield HMAs would benefit the most from habitat improvements.

The physical condition of the wild horses and burros would be maintained or improved as habitat conditions are maintained or improved. The disposal of land and designation of utility and planning corridors would not impact wild horses and burros in this alternative.

LIVESTOCK GRAZING

In the long-term, livestock use is projected to be 45,957 AUMs, a 0.1 percent decrease from current use.

Initially, livestock use would be authorized at 32,208 AUMs, a 30 percent decrease from the last three-to-five year average. All allotments would be grazed below preference. Emigrant Peak allotment would not be grazed.

No changes in class of livestock would occur. No changes in season-of-use other than what may be prescribed in the AMPs for the 6 I allotments are planned.

AMPs would include grazing systems described in the "Livestock Grazing" section of Alternative A. Other management actions would be the same as in Alternative A and the Preferred Alternative but the priority of implementation would be as listed in Table 2-4.

Impacts to vegetation from these management actions are described in the "Vegetation" section of this alternative. Changes in plant succession would result in 556 AUMs increase in livestock forage

production. The improvement in forage condition of existing range seedings would provide an additional 153 AUMs of livestock forage, while new seedings would provide 174 AUMs of additional livestock forage. The total increase in livestock forage would be 81 AUMs (see Appendix G, Table G-7 for changes in livestock forage).

No livestock grazing would be authorized in the Emigrant Peak allotment. This would eliminate the possible transmission of disease from domestic sheep to bighorn sheep.

Approximately 42,363 acres of land (894 AUMs) within seven allotments would be lost in the long-term through land disposal.

The net changes in available forage would equate to a 43 percent increase over the initial stocking level for this alternative. However, the change in available forage would be a 0.1 percent decrease from current levels. Initial stocking rates would be adjusted as described in the "Livestock Grazing" section of the Preferred Alternative.

LAND TENURE AND UTILITY CORRIDORS

LAND TENURE

Urban-suburban expansion would be accommodated and management of public lands would be enhanced.

The transfer from Federal ownership of 188,857 acres of land would result in a 99 percent increase in the amount of private land in the RMP area and would be a beneficial impact. This would satisfy all future community urban-suburban expansion needs. If surplus ground water were to become available, agricultural development needs would also be met. However, due to limited funding and manpower it is unlikely that the entire block of land identified will be disposed of in the long-term.

Management of the lands resource, both public and private, would be enhanced by disposing of Federal land now intermingled with private lands.

Designation of 406 miles of planning and utility corridors would encompass 69,941 acres of land identified for disposal in this alternative. This would not be significant since corridors range in width from three to five miles and provide adequate flexibility to route future transmission facilities around parcels identified for potential disposal.

Utility companies would benefit from long-range planning for major facilities.

Designation of 334 miles of utility corridors and 72 miles of planning corridors would satisfy most identified needs of the utility companies in the long-term. Designating these corridors would help utilty companies plan for future rights-of-way and would expedite the approval process. Corridor planning would not be consistent with land use planning for areas adjacent to the RMP area.
Land disposals under this alternative would not affect designation but may make right-of-way planning within the corridors more difficult. However, corridors would have a width of three to five miles and should provide adequate flexibility for location of rights-of-way.

ENERGY AND MINERALS

Energy and mineral exploration and development would be precluded or constrained on 99,420 acres within the Grapevine Mtns., Queer Mtn. and Silver Peak Range WSAs. There would be no impact to energy and mineral resources in the Pigeon Spring and Resting Springs WSAs.

GRAPVEVINE MOUNTAINS

Under Alternative B, 23,150 acres of

public land would be withdrawn from mineral entry. Valid claims made prior to designation could be developed, but no additional claims could be made after designation.

Approximately 10,500 acres of land identified as having a moderate potential for metallic minerals would be withdrawn. Loss of access to this mineral potential would be an adverse impact.

The entire area has a moderate potential for geothermal resources. Loss of access to this potential is not significant due to the lack of geothermal development and/or leasing in the area.

QUEER MOUNTAIN

Under Alternative B, 42,650 acres of public land would be withdrawn from mineral entry. Valid claims made prior to designation could be developed, but no additional claims could be made after designation.

Approximately 12,045 acres of land identified as having a moderate potential for metallic minerals would be withdrawn. Loss of access to this mineral potential would be an adverse impact.

The entire area has a moderate potential for geothermal resources. Loss of accesss to this potential is not significant due to the lack of geothermal development and/or leasing in the area.

SILVER PEAK RANGE

Under Alternative B, 33,620 acres of public land would be withdrawn from mineral entry. Valid claims made prior to designation could be developed, but no additional claims could be made after designation.

Approximately 24,990 acres of land identified as having a moderate potential and 1,295 acres of land identified as having a high potential for metallic minerals would be withdrawn. Loss of access to these mineral potentials would be an adverse impact.

The entire area has a moderate potential for geothermal resources. Loss of access to this potential is not significant due to the lack of geothermal development and/or leasing in the adjacent area.

WILDERNESS

Wilderness designation would protect the wilderness values on 99,420 acres in three of the five wilderness study areas.

The natural character, the outstanding opportunities to experience solitude and/or primitive recreation in a natural setting would be preserved in portions of the Grapevine Mtns., Queer Mtn. and Silver Peak Range WSAs.

Designation of these WSAs would expand the ecosystem and geographic diversity of the NWPS. It would not significantly expand the opportunities for wilderness experiences available to the residents of the metropolitan areas within a day's drive.

Wilderness values will not be protected on 90,255 acres. Impacts to the Pigeon Spring and Resting Spring Range WSAs would be the same as those described in the Preferred Alternative. Wilderness values will be lost in the undesignated portions of the Grapevine Mtns., Queer Mtn. and Silver Peak Range WSAs. Surface disturbing activities including mining, road building and vehicle use will degrade the natural character of the WSAs and their outstanding opportunities for solitude and/or primitive recreation.

GRAPEVINE MOUNTAINS

Under this alternative, 23,150 acres would be recommended as suitable. The

boundary of the suitable area follows topographic lines around the base of the range and includes all the mountains. The 43,650 acres that are not recommended under this alternative are the bajadas on the northwest and northeast periphery of the WSA.

Effect of Management Prescriptions on Activities

Designated Area

Mineral exploration and development would be excluded from the suitable area except on the 1,154 acres of existing claims, should they prove valid, and any other claims staked before designation. Road building and other forms of surface disturbance would be precluded. Without roads, vehicle related recreation would also be precluded because of the rugged topography.

Undesignated Area

Mineral and energy exploration and development would be allowed to occur. This would be concentrated in the 9,000 acres that have a moderate potential for metallic minerals in the western corner of the WSA. The road building associated with this would facilitate vehicle related recreation. Minimal mineral development will occur in the remainder of the undesignated area due to its low mineral value. Gravel will continue to be removed from the bajadas.

Impacts Resulting from Affected Activities

Designated Area

Since surface disturbing activities including vehicle use are precluded in the suitable mountainous area, naturalness, outstanding opportunities for solitude, and the primitive recreation opportunities of the Grapevine Mtns. WSA will be maintained. The suitable area is natural. It is unaffected by outside sights and sounds. The highly dissected ridgeline with its numerous peaks, narrow canyons, and other rugged features provides outstanding topographic screening. About 5,000 acres of pinyon pine and junipers at the south end of the range provide vegetative screening. Opportunities for solitude are outstanding except in the long, broad washes that drain the east slope.

Opportunities for primitive recreation are high quality but not outstanding. This portion of the WSA is narrow, lacks water, and has less than outstanding features. The most scenic and colorful area is Helmet Mountain and the large canyon south of it.

The designated portion includes most of the key features in the WSA. The boundary can be located and is manageable.

Undesignated Area

Surface disturbance including road building and vehicle use will cause a loss of naturalness and opportunities for solitude and primitive recreation. The portion within one mile of the northeast and northwest boundaries is not natural due to the effects of the outside sights and sounds of Highway 72, the northeast boundary road and powerlines. The remainder is natural except for three short ways and three short sections of cat work. The undesignated portion has opportunities for solitude and primitive recreation but these are less than outstanding.

QUEER MOUNTAIN

Under this alternative 42,650 acres would be recommended as suitable. The suitable area encompasses the southern three-quarters of the mountainous portion of the WSA. The boundary of the suitable area follows topographic lines, natural features and the California border. The 38,900 acres

that would be recommended as nonsuitable would include the northern one-fourth of the mountainous portion and the bajadas on the east and south sides.

Effect of Management Prescriptions on Activities

Designated Area.

Mineral and energy exploration and development would be excluded from the designated portion of the WSA except for 20 acres of existing claims should they prove valid and any other valid claims staked before designation.

Road building, vehicle related recreation and other surface disturbing activities would also be precluded.

Undesignated Area

Gravel sales will be allowed near Highway 72 on the undesignated portion, mineral and energy prospecting and development would be allowed to occur. This would result in road building which would facilitate vehicle related recreation. The deleted area includes 21,800 acres of moderate metallic potential in the northern portion and eastern tip of the area. Most of the surface disturbance is expected to occur in these areas.

Impacts Resulting from Affected Activities

Designated Area

Since surface disturbing activities are precluded, in most areas, naturalness and outstanding opportunities for solitude will be maintained. The entire designated portion is natural. It offers outstanding opportunities for solitude because of its large size, blocky shape and mountainous terrain. Since it is only one-half the size of the original area, some opportunities for solitude were lost. However, the best topographic screening in the WSA is in the designated portion. Primitive recreation opportunities are available but not outstanding.

Maintaining these wilderness values will be difficult in spite of designation. Vehicle traffic will be difficult to control in the large driveable washes which cut through the center of the WSA. If vehicle use cannot be controlled, naturalness and opportunities for solitude will be lost.

Undesignated Area

Surface disturbing activities including mining, gravel sales and vehicle use will cause a loss of naturalness and opportunities for solitude and primitive recreation. Much of the deleted portion is natural with two exceptions. The area within one mile of the south boundary is not natural because it contains four ways and is affected by the outside sights and sounds of Highway 72 and powerlines. The northwest flank of Queer Mountain is also unnatural due to five ways and several areas of mineral prospecting. The undesignated portion has opportunities for solitude and primitive recreation but they are less than outstanding.

SILVER PEAK RANGE

Under this alternative 33,620 acres would be recommended as suitable including 3,065 acres that were not part of the original WSA. This added area is primarily in the northwest corner of the WSA including the lower end of Icehouse Canyon and the northwest escarpment. Additional acreage would be added in the southern part of the WSA to within 200 feet of the McAfee Canyon Road. The boundary of the suitable area follows topographic lines or roads. The 3,345 acres that would be recommended nonsuitable are primarily in Piper Canyon along the west boundary.

Additional acres would be deleted on the fringe of the WSA along the eastern boundary. Wild horses would be allowed to increase 34 percent.

Effect of Management Prescriptions on Activities

Designated Area

Mineral and energy exploration and development would be excluded from the designated portion except on 186 acres of existing claims should they prove valid and any other valid claims staked before designation. Road building and other forms of surface disturbance would be precluded. Without roads vehicle related recreation would also be precluded because of the rugged topography of the area. Woodcutting would be precluded.

Undesignated Area

Mineral and energy prospecting and development would be allowed to occur. This would result in road building which would facilitate vehicle related recreation and woodcutting. The deleted portions include 3,025 acres of moderate mineral potential and 175 acres of high potential. Surface disturbance would be concentrated in these areas particularly in the high potential area near Mud Springs.

Impacts Resulting From Affected Activities

Designated Area

Since surface disturbing activities, including vehicle use would be precluded, naturalness, outstanding opportunities for solitude and primitive recreation would be maintained.

The designated portion is remarkably pristine. Three short (less than 1 mile) jeep trails, a solar powered repeater on Piper Peak, an area of mineral assessment, and an abandoned spring development at Blind Spring are the only signs of human developments. Opportunities for solitude are outstanding throughout the designated portion due to a combination of topographic and vegetative screening. Opportunities for dayhiking and backpacking are outstanding because of the designated portions' varied topography, attractive rock formations, diverse plant communities, water, wildlife, outstanding views, and variety of destinations. Other primitive recreation opportunities are of high quality. Wild horses, a special feature of wilderness, would increase as will the opportunites to see them. Desert bighorn sheep would decline due to the increase in horse population. Since bighorn sheep are an indigenous species and are also a special feature of wilderness, the negative impact of their decline would offset the benefit from the wild horse increase.

The portion added to the original WSA would increase wilderness benefits by adding wilderness values and by creating a manageable boundary. All of the added area is natural except for the three short jeep trails mentioned above. Due to rugged topography, it all adds to the outstanding opportunities for solitude found in the designated area. These acres also contribute to the outstanding opportunities for primitive recreation by protecting areas, particularly the lower end of Icehouse Canyon, which would be part of dayhikes or backpacks into the original WSA. The added areas contain springs, riparian areas, sheep habitat, and colorful and rugged cliffs which all add to the value of the recreation experience.

The boundary of the designated area could be located on the ground and consequently would be manageable.

Undesignated Portion

Surface disturbance, including road building, vehicle use and wood cutting would cause a loss of naturalness and opportunities for solitude and primitive recreation on the 3,345 undesignated acres. All of the deleted areas contain wilderness values, particularly the lower end of Piper Canyon and the colorful canyon on the north end. However, the impact would be minimal because the deleted areas are small and scattered on the periphery of the WSA.

SOCIAL VALUES

The impacts under this alternative would probably be significantly adverse to individual ranchers in both planning areas in both the short- and long-terms. In some cases, the magnitude of these AUM reductions (30%) may exceed the critical threshold for maintaining a viable ranching operation. These AUM reductions would be particularly objectionable to the ranching sector since the reductions would be implemented in order to provide sufficient forage to increase wild horse and burro numbers, in addition to managing current big game habitat with a goal of achieving reasonable numbers. For those individual ranchers who would experience significant AUM reductions on their allotments if this alternative were to be implemented, their perceptual as well as their material welfare may be severely impacted as a result of reduced property values, increased difficulty in obtaining loans and less income. The possibility exists that one or more of those ranchers would go out of business and be subjected to the stresses of changing lifestyles, occupations and perhaps even places of residence.

Implementation of this alternative would generate controversy, misunderstanding and conflict between the ranching sector and BLM. The controversy would probably center around the quality of range data on which BLM determined that AUM reductions were justified. Under these circumstances, the ranching community could be expected to mobilize and be highly committed to use their political and legal resources to protect their interests and avoid potential losses.

Those individuals and stakeholder groups who support habitat development in an effort to achieve support for reasonable numbers of wildlife would probably consider the implementation of this alternative as a beneficial impact on wildlife. Similar perceptions would probably also be held by those individuals and stakeholder groups who support the continued presence of wild horses and burros on public lands. It could be expected that an on-going controversy would develop between the ranching sector and the wild horse and burro interest groups as a result of reducing livestock AUMs by thirty percent and significantly increasing wild horse and burro numbers.

Identifying a pool of public lands that could be made available in response to various governmental, private sector or individual applications or perceived needs would probably be seen by those entities and individuals as a significant beneficial impact. If for no other reason, the reduction of Federal holdings within the RMP area over the long-term would probably cause many individuals to view the Bureau more positively. It could be expected, however, that there would be some apprehension among area residents about the ultimate disposal of 188,857 acres of public lands. It could be expected that there could be a significant political response to any attempt by BLM to dispose of public lands on which grazing privileges are currently held unless grazing use is assured for; (a) at least two years from the date of permittee/lessee

notification of sale or; (b) for leases or permits with more than two years of grazing use remaining, a condition of sale providing for continued grazing until the lease or permit would have terminated; (c) permittee/lessee agreement to a waiver or (d) the sale will not adversely affect the permittee/lessee's grazing preference.

The implementation of this alternative would have a beneficial impact on the utility sector's long-range planning programs since both designated and planning corridors are accommodated.

Although the 99,420 acres of public lands that would be recommended as suitable for wilderness designation under this alternative have minimal manageability problems resulting from ORV access or mining claims, it could be expected that opposition to the suitable recommendations would be immediate and intense, especially from the mining sector. This negative response would probably focus on the minerals potential in the Silver Peak Range WSA.

ECONOMIC CONDITIONS

WILDERNESS

No significant impacts to the area economy would occur as a result of wilderness designation. See Alternative A for discussion.

LAND DISPOSALS

The successful disposal of 188,857 acres of public land over a 20-year period would alter the tax base of Esmeralda and Nye counties to a significant degree. The impacts would be the same as those under Alternative A, except of a lower magnitude.

Based on estimated fair market value applied to potential highest and best use, and assuming that land values would not be affected by the disposal of all or a portion of this acreage, these lands are valued at $460.4 million. Assuming assessed valuation at 35 percent of full cash value, these lands would add a total of $21.1 million, or approximately 7.7 percent, to the total assessed valuation ($275.6 million) of the two counties.

Adverse financial impacts could occur to local governments, as in Alternative A.

CORRIDORS

The general impacts of corridor designation would be the same for this alternative as discussed under the Preferred Alternative.

LIVESTOCK GRAZING

Impacts to the livestock industry under this alternative would be significantly adverse in the short-term. Total forage available to be licensed within the RMP area would decrease by 13,805 AUMs with a resulting loss in ranch income totalling $58,533, or approximately 20 percent of the RMP area's estimated total net ranch income of $290,881. Employment in the livestock industry would decline by 7.6 jobs, and the reduction in economic activity would result in a loss of a total of 12.8 jobs within the area economy. Ranch wealth would decrease by $690,000, and income in the area economy by a total of $112,000.

While these losses would be slowly mitigated over the long-term, some ranchers might not be able to survive the initial reductions. In response to the unavailability of forage in the short-term, ranchers in the RMP area would be faced with two options in order to remain in business: (1) reduce herd size, or (2) purchase hay or private grazing to offset the loss of public grazing. Some ranchers are not in a position to adjust their operations in this manner. Those who are already operating with insufficient economic reward for their own labor may be forced out of business.

In the long-term, AMPs and vegetative improvements are expected to provide an increase in forage production; however, an additional 894 AUMs may be lost through land disposal. It is estimated that long-term forage availability will provide for the licensed use of 45,957 AUMs, a net loss from current average licensed use (46,013 AUMs) of 56 AUMs. The economic effect, for those ranchers who are able to survive the short-term reductions, is insignificant. Total gross income would be slightly less than $1,000 below the current level, with net income among all area ranchers reduced by a total of approximately $240. The effect on the local economy is estimated at a decline of only $450 in total income.

Nevertheless, ranching as a means of livelihood would appear to be a discouraging prospect under this alternative. The limited potential for the future would make enduring the short-term reductions an unpromising effort for a number of area ranchers. In the long-term, ranching operations, and public grazing privileges, would probably become consolidated among fewer and fewer operators who, with an expanded operation, might be able to maintain a productive and profitable enterprise.

This analysis includes the loss of 894 AUMs within the acreage proposed for disposal. While such disposals may not necessarily occur, or may not occur to the full extent, the present utilization of livestock forage on these lands provides approximately $16,000 in total ranch income, $3,800 in net ranch income, and $7,200 in income to the regional economy. It is also estimated that 1,000 hours of livestock industry employment, with a total of 1,600 hours of employment in the area economy are provided by grazing livestock on these lands.

ALTERNATIVE C

WATER RESOURCES

There would be a slight improvement in water quantity and an overall improvement in water quality.

WATER QUANTITY

Wildlife water projects in the Silver Peak Range, Monte Cristo Range and Bare Mtns. HMP areas would improve water yield. Six spring development projects in four wild horse and burro management areas would provide increased quantity of water in those areas and may improve distribution.

WATER QUALITY

The State of Nevada and BLM have a Memorandum of Understanding (USDI, BLM and Nevada Division of Environmental Protection, 1980) agreeing that BLM resource management plans will incorporate "Best Management Practices" to eliminate or reduce water pollution from diffuse sources from the use, maintenance, or improvement of soil, water, and plant resources. Adherence to this policy would improve overall water quality.

Removal of livestock and reduction of wild horse and burro numbers would improve water quality in the RMP area by greatly reducing trampling at unprotected water sources.

Wilderness designation of 189,675 acres would provide added protection for water resources within all five WSAs by preventing surface disturbing activities.

VEGETATION

In the long-term, 6 percent of the plant communities in the inventory area would advance toward their natural potential. Downward trend would be halted and reversed. Forage production would increase by 4,493 AUMs for all grazing animals.

Overall, there would be a 763 acre decrease (4% of the inventory area) in the amount of vegetation in an early seral stage and a 162,854 acre decrease (6% of the area) in the amount in a mid seral stage. A 144,753 acre increased (5% of the area) in the amount of vegetation in a late seral stage is expected while 18,864 acres (1% of the area) of vegetation would reach their natural potential (see Table 4-5). Approximately 466,730 acres of downward trend (17% of the survey area) would improve to an upward trend.

