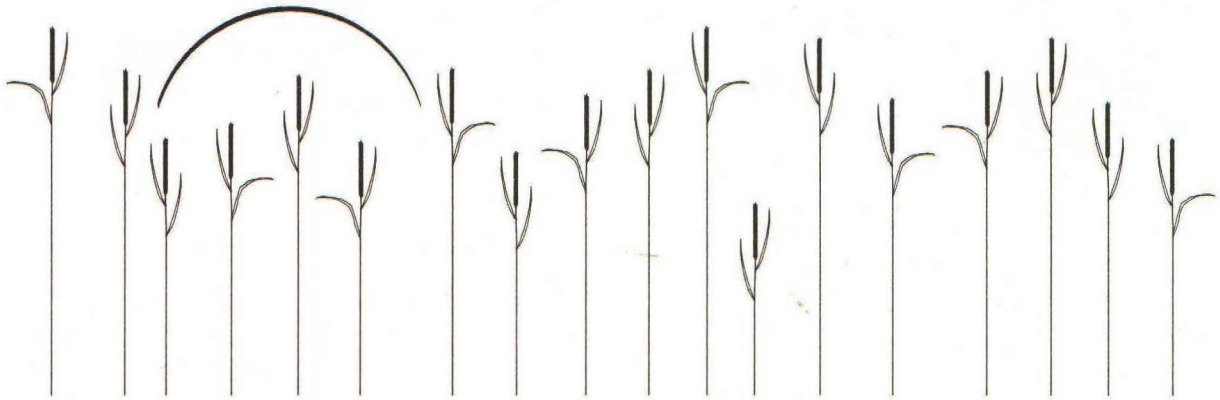

# RANGELAND REFORM '94

***Final Environmental Impact Statement***

PREPARED BY

THE DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

IN COOPERATION WITH

THE DEPARTMENT OF AGRICULTURE
FOREST SERVICE

THE SECRETARY OF THE INTERIOR

WASHINGTON

Dear Reader:

The final environmental impact statement (EIS) on Rangeland Reform '94 is presented for your information. This document incorporates by reference parts of the May 1994 draft EIS for Rangeland Reform '94.

The final EIS, including the incorporated material, contains the following:

* a statement of the purpose and the need for the action;
* a description of the alternatives, including the preferred alternative;
* a description of the affected environment;
* an analysis of the environmental consequences;
* an analysis of over 20,000 public comments on the draft EIS; and
* other items required by the Council on Environmental Quality regulations.

More than 14,000 copies of the draft EIS were distributed to federal agencies, state and local governments, congressional offices, livestock operators and companies, environmental organizations, and many individuals concerned about the outcome of the Rangeland Reform '94 process. Correspondence generated by the grazing town meetings, EIS scoping, and BLM and Forest Service advance notices of proposed rulemakings was used to develop the basic mailing list for the draft EIS. Copies of the draft EIS were and continue to be available for review and distribution in BLM's resource area offices and the Forest Service's National Forest supervisors' offices. Copies of the draft EIS may be obtained by contacting the BLM at (202) 452-7740.

The comment analysis was conducted by teams of Forest Service and Bureau of Land Management field personnel. Over 120 natural resource professionals from ten Western States were involved in this effort to ensure current "on the ground" analysis of the public comments received. The final EIS reflects this analysis.

I am pleased with the public input on Rangeland Reform '94. The final product represents a collaborative effort among all of the stakeholders in the public's rangelands.

Sincerely,

SPECIFIC COMMENTS TO SECTIONS

Section 4.477 Effect of Decision Suspended During Appeal

We support this propose rule.

Section 1784.6-1 Multiple Resource Advisory Councils

State participation on councils will be limited to man time and funding. BLM administrative districts may not represent the ecosystem delineations necessary to meet the intent of grazing reform. Therefore, the federal land management agencies should determine the criteria and delineation of ecosystems prior to creating a council. We recommend that Districts not be the criteria for a council.

Council advice to the BLM must be within the limits and interpretation of laws and regulations. These side boards must be established by BLM representation in this process.

Limiting State agencies to participation of one Multiple Resource Advisory Council could significantly affect participation. Funding to participate in these activities are limited. State representation must be consistent to state policies and efficiency may require participation on several councils. For example, the Mojave Desert in Nevada is divided by the Battle Mountain, Ely and Las Vegas Districts and councils could be developed for each District. The Nevada Division of Wildlife has only one Habitat Biologist to serve these Districts.