These beneficial impacts to vegetation are the result of the elimination of livestock from the inventory area and a substantial reduction of wild horses and burros from all herd areas except the Amargosa Valley and the Fish Lake Valley herd areas. This decrease of grazing pressure would allow all forage species to increase in dominance in plant communities and would also allow those species characteristic of the potential native plant communities to increase. The increase in forage species would produce 4,493 AUMs which would be partially available to the remaining wild horse and burros and wildlife species (see Appendix G for methodology for determining changes in available forage).

Some localized overutilization may still occur in areas where wild horses and burros remain. This impact is not believed to be enough to affect succession.

RIPARIAN VEGETATION

No lands supporting riparian vegetation would be disposed. About 55 acres of streambank riparian vegetation would remain in their present condition or improve and 20 acres would remain in their present condition. The vegetation succession of approximately 540 acres of meadow plant communities would advance toward its natural potential plant community, 5,500 acres would remain in their present seral status, and 320 acres would regress in its successional stage. Another 50 acres would remain in present condition or decline. Approximately 125 acres of spring associated vegetation would improve and 50 acres are expected to remain in present condition or decline.

All impacts identified in this riparian section are expected in the long- term. Any decline in condition should be interpreted as a decrease of plant diversity, ground and/or canopy cover; any improvement in condition as an increase of plant diversity, ground cover, and/or canopy cover.

Fifty-five acres of streambank riparian habitat would remain static or improve due to the removal of livestock. Burros would only be slightly reduced in the Bullfrog herd area and, therefore, are expected to continue to impact the Amargosa River vegetation. This would cause the present condition of this community to either decline or remain at its present condition. Another 20 acres of streambank vegetation is not currently impacted by grazing and, therefore, would not benefit from removal of horses and livestock, however, they would remain in their current condition.

As a result of total livestock removal and the removal of horses below minimum population levels in the Paymaster/Lone Mtn. HMA, 5,310 acres of saline meadow plant communities, all in mid seral status and downward trend would experience a reversal in trend. These communities would remain in mid seral status, however. Eighty-four horses and 174 burros would remain in the Montezuma and Bullfrog HMAs, respectively. These animals would adversely impact the following saline meadow communities: 112 acres in late seral status and 58 acres in mid seral status, both with no apparent trend, would remain in these present seral stages; 320 acres

TABLE 4-5

ESTIMATED VEGETATION STATUS OF ECOLOGICAL SITES 20 YEARS AFTER IMPLEMENTING ALTERNATIVE C

Allotment	Total Acres	Vegetation Status: Non Productive Acres	Non Productive %	Early Seral Acres	Early Seral %	Mid Seral Acres	Mid Seral %	Late Seral Acres	Late Seral %	Natural Potential Acres	Natural Potential %	Other 1/ Acres	Other 1/ %
Planning Area A													
Emigrant Peak	17,382	1,954	11			771	4	12,185	71	2,472	14		
Icehouse	78,923	7,301	9			11,998	15	57,422	73	2,202	3		
Magruder Mtn	625,015	35,012	5	8,891	1	27,133	5	538,723	87	13,986	2	1,270	T
Monte Cristo	496,018	53,149	11			21,587	4	420,675	85	607	T		
Montezuma	538,297	29,791	5			90,932	17	417,451	78	123	T		
Razorback	72,880	1,454	2			10,101	14	61,253	84	72	T		
Red Spring	144,277	10,063	7	1,806	1	13,410	9	118,859	83	139	T		
Sheep Mtn	88,435	6,153	7			72	T	82,210	93				
Silver King	8,969	483	5					8,486	95				
Silver Peak	319,553	27,633	9	2,516	1	20,736	7	268,668	83				
Springdale 2	1,466	91	6			360	25	990	67	25	2		
White Sage	10,315	738	7	52	T	364	4	9,161	89				
White Wolf	21,567	1,172	5			3,891	18	16,504	77				
Yellow Hills	62,203	8,643	14			313	1	53,247	85				
Sub Total	2,485,300	183,637	7	13,265	T	201,668	8	2,065,834	84	19,626	1	1,270	T
Planning Area B													
Ash Meadows	120					120	100						
Carson Slough	13,842	415	3			5,591	40	4,403	32	3,433	25		
County Line	6,720					5,920	88	800	12				
Grapevine													
Rock Valley	6,844	448	7			2,737	40	3,659	53				
Mt. Sterling	153,262	17,324	11			13,812	16	110,986	72			1,140	1
Sub Total	180,788	18,187	10			38,180	21	119,848	66	3,433	2	1,140	1
Grand Total	2,666,088	201,824	8	13,265	T	239,848	9	2,185,682	82	23,059	1	2,410	T

1/ 2410 acres of seeded range with a good livestock resource value rating

in mid seral status in a downward trend would regress to early seral status. Also, due to livestock removal, an estimated 95 acres of spring associated vegetation are expected to improve, while 25 acres of unprotected spring vegetation would still experience use by wild horses and burros and, therefore, would either remain in present condition or decline.

Additionally, in Ash Meadows, 30 acres of vegetation adjacent to springs and spring outflows would improve in condition due to the continuation of present management and no livestock grazing in the Ash Meadows ephemeral allotment. For the above reasons, 465 acres of saline meadow and 75 acres of wet meadow vegetation would advance from mid seral status to late seral status.

Finally, 25 acres of spring and spring outflow vegetation is fenced and is not expected to change from its present condition.

SENSITIVE SPECIES

The removal of all grazing animals from the Ash Meadows area would beneficially impact the sensitive species in these areas by protecting them from grazing use and trampling.

Other populations throughout the RMP area that are sensitive to disturbance would be beneficially impacted through the reduction of grazing animals.

The proposed land sales would impact sensitive species as outlined in the Preferred Alternative.

WILDLIFE

Terrestrial wildlife habitat is expected to improve.

The removal of all livestock and removal of wild horses and/or burros from bighorn sheep and mule deer ranges would permit habitat condition to improve in both the short- and long-terms. An exception would be the stream riparian habitat along the Amargosa River. It is suspected to continue to decline due to the presence of the Bullfrog wild burro herd.

Wilderness designation of a total of 189,675 acres of wilderness study area would be of maxiumum benefit to wildlife habitat. Impacts are the same as identified in Alternative A.

Proposed utility corridors would adversely affect the habitats of bighorn sheep and mule deer.

Proposed utility corridors would adversely, but not significantly, affect 880 acres of mule deer habitat and 8,901 acres of bighorn habitat. Justification for non-significant impacts is stated in Alternative A.

Bighorn sheep numbers would increase in the Silver Peak, Monte Cristo and Lone Mtn. Ranges. Numbers would remain static in the Stonewall Range; reintroductions would be made in Amargosa, Magruder/Palmetto, Montezuma, Goldfield and Sawtooth Ranges, introductions would be made in the Bare Mtn. and Gold Mtn. Ranges.

Bighorn sheep would benefit from the combined impact of the removal of all livestock and the removal of wild horses and/or burros from bighorn sheep ranges. This would remove the competition with bighorn for water, space and forage. In most ranges reasonable numbers would not be achieved because of the lack of necessary funds required for water development. With water development and reintroduction, the Silver Peak Range herd would increase by 542 bighorn and the Monte Cristo Range herd by 288 bighorn in the long-term. The Stonewall population would remain static and the Lone Mtn. population would increase by 29 bighorn in the long-term. Bighorn would be introduced or reintroduced into the following ranges and are expected to

increase to the following numbers: 116, Bare Mtn. Range; 47, Amargosa Range; 200 Magruder/Palmetto Range; 40, Montezuma Range; 42, Goldfield Range; 60, Gold Mtn. Range and 14 in the Sawtooth Range; all without water development.

Mule deer numbers would increase in the Amargosa, Gold Mtn., Lone Mtn., Magruder/Sylvania, Monte Cristo, Montezuma, Silver Peak/Palmetto, and Stonewall Ranges. Both mule deer and elk would increase in the Mt. Stirling portion of the Spring Mtn. Range.

Both mule deer and elk would benefit from the combined impact of the removal of all livestock and the removal of wild horses and/or burros from mule deer and elk ranges. This would remove the competition with mule deer for water, space and forage. In some ranges reasonable numbers would not be achieved because of the lack of necessary funds required for water development. With water development, the Silver Peak/Palmetto Range would increase by 270 mule deer and the Monte Cristo Range by 28 mule deer in the long-term. The following mule deer population increases would occur: Amargosa; 20, Gold Mtn. Range 36, Lone Mtn. Range by 52, Magruder/Sylvania Range 180, Montezuma Range 56 and Stonewall Range 19, in the long-term. With water development, the Mt. Stirling area of the Spring Mtn. Range would show an increase of 94 mule deer and 19 elk in the long-term.

Some 55 acres of streambank riparian habitat would remain in present condition or improve and 20 acres would remain in present condition. Another 50 acres would remain in present condition or decline. Five hundred and forty acres of meadow riparian habitat would improve. Some 5,500 acres would remain in their present condition and 320 acres would decline in condition. Approximately 125 acres of spring riparian habitat would improve and 50 acres is expected to remain at present condition or decline.

For reasons why the different types of riparian habitat are changing or not changing in condition, see the "Riparian Vegetation" section of this alternative.

The loss or decline of condition of any type of riparian habitat would adversely impact wildlife populations which depend on these habitats. Any loss or decline in these riparian habitats can result in the loss or decline of wildlife populations both in the short- and long-terms. Conversely, improvement of riparian habitat would benefit wildlife populations which depend on these habitats, resulting in an increase in wildlife populations in the short- and long-terms. Wildlife species most susceptible to changes in riparian habitat condition include: fish, small non-game birds and mammals, amphibians, chukar partridge, quail, cottontail rabbit, raptors and predators.

Specifically, riparian habitats of the following proposed or listed, endangered, threatened or sensitive species would be affected. Some 3 acres of spring riparian habitat of the sensitive Amargosa toad would be beneficially impacted and 50 acres of streambank vegetation would be adversely impacted. The condition of one acre of spring riparian habitat at Indian Spring and two acres at Crystal Spring is expected to improve due to protective fencing. Approximately 50 acres of streambank riparian habitat along the Amargosa River are expected to remain in present or decline in condition. This same 50 acres is also essential to the sensitive Amargosa speckled dace.

Stream riparian habitat essential to the brook trout fishery and sage grouse would be beneficially impacted. The condition of 19 acres of stream riparian habitat along Leidy and 36 acres along Indian Creek is expected to remain in its present condition or improve. This would

benefit the brook trout fishery along both Leidy and Indian Creek and the sage grouse populations utilizing Indian Creek. The 20 acres of brook trout fishery habitat along Perry Aiken Creek is expected to remain in present condition.

The following spring riparian habitats in Ash Meadows would be affected.

Some 20 acres of essential habitat of the endangered Warm Springs pupfish would be beneficially impacted. Habitat condition at N. Scruggs (7 acres), S. Scruggs (7 acres) and Marsh Springs (4 acres) is expected to improve in both the short- and long-terms. Warm Spring pupfish habitat at School Springs (2 acres) would remain protected by fenced enclosure and is expected to remain in its present condition.

Some 29 acres of essential habitat of the endangered Ash Meadows Amargosa pupfish and Ash Meadows speckled dace would be beneficially impacted. Habitat condition of a total six acres of unprotected spring riparian habitat supported by outflows of both Big Spring and Jackrabbit Spring is expected to improve. Habitat of both fish at Jackrabbit Spring (19 acres) and Big Spring (4 acres) would remain protected by fenced enclosure and is expected to remain in its present condition.

Fifteen acres of spring riparian habitat crucial to sensitive snails would be beneficially impacted. Habitat condition of the 7 acres of minute slender tryonia habitat at S. Scruggs Spring and the 4 acres of median-gland Nevada springs habitat at Marsh Spring is expected to improve in both the short- and long-terms. Habitat of both the indeterminate Nevada springs snail and the sporting goods tryonia at Big Springs (4 acres) would remain protected by fenced enclosure and is expected to remain in its present condition.

WILD HORSES AND BURROS

Populations would be reduced approximately 55 percent from current population levels and portions of 12 herd areas would be designated as herd management areas.

That portion of the Mt. Stirling herd area (within Nye County) would be eliminated based on potential conflicts with wildlife.

In the Goldfield (burros only), Dunlap, and Palmetto HMAs, horses and burros will be reduced below the minimum population levels (50 head), thus risking the loss of certain traits and an increase of inbreeding. In the Paymaster/Lone Mtn., Gold Mtn., and Bullfrog (horses only) HMAs, populations would be reduced further, from already minimum population levels. These removals may result in the loss of these populations as viable herds.

Development of waters in the Silver Peak, Stonewall, Paymaster/Lone Mtn. and Bullfrog HMAs would improve horse and burro habitat. These improvements, coupled with an increase in vegetative condition and productivity throughout the RMP area (see "Vegetation" section of this alternative) would greatly enhance wild horse and burro habitat.

During capture operations to reduce population levels, up to two percent injury or death loss of captured wild horses and/or burros may occur.

Disposal of land, and designation of utility and planning corridors would not impact horses or burros in this alternative.

LIVESTOCK GRAZING

Livestock grazing would be eliminated from the RMP area.

LAND TENURE AND UTILITY CORRIDORS

LAND TENURE

Management of public lands would be enhanced.

The transfer from Federal ownership of 10,235 acres of land would result in a five percent increase in the amount of private land in the RMP area. These lands would only satisfy minimal urban-suburban expansion needs. Even with available water, no additional agricultural development would take place.

Management of the lands resource, both public and private, would be enhanced by disposing of Federal land now intermingled with private lands.

Designation of 252 miles of planning and utility corridors would encompass approximately 4,050 acres of land identified for disposal in this alternative. Designation of these corridors would not impede disposal because of the scattered nature of the parcels.

UTILITY CORRIDORS

Minimal benefits would be afforded to utility companies.

Designation of 230 miles of utility corridors and 22 miles of planning corridors would not satisfy needs identified by the utility industry. Designating these corridors would help utility companies plan for future rights-of-way and expedite the approval process. Corridor planning would not be consistent with land use planning for areas adjacent to the RMP area.

Land disposals under this alternative would not impact right-of-way routing due to the scattered nature of the parcels.

ENERGY AND MINERALS

Energy and mineral exploration and development would be precluded or constrained on 186,675 acres within all five WSAs.

GENERAL

Mining claim location could continue on all five WSAs until such time as Congress acts on designation. Any designated areas would be precluded from further claiming. After designation, mining claim assessment work will be allowed on existing claims subject to the Wilderness Management Policy. All existing claims in designated wilderness areas would be subject to an examination to prove that a valid discovery exists. Operations on valid claims will be subject to reasonable stipulations for the protection of wilderness values. These could represent adverse impacts to mining operations particularly in terms of increased costs of the operations. Such impacts may become significant should costs of exploitation be increased to the point that the operation is uneconomical and mining is effectively denied. However, since the essence of the mineral patenting process is the validity examination, it is highly probable that claimants with a valid discovery, when faced with wilderness contraints in their operations, would move to patent their mineral discoveries. They would thereby largely free themselves from restraints on mining operations and put the burden of impact on the wilderness value.

Wilderness designation would be a significant adverse impact upon the ability of the minerals industry to explore and develop potential mineral resources.

Some parts of the subject lands do contain extensive deposits of salable minerals (sand and gravel) which could be developed, but these materials are so abundant and ubiquitous throughout the RMP area that any foreseeable demand could easily be met from other areas.

GRAPEVINE MOUNTAINS

Under Alternative C, 66,800 acres of public land would be withdrawn from mineral entry. Valid claims made prior to designation could be developed, but no additional claims could be made after designation.

Approximately 19,420 acres of land identified as having a moderate potential for metallic minerals would be withdrawn. Loss of access to this mineral potential would be an adverse impact.

The entire area has a moderate potential for geothermal resources. Loss of access to this potential would be an adverse impact from a mineral production viewpoint.

PIGEON SPRING

Under Alternative C, 3,575 acres of public land would be withdrawn from mineral entry. Valid claims made prior to designation could be developed, but no additional claims could be made after designation.

The entire area has a high potential for metallic minerals. Loss of access to this potential would be an adverse impact..

QUEER MOUNTAIN

Under Alternative C, 81,550 acres of public land would be withdrawn from mineral entry. Valid claims made prior to designation could be developed, but no additional claims could be made after designation.

Approximately 33,910 acres of moderate potential for metallic minerals would be withdrawn. Loss of access to this mineral potential would be an adverse impact.

The entire area has a moderate potential for geothermal resources. Loss of access to this potential is not significant due to the lack of geothermal development and/or leasing in the area.

RESTING SPRINGS

The impacts would be the same as those described under the "General" section of this alternative.

SILVER PEAK RANGE

Under Alternative C, 33,900 acres of public land would be withdrawn from mineral entry. Valid claims made prior to designation could be developed, but no additional claims could be made after designation.

Approximately 24,950 acres of land identified as having a moderate potential and 1,470 acres of land identified as having a high potential for metallic minerals would be withdrawn. Loss of access to these mineral potentials would be an adverse impact.

The entire area has a moderate potential for geothermal resources. Loss of access to this potential is not significant due to the lack of geothermal development and/or leasing in the area.

WILDERNESS

Wilderness values would be protected on 189,675 acres and all of this acreage would be added to the National Wilderness Preservation System (NWPS).

The natural character of these lands and the outstanding opportunity to experience solitude and/or primitive and unconfined recreation in a natural setting within the boundaries of the five WSAs would be preserved. A description of the wilderness values that would be protected within these areas is contained in Chapter Three and in the Esmeralda RMP Area Wilderness Technical Report (USDI, BLM, 1984).

Designation of these WSAs would expand the ecosystem and geographic diversity of the NWPS. It would not

significantly expand the opportunities for wilderness experiences available to the residents of the metropolitan areas within a day's drive.

GRAPEVINE MOUNTAINS

Under this alternative, 66,800 acres of the Grapevine Mountains WSA would be designated as wilderness. The boundary to the designated area is the same as the original WSA boundary.

Effect of Management Prescriptions on Activities

Mineral and energy exploration and development would be excluded from the WSA except on the 1,195 acres of existing claims, should they prove valid, and any other valid claims staked before designation. Road building and other forms of surface disturbance would be precluded. Without roads, vehicle related recreation would also be precluded in the mountainous portion of the WSA. Firewood and wood products would not be harvested from this area.

Impacts Resulting from Affected Activities

Since surface disturbing activities including vehicle use are precluded, most of the WSA will be maintained in its present condition. The WSA is natural except for the area within a mile of both the northeast and northwest boundaries. These areas have been impacted by the outside sights and sounds of Highway 72, the northeast boundary road and powerlines and by the gravel pits within the WSA. Outside sights and sounds are insignificant in the remainder of the WSA. Three short ways and three short sections of cat work are the only other intrusions in this WSA. The WSA, as a whole, has outstanding opportunities for solitude because of its large size, rectangular configuration and the topographic screening in the mountainous area (about one-half of the WSA) . Vegetative screening is available in the 5,000 acre pinyon pine portion. The sweeping bajadas on the northeast and northwest portions of the WSA and the broad washes that drain the east slope lack opportunities for solitude because of a lack of substantial screening.

Primitive recreation opportunities are high quality but less than outstanding in the WSA. The range is narrow, lacks water, and has less than outstanding features. It is, however, easily accessible with rugged mountains in the center and some colorful and dramatic scenery in the southern portion.

The WSA would be difficult to manage on the flat bajadas, particularly along the side of Highway 72. Vehicle use in these areas cannot be controlled without intensive enforcement effort. Over the long-term, wilderness values will decline on the bajada due to ORV use.

PIGEON SPRING

Designation of the Pigeon Spring WSA will not occur unless the contiguous California Desert Conservation Area (CDCA) WSA, Sylvania Mountains, is also designated. Pigeon Spring does not meet the wilderness criteria for size and outstanding opportunities for solitude and primitive recreation except when considered in conjunction with the California unit. This analysis is based on the possibility of the CDCA WSA being designated as suitable and all of the 3,575 acres of the Pigeon Spring WSA also being designated as suitable.

Effect of Management Prescriptions on Activities

Mineral and energy development and exploration would be excluded from the WSA except on the 560 acres of existing claims (1/6 of the WSA) should they prove valid, and any other valid claims staked before

designation. Road building and other forms of surface disturbance would be precluded. Vehicle related recreation and wood product harvesting would also be precluded.

Impacts Resulting From Affected Activities

Protection of wilderness values will not be a significant beneficial impact in this WSA because the values at risk do not meet minimum wilderness criteria. The WSA was selected because it is adjacent to a California WSA and is predominently natural, with the following exception. The area within one mile of the south and east boundaries is not natural due to the effects of five ways and mining activities that are in conjunction with one cherrystem. The WSA does not offer outstanding opportunities for solitude or primitive recreation.