We support the appeal to the Secretary for matters determined inconsistent or arbitrary to the BLM. This process will not hinder progress, if consensus cannot be made.

Section 1784-6-2 Rangeland Resource Teams

State agency participation on these teams could be limited to man time and funding. There is no reference to funding of salary and travel.

Section 4100.0-2 Objectives

The proposed rule should include long term sustained yield of rangeland or ecosystem as a goal or objective.

Section 4100.0-5 Definitions

We suggest that carrying capacity be defined to replace livestock carrying capacity. This new definition must clarify the amount of use that would not harm or jeopardize a functioning ecosystem or riparian system.

We suggest that a definition be prepared for multiple use decision. This decision has substituted livestock agreements and approved activity plans to implement the land use plan decisions. In order to expedite grazing reform without perpetual planning, multiple use decisions will be necessary.

Section 4110.3-2 and 3-3 Permitted Use

Support proposed ruling.

Subpart 4120 Grazing Management

In absence of proper activity plans, multiple use decisions can implement ecosystem management. Section 4120 should address the use of multiple use decisions.

Section 4120.5 Cooperation in Management

Provide an agreement or stipulation for State cooperation in management of ecosystems. These agreements would be similar to livestock agreements.

Section 4130.2 Grazing Permits

Issuance of 10-year terms should require NEPA compliance and subject of administrative appeal. Annual authorizations without approve resource activity plans should be subject to administrative appeal.

Allotments not being grazed by permit holders should be subject to retirement or re-allocation of forage. The Bureau needs the flexibility to use abandoned allotments to solve other grazing problems or retire the allotment for other purposes without undue burdens.

Section 4130.6-1 Mandatory Terms and Conditions

Grazing authorizations within an ecosystem influenced by wild horses must consider the carrying capacity. Therefore, livestock carrying capacity could be a misleading term concerning how livestock stocking rates are determined. For example, a wild horse herd may exceed the allowable use level or national standard for a key forage species prior to the scheduled livestock turnout. In the interest of the land, livestock may not be authorized.

Section 4160.1 Proposed Decisions

Proposed Decisions without protest become final decisions. We request that the 15 day protest process be extended to 30 days to allow adequate review and collaboration with the affected Resource Area.

Section 4180.1 National Requirements for Grazing Administration

Standards and guidelines for grazing public lands are necessary to protect and restore functioning ecosystems. Any authorization that cannot be adequately monitored and assessed to meet these national requirements cannot be properly administered. This administrative dilemma questions the practicality of regulatory reform. Administrative standards must be set prior to authorizations.

GENERAL COMMENTS AND CONCERNS

The proposed rules to amend the regulations complement the ongoing multiple use decision making processes in Nevada. Standards and guidelines for vegetation use levels or residual limits have been applied in the Forest Plans, Nevada Rangeland Handbook or approve activity plans.

Regulatory restraints that prohibit the Bureau from taking sound and immediate action to stop overgrazing of public lands are being address in the propose rule change. We welcome these changes.

Consultation to Bureau planning is an expensive task to accomplish. The Nevada Division of Wildlife has invested in all Coordinated Resource Management Planning and Experimental Stewardship Processes. Our experience shows that these processes seldom find an answer to resource conflict by consensus. These processes have failed to produce resource activity plans that were implemented or achieved. Under the proposed rule change the Division could not afford the three level consultation process and carry out its primary mission. Therefore, funding and priority will be an issue.

CATHY,

BLM is thinking of two Boards. Great Basin & Mojave Desert Ecosystems. Also, Appointments by Governor.

Ray

# RANGELAND REFORM '94

Final Environmental Impact Statement

Prepared by
The Department of the Interior
Bureau of Land Management
in cooperation with
The Department of Agriculture
Forest Service

SECRETARY OF THE INTERIOR

Printed on Recycled Paper
Containing at Least 50% Waste

# Rangeland Reform '94
# *Environmental Impact Statement*

Draft ( ) ——— Final (X)

The United States Department of the Interior, Bureau of Land Management (BLM), with the cooperation of the United States Department of Agriculture, Forest Service.

1. Type of Action: Administrative (X) Legislative ( )

2. Abstract: BLM and the Forest Service are proposing to change policies and regulations within their federal rangeland management programs. These actions are intended to improve and restore a significant portion of rangeland ecosystems and to improve and maintain biodiversity, while providing for sustainable development on lands administered by the two agencies. The two agencies also are proposing to revise the formula used to determine fees charged for grazing livestock on federal lands in the 17 western states.