In addition, the WSA is not manageable as wilderness for the long-term and what wilderness values there are cannot be maintained over time. Mining claims in areas of high mineral potential, ORV use and poorly defined boundaries will cause a loss of wilderness values. Nearly one-sixth of the WSA is covered with mining claims located in all parts of the area including the large canyon and main ridge which contain the highest wilderness values. Since the entire WSA is rated as having a high potential for metallic minerals, some of these claims will probably prove valid and be developed in spite of designation. Naturalness, solitude and primitive recreation opportunities would be lost in the area of development. Because the WSA is so small, any mineral development would affect the wilderness values of the whole WSA.

Several ways resulting from mineral exploration or off-road vehicle use penetrate the WSA along the Cucomungo Canyon Road. There are no natural barriers to vehicle travel in this area. Closing these ways and controlling recreational vehicle use will be difficult.

The northern and eastern boundaries are poorly defined. Surface disturbance may inadvertently occur inside the WSA boundaries since they cannot be accurately located on the ground.

QUEER MOUNTAIN

Under this alternative, 81,550 acres would be designated as wilderness. The boundary of the designated area would be identical to the original WSA boundary.

Effect of Management Prescriptions on Activities

Mineral and energy exploration and development would be excluded from the WSA except on the 707 acres of existing claims should they prove valid, and any other valid claims staked before designation. These claims are located in a band across the north end of the WSA. Road building, vehicle related recreation, and other forms of surface disturbance will be precluded.

Impacts Resulting from Affected Activities

Since surface disturbing activities including vehicle use are precluded, in most areas, naturalness and outstanding opportunities for solitude will be maintained. The WSA is remarkably pristine with the exception of two areas which are not natural. Outside sights and sounds of Highway 72 and the bordering powerline and the four ways within the WSA impair naturalness within one mile of the south boundary. Naturalness is also impaired on the northwest flank of Gold Mtn. due to mineral prospecting and five ways. Queer Mtn. WSA as a whole provides outstanding opportunities for solitude because of its large size, blocky shape, and

mountainous terrain. The bajadas on the north, east, and south lack opportunities for solitude because of their proximity to roads, presence of ways, and inadequate topographic screening. Primitive recreation opportunities are available but not outstanding.

In spite of designation, maintaining willderness values will be difficult on the flat bajadas, particularly along the side of Highway 72. The terrain is open, gently sloping and can be easily traversed by vehicles. The large driveable washes through the center of the WSA will also pose an ORV management problem. ORV use would impair the solitude and naturalness of the area.

Wilderness values will also be threatened near the poorly defined northern boundary. Surface disturbing activities may inadvertently occur inside the boundary because it cannot be located on the ground.

RESTING SPRING

Designation of the Resting Spring Range WSA will not occur unless the contiguous California Desert Conservation Area (CDCA) WSA is also designated. Resting Spring does not meet the wilderness criteria for size and outstanding opportunities for solitude and primitive recreation except when considered in conjunction with the California unit. This analysis is based on the possibility that the CDCA WSA is designated suitable and all of the 3,850 acres of the Resting Spring Range WSA is also designated.

Effect of Management Prescriptions on Activities

Mineral and energy exploration and development would be excluded from the WSA. Road building and other forms of surface disturbance would be precluded. Vehicle related recreation would also be precluded.

Impacts Resulting from Affected Activities

Protection of wilderness values will not be a significant beneficial impact because the values at risk do not meet minimum wilderness criteria. The WSA was selected because it is contiguous to a California Desert Conservation Area WSA and is natural. The WSA does not offer outstanding opportunities for solitude or primitive recreation.

Its small size, narrow shape, bisecting road, lack of vegetative screening, and minimal topographic screening limit the ability of a user to find seclusion. The entire WSA is accessible to dayhikers and horseback riders, but lacks special attractions. The land forms and plant life are not diverse or particularly scenic and the hills are not high enough to be challenging.

Maintaining naturalness in spite of designation would be difficult. The boundaries follow no natural features or legal lines and would be difficult to locate on the ground. Surface disturbance may inadvertently take place inside the boundary. In addition, ORV use will be very difficult to control in the large driveable washes that penetrate all parts of the WSA. Since there are no natural barriers to recreational vehicles, extensive use of artificial barriers or regular patrols would be necessary to retain the naturalness of this WSA.

SILVER PEAK RANGE

Under this alternative, 33,900 acres of the Silver Peak Range WSA would be designated as wilderness. The boundary of the designated area would be identical to the original WSA boundary. Wild horses would be eliminated from the WSA.

Effect of Management Prescriptions on Activities

Mineral and energy exploration and development would be excluded from the WSA except on the 186 acres of existing claims, should they prove valid and any other valid claims staked before designation. Road building and other forms of surface disturbance would be precluded. Without roads, vehicle related recreation would also be precluded because of the rugged topography of the area. Firewood and posts would not be harvested.

Impacts Resulting from Affected Activities

Since surface disturbing activities including vehicle use are precluded, naturalness, outstanding opportunities for solitude and outstanding opportunities for primitive recreation would be maintained. The WSA is remarkably pristine. Only three minor developments were found in the WSA, an abandoned spring development, a removeable solar powered repeater and an area of mineral assessment work. Outside sights and sounds are insignificant. Opportunities for solitude are outstanding throughout the WSA due to a combination of topographic and vegetative screening. Opportunities for dayhiking and backpacking are outstanding because of the WSA's varied topography, attractive rock formations, diverse plant communities, water, wildlife, outstanding views and variety of destinations. Other primitive recreation opportunities are also high quality. Since wild horses are a special feature of wilderness, their elimination is an adverse impact. However, this would result in an increase in desert bighorn sheep, an indigenous species, and this beneficial impact would more than offset the loss of horses. Also increases in sheep would increase hunting.

The wilderness values of the WSA would be jeopardized immediately adjacent to the boundary because it is difficult to locate on the ground. Surface disturbances may inadvertently occur inside the boundary. Also, some areas of high quality wilderness values were left out of this original boundary. Naturalness and outstanding opportunites for solitude and primitive recration would be lost in the mouth of Icehouse Canyon and on the northeastern escarpment due to mineral and energy prospecting and development.

SOCIAL VALUES

The consequences of implementing this alternative would be the most adverse of all the alternatives for all ranching operations within the RMP area. The impacts on the economic, psychological and social well-being of the ranching sector would be significantly adverse, perhaps irreparably so. In the most extreme case, many, if not most, of the ranches may go out of business if all grazing privileges on public lands were withdrawn. The gravity of this lifestyle change would be compounded by significant reductions in the value of the ranches so that owners' investments would not be returned by sale. In addition, ranching as a family occupation, a family lifestyle and form of community would be almost entirely eliminated from the area.

Although the number of permittees within the RMP area is not large, those ranchers and ranch hands leaving the ranch to compete for jobs regionally may find that it is difficult for the labor market to absorb them. Lack of re-training facilities within the counties would mean displaced ranchers and ranch hands would likely have to travel outside the area to find work. Even nearby counties would be hard pressed to absorb them.

Implementation of this alternative would result in strong opposition from the local nonranching community. Lost business activity and possible out-migration of some ranchers would contribute to community instability, a potential leadership vacuum, and the disruption of established interactional patterns. Valued lifestyles derived from the ranching character of the area would be disrupted, and it could be expected that intense animosity toward BLM would emerge. In combination, these changes would be disruptive in terms of community satisfaction and functional viability. Though nonquantifiable, there would be a significant adverse over-all impact on the local community. It could also be expected that there would be an immediate, intense and a well orchestrated political response to the implementation of this alternative.

Although wild horse and burro numbers would be reduced under this alternative, the maintenance of remaining numbers (427 horses and 248 burros) on public lands, while eliminating livestock grazing, would probably oppositionally polarize the views of individuals and stakeholder groups that actively support either of these multiple use activities. This would undoubtedly lead to further animosity, frustration and anger between these groups and BLM even though wild horse and burro individuals and stakeholder groups would not support the elimination of all grazing from public lands.

The combination of re-introducing bighorn sheep and managing current and historic big game habitat to achieve reasonable numbers, while at the same time, excluding livestock grazing from public lands, would probably create some animosity between these two groups. It could be expected, however, that wildlife stakeholder groups would not support the elimination of all grazing from public lands.

Recommending all five wilderness study areas as suitable for wilderness designation would probably be considered a significant adverse impact by many individuals and stakeholder groups, especially those who are mining sector oriented. In terms of opportunities foregone, this could be a significant adverse impact to the communities if those areas include mineral deposits of viable economic value. However, since no detailed minerals inventory exists for each of the five WSAs, this is speculative and not quantifiable. However, implementation of this aspect of this alternative would be a significant beneficial impact as far as preserving and protecting the wilderness resource for future generations is concerned.

ECONOMIC CONDITIONS

WILDERNESS

No significant impacts to the area economy would occur as a result of wilderness designation. See Alternative A for discussion.

LAND DISPOSALS

This alternative calls for the disposal of 10,235 acres of public land, which would result in no significant impact on the tax base of either Esmeralda or Nye Counties. Value of the lands identified for transfer is estimated at $7.7 million, with an estimated total assessed valuation of $2.7 million, or less than one percent of the present total assessed valuation ($275.6 million) for the two counties.

There could be adverse financial impacts on local governments should the tax revenues resulting from the private ownership of these lands be insufficient to cover the cost of providing public services.

CORRIDORS

The general impacts of corridor designation would be the same for this alternative as discussed under the Preferred Alternative.

LIVESTOCK GRAZING

Implementation of this alternative would result in the immediate loss of 46,013 AUMs of grazing on the public lands. Economic effects upon ranch operations would be adverse. Gross sales would decline by at least $820,000 annually, with a corresponding loss in net ranch income of about $195,000 and the loss of 25 jobs in the livestock industry. Ranch wealth would decline $2.3 million based on the loss of active preference.

It is estimated that the multiplier effect of spending within the area economy would create an immediate loss of more than $372,000 in income and 42 jobs.

Area permittees rely on BLM rangeland for an average of 67 percent of their vegetation requirements. Dependence on BLM land ranges up to 100 percent for those operators without base property. This alternative would leave even those permittes with base property with no options other than reducing herd size or acquiring additional forage.

Additional forage could be obtained through the purchase or lease of additional private acreage, the purchase of hay, or the intensification of production on currently owned acreage. However, private lands presently owned, leased, or available for leasing would not be adequate to maintain existing herd sizes due to the high percentage of land in the areas under public ownership. Consequently, herd size reductions and/or the purchase of hay are the only feasible options available.

Due to the costs imposed by either of these options, a number of area permittees are likely to be forced out of business. No quantification of this group is possible due to the myriad of variables involved. It is likely, however, that those ranches which have employed the highest levels of debt financing, those which have the highest degree of dependency on BLM vegetation, and those which command the smallest reserves of capital would be affected the most.

Many area ranchers have stayed in the livestock business despite relatively low rates of return due to the lifestyle involved. This alternative would force reevaluation of the trade-off between further income reduction and lifestyle retention. Many ranchers would undoubtedly halt their livestock operations; others would be forced to cease their reliance on ranching as a primary source of income.

UNAVOIDABLE ADVERSE IMPACTS

All adverse impacts identified are considered unavoidable since all feasible mitigating measures are integrated into all alternatives except where noted.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

Loss of wilderness values in the WSAs as a result of a management actions would be an irreversible impact on wilderness values.

Generally, all fossil fuels, labor, capital, and unsalvageable construction materials used to implement the RMP, constitute an irretrievable commitment of resources. Loss of access to mineral potential as a result of implementing a management action is considered an irretrievable commitment.

Disposal of lands from Federal ownership would be an irreversible commitment of public lands to nonpublic uses.

Construction or disposal which results in the loss of cultural resources are an irretrievable commitment.

Loss of human resources such as a ranching operation going out of business as a result of implementation of a management action would be an irretrievable loss.

Loss of wild horse and burro habitat through the elimination of a herd area would be an irreversible commitment.

Loss or disruption of wildlife habitat through construction of roads or construction of transmission lines which may result from corridor designation would be an irreversible and irretrievable impact on disturbance-intolerant species.

THE RELATIONSHIP BETWEEN SHORT-TERM USE OF THE HUMAN ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The short-term disposal of lands from Federal ownership would preclude long-term public use of those lands. On the other hand, it would provide for long-term community expansion and agricultural development.

Actions which result in the maintenance of the current situation in terms of livestock and wild horse and burro management would result in a long-term loss in productivity of livestock, forage, riparian/stream and wildlife habitat. Actions which improve the vegetation resource would result in an increase in long-term productivity of the resources.

CHAPTER 5

Consultation and Coordination and List of Preparers

Chapter 5
CONSULTATION AND COORDINATION

Consultation and coordination with all interested individuals, groups and agencies has been an important part in the development of the draft Esmeralda-So. Nye Resource Management Plan and will continue to play a vital role in the completion of the Proposed Plan/Final Environmental Impact Statement.

SCOPING

Issue Identification

A Notice of Intent to commence land use planning for the Esmeralda-Southern Nye Planning Area was published in the Federal Register on March 11, 1983. Following this notice a letter, dated March 16, 1984, was distributed inviting individuals, organizations and agencies who may be affected by the RMP to attend public workshops. These workshops were held at Silverpeak, NV., Fish Lake Valley, NV, Goldfield, NV., Beatty, NV. and Pahrump, NV. on April 5, 6, 7, 12 and 14, 1984, respectively. The purpose of these workshops were to identify the issues that should be addressed by the RMP. Briefings on issue identification were also given to Nevada Congressional Representatives and Esmeralda County Commissioners on May 9, and 23, respectively.

During the issue identification phase of the process 49 sources of public input produced 60 specific comments which were grouped into eleven "potential issue" categories. These categories included lands and corridors, cultural resources, forest and vegetative products, livestock grazing, minerals, range management, recreation and ORV use, threatened and endangered species, wilderness, wild horse and burros and wildlife habitat.

From these eleven "potential issues", three were chosen as issues. They are: wilderness, lands and corridors, and range management.

Cultural resources was not chosen as an issue because by law they are potected in addition to the lack of known archaeological sites in the planning area.

Areas for the harvesting of forest and vegetative products were raised as a possible issue during scoping. However, since then three harvesting areas have been established which resolved this issue.

As explanined in Chapter One, minerals were not considered an issue in the RMP. The plan will encourage mineral exploration and development in the RMP area with the exception of areas recommended as wilderness. In this case impacts to minerals will be analyzed as part of the wilderness issue.

Recreation was not considered an issue because of the low demand for developed recreational facilities or programs. In addition, recreational use is a relatively low priority compared with other uses in the RMP area. ORV was not considered an issue but is addressed in the plan.

Livestock grazing, threathened and endangered species, wild horses and burros and wildlife habitat are addressed under the rangeland management issue.

Alternatives

On April 11, 1984, a scoping document was distributed outling four potential alternatives that were developed from

the issues identified. This document initiated a 45 day comment period and invited its readers to attend one of the four workshops held during the comment period. These workshops were held in Fish Lake Valley NV., Goldfield, NV., Pahrump, NV. and Las Vegas NV. Again, a briefeing was held for the Esmeralda County Commisioners as well as the Nye County Commissioners.

Prior to the comment period, meetings were held with the Amargosa and Pahrump Planning Boards to explain the planning process and to solicit their input in the development of the land issue portion of the alternatives. As a result of this meeting a map was submitted to the BLM which illustrated which lands should be disposed of in the Pahrump and Amargosa areas under Alternative A.

On March 21, 1984 a meeting with the BLM and U.S. Fish and Wildlife Service (FWS) was held to discuss the Draft Land Protection Plan for Ash Meadows recently completed by the FWS. During this meeting the relationship between the Esmeralda-So. Nye RMP and the proposed Land Protection Plan was discussed.

Soon after the initiation of the comment period on April 19, 1984, consultation took place with the National Park Services to discuss the alternative boundaries of the Grapevine Mountains and Queer Mountain WSAs, which are adjacent to Death Valley National Monument. A follow-up letter dated June 1, 1984 was received from the park superintendant commenting on the alternatives.

During the alternative scoping process a total of 59 comments were received. Most of these comments expressed either a preference for a particular alternative or a concern over the grouping of management prescriptions in the alternatives.

As a result of scoping minor adjustments were made affecting the land tenure issue of some of the alternatives.

Two other possible alternatives did emerge during the comment period. The first one was to consider using the designation of "Areas of Critical Environmental Concern (ACEC), in the planning area to protect certain resource values. This alternative was not analyzed because presently their are no ACECS in the RMP area and current management options available are adequate to protect current resource values (see "ACEC" section of Chapter One).

The second possible alternative was subnmitted by the National Park Service (NPS) and affected the boundary of the Grapevine Mountains WSA. The NPS alternative suggested adding additional acreage to the southeast portion of the WSA. The BLM did not feel that it would aid in the management of the WSA or enhance wilderness values and therefore dropped the alternative from consideration.

AVAILABILITY OF THE DRAFT RMP/EIS

The draft RMP/EIS will be sent to all individuals, agencies, and groups who have expressed an interest in the planning process. Copies of the Draft RMP/EIS will also be sent to local agencies and organizations, and will be available for review at the listed 13 public libraries and 12 BLM offices. Anyone else wishing a copy of the draft RMP/EIS may receive one by calling or writing the BLM Las Vegas District at P.O. Box 26569, Las Vegas,NV 89126, (702) 385-6463.

The following is a partial list of those who will receive copies of the draft RMP/EIS.

Congressional Delegation

Senator Paul Laxalt, Nevada
Senator Chic Hecht, Nevada
Representative Harry Reid, Nevada
Representative Barbara Vucanovich, Nevada

Federal Agencies

Advisory Council on Historic Preservation
Department of Agriculture
  Forest Service
  Soil Conservation Service
  Agricultural Stabilization and Conservation Service
  Department of Commerce
  National Oceanic and Atmospheric Administration
Department of Defense
  Nellis Air Force Base
  George Air Force Base
  Edwards Air Force Base
  Army Corps of Engineers
Department of Energy
  Bonneville Power Administration
Department of the Interior
  Bureau of Indian Affairs
  Bureau of Mines
  Bureau of Reclamation
  Fish and Wildlife Service
  Geological Survey
  National Park Service
  Office of Environmental Project Review
Department of Transportation
Environmental Protection Agency

State Agencies

Office of the Governor
Nevada State Clearinghouse
  (25 copies) - distributes copies to State Agencies
Nevada Department of Wildlife
State Senators and Assemblymen
  (Esmeralda and Nye Counties)

University of Nevada, Reno and/or Las Vegas
  Desert Research Institute
  Fleischmann College of Agriculture
  Center for Business and Economic Research
  Department of Biological Sciences
  Mackay School of Mines
  Nevada Bureau of Mines

Local Government

Nye County Commissioners
Esmeralda County Commissioners
Amargosa Town Board
Amargosa Planning Board
Pahrump Town Board
Pahrump Planning Board
Pahrump Town Manager
Nye County Planning Department
Esmeralda County Game Management Board
Beatty Town Board

Others

Grazing Lease Holders within the RMP Area
Nevada Power Company
Sierra Pacific Power Company
Valley Electric Association
Nevada Bell
Las Vegas District Grazing Advisory Board
Nevada Cattlemen's Association
Multiple Use Advisory Board on Federal Land Laws
Las Vegas and Battle Mountain District Advisory Boards
National Wildlife Federation
Natural Resources Defense Council
Sierra Club
Earth First
The Wilderness Society
Audubon Society
Humane Society of Southern Nevada
International Society for the Protection of Mustangs
Nevada Miners and Prospectors Association
Nevada Mining Association
Nevada Outdoor Recreation Association
Nevada Wildlife Federation
Nevada Woolgrowers Association
Nevada Wilderness Association
Nevada Wildlife Association
Northern Nevada Native Plant Society
Society for Range Management
Sunshine Mining Company
Foote Mineral Company
Nevada League of Women Voters
Industrial Mineral Ventures

American Borate Corporation
American Mining Congress
Animal Protection Institute
American Horse Protection Association
Desert Tortoise Council
Desert Bighorn Council
Fraternity of Desert Bighorn
Friends of Nevada Wilderness
Greenpeace
ORV Groups

Public Libraries

Amargosa Public Library
Star Route 15
Box 401-T
Lathrop Wells, Nevada 89020

Beatty Community Library
323 Montgomery
Beatty, Nevada 89002

Charleston Heights Library
800 Brush Street
Las Vegas, Nevada 89107

Clark County Community College
Learning Resource Center
3200 E. Cheyenne Ave.
North Las Vegas, Nevada 89030

Clark County Library
1401 E. Flamingo Rd.
Las Vegas, Nevada 89109

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Las Vegas Public Library
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Mt. Charleston, Nevada 89101

North Las Vegas Library
2300 Civic Center Dr.
North Las Vegas, Nevada 89030

Pahrump Public Library
Pahrump, Nevada 89041

University of Nevada, Reno
Getchell Library
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301 S. Center Street
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Bureau of Land Management Offices

Office of Public Affairs, BLM
18th and C Streets, NW
Washington, DC 20240

Nevada State Office
300 Booth Street
Reno, Nevada 89520

Battle Mountain District Office
North 2nd and South Scott Streets
Battle Mountain, Nevada 89820

Carson City District Office
1050 E. William Street
Carson City, Nevada 89701

Elko District Office
2002 Idaho Street
Elko, Nevada 89801

Ely District Office
Star Route 5, Box 1
Ely, Nevada 89301

Las Vegas District Office
4765 West Vegas Drive
Las Vegas, Nevada 89126

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Battle Mountain District
102 Old Radar Base Rd.
Tonopah, Nevada 89049

Winnemucca District Office
705 East 4th Street
Winnemucca, Nevada 89445

Riverside District Office
1695 Spruce Street
Riverside, California 92507

Ridgecrest Resource Area Office
Riverside District
1414 A. N. Norma
Ridgecrest, California 93555

Needles Resource Area Office
Riverside District
P.O. Box 305
Needles, California 92363

HEARINGS

Three public hearings have been scheduled to receive comment on the Esmeralda-So. Nye Draft RMP/EIS. They are:

January 15, 1985 7:00 p.m.
Pahrump Community Center, Room B
Pahrump, Nevada

January 16, 1985 7:00 p.m.
Esmeralda County Courthouse
Goldfield, Nevada

January 17, 1985 7:00 p.m.
Showboat Hotel, Plantation Room
2800 E. Fremont
Las Vegas, Nevada

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APPENDICES

APPENDIX A
THE BLM WILDERNESS REVIEW PROCESS

The BLM wilderness review consists of three phases: (1) inventory, (2) study, and (3) reporting.

Inventory

The five wilderness study areas addressed in this study were identified using the wilderness inventory procedures described in the BLM Wilderness Inventory Handbook of September 27, 1978. The results of the intensive wilderness inventory were announced on November 15, 1980. Copies of the booklet Wilderness Study Area Decisions: Nevada BLM Intensive Wilderness Inventory are available at all BLM offices in Nevada.

In order to qualify for wilderness study area status, an area was required to contain the following wilderness characteristics described in the Wilderness Act of 1964: (1) have at least 5,000 acres or more of contiguous public land or be of a size to make practical its preservation and use in an unimpaired condition; (2) generally appear to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; and (3) have outstanding opportunities for solitude or a primitive and unconfined type of recreation. In addition, areas qualifying for wilderness study area status may contain supplemental values which include ecological, geological, or other features of scientific, educational, scenic, or historic value. The BLM wilderness inventory determined that five wilderness study areas within the Esmeralda RMP Area contain these minimum wilderness characteristics.

Study

The primary goal of the BLM wilderness study process is recommended for wilderness designation those areas where wilderness is determined to be the most appropriate use of the land and its resources.

It is the polilcy of BLM that each wilderness study area be studied through the BLM planning system to analyze all values, resources, and land uses. The findings of the study, including public participation, determine whether an area will be recommended as preliminarily suitable or nonsuitable for designation as wilderness. In practice, determining an area's "suitability or nonsuitability...for preservation as wilderness", in the words of the Federal Land Policy and Management Act, means determining whether the area is more suitable for wilderness designation or more suitable for other uses.

Reporting

The reporting phase consists of actually forwarding or reporting suitable and nonsuitable recommendations through the Secretary of the Interior and the President, to Congress. Mineral surveys required by the Wilderness Act of 1964, environment statemnets, and other data will be submitted with the recommendations.

APPENDIX B, TABLE 1

SELECTIVE MANAGEMENT CATEGORY CRITERIA

	M	I	C
Ecological Site Condition	Late to climax seral stage or satisfactory for meeting management objectives.	Early to mid seral stage or unsatisfactory for meeting management objectives.	Not a factor.
Estimated Potential Productivity	Moderate to high. Present production near potential.	Moderate to high. Present production low to moderate	Low. Present production may or may be near potential.
Present Management	Will meet management objectives	Will not meet management objectives. AMP or grazing. system needed.	Will not adversely affect other resources at this time
Economic Investment Potential	Probably positive over the long term.	Probably positive over short and long term.	Probably negative.
Resource Conflict	No conflicts, conflicts insignificant, or conflicts can be mitigated under present mangement.	Significant conflicts exist.	No conflicts, or conflicts are insignificant.
Political Controversy	None or only of minor local siignificance.	Highly controversial	None or only of minor local significance.
Range Improvements	Presently adequate to meet resource management objectives.	Additional improvements needed to meet resource management objectives.	Presently adequate to meet resource management objectives or not necessary to meet objectives.

APPENDIX B, TABLE 2
CATEGORIZATION OF ALLOTMENTS

Allotment		Ecological Condition	Production Potential	Present Management	Investment Potential	Resource Conflicts	Political Controversy	Range Improvement	Final Classisfication
Ash Meadows	5497	C	C	M	C	I	M	C	C
Carson Slough	5496	C	M	I	C	I	C	C	C
County Line	5491	C	C	C	C	C	C	C	C
Emigrant Peak	0102	M	C	C	M	C	C	C	C
Grapevine-Rock Valley	5494	C	C	M	C	I	M	C	C
Ice House	0095	M	C	I	C	I	M	I	I
Magruder Mt.	0091	I	M	I	M	I	M	I	I
Monte Cristo	0104	M	M	I	M	M	M	I	M
Montezuma	0094	I	I	I	I	I	M	I	I
Mount Stirling	5492	I	C	I	M	I	M	I	I
Razor Back	0093	M	C	C	M	M	M	I	M
Red Spring	0091	M	M	I	I	C	C	I	I
Sheep Mtn.	0100	M	C	C	M	M	C	M	M
Silver Peak	0097	M	M	I	I	I	M	I	I
Springdale #2	0098	C	C	C	C	M	C	C	C
White Sage	0090	M	M	M	C	M	M	M	M
White Wolf	0092	M	M	I	M	M	M	I	M
Yellow Hills	0101	M	M	C	C	C	C	C	C
Silver King	0103	M	C	C	C	M	C	C	C

APPENDIX C

ALLOTMENT RESOURCE CONFLICTS AND OPPORTUNITIES

Allotment	Resource Opportunities/Problems/Conflicts	Resource Management Objectives	Management Category
Planning Area A			
Emigrant Peak 0102	Range is generally in mid to late seral stage. Currently no livestock grazing exists. Investment of public funds on bighorn sheep water developments may be positive.	Maintain current range condition. Manage for reasonable numbers of bighorn sheep.	C
Ice House 0095	Wild horses and bighorn sheep have the potential to compete for forage in the vicinity of limited water sources. Wildlife populations are currently below reasonable numbers. Range is generally in mid to late seral stage.	Improve animal distribution and wildlife habitat with water developments and improvements. Maintain or improve riparian habitat at all spring sources. Maintain current range condition.	I
Magruder Mountain 0099	Competition for forage is occuring between cattle and deer in the Magruder/Sylvania area. Wild horses and deer compete for forage and water in the Palmettos. Livestock, wild horses and deer are competing for water and forage in the Gold Mountain area. Range condition is poor in localized areas but range is generally in mid to late seral stage. Livestock control is poor.	Manage for reasonable numbers of mule deer. Implement a grazing schedule and utilize water improvements for better livestock control. Improve range condition in the Lida Wash area and rehabilitate the Cucomunga seeding through better control of livestock and vegetative manipulation. Maintain or improve riparian habitat at all spring sources. Improve forage conditions through better distribution of grazing animals.	I
Monte Cristo 0014	Livestock distribution and control is poor due to lack of water and fencing. Range is generally in mid to late seral stage. Riparian areas are currently being overutilized in some areas.	Fence and develop waters to more effectively manage livestock. Manage for current numbers of horses. Manage for reasonable numbers of bighorn sheep. Maintain current range condition. Maintain or improve riparian habitat at all spring sources.	M

APPENDIX C

ALLOTMENT RESOURCE CONFLICTS AND OPPORTUNITIES (continued)

Allotment	Resource Opportunities/Problems/Conflicts	Resource Management Objectives	Management Category
Montezuma 0094	Competition for forage is occurring between livestock and burros in the Bullfrog Mountains. Bighorn sheep, wild horses and burros compete on for forage and water on Stonewall Mountain. Livestock, wild horses and burros compete for forage and and water in the Montezumas. Areas east of U.S. 95 will be reopened to livestock grazing upon completion of West Bombing Range Boundary fence. Range is generally in mid to late seral stage.	Improve forage availability through developments. Manage for reasonable numbers of bighorn sheep and mule deer. Manage for current numbers of wild horses and burros. Improve their habitat by developing additional waters. Develop range improvements for effective livestock management in reopened areas. Improve range condition in localized areas northwest of Beatty and near Alkalai by development and implementation of an AMP. Maintain habitat for Amargosa toad and Amargosa speckled Dace. Maintain or improve riparian habitat at all spring sources. Maintain and/or improve wild horse and burro habitat through water developments.	I
Razor Back 0093	Range is generally in mid to late seral stage. Livestock distribution poor resulting in under-utilization of much of the allotment. Minor local controversy existss concerning burro management. Riparian areas are currently being overutilized	Maintain the current range condition. Improve livestock distribution through water development. Maintain the current numbers of burros. Maintain or improve riparian habitat along Amargosa river and at spring sources.	M

APPENDIX C

ALLOTMENT RESOURCE CONFLICTS AND OPPORTUNITIES (continued)

Allotment	Resource Opportunities/Problems/Conflicts	Resource Management Objectives	Management Category
Red Springs 0091	Localized soil erosion problems result from poor livestock distribution. Range is generally in mid to late seral stage. Riparian areas are currently being over-utilized.	Improve livestock distribution with water hauls or develop permanent water sources. Maintain current range condition. Maintain or improve riparian habitat at all spring sources.	I
Sheep Mountain 0100	Range is generally in late seral stage. Riparian areas are currently being overutilized.	Maintain current range condition. Maintain current numbers of bighorn sheep and wild horses. Maintain or improve riparian habitat at all spring sources.	M
Silver King 0103	No conflicts or opportunities.	Maintain riparian spring habitat.	C
Silver Peak 0097	Wild horses and bighorn sheep compete for forage in the vicinity of limited water sources. Range is generally in mid to late seral stage and is recovering from past misuse. Livestock distribution is limited by lack of developed waters.	Develop more waters and fencing to improve animal distribution. Manage for reasonable, numbers of bighorn sheep. Continue HMP implementation Maintain satisfactory range condition. Develop grazing schedule to ensure better control of livestock. Maintain or improve riparian habitat at all spring sources.	I
Springdale #2 0098	Allotment is small in size. Overutilization of riparian areas is occurring in some areas.	Maintain current range condition. Manage for current burro numbers. Maintain or improve riparian habitat at spring sources.	C
White Sage 0090	Range is generally in mid to late seral stage.	Maintain current range condition. Manage for current numbers of wild horses.	M
White Wolf 0092	Poor livestock distribution contributes to early season grazing problems in localized areas. Range is generally in mid to late seral stage.	Improve livestock distribution to more evenly utilize the vegetative resource. Maintain current range condition.	M

APPENDIX C

ALLOTMENT RESOURCE CONFLICTS AND OPPORTUNITIES (continued)

Allotment	Resource Opportunities/Problems/Conflicts	Resource Management Objectives	Management Category
Yellow Hills 0101	Range is generally in late seral stage.	Maintain current range condition.	C
Planning Area B			
Ash Meadows 5497	Allotment is small. Conflict over the utilization and trampling of threatened and/or endangered (proposed) plant species, by cattle.	Maintain or improve the T&E (proposed) species habitat by preventing the over-utilization of the plant species. Maintain or improve the riparian habitat.	C
Carson Slough 5496	Conflicts over the utilization and trampling of threatened and/or endangered (proposed) plant species by cattle exist within this area.	Maintain or improve T&E species and species habitat by preventing the overutilization of the plant habitat. Maintain or improve spring riparian and marsh habitat.	C
County Line 5491	No conflicts or opportunities.	Maintain spring riparian habitat.	
Grapevine-Rock Valley 5494	Conflicts over the utilization and trampling of threatened and/or endangered (proposed) plant species by cattle exist within the area. Allotment is in mid to late seral stage.	Maintain or improve T&E species and species habitat by preventing harmful utilization of the plant or habitat. Maintain or improve riparian habitat.	C
Mount Stirling 5492	The range is in mid to late seral stage. The Mt. Stirling seeding is in fair forage condition. Grazing distribution and livestock control problems cause heavy use of the seeding. Forage conflicts between elk and cattle, mule deer and cattle, elk and mule deer.	Maintain general overall range condition. Improve forage condition of Mt. Stirling seeding through improved distribution and control of livestock grazing on the seeding. Manage for reasonable numbers of mule deer. Manage for current numbers of wild horses and burros. Maintain or improve riparian habitat at the spring source. Install cattleguards on the Mt. Stirling seeding protective fence. Distribute cattle more effectively to reduce the forage conflict with wildlife by developing an AMP.	I

Source: U.S. Department of the Interior, Bureau of Land Management, Resource Management Planning Team, 1984.

APPENDIX D

WILDERNESS STUDY POLICY AND PLANNING CRITERIA

The primary goal of the BLM wilderness study process is to recommend for wilderness designation those areas for which it has been determined, through the multiple resource planning process and public involvement, that wilderness is the most appropriate alternative use of the land and its resources. The two planning criteria and six quality standards described below will be used in making the analysis on which that determination will be based. These criteria and quality standards will be applied to wilderness study areas (WSAs) through the BLM planning process, and each criterion and quality standard will be fully considered and documented in determining whether a WSA is more suitable for wilderness or for other uses and in making all BLM wilderness recommendations, both "suitable" and "nonsuitable".

Criterion No. 1 - Evaluation of Wilderness Values

Consider the extent to which each of the following components contributes to the overall value of an area for wilderness purposes.

1) Mandatory Wilderness Characteristics: The quality of the area's wilderness characteristics of size, naturalness, and outstanding opportunities for solitude or primitive recreation.

2) Special Features: The presence or absence, and the quality of the optional wilderness characteristics of ecological, geological, or other features of scientific, educational, scenic, or historical value.

3) Multiple Resource Benefits: The benefits to other multiple resource values and uses which only wilderness designation would ensure.

4) Diversity In The National Wilderness Preservation System (NWPS): The extent to which wilderness designation of the area under study would contribute to expanding the diversity of the NWPS from the standpoint of each of the factors listed below.

   (a) Expanding the diversity of natural systems and features, as represented by ecosystems and landforms.

   (b) Assessing the opportunities for solitude or primitive recreation within a days driving time (five hours) of major population centers.

   (c) Balancing the geographic distribution of wilderness.

The analysis should consider, in separate categories, federal and state lands designated as wilderness, areas officially recommended for wilderness, and other federal and state lands under wilderness study (the state lands referred to here are those involved in state government's wilderness programs).

Criterion No. 2 - Manageability

The area must be capable of being effectively managed to preserve its wilderness character.

Quality Standard 1: Energy and Mineral Resource Values

Recommendations as to an area's suitability or nonsuitability for wilderness designation will reflect a thorough consideration of any identified or potential energy and mineral resource values.

Quality Standard 2: Impacts on Other Resources

Consider the extent to which other

resource values or uses of the area would be foregone or affected as a result of wilderness designation.

Quality Standard 3: Impact of Nondesignation on Wilderness Values

Consider the alternative use of land under study if the area is not designated as wilderness, and the extent to which wilderness values of the area would be foregone or affected as a result of this use.

Quality Standard 4 - Public Land

In determining whether an area is suitable or nonsuitable for wilderness designation, the BLM wilderness study process will consider comments received from interested and affected publics at all levels; local, state, regional, and national. Wilderness recommendations will not be based exclusively on a vote-countinhg majority rule system. The Bureau will develop its recommendations by considering public comment in conjunction with its analysis of a wilderness study area's multiple resources, social, and economic values and uses.

Quality Standard 5 - Local Social and Economic Effects

In determing whether an area is suitable or nonsuitable for wilderness designation, BLM will give special attention to adverse or favorable social and economic effects, as identified through the wilderness study process, which designation would have on local areas.

Quality Standard 6 - Consistency with Other Plans

In determing whether an area is suitable or nonsuitable for wilderness designation, BLM recommendation is consistent with officially approved and adopted resource-related plans of other federal agencies, state and local governments, and indian tribes (and the policies and programs contained in such plans), as required by FLPMA and the BLM planning regulations.

APPENDIX E
METHODOLOGY FOR ESTIMATING CURRENT ECOLOGICAL STATUS AND APPARENT ECOLOGICAL TREND

Introduction

During the data collection stage of the RMP/ES process (Fall, 1983) the team identified the need for base line data to adequately analyze impacts to the vegetative resource as a result of actions to be proposed in the RMP. Existing data was determined to be inadequate for compliance with current BLM policy and law. Time did not allow for an intensive ecological site condition inventory of the total 2,666,088 acres. Since an intensive order 3 soil survey had been conducted from 1979 through 1980 and the majority of the soil survey crew members were still available, it was felt their knowledge, along with that of bureau personnel, could be relied on to arrive at an estimation of ecological condition of the vegetative resource. With this in mind an inventory scheme was devised. The objective of the inventory was to professionally estimate the successional status of vegetative communities in time for use in the Esmeralda-So. Nye RMP/ES process.

Methods

Using soil units mapped during the 1979-1983 soil survey as the basic inventory unit, a joint BLM/SCS field crew visited 42 locations within the ES area (winter, 1983). At these sites the ecological condition (ecological status) of the vegetative communities present on that soil mapping unit (SMU) was determined using methods outlined in the USDA, SCS National Range Handbook (NRH), the Nevada Range Studies Task Group Monitoring Procedures (1981), and the BLM weight estimate field procedures (4412 manual). The apparent ecological trend of the plant communities was estimated as either upward, downward, or as having no apparent trend according to the NRH. Both ecological condition (ecological status) and apparent ecological trend was recorded on field sheets for each site visited. Additional field descriptions from 14 other locations visited by SCS range conservationists during the previous summer were included in this study, bringing the total number of sampled locations to 56 sites. In evaluating present ecological status, the present plant composition was compared to the potential natural plant community (PNC) described in the ecological site (range site) descriptions developed by the SCS range conservationist during the 1979-1983 soil survey. The majority of the ecological (range) sites present in each SMU in the inventory area had been identified prior to the winter of 1983.

Sites chosen to be visited during this inventory were:

1. SMUs and ecological sites comprising the largest acreage within the grazing allotment or entire RMP/ES area.

2. Ecological sites of higher or moderate response potential. The loamy bottom 3-2" p. 2 (29-3), saline meadow 3-12" p. 2 (2902) and loamy upland 5-8" p. 2 (29-16) ecological (range) sites are some examples.

3. Areas currently used by grazing animals.

4. Areas which, because of resource conflicts, could be considered important from a multiple use controversy standpoint.

When the field visits were completed the SCS soil survey crew members extrapolated the ecological status and apparent ecological trend data to the

remaining SMUs with which they were familiar. A BLM range conservationist also familiar with this area and a member of the joint field crew reviewed this information, making changes where, through his professional judgement or through review of other substantive data, he felt it necessary. For example, 5 years of photo plot trend data in the Magruder Mtn. allotment was used to augment the apparent ecological trend data for this allotment.

The livestock forage resource value ratings (RVRs) for rangeland seedings were professionally estimated by BLM range conservationists familiar with these seedings.

All information collected and compiled is available at both the BLM Stateline Resource Area Office, Las Vegas District and the Tonopah Resource Area Office, Battle Mtn. District.

Data Limitations

The ecological status and apparent ecological trend data collected and extrapolated during this inventory and presented in this RMP/ES was used only for impact analysis. During the implementation stage of this plan in 1985, prior to the drafting of activity plans (allotment management plans), allotment specific ecological status and trend inventories will be conducted as a part of the BLMs monitoring program.

These inventories should follow the allotment priority list for implementation of intensive management under the Preferred Alternative (see Table 2-4).

APPENDIX F
METHODOLOGY FOR DETERMINING CHANGES IN ECOLOGICAL SUCCESSION FOR IMPACT ANALYSIS

INTRODUCTION

To determine the extent of successional change of vegetative communities under the alternatives a matrix was developed (Table F-1). The heart of the matrix was the data base collected. This included ecological sites compiled by allotment, existing ecological seral status of ecological sites, the apparant ecological trend of these sites, and the response potential of each site. The projected changes reflected in the matrix are based on assumptions about the response of the major vegetative communities associated with the ecological sites in the RMP area to changes in grazing pressure and grazing systems. These assumptions reflect the professional opinions of the RMP team range conservationist and knowledge available in literature about vegetative responses of western rangelands and, particularly, salt desert shrub ranges.