   The Rangeland Reform '94 final Environmental Impact Statement (EIS) is a national-level, programmatic EIS, prepared in accordance with the National Environmental Policy Act of 1969. The final EIS documents the ecological, economic, and social impacts that would result from alternative fee formulas and from reforming, or not reforming, other elements of the federal rangeland management program. Five management alternatives are considered in the final EIS: Current Management (No Action), BLM-Forest Service Preferred, Livestock Production, Environmental Enhancement, and No Grazing. Seven grazing fee formula alternatives also are analyzed: Current Public Rangeland Improvement Act (PRIA) (No Action), Modified PRIA, BLM-Forest Service Preferred, Regional Fees, Federal Forage Fee, PRIA with Surcharges, and Competitive Bidding.

   The BLM-Forest Service Preferred Alternative described in the final EIS is the BLM-Forest Service Proposed Action analyzed in the draft EIS (Alternative 2) with changes described in this document. The changes reflected in the Preferred Alternative are within the scope and analysis of the draft EIS, and do not alter the analysis of the environmental consequences.

   This document incorporates the draft EIS by reference, except as noted. The final EIS, including the incorporated material, contains the following:

   - a statement of the purpose and need for the action,
   - a description of alternatives, including the preferred,
   - a description of the affected environment,
   - an analysis of environmental consequences,
   - an analysis of over 20,000 public comments on the draft EIS, and
   - other items required by the Council on Environmental Quality regulations.

3. For further information, contact:


Mike Ferguson
Bureau of Land Management
(202) 452-7740

Jerry McCormick
Forest Service
(202) 205-1457

# FINAL ENVIRONMENTAL IMPACT STATEMENT

# Table of Contents

# PREFACE

## Introduction

This is the Rangeland Reform '94 Final Environmental Impact Statement (final EIS), developed by the U.S. Department of the Interior (USDI) and the Bureau of Land Management (BLM), with the cooperation of the U.S. Department of Agriculture (USDA) and the Forest Service. The Rangeland Reform '94 draft EIS was published and distributed in May 1994.

The EIS describes the environmental impacts that would result from a number of proposed alternatives for managing BLM- and Forest Service-administered rangeland and for changing the fees charged to permittees and lessees.

This EIS is written to evaluate a range of reasonable alternatives and to present the results of the environmental analysis in a form that best informs the public and serves the needs of the decision maker.

The final EIS, including the incorporated material, was prepared in accordance with the National Environmental Policy Act of 1969 (NEPA). It is combined with and incorporates by reference the draft EIS, except as noted. The final EIS, including the incorporated material, contains the following:

- a statement of the purpose and need for the action,
- a description of alternatives, including the preferred alternative,
- a description of the affected environment,
- an analysis of environmental consequences,
- an analysis of over 20,000 public comments on the draft EIS, and
- other items required by the Council on Environmental Quality regulations.

The Preferred Alternative described in the final EIS is the BLM-Forest Service Proposed Action analyzed in the draft EIS with changes based on information and suggestions raised through public comment and internal review. The modifications included in the Preferred Alternative neither change the scope of the final EIS nor alter the analysis of environmental impacts. The final EIS is comprised of this document combined with the draft EIS which is incorporated by reference, in accordance with 40 CFR 1500.4(j) and (o), 1502.21 and 1506.4. Changes to the text of the draft EIS are included in Chapter 5 of the final EIS. Thus, consistent with CEQ regulations on paperwork reduction, the draft EIS has not been reprinted, and it is necessary to use the draft EIS and this document together.

More than 14,000 copies of the draft EIS were distributed to federal agencies, state and local governments, congressional offices, livestock operators and companies, environmental organizations, and many individuals concerned about the outcome of the Rangeland Reform '94 process. Correspondence generated by grazing town meetings, EIS scoping, and BLM and Forest Service advance notices of proposed rulemakings was used to develop the basic mailing list for the draft EIS. Copies of the draft EIS were and continue to be available for review and distribution in BLM's resource area offices and the Forest Service's National Forest supervisors' offices. Copies of the draft EIS may be obtained by contacting the BLM at (202) 452-7740.

In order to implement Rangeland Reform '94, the BLM will issue one record of decision, and the Forest Service will issue two separate records of decision. The first Forest Service record of decision will contain the agency's new grazing fee rules, and will be issued concurrently with the BLM's record of decision. The second Forest Service record of decision will contain the Forest Service rangeland management rules and will be issued when those Forest Service regulations are finalized.

## Differences Between the Draft and Final EIS

The Preferred Alternative described in the final EIS is Management Alternative 2, BLM-Forest Service Proposed Action, as presented in the draft EIS with modifications, and Fee Alternative 3, BLM-Forest Service Proposed Action, also presented in the draft EIS. Modifications made to Management Alternative 2 resulted from analysis of public comment and internal review. The changes reflected in the Preferred Alternative are within the scope and analysis of the draft EIS and do not alter the analysis of the environmental consequences.

The Preferred Alternative described in the final EIS contains changes to the Proposed Action described in the draft EIS. They are as follows:

*Standards and Guidelines* - BLM national requirements, guiding principles, and standards and guidelines would be modified to incorporate more fully a watershed management approach and current science, and to be more consistent with rangeland health goals. The standards and guidelines are intended to establish a direction toward restoration of rangeland health in areas where rangeland health has not yet been achieved. The standards and guidelines have also been reorganized and rewritten for clarity. These changes were made in response to internal review and public comment on the draft EIS and proposed rule.

*Leasing* - The proposed BLM rule provided for the imposition of a surcharge on authorized base property leases and pasturing agreements, except with respect to children of the permittee or lessee. The Preferred Alternative would retain the exemption for children, would eliminate the surcharge on base property leases, and would modify the calculation of the surcharge authorized for pasturing agreements.

*Disqualification* - The Forest Service and BLM would adopt the proposal for disqualification as set forth in the draft EIS with slight modifications with respect to Forest Service renewals, and consideration of past performance on grazing permits and leases by BLM.

*Permit Tenure* - In limited situations, Forest Service grazing permits could be issued for less than 10 years.

*Advisory Councils* - The structure of BLM resource advisory councils would be more flexible than under the Proposed Action in the draft EIS.

*Forest Service Rangeland Project Decisions* - Discussion of the proposed Forest Service rangeland project decision (RPD) process is expanded to clarify the link with NEPA and the role of the permittee and other interested parties in the planning process, and to explain why allotment management plans (AMPs) are being phased out. This discussion also explains that Forest Service grazing permits could be issued for less than ten years during the transition period to RPDs. The term of such permits could coincide with the priority scheduling of the NEPA analysis and RPD for each grazing allotment. The expansion and clarification of this section was in response to public comment that questioned the intent of the RPDs, the permittee and public involvement in the planning process, and the ability of the Forest Service to complete RPDs.

Finally, Chapter 5 of this document contains changes to the text of the draft EIS made in response to public comments. These changes are incorporated into the final EIS. They do not alter the analysis of the environmental consequences.

# CHAPTER 1
# Purpose of and Need for the Preferred Alternative

Chapter 1 of the draft EIS for Rangeland Reform '94 is incorporated by reference, in accordance with 40 CFR 1500.4(j) and (o), 1502.21 and 1506.4 with changes set forth in Chapter 5 of this document. The incorporated material can be found at pages 5 through 8 and 1-1 through 1-21 in the draft EIS and the content is briefly summarized below.

## *Purpose and Need*

Rangeland Reform '94 is a proposal of the U.S. Department of the Interior (USDI) and the Bureau of Land Management (BLM), in cooperation with the U.S. Department of Agriculture (USDA) and the Forest Service. These agencies administer livestock grazing on 170 million acres and 100 million acres of federal rangelands respectively. The Preferred Alternative would involve policy and regulatory changes in BLM's and the Forest Service's rangeland management programs to improve ecological conditions while allowing sustainable development on lands administered by the two agencies. About 27,000 permittees, mainly in 17 western states, use BLM and Forest Service-administered rangelands for livestock grazing. Roughly 20 percent of these permittees operate on both BLM- and Forest Service-administered rangelands. The EIS describes the physical, biological, social, and economic effects of the management and fee formula alternatives that the BLM and Forest Service have considered for rangeland management.