ASSUMPTIONS

The assumptions that were made to predict vegetation responses from management actions were:

(1) No changes in succession due to management actions are expected in the short term (0-5 years) and those that are expected to occur in the long term (5-20 years) will be on ecological sites which enjoy more available soil moisture through good winter precipitation and well developed soil structure (i.e. moderate and high potential range sites) (see Appendix L). This assumption is somewhat based on views of Holmgren and Hutchings (1972), "that where amount and season of precipitation are so erratic, years of good seed production are infrequent for most species,... circumstances of a good seed year followed by a good establishment year is a rare occurrance. If a range is to recover within a reasonable period (a decade or two compared with a century, perhaps), it seems that some kind of catastrophic condition or event is needed to activate the recovery", and also, "successive cycles of extended drought followed by favorable growth years are needed to undo the vegetal change effected by harmful grazing. In the eastern Great Basin, the average period of such a cycle may be about 15 years". Though Holmgren and Hutchings found that deterioration of the range from overgrazing was more dramatic than recovery, it is the professional judgement of the team range conservationist based on existing trend studies in the RMP area that deterioration of the range would not be measureable in 0-5 years in terms of a change in ecological status. That deterioration would be more rapid than recovery, in the long-term is reflected in the matrix where vegetation associated with moderate response potential ecological sites with no apparent ecological trend, would regress one seral stage with a 30% increase in grazing pressure. A 30% decrease in grazing pressure would not cause that same site to advance towards its potential plant community.

(2) The matrix also reflects a second assumption, that vegetative communities in an early successional stage or communities at their potential will not respond as dramatically to management actions as those in the mid and late seral stages. Further, changes in late seral communities could be less dramatic than those in mid seral status. For example, a plant community in a mid seral stage, with no apparent trend, which is affected by a 30% reduction in livestock grazing and a grazing system, would progress to a late seral stage.

But a community presently in a late seral stage, with no apparent trend, would remain in a late status. A slower rate of change is due to the ecological stability of the later seral stage community (Mueller-Dombois, and Ellenberg, 1974). The early seral communities are impared by a lack of decreaser seed source. In addition, key forage species are usually grazed closely in areas where they are lacking, even though the area is lightly stocked (Gray, 1965).

(3) The third assumption, that adjustments in livestock numbers have a greater effect on the successional status of a plant community than do grazing systems, is reflected in the matrix. For example, implementing a grazing system would have little affect over that produced by a 30% reduction in grazers. A vegetative community associated with a moderate response potential ecological site, in a mid seral stage, with no apprend trend, would progress to a late seral stage with a 30% reduction of livestock and the implementation of a grazing system. However this community would remain in a mid seral stage if a grazing system was not implemented. This assumption is based on professional judgement extrapolated from studies on the effect of stocking levels and grazing systems on herbage production. Van Poolen and Lacy (1979) found that on western ranges adjustments in livestock grazing numbers had a greater effect on herbage production than did grazing systems. The range conservationist on the RMP team felt this also would be true of successional changes in plant communities.

NARRATIVE DESCRIPTION OF THE MATRIX

To help the reader interpret the changes in vegetative succession due to management actions depicted in the matrix it is decribed in narrative here:

Plant communities associated with low response potential ecological sites will not change in succession over the long term regardless of the management action.

With no change in grazing pressure, plant communities associated with moderate potential ecological sites, with downward apparent, trend would regress one seral stage. Those of high response potential with a downward trend would regress one seral stage. Those with no apparent trend would not change. Those in an upward trend would progress one seral stage.

With a 30% increase in grazing pressure with no grazing system, plant communities associated with moderate response potential ecological sites, with a downward or no apparent trend, would regress one seral stage. Those with an apparent upward trend would not change. Those communities associated with high response potential ecological sites would regress one seral stage regardless of apparent trend. With a grazing system, impacts from a 30% increase of grazing pressure would be somewhat mitigated. Plant communities associated with moderate response potential ecological sites, with an apparent downward, trend are still expected to regress one seral stage and those in an upward trend would still be expected to progress one seral stage. However, those with no apparent trend would not regress but stay the same. Plant communities associated with high potential ecological sites, with apparent downward or no apparent trend, would still regress one seral stage. Those in an upward trend would not change.

With a 30% decrease in grazing pressures alone, communities associated with moderate response potential ecological sites, with an apparent downward or no apparent trend, would remain in their present seral stage, those in an upward trend

would progress one seral stage. Those communities associated with high response potential ecological sites, with an apparent downward trend would not change. Those with no apparent or upward trend would progress a seral stage. By adding a grazing system in addition to this 30% reduction in grazing pressure, no new benefits would be realized other than that, in those communities associated with moderate response potential ecological sites in a mid seral, stage with no apparent trend, would progress to a late seral stage.

In the long term, removing all livestock and removing horses/burros from wildlife areas, as proposed in Alternative C, would yield the same impacts as a 30% reduction in grazing pressure plus the implementation of grazing systems on all allotments.

HOW THE MATRIX WAS USED

Initially, to assess impacts, each ecological site in the allotment being analyzed, was compared to the matrix to evaluate whether it met the criteria by which changes in succession occurred. That is, was this ecological site a low, high, or moderate potential site; what was its current ecological status and apparent trend. All this information from the range survey had been previously compiled by allotment. These ecological sites were analyzed through the matrix as if the entire allotment, experienced a 30% increase in grazing pressure, a 30% decrease, a contination of existing use, or practically no use. Allotments with grazing systems planned were evaluated accordingly using the matrix. The change in ecological status of ecological sites was considered to be associated with a concurrent change in vegetational status. Though the terms ecological status and vegetal status do not have the same meaning, it was assumed the changes in status would be identical. The impacts were recorded by allotment, by alternative. This "first cut" portrayed the greatest impacts possible because grazing pressure was assumed to be allotment wide.

To paint a truer picture of the impacts on vegetation and to provide an idea of the impacts of the alternatives to an individual resource, the allotment was broken into use areas by class of herbivore; cattle use only, horse use only, wildlife use only, cattle/horse use, cattle/horse/wildlife use, and horse/wildlife use. This was done by mapping out use areas and overlap areas and planimetering the use areas and recording these acreages. To facilitate this use area delineation, the team used the following assumptions:

1) Wildlife use areas are those as described in the Nevada Department of Wildlife's Esmeralda Planning Imput Document. Use areas were modified in Alternative C to reflect the reintroduction of animals into historical ranges.

2) Wild horses and burros occupy only those lands within each HMA. In Alternative C the HMA was modified to reflect a removal of horses from wildlife overlap areas.

3) Livestock are assumed to be equally distributed throughout the entire allotment, except within those wildlife areas where, based on a useability criteria, it was determined by the planning staff range conservationist, that cattle do not graze.

A current use factor or "AUM demand factor" was then calculated for each use area by dividing the AUM's currently being taken by herbivores by the acreage of the use area. Current demand was based on the 3-5 year average licensed livestock grazing use and the latest population census data available for horses and burros (1982).

No use factor was developed for wildlife, since it was felt wildlife use would not effect a successional change.

This current use factor was then adjusted to reflect the grazing prescriptions of the alternatives, i.e. 30% increase of livestock, reduction of horses and burros to minimum herd size, etc. The consequent change in grazing pressure was then calculated for each use area, by allotment, for the alternatives. Depending on the alternative, there were instances where the increase in one class of herbivore use was mitigated by the decrease in use of another herbivore. This resulted in a net impact of no action. All of these "net impacts" were identified as to whether they approached a 30% increase in grazing pressure, a 30% decrease, or status quo. For example, if a use area within an allotment did not actually have an increase in grazing pressure due to tradeoffs between herbivores the original impact analyzed in the "first cut" approach was reanalyzed. These final projected plant community changes were recorded and appear in tables 4-2, 4-3, 4-4, and 4-5.

This analysis is illustrated in Appendix H with a hypothetical example.

Besides providing a more realistic analysis of the impact to vegetation, this process allowed the team to address impacts of successional stage changes to each herbivore. The use area delineations were also used to analyze impacts to wildlife species from increases and decreases in other grazing animals in wildlife herd use areas (see Appendix J).

Professional judgement was used to analyze changes in the condition of rangelands seeded to exotic species. These assumptions were based on the review of seven years of photo trend data from the Cucomungo seeding in the Magruder Mtn. allotment. It is expected that in the long term the species in this seeding and the Mt. Stirling seeding (Mt. Stirling allotment) would decline in vigor under the No Action Alternative. This is refered to as a change in the livestock forage value ratings of each of these seedings from fair to poor. Under all the other alternatives, vigor will improve as a result of better control of livestock and the reduction of livestock. This is refered to as a livestock forage value rating change from fair to good. For consequent changes in stocking rates see Appendix G, Table G-3.

Since it was not possible to project grazing levels as a result of the preferred alternative some assumptions had to be made in order to analyze impacts to vegetation. These were:

1. Monitoring will identify adjustments necessary to achieve proper use levels of forage by livestock and wild horses and/or burros.

2. These adjustments would take place.

3. Impacts of these adjustments would result in vegetative communities associated with moderate and high response potential ecological sites advancing toward PNC.

4. Vegetative successional changes are limited to those identified in Alternatives A and B as a worse case and present ecological status (Table 3-1) as the best case.

Using these assumptions impacts were projected and appear in Table 4-1.

TABLE F-1

PROJECTED CHANGES IN SUCCESSIONAL STATUS OF PLANT COMMUNITIES

RESPONSE POTENTIAL OF ECOLOGICAL SITE TREND (CURRENT)a/	NO CHANGE IN GRAZING PRESSURE			30% INCREASE IN GRAZING PRESSURE			30% DECREASE IN GRAZING PRESSURE			LITTLE GRAZING PRESSURE		
	LOW	MODERATE	HIGH	LOW	MODERATE	HIGH	LOW	MODERATE	HIGH	LOW	MODERATE	HIGH
	- S +	- S +	- S +	- S +	- S +	- S +	- S +	- S +	- S +	- S +	- S +	- S +
CURRENT SERAL STAGE												
EARLY (E)	E E E	E E E	E E M	E E E	E E E	E E E	E E E	E E M	E M M	E E E	E E M	E M M
MID (M)	M M M	E M M	E M L	M M M	E E M	E E E	M M M	M M L	M L L	M M M	M M L	M L L
LATE (L)	L L L	M L L	M L P	L L L	M M L	M M M	L L L	L L P	L P P	L L L	L L P	L P P
POTENTIAL (P)	P P P	L P P	L P P	P P P	L L P	L L L	P P P	P P P	P P P	P P P	P P P	P P P

30% increase in grazing pressure allotments w/grazing systems			30% decrease in grazing pressure allotments w/grazing systems		
E E E	E E E	E E E	E E E	E E M	E M M
M M M	E M M	E E M	M M M	M L L	M L L
L L L	M L L	M M L	L L L	L L P	L P P
P P P	L P P	L L P	P P P	P P P	P P P

1/ Symbol "-" depicts downward ecological trend; "S" depicts no apparent trend; "+" depicts apparent upward ecological trend.

APPENDIX G
METHODOLOGY FOR DETERMINING CHANGES IN AVAILABLE FORAGE

To estimate the future production of AUMs, it was assumed that a change in vegetative succession would result in an increase or decrease in available AUMs. Changes in succession were analyzed in accordance with Appendix F. The correlation of a successional change to a gain or loss in AUMs was made using initial stocking rate guides developed by the Soil Conservation Service. The average percent change in stocking rates from one seral stage to the next was calculated for both high potential and moderate potential range sites. These calculated values are portrayed in Table G-1 and G-2.

TABLE G-1 AVERAGE CHANGE IN AVAILABLE FORAGE EXPECTED FROM AN ADVANCE IN SUCCESSION TOWARD THE POTENTIAL NATIVE PLANT COMMUNITIES (PNC)

Ecological Site Categories	Change in Succession		
	Early to Mid	Mid to Late	Late to PNC
D-29 Moderate Response Potential	16%	23%	24%
D-30 Moderate Response Potential	14%	23%	27%
D-29 High Response Potential	42%	52%	76%
D-30 High Response Potential	33%	43%	51%

Table G-2
AVERAGE CHANGE IN AVAILABLE FORAGE EXPECTED FROM A DECLINE IN SUCCESSION FROM THE POTENTIAL NATIVE (PNC) PLANT COMMUNITY

Ecological Range Site Categories	Change in Succession		
	PNC to Late	Late to Mid	Mid to Early
D-29 Moderate Response Potential	37%	30%	20%
D-30 Moderate Response Potential	38%	31%	17%
D-29 High Response Potential	41%	34%	29%
D-30 High Response Potential	107%	75%	50%

The acreage of changes in vegetative status (i.e., Early, Mid, Late, PNC), within a use area, was first multiplied by a "current use factor" or AUM demand factor (see Appendix F). This product was in turn multiplied by the appropriate available forage change factor from Tables G-1 and G-2 to provide the amount of AUM loss or gain in the long-term. This gain or loss was divided equally among each herbivore using that particular use area.

Stocking rates for rangelands seeded to exotic species were estimated for three livestock forage resource value rating classes (i.e., poor, fair, good) using professional judgement. These stocking rates are given in Table G-3.

TABLE G-3

ESTIMATED STOCKING RATES BY LIVESTOCK FORAGE RVR
FOR RANGELAND SEEDINGS

Seeding/Allotment	Estimated Stocking Rate by RVR (AC/AUM) Poor	Fair	Good
Cucomungo/Magruder Mtn.	10	7	4
Mt. Stirling/Mt. Stirling	13	10	7

A stocking rate of 4 ac/AUM was used to analyze additional forage provided by new seedings.

Because of diet similarities between cattle, wild horses and elk, forage made available through vegetation status changes were divided equally among these grazers.

This analysis is illustrated in Appendix H with a hypothetical example.

Forage changes due to the Preferred Alternative were estimated as an average of the changes expected from Alternatives A and B or as no change if analysis of both Alternatives A and B resulted in a forage decrease.

TABLE G-4
PROJECTED CHANGES IN LIVESTOCK FORAGE
FROM THE IMPLEMENTATION OF THE PREFERRED ALTERNATIVE

Allotment	Initial Livestock Stocking Level (AUMs)	Long-Term Change in Forage Production AUMs	Long-Term Change in Forage Production %	Estimated Long Term Livestock Forage Production (AUMs)	Change in Livestock Stocking Level to Meet Production AUMs	Change in Livestock Stocking Level to Meet Production %	Forage Loss from Land Disposal AUMs	Forage Loss from Land Disposal %	Total Available Forage for Livestock (AUMs)	Total Change In L. S. Stocking Level (%)
Planning Area A										
Emigrant Peak	372	0	-	372	0	-	0		372	0
Icehouse	1,200	0	-	1,200	0	-	-96	-8	1,104	-8
Magruder Mtn	12,340	686	+6%	13,026	+686	+6%	-71	-1	12,955	+5
Monte Cristo	9,352	0	-	9,352	0	-	-63	-1	9,289	-1
Montezuma	10,900	+95	+1%	10,995	+95	+1%	-275	-3	10,720	-2
Razorback	1,344	0	-	1,344	0	-	-25	-2	1,319	-2
Red Spring	2,499	0	-	2,499	0	-	-177	-7	2,322	- 7
Sheep Mtn	1,705	0	-	1,705	0	-	0	-	1,705	0
Silver King	150	0	-	150	0	-	-48	-32	102	-32
Silver Peak	3,777	0	-	3,777	0	-	0	-	3,777	0
Springdale 2	24	0	-	24	0	-	0	-	24	0
White Sage	600	0	-	600	0	-	0	-	600	0
White Wolf	501	0	-	501	0	-	-171	-34	330	-34
Yellow Hills	1,052	0	-	1,052	0	-	0	-	1,052	0
Subtotal	45,816	781	+2%	46,597	+781	+2	-926	-2	45,671	-0.3
Planning Area B										
Ash Meadows	0	0	-	0	0	-	0	-	0	-
Carson Slough	0	0	-	0	0	-	0	-	0	-
County Line	0	0	-	0	0	-	0	-	0	-
Grapevine-Rock Valley	0	0	-	0	0	-	0	-	0	-
Mt. Sterling	569	+16	+3	585	+16	+3	0	-	585	+3
Subtotal	569	+16	+3	585	+16	+3	0	-	585	+3
Grand Total	46,385	797	+2	47,182	+797	+2	-926	-2	46,256	-0.3

TABLE G-5
EXPECTED CHANGES IN LIVESTOCK FORAGE
DUE TO THE NO ACTION ALTERNATIVE

Allotment	Initial Livestock Stocking Level (AUMs)	Long-Term a/ Change in Forage Production AUMs	%	Estimated Long Term Livestock Forage Production (AUMs)	Change in Livestock Stocking Level to Meet Production AUMs	%	Forage Loss from Land Disposal AUMs	%	Total Available Forage for Livestock (AUMs)	Total Change In L. S. Stocking Level (%)
Planning Area A										
Emigrant Peak	0	+53	+14	425	0	-	-		425 b/	0 b/
Icehouse	1,200	-63	-5	1,137	-63	-5	-	-	1,137	-5
Magruder Mtn	12,340	-63	-1	12,277	-63	-1	-	-	12,277	-1
Monte Cristo	9,352	-505	-5	8,847	-505	-5	-	-	8,847	-5
Montezuma	10,900	-10	-1	10,890	-10	-1	-	-	10,890	-1
Razorback	1,344	-3	-1	1,342	-3	-1	-	-	1,342	-1
Red Spring	2,499	-126	-5	2,373	-126	-5	-	-	2,373	-5
Sheep Mtn	1,705	-71	-4	1,634	-71	-4	-	-	1,634	-4
Silver King	150	0	-	150	0	-	-	-	150	-
Silver Peak	3,777	-185	-5	3,592	-185	-5	-	-	3,592	-5
Springdale 2	24	0	-	24	0	-	-	-	24	-
White Sage	600	-3	-1	597	-3	-1	-	-	597	-1
White Wolf	501	-16	-3	485	-16	-3	-	-	485	-3
Yellow Hills	1,052	-11	-1	1,041	-11	-1	-	-	1,041	-1
Subtotal	45,444	-1,003	-2	44,814	1,046	-2	-	-	44,389	-2
Planning Area B										
Ash Meadows	0	0	-	0	0	-	-	-	0	-
Carson Slough	0	0	-	0	0	-	-	-	0	-
County Line	0	0	-	0	0	-0	-	-	0	-
Grapevine										
Rock Valley	0	0	-	0	0	-	-	-	0	
Mt. Stirling	569	-9	-2	560	-9	-2	-	-	560	-2
Subtotal	569	-9	-2	560	-9	-2	-	-	560	-2
Grand Total	46,013	-1,012	-2	45,374	-1,055	-2	-	-	44,949	-2

a/ Values represent changes from the current 3-5 year use levels.

b/ Though forage in the Emigrant Peak allotment is available, the allotment will not be stocked with livestock in this alternative. Totals in column 6 do not include this 425 AUM's.

TABLE G-6
LONG-TERM CHANGES IN LIVESTOCK FORAGE
DUE TO ALTERNATIVE A

Allotment	Initial Livestock Stocking Level (AUMs)	Long-Term a/ Change in Forage Production AUMs	%	Estimated Long Term Livestock Forage Production (AUMs)	Change in Livestock Stocking Level to Meet Production AUMs	%	Forage Loss from Land Disposal AUMs	%	Total Available Forage for Livestock (AUMs)	Total Change In L. S. Stocking Level (%)
Planning Area A										
Emigrant Peak	372	0	-	372	0	-	0	-	372	
Icehouse	1,560	-95	-8	1,105	-455	-29	-363	-23	742	-52
Magruder Mtn	16,042	+534	+4	12,874	-3,168	-20	-94	-1	12,780	-20
Monte Cristo	12,158	-431	-5	8,921	-3,237	-27	-63	-1	8,858	-28
Montezuma	14,170	-10	-1	10,890	-3,280	-23	-925	-7	9,965	-30
Razorback	1,747	-11	-1	1,333	-414	-24	-85	-5	1,248	-29
Red Spring	3,249	-81	-3	2,418	-831	-26	-498	-15	1,920	-41
Sheep Mtn	2,217	-69	-4	1,636	-581	-26	0	-	1,636	-26
Silver King	195	-30	-20	120	-75	-39	-79	-41	41	-80
Silver Peak	5,973	-151	-4	3,626	-2,347	-39	-67	-1	3,559	-40
Springdale 2	31	0	-	24	-7	-23	0	-	24	-23
White Sage	780	-48	-8	552	-228	-29	0	-	552	-29
White Wolf	650	-26	-5	472	-178	-27	-256	-39	216	-67
Yellow Hills	1,368	-70	-7	982	386	-28	0	-	982	28
Subtotal	60,512	-488	-1	45,325	-15,187	-25	-2,430	-4	42,895	-29
Planning Area B										
Ash Meadows	0	0	-	0	0	-	0	-	0	-
Carson Slough	0	0	-	0	0	-	0	-	0	-
County Line	0	0	-	0	0	-	0	-	0	-
Grapevine-Rock Valley	0	0	-	0	0	-	0	-	0	-
Mt. Stirling	1,500	+16	+3	585	-915	-61	0	-	585	-61
Subtotal	1,500	+16	+3	585	-915	-61	0	-	585	-61
Grand Total	62,012	-472	-1	45,910	-16,102	-26	-2,430	-4	43,480	-30

a/ Values represent changes from the current 3-5 year use levels.

TABLE G-7
LONG-TERM CHANGES IN LIVESTOCK FORAGE
DUE TO ALTERNATIVE B

Allotment	Initial Livestock Stocking Level (AUMs)	Long-Term a/ Change in Forage Production AUMs	%	Estimated Long Term Livestock Forage Production (AUMs)	Change in Livestock Stocking Level to Meet Production AUMs	%	Forage Loss from Land Disposal AUMs	%	Total Available Forage for Livestock (AUMs)	Total Change In L. S. Stocking Level (%)
Planning Area A										
Emigrant Peak	0	+53	+14	425	0	-	0	-	425 b/	0 b/
Icehouse	840	+18	+2	1,218	+378	+45	-163	-19	1,055	+26
Magruder Mtn	8,638	+595	+5	12,935	+4,297	+50	-94	-1	12,841	+49
Monte Cristo	6,546	+28	+1	9,380	+2,834	+43	-63	-1	9,317	+42
Montezuma	7,630	+199	+2	11,099	+3,469	+45	-184	-2	10,915	+43
Razorback	941	0	-	1,344	+403	+43	0	-	1,344	+43
Red Spring	1,749	0	-	2,499	+750	+43	-286	-16	2,213	+27
Sheep Mtn	1,194	0	-	1,705	+511	+43	0	-	1,705	+43
Silver King	105	0	-	150	+45	+43	-57	-54	103	-11
Silver Peak	2,644	-28	-1	3,749	+1,105	+43	-47	-2	3,702	+41
Springdale 2	17	0	-	24	+7	+43	0	-	24	+43
White Sage	420	-0	-	600	+180	+43	0	-	600	+43
White Wolf	350	-0	-	501	+151	+43	0	-	501	+43
Yellow Hills	736	0	-	1.052	+316	+45	0	-	1,052	+43
Subtotal	31,810	4,865	+2	46,681	+14,446	+45	-894	-3	45,372	+43
Planning Area B										
Ash Meadows	0	0	-	0	0	-	0	-	0	-
Carson Slough	0	0	-	0	0	-	0	-	0	-
County Line Grapevine	0	0	-	0	0	-	0	-	0	-
Rock Valley	0	0	-	0	0	-	0	-	0	-
Mt. Stirling	398	+16	+3	585	+187	+47	0	-	585	+47
Subtotal	398	+16	+3	585	+187	+47	0	-	585	+47
Grand Total	32,208	+88	+2	47,266	+14,633	+45	-894	-3	45,957	+43

a/ Values represent changes from the current 3-5 year use levels.

b/ Though forage in the Emigrant Peak allotment is available, the allotment will not be stocked with livestock in this alternative. Totals in column 6 do not include this 425 AUM's.

APPENDIX H

HYPOTHETICAL EXAMPLE OF IMPACT ANALYSIS FOR DETERMINING CHANGE IN VEGETATION SUCCESSION AND LONG TERM CHANGES IN AVAILABLE AUMs

Allotment X is an I allotment. Under Alternative A the current vegetative status of each plant community associated with an ecological site is evaluated for a 30% increase in grazing pressue by applying the successional stage matrix (see Table F-1). Through the use of the matrix we find 10,000 acres of vegetative communities in the allotment would regress from a late seral stage to a mid seral stage in the long term. However, through animal trade-offs in each particular use area it is known that 18% of the allotment is used both by livestock and horses. Through an analysis of current use in AUMs, we find that, in this "dual use" area, under Alternative A, grazing pressure will not increase, rather it will remain at about its present level. That is, the 30% increase of livestock is being offset by the reduction of horses over 18% of the allotment. Equal distribution of successional changes in each use area is assumed. Eighteen percent of the 10,000 acres of vegetative communities originally expected to change in succession must be reanalyzed through the matrix if these communities were subject to no change in grazing pressure. Through this process, only 8,000 acres of the 10,000 acres originally expected to change from a late seral stage to a mid seral stage would change; 1,000 acres would remain in a late seral stage, and 1,000 acres would actually progress from a mid seral stage to a late seral stage. The final acreage changes are then recorded in Table 4-3.

The 1,000 acre increase from mid to late occurred in the livestock/horse overlap "use area" and the "current AUM demand factor" of these two grazers combined is .035 AUMs/AC. From this data, the change in available forage for livestock and horses can be estimated.

The allotment is in the D-29 Major Land Resource Area. Five percent of the ecological sites in the allotment are high response potential ecological sites, while 30% are moderate response sites. Therefore, 14% (5%/35%) of the 1,000 acres or 140 acres are expected to yield a 52% increase in available forage over the current demand on these 140 acres (See Table G-1). This translates to a 3 AUMs increase in available AUMs over the current use.

In other words, these 3 AUMs are a product of:

The estimated number of acres of high potential range sites in the livestock/horse use area within the "X" allotment.	x	The estimated current AUM demand for both livestock and horses in the whole use area.	x	The % increase of available AUM's as an average for all high potential D-29 range sites progressing from a mid to a late seral stage See Table G-1.

<u>or numerically,</u>

140 ac. x .035 AUMs/AC x 52% = 3 AUMs

The remaining 86% (30%/35% x 100) of the 1,000 acres or 860 acres are expected to yield a 23% increase in available AUMs over the current demand on these 860 acres (See Table 6-1). This translates to a 16 AUM increase in available forage. These 16 AUMs are a product of:

The estimated number of acres of moderate potential ecological sites in the livestock-horse use area within X allotment.	x	The estimated current AUM demand for both livestock and horses in the whole use area.	x	The % increase of available AUM's as an average for all moderate potential D-29 range sites progressing from a mid to late seral stage (Table G-1).

<u>or numerically</u>

860 ac. x .035 AUM's/AC x 23% = 16 AUMs

Further, both livestock and horses range in this use area. It is assumed that both would reap the benefits equally. That is, in the long-term, a total of 19 AUM's are available to both livestock and wild horses or 9.5 AUMs are available to each.

Now, returning to the 8,000 acres of plant communities which are regressing from a late seral successional stage to a mid seral stage, we can calculate the loss of AUM's similarly but stated more briefly,

For a high potential site: 8,000 ac. x 14% = 2,080 ac. x .015 AUM/AC x 34% = 11 AUMs

For moderate potential sites: 8,000 ac. x 86% = 5.920 ac. x .015 AUM/AC x 30% = 27 AUM's

Again, the 14% and 86% are the relative percentages of high amd moderate potential ecological sites in that 8,000 acres. The 34% and 30% are from Table G-2. The value of .015 AUM/AC for the estimated current demand is lower than our .035 AUM/AC figure for the livestock horse use area. This is because the remaining 8,000 acres is in a livestock use area only.

In this example, the analysis is simplified so that only one use area had to be reanalyzed. In the actual analysis, as many as four use areas per allotment per alternative had to be reanalyzed due to trade offs between animals.

The overall total long term impact to livestock forage, in the X allotment, due to the implementation of Alternative A, is a reduction of 28.5 AUMs. This 28.5 AUM value for livestock is a sum of all the changes. That is, an increase of 9.5 AUMs offset by a loss of 38 AUMs (11 AUMs + 27 AUMs). The impact to available wild horse forage, however, is an increase of 9.5 AUMs in the long-term.

If allotment X happened to be the Magruder Mtn. allotment 1,270 acres of seeded rangelands with a fair livestock forage resource value rating (RVR) would improve to a good RVR (see Appendix F) through better control of and a reduction in livestock. This would translate to a 137 AUM increase in livestock forage using the following calculations and information in Appendix G, Table G-3.

	1,270 acres (of seeding) divided by 4 AC/AUM (good RVR)	= 318 AUMs
subtract	1,270 acres (of seeding) divided by 7 AC/AUM (fair RVR) or	= 181 AUMs
	gives an increase in forage	= 137 AUMs

Also 1,695 acres of new seeded rangeland would provide 424 AUMs of forage (1,695 acres divided by 4 AC/AUM). See Appendix G.

Since the Silverpeak HMA includes these seedings, and diet overlap between wild horses and livestock are similar, the total 561 AUMs (137 AUMs + 424 AUMs) would be divided equally between the two animals.

Long term forage gained or lost was added or subtracted from current 3-5 year average for livestock and this total appears in Tables G-4, G-5, G-5 and G-7 as the projected available forage for livestock. Values for wildhorse and burros and wildlife were addressed in the narrative as a general increase or decrease in condition of habitat.

APPENDIX I

METHODOLOGY FOR DETERMINING IMPACTS TO RIPARIAN VEGETATION

Number of springs and miles of streams were estimated by allotment and by horse or burro herd use area, and on other public lands. Acres of wet meadows and saline meadows were identified from ecological site legends applied to Order 3 soil survey maps. Acres were then modified to eliminate private land. This was done by allotment and by horse and burro herd use areas outside of the allotments and on other public lands. Acreages in most cases were rounded to the nearest whole number.

The number of springs were converted to acres of associated riparian vegetation by multiplying the estimated number of springs by a factor of .72 acre per spring. This factor was judged by the RMP team wildlife biologist and range conservationist to be a reasonable average for the entire planning area. Acreage of riparian vegetation associated with a spring source will vary, however, to facilitate the analysis an average was used. The amount of riparian vegetation associated with important perennial spring outflow and perennial streams was determined using the following assumptions and formulas:

length of water course in miles x 100 ft. (estimated width) divided by 5,280 ft/mi divided by 43,560 sq. ft/ac = acres of riparian habitat

Acreage estimates for all four riparian vegetation "types", namely, (1) spring and spring outflow associated riparian vegetation, (2) perennial streambank associated riparian vegetation, (3) wet meadow riparian vegetation, and (4) saline meadow riparian vegetation are summarized in Table 3-3.

To analyze impacts on this vegetation from the prescribed actions of each alternative, a judgement was made as to whether livestock, horses, burros, or any combination of these three grazers were currently using this vegetation or indirectly impacting the riparian vegetation associated with a water source. For analysis, wildlife foraging and trampling of riparian vegetation is not expected to affect the condition of vegetative succession of these communities. Professional judgement regarding current use of riparian areas was aided by using animal distribution maps developed during the wildlife impact analysis, a base map depicting important wildlife water sources, and 30 minute planimetric maps.

Impacts were analyzed using the following assumptions.

a) For riparian vegetation types 1 and 2, above, used by both livestock and wild horses/burros, any increase of any animal would deteriorate the condition of riparian vegetation in the long term regardless of a concurrent decrease of either livestock or horses/burros.

b) For riparian vegetation types 1 and 2, used by livestock only or horses/burros only, any increase of either animal would deteriorate the condition of the riparian vegetation in the long-term. Any decrease in either animal would either improve or not cause a change in condition in the long-term.

c) If riparian vegetation types 1 and 2, with the exception of 5 spring sources known to have riparian vegetation in a poor condition, is to be protected by

fencing, its condition would improve or not change in the long-term. In the case of the 5 aforementioned spring sources, the associated riparian aras would improve with fencing.

e) Riparian vegetation in the Carson Slough and Grapevine-Rock Valley allotments would not be impacted by ephemeral livestock grazing. For justifications, see the "Riparian Vegetation" impact section for the Preferred Alternative and the "Management Guidance Common to all Alternatives" Section.

f) Riparian vegetation in the Ash Meadows Allotment would be impacted by any level of ephemeral grazing. See justification in the "Riparian Vegetation" impacts section of the Preferred Alternative.

d) Riparian vegetation types 1 and 2 which are currently fenced or are ungrazed are expected to remain in their present condition.

A more specific projection of the impacts can not be made at this time since the present ecological trend of these sites and the extent of use on this vegetation is not known. Also a decrease of animals may not reduce the amount of utilization of trampling of this vegetation by those remaining animals.

Impacts to riparain vegetation associated with wet meadows, and saline meadows were analyzed more specifically, however, using existing range survey data on ecological sites (i.e. ecological status and ecological trend) (see Table 3-3 and the matrix (Table F-1).

When impact analysis was completed for each allotment, herd use area outside allotment boundaries and other public lands, the accumulative impact for the entire RMP area was addressed in the narrative. However impacts to riparian vegeation in the Ash Meadows area were separated in the narrative for clarity.

To illustrate how the above assumptions were used, a specific example is described here:

The impacts of Alternative A on the Icehouse Allotment: One acre of riparian vegetation associated with a spring, currently used exclusively by wild horses, would experience a reduction in horses in this alternative. Therefore, using assumption b, from above, it is expected that this reduction would cause the riparian vegetation to either improve or remain in its present condition in the long-term.

Two acres of riparian vegetation associated with a spring source currently used by both livestock and horses, would experience a potential increase of livestock use, while, concurrently, horses would be reduced in the horse use area. Using assumption a, the condition of these two acres of riparian vegetation is expected to decline in the long-term.

APPENDIX J, SECTION 1

METHODOLOGY FOR DETERMINING CHANGE IN NUMBERS OF BIG GAME FOR ALTERNATIVES A AND B

Deficit or surplus AUMs provided to wildlife from exchanges of AUMs between livestock and wild horses and/or burros or provided by livestock or wild horses and/or burros, separately, were tallied by allotment and totaled for each big game species habitat area (mule deer, bighorn, elk, etc.).

The total deficit or surplus AUMs per wildlife habitat area were split equally between different wildlife species when their habitats overlapped. Where no overlap between wildlife species occurred, deficit or surplus AUMs were applied directly to the single wildlife species present.

The deficit or surplus AUMs for deer and elk were converted directly to big game equivalents for one year (3 AUMs= 1 mule deer/yr; 6 AUMs=1 elk/yr). Example: Divide surplus of 27 AUMs for mule deer by 3 AUMs/mule deer/yr to obtain an increase of 9 mule deer. Then either subtract (deficit) or add (surplus) to current big game numbers for that range.

For bighorn the deficit or surplus AUMs were adjusted before they could be converted to one year equivalents. For conversion multiply the deficit or surplus AUMs received from livestock and/or wild horses and/or burros by the percentage of current bighorn habitat that is crucial summer habitat. Example: The current Silver Peak Bighorn Range has 55% of its habitat within crucial summer habitat. Multiply 313.5 AUMs surplus by .55 equals 172 AUMs surplus. To convert to bighorn equivalent for 1 year divide 172 AUMs by 2.4 AUms/bighorn/yr to obtain a 72 bighorn increase for the Silver Peak range.

In some wildlife habitat areas, additional big game numbers were added through water development. The assumption was made that all big game species (elk, mule deer, bighorn) utilize a 12.5 square mile circular area within a 2 mile radius around water. To determine the number of elk or mule deer that could be added just multiply the total number square miles of newly watered area by the present density of elk or mule deer in that particular range. For bighorn sheep you must utilize an adjusted crucial summer habitat density. Example: current population of bighorn in Silver Peak Range is 118 bighorn. Add the current population of 118 bighorn to the increase of 72 bighorn, provided by the exchanges of AUMs between livestock and wild horses and/or burros, to equal 190 bighorn. Divide 190 bighorn by 68.1 square miles, the currrent area of crucial summer habitat, to equal an adjusted density of 2.8 bighorn/square mile. Four new waters were added in the Silver Peak Range totaling an area of 50 square miles. Multiply 50 square miles, the added summer crucial area due to 4 new waters, by the adjusted density of 2.8 bighorn/square mile to equal 140 bighorn due to the addition of 4 new waters.

In Alternative A and B only, current bighorn habitats were analyzed. Reasonable numbers provided by NDOW included both current and historical habitat. To obtain reasonable numbers just for current bighorn habitat it was assumed that bighorn are equally distributed throughout their entire habitat, both current and historical within a mountain range.

SECTION 2

METHODOLOGY FOR DETERMINING CHANGE IN NUMBERS OF BIG GAME IN THE PREFERRED AND C ALTERNATIVES.

Assumptions were made for determining increases in numbers of big game in the preferred and C alternative. The impacts of livestock and wild horse and/or burros were removed in alternative C and assumed to be removed in the preferred alternative through monitoring. The only reason reasonable numbers would not be achieved in many of the habitat areas in either alternative would be because of the lack of the funding necessary for water development.

For mule deer and elk, if the entire habitat was adequately watered it was assumed that reasonable numbers would be reached and an increase was predicted to achieve reasonable numbers for that habitat.

When the habitat was not adequately watered an estimate of the area of the habitat that was fully watered was made. This estimate, by percentage, was multiplied by the reasonable number supplied by NDOW for that particular habitat. This would be the reasonable number for that particular habitat without water development. Thus, an increase was calculated to reach that reasonable number.

In the case of bighorn sheep, NDOW provided a reasonable number that could be achieved in each historical or suitable habitat that with to no water development.

"The Desert Bighorn Sheep Habitat Status and Cooperative Action Plan" in the Las Vegas District the number of waters needed to reach reasonable number in each bighorn habitat. Then the number of sheep attainable, without water developments, was subtracted from the established reasonable number. This number was then divided by the number of waters required to reach reasonable numbers to obtain a bighorn density for each new water in that particular habitat.

The density was multiplied by the number of new waters that would be constructed in either the Preferred or C Alternative to obtain the increase in bighorn provided by the number of new waters. The increase due to water development and the increase due to new water development was added together and the current 1982 number was subtracted from their sum to provide the new increase in each bighorn habitat.

APPENDIX K
RANGE IMPROVEMENTS BY ALLOTMENT a/

Allotment	Cateogry	Development	Number of Units of Development By Alternative c/ Preferred	A	B	Purpose d/
Silver Peak	I	Pipeline	1.25	3	2	1,2 f/
		Spring Development e/	5	5	5	1
		Trough	5	7	5	1,2 f/
		Fence	21.5	21.5	21.5	1,2,3 f
		Cattleguard				2,3
Icehouse	I	Well	1	1	1	2,3
		Windmill		1		2,3
		Trough		1	1	2,3
		Storage Tank		1	1	2,3
		Fence	3.2		3.2	1 g/
		Cattleguard			1	1 g/
Magruder Mtn.	I	Pipeline	7.5	7.5		2
		Trough		7		2
		Fence	9	137	95	2,3 h/
		Cattleguard	2	4	2	2,3 h/
		Vegetative Treatment	1,195	1,695	695	3,4,5
		Gabions	*	*	*	3,4,5
Red Springs	I	Well		2	1	
		Windmill		2	1	
		Pipeline	2.5	3	3	2,3 i/
		Trough	1	5	4	2,3
		Storage Tank		3	2	2.3 i/
		Fence	6.5		6.5	1 j/
		Cattleguard		2	2	1 j/
Montezuma	I	Well	2	3	3	2.3
		Windmill		3	3	2.3
		Pipeline	5	6	6	2,3
		Trough	5	8	9	2,3
		Storage Tank		3	2	2,3
		Fence	2	2	2	2,3
		Cattleguard		1		2,3
Monte Cristo	M	Well	2	3	3	2,6
		Windmill		3	3	2,6
		Pipeline	6	6		2,6
		Trough	4	7	8	2,6
		Storage Tank		3		2,6
		Fence		30	30	2,6
		Cattleguard		1	1	2,6
White Wolf	M	Well	1	1	1	2
		Windmill		1		2
		Trough		1	1	2
		Storage Tank		1		2

APPENDIX K
RANGE IMPROVEMENTS BY ALLOTMENT a/

Allotment	Cateogry	Development	Number of Units of Development By Alternative c/ Preferred	A	B	Purpose d/
Razorback	M	Well	1	2	1	2
		Windmill		2		2
		Trough		2	1	2
		Storage Tank		1		2
Mt. Stirling	I	Pipeline		2		2
		Trough		2		2
		Cattleguard	2	2	2	2

a/ For total cost of these improvements, see Table 2-5.
b/ I = Improve; M = Maintain, C = Custodial
c/ Units depict number of wells, windmills, spring developments, troughs, cattleguards, storage tanks; miles of pipeline and fence; acres of vegetative manipulation. * means numbers are not identified.
d/ 1 = Improve or maintain riparian zone 2 = Improve livestock distribution, 3 = Implement grazing system, 4 = Rehabilitate watershed, 5 = Increase livestock summer range, 6 = Implement existing stewardship plan.
e/ Construct spring source collection device
f/ 1.25 miles of pipeline, 1.5 miles of fence and 5 trougs will be constructed along with the 5 spring developments under each alternative in order to improve riparian zones around 5 springs.
g/ Fence is to protect the riparian zone along 1.6 miles of Leidy Creek; cattleguard would be build in conjunction to provide access.
h/ 9 miles, 11 miles, and 5 miles of protective fence would be constructed following seedings in the preferred alternative and Alternatives A and B, respectively; cattleguards would be constructed for access.
i/ Pipeline would eminate from Roadside Spring; 1 storage tank is associated with this project.
j/ Fence is to protect riparian zone along 3 miles of Indian Creek; cattleguards would be built for access.

APPENDIX L

SUMMARY OF ECOLOGICAL SITES ENCOUNTERED IN THE ESMERALDA SO. NYE RMP AREA

Ecological Site Number and Potential Category	Eclogical Site Name and Precipitation Zone (inches per year)	Dominant Potential Plant Species	Yield (Pounds)	Elevation (feet)
26X16 L	Sodic Dunes 4-8" p.2.	SAVE4,ORHY	300-200-50	3000-5500
27X17 L	South Slope 4-8" p. 2.	STSP3 TEGL,ORHY,ATCO	400-200-100	4500-6000
27X20 L	Claypan 8-10" p.2.	ARAR8,POSC,STIH2	400-200-100	5000-6500
27X25 L	Sodic Flat 4-8" p. 2.	SAVE4,ATCO,DIST	400-200-50	3500-5500
27X26 N	Eroded Slope 4-8"p.2	CORRELATED TO	27X27	
27X27 L	Shallow Slope 4-8" p.2.	ATCO,SAVEB,ORHY,STSP3	200-100-50	4500-6000
27X43 L	Gravelly Loam 3-6" p.2	ATCO,LYCO2,ORHY,SAVEB	400-200-100	4000-5500
27X60 L	Sandy 3-5" p.2.	OBHY,ATCA2,LYCO2	400-200-100	4000-5500
28X11 M	Shallow Calcareous Loam 8-12"p.2	ARARN, HLJA,EPNE,ORHY	850-700-40077	774
29X1 N	Wet Meadow 3-12" p.z.	CAREX, JUNCU, PONE3	4000-3000-1200	7500-3000
29X2 H	Saline Meadow 3-12" p.z.	SPAI,DIST,JUBA	3300-2200-1000	7500-3000
29X3 H	Loamy Bottom 3-12" p.z	ELCI2, AGROP2, ARTRT,CHNA2	3000-2000-800	7500-3000
29X4 H	Saline Bottom 3-12" p. 2.	SPAI, DIST. JUNCU, ELCI12	2000-1400-600	7500-3000
29X5 M	Wash 12-25" p. 2.	ELCI2, AGSM, ARTRT	900-500-300	10,500-5800
29X6 M	Loamy6 8-10" p. 2	ARTRW, HLJA, ORHY	800-500-300	7500-5200
29X7 M	Joshua Upland 8-12" p. 2	YUBR, HLJA,ORHY, STSP3	800-500-300	7500-5200
29X8 M	Shallow Calcareous Loam 8-12	ARARN, HLJA, ARSP5, ORHY	700-400-200	7500-5200
29X9 M	Wash-3-12" p. 2	ARTRT , SPAI, CHNA2, ELCI2	700-500-200	7500-3000
29X10 M	Steep Loamy 8-12"p.2.	ARTRW , HLJA, ORHY	600-400-200	7500-5200
29X11 N	Sandy 8-12" p. 2.	ARTRW , Orhy, SPCR, EULA5	1000-600-300	7500-5200
29X12 M	Sandy 5-8" P.2.	ATCA2, EULA5, Orhy, JLJA	500-350-200	6500-4400
29X13 M	Blackbrush Slope 8-12 " P.2	ARARN, HLJA, EPNE, ORHY	500-300-100	7500-5200
29X14 M	Shallow Calcareous Hill	ARARN, HLJA, EPNE, ORHY	500-300-100	7500-5200
29X15 M	Silty 8-12" p. 2.	EULA5, HLJA, ATCA23, ORHY	500-300-200	7500-5200
29X16 M	Loamy Upland 5-8" p. 2	GRSP, HLJA, LYAN, ORHY	400-300-200	6500-4400
29X17 M	Loamy 5-8" p. 2.	ATCO, HLJA, SAVEB, ARSP5	350-250-100	6500-4400
29X17 M	Loamy 5-8: p,. 2	ATCO, HLJA, SAVEB, ARSP5	350-250-100	774
29X18 M	Sodic Flat 3-12" p. 2	SAVE4, ATCO	400-200-50	7500-3000
29X19 M	Blackbrush Hill 8-12" p. 2.	CORA, HLJA, ORHY	400-250-100	7500-5200
29X20 M	Silty 5-8" p. 2.	EULA5, ARSP5, HLJAQ, ATCA2	400-250-100	6500-4400
29X21 L	Loamy Hill 5-8" p. 2	GRSP, LYAN, JLJA, ORHY	300-200-100	6500-4400
29X22 L	Sodic Hill 5-8" p.2.	ATCO,SAVEB,HLJA,ORHY	250-200-100	6500-4400
29X23 L	Sodic Dunes 3-12" p.2.	SAVE4, ATCO, ORHY	200-100-50	7500-3000
29X24 M	Sodic Terrance 3-12"p.2.	ATCO, SAVE4, SPAI, ELCI2	800-350-150	7500-3000
29X25 H	Streambank 3-12" p.2	ARTRT, ELCI2, AGSM, AGDA	900-700-400	7500-3000
29X26 H	Streambank 12-25" p. 2.	ARTRT, ELCI2, AGRCP 2	1500-1000-800	10,500-5800
29X28 M	Sodic Upland 8-12" p.2	HLJA, ATCO, EPNE, ORHY	600-450-150	7000-4800
29X29 M	Loamy 10-12" p.2.	HLJA, ARTRW, STSP3, PUGL1	800-600-400	8000-6600
29X30 M	Loamy Upland 12-16"	ARTRW, PUGL,HLJA	1000-700-500	8200-5800
29X31 L	Sodic Hill 8-12" p.2	ATCO,HLJA, EPNE, LYAN	350-250-150	7500-5200
29X32 L	Sodic Upland 3-5" p. 2.	ATCO, SAVEB, ORHY	150-100-50	5500-3000
29X33 L	Sodic Hill 3-5" p. 2	ATCO SAVEB, DAPO2, ORHY	100-50-25	5500-3000
29X36 L	Cobbly Loam 5-8" p.2	MESP2, SAVEB, ATCO, HLJA	400-200-100	6500-4400
29X39 L	Gravelly Loam 3-5" p. 2.	ATCO, FRDU, SAVEB, LYCO2	150-100-50	5200-3000
29X40 L	Wash 3-5" p. 2	CHNA2, ATCA2, HYMEN3, WPAI	500-300-100	5200-3000

APPENDIX K
RANGE IMPROVEMENTS BY ALLOTMENT a/

Allotment	Cateogry	Development	Number of Units of Development By Alternative c/ Preferred	A	B	Purpose d/
Razorback	M	Well	1	2	1	2
		Windmill		2		2
		Trough		2	1	2
		Storage Tank		1		2
Mt. Stirling	I	Pipeline		2		2
		Trough		2		2
		Cattleguard	2	2	2	2

a/ For total cost of these improvements, see Table 2-5.
b/ I = Improve; M = Maintain, C = Custodial
c/ Units depict number of wells, windmills, spring developments, troughs, cattleguards, storage tanks; miles of pipeline and fence; acres of vegetative manipulation. * means numbers are not identified.
d/ 1 = Improve or maintain riparian zone 2 = Improve livestock distribution, 3 = Implement grazing system, 4 = Rehabilitate watershed, 5 = Increase livestock summer range, 6 = Implement existing stewardship plan.
e/ Construct spring source collection device
f/ 1.25 miles of pipeline, 1.5 miles of fence and 5 troughs will be constructed along with the 5 spring developments under each alternative in order to improve riparian zones around 5 springs.
g/ Fence is to protect the riparian zone along 1.6 miles of Leidy Creek; cattleguard would be build in conjunction to provide access.
h/ 9 miles, 11 miles, and 5 miles of protective fence would be constructed following seedings in the preferred alternative and Alternatives A and B, respectively; cattleguards would be constructed for access.
i/ Pipeline would eminate from Roadside Spring; 1 storage tank is associated with this project.
j/ Fence is to protect riparian zone along 3 miles of Indian Creek; cattleguards would be built for access.

APPENDIX L

SUMMARY OF ECOLOGICAL SITES ENCOUNTERED IN THE ESMERALDA SO. NYE RMP AREA

Ecological Site Number and Potential Category	Eclogical Site Name and Precipitation Zone (inches per year)	Dominant Potential Plant Species	Yield (Pounds)	Elevation (feet)
26X16 L	Sodic Dunes 4-8" p.2.	SAVE4,ORHY	300-200-50	3000-5500
27X17 L	South Slope 4-8" p. 2.	STSP3 TEGL,ORHY,ATCO	400-200-100	4500-6000
27X20 L	Claypan 8-10" p.2.	ARAR8,POSC,STIH2	400-200-100	5000-6500
27X25 L	Sodic Flat 4-8" p. 2.	SAVE4,ATCO,DIST	400-200-50	3500-5500
27X26 N	Eroded Slope 4-8"p.2	CORRELATED TO	27X27	
27X27 L	Shallow Slope 4-8" p.2.	ATCO,SAVEB,ORHY,STSP3	200-100-50	4500-6000
27X43 L	Gravelly Loam 3-6" p.2	ATCO,LYCO2,ORHY,SAVEB	400-200-100	4000-5500
27X60 L	Sandy 3-5" p.2.	OBHY,ATCA2,LYCO2	400-200-100	4000-5500
28X11 M	Shallow Calcareous Loam 8-12"p.2	ARARN, HLJA,EPNE,ORHY	850-700-40077	774
29X1 N	Wet Meadow 3-12" p.z.	CAREX, JUNCU, PONE3	4000-3000-1200	7500-3000
29X2 H	Saline Meadow 3-12" p.z.	SPAI,DIST,JUBA	3300-2200-1000	7500-3000
29X3 H	Loamy Bottom 3-12" p.z	ELCI2, AGROP2, ARTRT,CHNA2	3000-2000-800	7500-3000
29X4 H	Saline Bottom 3-12" p. 2.	SPAI, DIST. JUNCU, ELCI12	2000-1400-600	7500-3000
29X5 M	Wash 12-25" p. 2.	ELCI2, AGSM, ARTRT	900-500-300	10,500-5800
29X6 M	Loamy6 8-10" p. 2	ARTRW, HLJA, ORHY	800-500-300	7500-5200
29X7 M	Joshua Upland 8-12" p. 2	YUBR, HLJA,ORHY, STSP3	800-500-300	7500-5200
29X8 M	Shallow Calcareous Loam 8-12	ARARN, HLJA, ARSP5, ORHY	700-400-200	7500-5200
29X9 M	Wash-3-12" p. 2	ARTRT , SPAI, CHNA2, ELCI2	700-500-200	7500-3000
29X10 M	Steep Loamy 8-12"p.2.	ARTRW , HLJA, ORHY	600-400-200	7500-5200
29X11 N	Sandy 8-12" p. 2.	ARTRW , Orhy, SPCR, EULA5	1000-600-300	7500-5200
29X12 M	Sandy 5-8" P.2.	ATCA2, EULA5, Orhy, JLJA	500-350-200	6500-4400
29X13 M	Blackbrush Slope 8-12 " P.2	ARARN, HLJA, EPNE, ORHY	500-300-100	7500-5200
29X14 M	Shallow Calcareous Hill	ARARN, HLJA, EPNE, ORHY	500-300-100	7500-5200
29X15 M	Silty 8-12" p. 2.	EULA5, HLJA, ATCA23, ORHY	500-300-200	7500-5200
29X16 M	Loamy Upland 5-8" p. 2	GRSP, HLJA, LYAN, ORHY	400-300-200	6500-4400
29X17 M	Loamy 5-8" p. 2.	ATCO, HLJA, SAVEB, ARSP5	350-250-100	6500-4400
29X17 M	Loamy 5-8: p,. 2	ATCO, HLJA, SAVEB, ARSP5	350-250-100	774
29X18 M	Sodic Flat 3-12" p. 2	SAVE4, ATCO	400-200-50	7500-3000
29X19 M	Blackbrush Hill 8-12" p. 2.	CORA, HLJA, ORHY	400-250-100	7500-5200
29X20 M	Silty 5-8" p. 2.	EULA5, ARSP5, HLJAQ, ATCA2	400-250-100	6500-4400
29X21 L	Loamy Hill 5-8" p. 2	GRSP, LYAN, JLJA, ORHY	300-200-100	6500-4400
29X22 L	Sodic Hill 5-8" p.2.	ATCO,SAVEB,HLJA,ORHY	250-200-100	6500-4400
29X23 L	Sodic Dunes 3-12" p.2.	SAVE4, ATCO, ORHY	200-100-50	7500-3000
29X24 M	Sodic Terrance 3-12"p.2.	ATCO, SAVE4, SPAI, ELCI2	800-350-150	7500-3000
29X25 H	Streambank 3-12" p.2	ARTRT, ELCI2, AGSM, AGDA	900-700-400	7500-3000
29X26 H	Streambank 12-25" p. 2.	ARTRT, ELCI2, AGRCP 2	1500-1000-800	10,500-5800
29X28 M	Sodic Upland 8-12" p.2	HLJA, ATCO, EPNE, ORHY	600-450-150	7000-4800
29X29 M	Loamy 10-12" p.2.	HLJA, ARTRW, STSP3, PUGL1	800-600-400	8000-6600
29X30 M	Loamy Upland 12-16"	ARTRW, PUGL,HLJA	1000-700-500	8200-5800
29X31 L	Sodic Hill 8-12" p.2	ATCO,HLJA, EPNE, LYAN	350-250-150	7500-5200
29X32 L	Sodic Upland 3-5" p. 2.	ATCO, SAVEB, ORHY	150-100-50	5500-3000
29X33 L	Sodic Hill 3-5" p. 2	ATCO SAVEB, DAPO2, ORHY	100-50-25	5500-3000
29X36 L	Cobbly Loam 5-8" p.2	MESP2, SAVEB, ATCO, HLJA	400-200-100	6500-4400
29X39 L	Gravelly Loam 3-5" p. 2.	ATCO, FRDU, SAVEB, LYCO2	150-100-50	5200-3000
29X40 L	Wash 3-5" p. 2	CHNA2, ATCA2, HYMEN3, WPAI	500-300-100	5200-3000

APPENDIX L

SUMMARY OF ECOLOGICAL SITES ENCOUNTERED IN THE ESMERALDA SO. NYE RMP AREA (continued)

Ecological Site Number and Potential Category	Eclogical Site Name and precipiation zone (inches per year)	Dominant Potential Plant Species	Yield (Pounds)	Elevation (feet)
29X44 H	Wetland 3-12" p.2	JUNCU, SCIRP,TYPHA,SALIX	4000-2800-2000	30-25
29X46 M	Sandy Loam 5-8"	HLJA ATCA 2, ARSP5, ZULA	450-350-175	45-65
29X49 M	Sandy Loam 8-12"	ARTRW, HLJA, GRSP, Only	900-550-250	52-75
29X51 M	Loamy Hill 16-22"	ARTRU, FEID	1000-700-4000	75-42
29X53 L	Mtn. Ridge 16 x22"	ARAR8, AGSM, FEID POSI STIPA	700-400-800	75-92
29X60 H	Wet Meadow 12-25" p. 2	PONE 3, DECA5, JUNCU	3000-2000-1220	58-105
29X63 L	Dry Socic Terrace 3-12"	ATCO, SAVE, SAVE B	200-100-50	3000-7500
29X65 M	P/J Wyo big sage3	P/J, ARTW, EPUI, PUGL2 POSC	400-100	72-90
29X66 M	P/J Mtn, Big Sage	P/J, ARTRV, SYMPH, POFE	400-100	72-90
29X67 M	P/J Black Sage - PUIR 2	P/J, ARARN PUIR2, POSC,POFE	250-50	73-87
29X69 M	P/J Black Sage Pug 12	P/J, ARARN, PUGL2 POSC	350-100	62-75
30X1 L	Limy Hill 5-8 " p. 2	LADI2, FRDU,HIRI	250-150-50	1500-5000
30X2 L	Limy Sodic Hill 5-8" p. 2.	ATCO, LADI2, HIRI	250-150-50	1500-5000
30X5 L	Limy Upland 5-8" p. 2.	LADI2, FRDU, HIRI	350-200-100	1500-5000
30X6 L	Limy Sodic Upland 5-8" p. 2.	ATCO, LADI2, HIRI	350-200-100	1500-5000
30X9 M	Limy Upland 8-12" p. 2.	LADI2, FRDU, HIRI	600-300-100	3300-6200
30X14 L	Blackbursh Slope 8-12 P.2.	CORA, EPNE, LYCIU	400-250-100	3300-6200
30X15 L	Blackbrush Hill 8-12" p. 2.	CORA, LADI2, ORHY	300-200-100	3300-6200
30X17 L	Limy Hill 3-5" p. 2.	VIPA, LADI2,ENFA	200-100-25	1000-4000
30X19 L	Limy Upland 3-5" p.2.	LADI2,FRDU,HIRI	3000-1300-800	1000-5400
30X22 H	Wet Meadow 3-12" p. 2.	JUNCU,CAREX PHCO15	5000-2800-1500	1000-5400
30X23 H	Saline Meadow 3-12" p.2	SPAI,DIST,JUBA,JUNCU	3000-1500-1000	1000-5400
30X24 H	Saline Bottom 3-12" p. 2.	SPAI,DIST,JUBA,ATLE	1600-9 0-300	1000-5400
30X25 L	Sodic Flat 3-12" p. 2.	ATCO, ATHY, SUAED	300-100-10	1000-5400
30X28 M	Wash 3-12" p. 2.	PIMO JUOS, POLO, ORHY	200-100-50	1000-4000
30X30 L	Limy Sodic Upland 3-5"p.2.	ATCO,KLADI2	100-50-25	1000-4000
30X31 L	Limy Gyp Upland 3-5" p. 2.	HIRI, LADI2	1400-600-300	1000-5400
30X40 M	Sodic Terrace 3-12"p.2.	ATCO,LYCIU,ATPO,SPAI	800-500-150	3300-6200
30X44 L	Sodic Hill 5-8"p.2	ATCO,LYAN,EPNE	250-150-50	4200-5500
30X45 L	Coppice Dunes 3-8"p.2	PRPU,PRJU,ATCO	300-200-50	1000-5400
30X46 L	Dry Outwash Plain 3-12"p.2.	ATPO,LADI2	300-200-50	1000-5400
30X47 L	Barren Sodic Upland 3-8" p.2	LADI2, ATCO	25-15-5	1000-5000
30X50 L	Sodic Upland 3-5" p.2	ATCO,HYSA,LYCIU	200-100-50	2300-4500
30X51 L	Sodic Upland 5-8" p.2.	ATCO,EPNE	300-150-50	4200-5000
30X54 L	Limy Hill 5-8" p.2	LAD12,FRDU,STSP3	250-150-50	2200-5200
30X56 L	Limy Sodic Hill 3-5"p.2.	ATCO,LADI2, FRDU	400-250-100	2300-5500
30X57 L	Dry Sodic Terrace 3-12" p.2.	ATCO HYSA,FRDU	400-250-100	2300-5500
30X58 L	Limy Upland 5-8"p.2.	LAD12,FRDU,STSP3	350-200-100	2200-5200
30X59 1	Limy Sodic Hill 5-8 p.2.	LAD12,ATCO,FRDU	250-140-50	2200-5200
30X61 L	Sodic Limy Upland 5-8"p.2	ATCO, LYAN,ARSP3,LADI2	300-200-100	4200-5500
30X62 M	Pine Type Woodlands	ARTRW,PIMO,JUOS	-	-
30X63 M	Pine Type Woodlands	ARARN,PIMO,JUOS	-	-
30X71 L	Limy Sodic Upland 5-8"p.2.	LADI2,ATCO,FRDU	350-200-100	22-52
30X73 L	Limy Upland 3-5" p.2.	LAD12,FRDU,HYSA	200-100-50	10-40

GLOSSARY

GLOSSARY

ALLOTMENT: An area allocated for the use of the livestock of one or more qualified grazing permittees or lessees which includes prescribed numbers and kinds of livestock under one plan of management.

ALLOTMENT MANAGEMENT PLAN (AMP): A documented program which applies to livestock operations on the public lands, which is prepared in consultation with the permittee(s) or lessee(s) involved, and which: 1) prescribes the manner in which livestock operations will be conducted in order to meet the multiple-use, sustained yield, economic, and other needs and objectives as determined for the public lands through land use planning; 2) describes the type, location, ownership, and general specifications for the range improvements to be installed and maintained on the public lands to meet the livestock grazing and other objectives of land management; and 3) contains such other provisions relating to livestock grazing and other objectives as may be prescribed by the authorized officer consistent with applicable law.

ANIMAL UNIT MONTH (AUM): The amount of forage necessary for the sustenance of one cow or its equivalent for one month.

APPARENT ECOLOGICAL TREND: An interpretation of the direction of change in vegetation and soil protection over time, based on a single observation. Apparent trend is described in the same terms as measured trend except that when no trend is apparent, it shall be described as none.

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC): An area where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards.

AQUATIC: Living or growing in or on a stream or other water body or source.

AUGMENTATION: A transplant of wildlife species into an existing wildlife use area with the purpose of supplementing the current population.

CATEGORICAL EXCLUSIONS: A category of actions which do not individually or cumulatively have a significant effect on the human environment and, therefore, neither an environmental assessment nor an environmental impact statement is required.

CHERRYSTEM ROAD: Dead end road which forms part of the boundary of a wilderness study area.

CRITICAL HABITAT: Any or all habitat element(s), the loss of which, would appreciably decrease the likelihood of the survival and recovery of an officially listed species. It may represent any portion of the present habitat of anf officially listed species and may include additional areas for population expansion. The official determination of critical habitat is the responsibility of the U.S. Fish and Wildlife Service and takes appropriate Federal Register notification and action.

CRUCIAL HABITAT (Range): Habitat on which a species depends for survival; there are no alternative ranges or habitats available. May also be called "key range or habitat".

CULTURAL RESOURCES: Those fragile and nonrenewable remains of human activity, occupation, or endeavor, reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works or art, architecture, and natural features, that were of importance in human events. These resources consist of (1) physical remains, (2) areas where significant human events occurred--even though evidence of the event no longer remains, and (3) the environment immediately surrounding the resource.

DECREASER: The most desirable forage plants. The first plants to decrease in composition in the plant community when overgrazing occurs.

DESIGNATED CORRIDORS: A preferred location for expansion which has an existing transmission or transportation facility and room for expansion.

EARLY SERAL: A plant community with a species composition which is 0-25% of the potential natural community one would expect to find on that ecological site.

ECOLOGICAL SITE: A kind of land with a specific potential natural community and physical site characteristics, differing from other kinds of land in its ability to produce vegetation and to respond to management.

ECOLOGICAL STATUS: The present state of vegetation and soil protection of an ecological site in relation to the potential natural community for the site. Vegetation status is the expression of the relative degree to which the kinds, proportions and amounts of plants in a community resemble that of the potential natural community. If classes are used, they should be described in ecological rather than ultilitarian terms. Soil status is a measure of present vegetation and litter cover relative to the amount of cover needed on the site to prevent accelerated erosion.

ECOSYSTEM: Collectively, all populations in a community, plus the associated environmental factors.

ENDANGERED SPECIES: An animal or plant whose prospects for survival and reproduction are in immediate jeopardy, and as further defined by the Endangered Species Act of 1973.

EPHEMERAL CLASSIFICATION: The management classification of grazing allotments which are generally located below 3,200 feet in elevation, receive less than 5 inches of precipitation annually, show little or no perennial vegetation, and lack potential for improvement of any perennial vegetation that may exist.

ESSENTIAL HABITAT: Habitats which possess the same characteristics as critical habitat, but which have not yet been officially designated. It is the responsibility of each Federal agency to conduct the appropriate studies and to provide the biological information necessary to delineate essential habitat.

EXOTIC SPECIES: A species which is not native to the United States.

FORAGE: All browse and herbaceous foods that are available to grazing animals. It may be grazed or harvested for feeding.

FORB: A nongrass seed-producing plant that does not develop persistent woody tissue.

GRAZING SYSTEM: A systematic sequence of grazing treatments applied to an allotment to reach identified multiple-use goals or objectives by improving the quality and quantity of the vegetation.

GRAZING TREATMENT: A prescription under a grazing system which grazes or rests a unit of land at particular times each year to attain specific vegetation goals.

GROSS RANCH INCOME: Is equal to the gross sales for an individual ranch or group of ranches.

HABITAT: Place where an animal or plant normally lives, often characterized by a dominant and codominant plant form (e.g. pinyon and juniper habitat).

HABITAT MANAGEMENT AREA PLAN: An officially approved plan for a specific geographic area designed to maintain the habitat of specific wildlife species having high priority management.

HERD MANAGEMENT PLAN (HMAP): An activity plan which addresses the management of wild horses or burros and their habitat on one or more herd management areas.

INTENSIVE MANAGEMENT: Managing a vegetation or other resource through a system and/or development of range improvements to obtain desired results.

KEY MANAGEMENT SPECIES: Those species which must, because of their importance, be considered in the management program.

LATE SERAL: A plant community with a species composition which is 51-75% of the potential natural community one would expect to find on that ecological site.

LOCATABLE MINERAL: A mineral subject to location under the 1872 mining laws. Example of such minerals would be gold, silver, copper, and lead as compared to oil and natural gas, which are leasable minerals.

LONG-TERM: A point in time from 6 to 20 years following the beginning of the implementation phase of the resource management plan.

MID SERAL: A plant community with a species composition which is 26-50% of the potential natural community one would expect to find on that ecological site.

MINERAL POTENTIAL:

High Mineral Potential: The geologic environment, the inferred geologic processes, the reported mineral occurrences, and the known mines or deposits indicate high favorability for accumulation of mineral resources.

Moderate Mineral Potential: The geologic environment, the inferred geologic processes, and the reported mineral occurrences indicate moderate favorability for accumulation of mineral resources.

Low Mineral Potential: The geologic environment and the inferred geologic processes indicate low favorability for accumulation of mineral resources.

NET RANCH INCOME: Computed by deducting total cash costs and the value of family labor from gross livestock income.

OFF-ROAD VEHICLE (ORV): Any motorized vehicle capable of, or designed for travel on or immediately over land, water, or other natural terrain.

PERMITTEE: One who holds a permit to graze livestock on public land.

PLANNING CORRIDOR: A utility corridor which has no existing transmission or transportation facilities and is a preferred location for future facilities.

PLANT VIGOR: The state of health of a plant. The capacity of a plant to respond to growing conditions, to make and store food and to complete the reproductive stages.

PLAYA: The shallow central basin of a desert plain in which water gathers after a rain and is evaporated.

POPULATION: All of the individuals belonging to a single species occupying a particular area of space.

POTENTIAL NATURAL COMMUNITY: The biotic community that would become established if all successional sequences were completed without interferences by man under the present environmental conditions. For rating vegetation status, a plant community

with a species composition which is 75-100% of the PNC is considered as the PNC.

PUBLIC LAND: Vacant, unappropriated, and unreserved lands which have never left Federal ownership; also, lands in Federal ownership which were obtained by the Government in exchange for public lands or for timber on public lands. Land administered by the Bureau of Land Management.

QUADRAT FREQUENCY METHOD: The use of permanent plots (1000' square) in which measurements or estimates are used to document frequency of key species (rooted in key areas over a period of time).

RANCH BUDGET: An itemized summary of the expenditures and receipts of a ranch operation.

RANGE IMPROVEMENT: A structure, development, or treatment used to rehabilitate, protect, or improve the public lands to advance range betterment.

REASONABLE NUMBERS: Long-term average big game population cooperatively agreed upon by the BLM and the Nevada Department of Wildlife.

REGRESS: To move from a potential natural community back toward an earlier successional stage i.e., to a late, mid, then early seral status.

RESOURCE VALUE RATING (RVR): The value of vegetation present on an ecological site for a particular use or benefit. RVRs may be established for each plant community capable of being produced on an ecological site, including exotic or cultivated species.

RESPONSE POTENTIAL: The ability of an ecological site to respond to management. It is determined by many factors some of which are average precipitation, average temperature, soil structure, soil salinity and available soil moisture.

REST ROTATION GRAZING - A grazing system in which one part of the range is ungrazed for an entire grazing year or longer, while other parts are grazed for a portion or all of the growing season.

RIPARIAN ZONE: The banks and adjacent areas of water bodies, water courses, seeps, springs and meadows whose waters provide soil moisture sufficiently in excess of that otherwise available locally so as to provide a more moist habitat than that of contiguous food plains and uplands.

ROAD: A vehicle route which has been improved and maintained by mechanical means to insure relatively regular and continued use.

SEED TRAMPLING: Trampling of disseminated seed into the soil mantle by livestock, wild horses and burros, and wildlife.

SENSITIVE PLANTS: Species not yet officially listed but which are undergoing a status review or are proposed for listing according to Federal Register notices published by the Secretary of the Interior or the Secretary of Commerce, or according to comparable State documents published by State officials.

SENSITIVE SPECIES: A wildlife species that is designated jointly by the Nevada State Director of BLM in cooperation with the Director of the Nevada Department of Wildlife to recognize those species that clearly merit special attention in BLM planning and decision-making processes.

SERAL STAGE: See vegetation status.

SERAL STATUS: See vegetation status.

SHORT-TERM: The period of time needed to implement management's decisions following the completion of the resource management plan, approximately 5 years.

SPECIES, CANDIDATE: (1) Designation applied to sensitive, threatened, or endangered species not yet officially listed but which are undergoing a status review or are proposed for listing according to Federal Register notices published by the Secretary of the Interior or the Secretary of Commerce or according to comparable state documents published by state officials; (2) applied to species whose populations are consistently small and widely dispersed or whose ranges are restricted to a few localities, such that any appreciable reduction in numbers, habitat, availability, or habitat condition might lead toward extinction; or (3) applied to species whose numbers are declining so rapidly that official listing may become necessary as a conservation measure.

SUCCESSION: An orderly process of community development that involves changes in species structure and community processes with time; it is reasonably directional and, therefore, predictable.

SUCCESSIONAL STAGE: See vegetative status.

SUSTAINED YIELD: The achievement and maintenance in perpetuity of a high level of annual or regular periodic output of the various renewable resources of the public lands consistent with multiple-use.

THREATENED SPECIES: Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range, and as further defined by the Endangered Species Act of 1973.

TREND: The direction of change in range condition over a period of time, expressed as upward, static, or downward.

UNDERSTORY: Plants growing beneath the canopy of other plants. Usually refers to grasses, forbs, and low shrubs under a tree or brush canopy.

USABILITY CRITERIA: Standards used to delineate livestock use areas, in particular, those areas in delineated wildlife ranges which are not accessible to cattle due to slopes above 50% and/or lack of water.

UTILIZATION: The portion of the current year's forage production that is consumed or destroyed by grazing animals.

VEGETATION CONVERSION: Actions taken which alter the existing natural plant communities to achieve the goals of management in a particular area. There are several ways in which vegetation can be altered: (1) with fires; (2) mechanically, which inclues chaining, plowing or crushing; (3) chemically, and (4) biologically.

VEGETATION MANIPULATION: See vegetation conversion.

VEGETATION STATUS: The expression of the relative degree to which the kinds, proportions and amounts of plants in a community resemble that of the potential plant community (see early seral, mid seral, late seral and potential natural community).

VISUAL RESOURCE MANAGEMENT (VRM): The planning, design, and implementation of management objectives to provide acceptable levels of visual impacts for all BLM resource management activities.

VISUAL RESOURCES: Visible features of the landscape including land, water, vegetation, and animals.

WAYS: Vehicle routes established and maintained solely by the passage of motor vehicles.

WILDERNESS CHARACTERISTICS: Identified by Congress in the 1964 Wilderness Act; namely, size, naturalness, outstanding opportunities for solitude or a primitive and unconfined type of recreation, and supplemental values such as geological, archaeological,

historical, ecological, scenic, or other features. It is required that the area possess at least 5,000 acres or more of contiguous public land or be of a size to make practical its preservation and use in an unimpaired condition; be substantially natural or generally appear to have been affected primarily by the forces of nature, with the imprint of man being substantially unnoticeable; and have either outstanding opportunities for solitude or a primitive and unconfined type of recreation. Congress stated that a wilderness area may also have supplemental values, which include ecological, geological, or other features of scientific, educational, scenic, or historical value.

WILDERNESS MANAGEMENT POLICY: This policy document prescribes the general objectives, policies, and specific activity guidance applicable to all designated BLM wilderness areas. Specific management objectives, requirements, and decisions implementing administrative practices and visitor activities in individual wilderness areas are developed and described in the wilderness management plan for each unit.

WILDERNESS STUDY AREA (WSA): A roadless area which has been found to have wilderness characteristics.

WILDERNESS VALUES: The wilderness characteristics and multiple resource benefits of an area.

WILDERNESS STUDY CRITERIA: The criteria and quality standards developed in the Wilderness Study Policy to guide planning efforts in the wilderness EISs. Refer to Appendix D for a list of the criteria.

WILD HORSE HERD AREA: An area of the public lands which provides habitat for one or more wild horse herds.

WILD HORSE: All unbranded and unclaimed horses and their progeny that have used public lands on or after December 15, 1971, or that do use these lands as all or part of their habitat.

ACRONYMS

ACEC: Areas of Critical Environmental Concern

AMP: Allotment Management Plan

AUM: Animal Unit Month

B/C: Benefit/Cost

CFR: Code of Federal Regulations

CRMP: Coordinated Resource Management and Planning

EIS: Environmental Impact Statement

FLPMA: Federal Land Policy and Management Act of 1976

GEM: Geology, Energy and Minerals Report

HMAP: Herd Management Area Plan

HMP: Habitat Management Plan

IMP: Interim Management Policy

MFP: Management Framework Plan

NDOW: Nevada Department of Wildlife

NWPS: National Wilderness Preservation System

PNC: Potential Natural Community

ORV: Off-Road Vehicle

RMP: Resource Management Plan

RVR: Resource Value Rating

USDI: U.S. Department of the Interior

FWS: U.S. Fish and Wildlife Service

WSA: Wilderness Study Area

REFERENCES

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Caughley, G., Analysis of Vertebrate Populations. New York, John Wiley and Sons, 1977.

Corbett, James A., "Grazing Fees on the Public Lands and Their Place in Range Improvements," Prepared for the National Public Lands Task Force (October 20) 1977.

Falk, Robert, Federal Land Bank, Reno, Nevada. Personal Communication Regarding the Value of AUMs, April 1980.

Franklin, Ian Robert "Evolutionary Change in Small Populations" in Conservation Biology, M. S. Soule and B. A. Wilcox (Eds), 1980.

Gay, Charles. Circular 376, New Mexico State University, Cooperative Extension Service, 1965.

Holmgren, Ralph C. and Hutchings, Selar S. 1972. See U.S. Department of Agriculture.

Holberger, R. et. al, "Resource and Land Investigations (RALI) Program; Coordination in Evaluating Utility Line Proposals;" prepared for U.S.D.I., BLM, Washington, D.C. 1975.

Mueller-Dombois, Dieter and Ellenberg, Heinz. Aims and Methods of Vegetation Ecology. New York, John Wiley and Sons, 1974.

National Academy of Sciences, National Research Council "Committee of Wild and Free-Roaming Horses and Burros, Phase I Report", National Academy Press, Washington, D.C., 1980.

Neilsen, Darwin B., and Workman, John P. "The Importance of Renewable Grazing Resources on Federal Lands in the 11 Western States." Logan, Utah: Utah Agricultural Experiment Station, Circular 155, November 19, 1971.

Nevada Department of Wildlife, Reno, Nevada. "Wildlife Habitat Plans for the Future Input Into Land Management Agencies Planning Systems, Esmeralda Resource Area," 1983

Nevada Division of Environmental Protection, Department of Conservation and Natural Resources, Carson City, Nevada. State of Nevada Water Polution Control Regulation, 1980.

Range Inventory Standardization Committee, Guidelines and Terminology for Range Inventories and Monitoring. Society for Range Management, Albuquerque, New Mexico, Feb., 1983

Range Studies Task Group, 1981. Nevada Range Monitoring Procedures (Final)

Resource Concepts, Inc., 1981. "Potential Impacts of MX Deployment on Ranch Management and Ranch Economics." Under Contract to U.S. Air Force. Carson City, Nevada.

Roney, John R. 1977. See U.S. Department of the Interior

U.S. Department of Agriculture, Forest Service. "Salt Desert Shrub Response to Grazing Use" by Ralph C. Holmgren and Selar S. Hutchings. In Wildland

Shrubs--Their Biology and Utilization (an international symposium at Utah State University, Logan, Utah, July 1971), edited by C.M. McKell, J.P. Blaisdell and J.R. Goodin. Ogden, Utah: USDA Forest Service General Technical Report. INT-1, August, 1972.

U.S. Department of Agriculture, Nevada Crop and Livestock Reporting Service, University of Nevada-Reno, Reno, Nevada. Nevada Agriculture Statistics-1982, 1983

U.S. Department of Agriculture, Soil Conservation Service, Washington, D.C. National Range Handbook, 1976.

U.S. Department of the Interior, Bureau of Land Management, Las Vegas District, Nevada. "Ash Meadows Habitat Management Plan and Final Environmental Analysis," 1980.

U.S. Department of the Interior, Bureau of Land Management, Las Vegas District, Nevada. Esmeralda Land Use Guide, 1977.

U.S. Department of the Interior, Bureau of Land Management, Las Vegas District, Nevada. Esmeralda-Southern Nye Wilderness Technical Report, 1984.

U.S. Department of the Interior, Bureau of Land Management, Las Vegas District, Nevada. "Habitat Management Plan-Silver Peak Wildlife Habitat Area," 1976. U.S. Department of the Interior, Bureau of Land Management, Washington D.C.

U.S. Department of the Interior, Bureau of Land Management, Las Vegas District, Nevada. Stateline Land Use Guide, 1975.

U.S. Department of the Interior, Bureau of Land Management, Las Vegas District, Nevada. "Water Qualilty Analysis - Final Report" performed by Chinook Research Laboratories, Inc., 1982.

U.S. Department of the Interior, Bureau of Land Management, Battle Mountain District, Nevada. Tonopah Grazing Environmental Impact Statement (Final), 1980.

U.S. Department of the Interior, Bureau of Land Management, Carson City District, Nevada. Lahontan Resource Management Plan/Environmental Impact Statement (Draft), 1983.

U.S. Department of the Interior, Bureau of Land Management, Nevada State Office. Nevada Wildlife Manual Supplement 6630, August 1982.

U.S. Department of the Interior, Bureau of Land Management, Winnemucca District, Nevada. "Livestock and Lithics, The Effect of Trampling" by John Roney, 1977.

U.S. Department of the Interior, Bureau of Land Management, Desert District, Riverside, California. California Desert Conservation Area Plan, 1980.

U.S. Department of the Interior, Bureau of Land Management, Denver Service Center, Colorado. "Geology-Energy-Mineral Technical Reports" prepared by Great Basin GEM Joint Venture, 1983.

U.S. Department of the Interior, Bureau of Land Management, Nevada Department of Wildlife, Las Vegas, Nevada. "Desert Bighorn Sheep Habitat Status and Cooperative Action Plan in the Las Vegas District" by Doug Janke, 1980.

U.S. Department of the Interior, Bureau of Land Management, U.S. Fish and Wildlife Service, University of Nevada-Reno, Reno, Nevada. Threatened and Endangered Plants of Nevada, by Mozingo, Hugh N. and William, Margaret, 1980.

U.S. Department of the Interior, U.S. Fish and Wildlife Service, Reno, Nevada. "Ash Meadows Land Protection Plan," 1984.

U.S. Department of the Interior, U.S. Fish and Wildlife Service, Reno, Nevada. "Ash Meadows Environmental Assessment," 1984.

Vale, Thomas R. "Use of Public Rangelands in the American West," Environmental Conservation, Vol. 6, No. 1, Spring, 1979

Van Pollen, H. Walt, and Lacey, John R., 1979. "Herbage Responses to Grazing Systems and Stocking Intensities," Journal of Range Management. Vol. 32, No. 4, p. 250-253.

Wolfe, M. L. Jr., 1980. "Feral Horse Demography: A Preliminary Report," Journal of Range Management. Vol 33, pages 354-360.

Woodward, S.L., "Population Dynamics of a Herd of Feral Burros," Symposium of the Ecology and Behavior of Wild Feral Equines, University of Wyoming, September 2-8, 1979.

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