Rangeland Reform '94 addresses grazing fee issues for BLM- and Forest Service-managed rangelands in the following 17 western states:

| | |
|---|---|
| Arizona | California |
| Colorado | Idaho |
| Kansas | Montana |
| Nebraska | North Dakota |
| Nevada | New Mexico |
| Oklahoma* | Oregon |
| South Dakota | Texas* |
| Utah | Washington |
| Wyoming | |

(* Except the National Forests therein)

A major policy element of the reform package consists of national requirements and guiding principles for the local development of state or regional standards and guidelines for livestock grazing on BLM-administered lands. Fallback standards and guidelines in the Preferred Alternative would take effect if regional standards and guidelines have not been developed within 18 months.

National forest land and resource management plans have existing standards and guidelines for managing rangeland resources on Forest Service-administered lands. The Forest Service will continue to develop standards and guidelines at the forest plan level.

The Preferred Alternative also would make regulatory changes in the rangeland management programs of BLM and the Forest Service. In addition, the Preferred Alternative would change the formula used by BLM and the Forest Service for calculating fees for grazing on lands in the western states. A new fee would not apply to the eastern states because BLM does not manage rangelands in the East and grazing fees on National Forest System lands in the eastern states are currently based on either fair market value or competitive bidding (36 CFR 222.53 and 222.54). The analysis and decisions made on grazing fees would also not apply to any other federally administered grazing program, including that of the Fish and Wildlife Service, whose grazing fees are determined under the Refuge Administration Act and 50 CFR 295.

BLM's primary authority for managing the public lands, including rangelands, is found in Section 2 of the Taylor Grazing Act (TGA) of 1934, the Federal Land Policy and Management Act of 1976 (FLPMA), and the Public Rangelands Improvement Act of 1978 (PRIA). Under these statutes, BLM is responsible for, among other things, managing resources on public lands in a manner that maintains or improves their condition. In the Taylor Grazing Act, Congress directed the Secretary of the Interior to regulate the occupancy and use of the range to preserve the land and its resources from destruction or unnecessary injury and to provide for the orderly use, improvement, and development of the range. FLPMA also provides the authority and direction for the multiple use and sustained yield of public lands. BLM planning regulations prescribed in FLPMA are set forth in 43 CFR 1600. Each resource management plan and its associated EIS provide direction for overall management of lands and minerals in a given administrative area.

The Forest Service's primary authority for managing National Forest System land is found in the Organic Administration Act of 1897, Bankhead-Jones Farm Tenant Act of 1937, Granger-Thye Act of 1950, Multiple Use-Sustained Yield Act of 1960, National Forest Management Act of 1976 (NFMA), FLPMA, and PRIA. Authority for developing comprehensive management plans for National Forest System lands is the Forest and Rangeland Renewable Resources Planning Act of 1974 as amended by NFMA. NFMA also gives the Forest Service authority and direction to provide for the multiple use and sustained yield of products and services from the National Forest System. Forest Service planning regulations are found in 36 CFR 219. These regulations provide for developing forest land and resource management plans (forest plans), which define overall management direction, including standards and guidelines for managing National Forest System resources.

The purpose and intent of the Preferred Alternative is to:

> Make the Forest Service's and BLM's rangeland management programs more consistent with each other, and more compatible with ecosystem management.
>
> Accelerate restoration and improvement of public rangelands to proper functioning condition.
>
> Obtain for the public a fair return for grazing livestock on public lands.
>
> Streamline administrative functions.
>
> Consider the needs of local communities for open space and their dependence on livestock grazing.

Public rangelands are important resources, particularly for the people of the western United States. Livestock grazing has been an integral part of the western landscape and lifestyle since the late 1800s. The livestock industry historically has played a major role in the economy of the West. BLM and the Forest Service are challenged with providing a stable resource base and a reasonable return for grazing livestock on federal lands, while recognizing the growing social and economic importance of other resources to local communities.

Much controversy surrounds the interpretation of the true condition of the public rangelands. Some say the public rangelands are in better condition today than at any point during this century. Others say the public rangelands are in unsatisfactory condition citing widespread invasion of exotic plants and the degraded conditions in many riparian-wetland areas.

At the time it enacted the Public Rangelands Improvement Act of 1978 (PRIA), Congress concluded the following as evidenced in the findings of the Act:

> Rangelands were still producing below their potential.
>
> Rangelands would remain in unsatisfactory condition or decline even further under then current levels of funding and management.
>
> The unsatisfactory condition of public rangelands presented a high risk for soil loss, siltation, desertification, water loss, loss of wildlife and fish habitats, loss of forage for livestock and other grazing animals, degradation of water quality, flood danger, and threats to local economies.

Some things have changed since the passage of PRIA. The ecological condition on most uplands has improved; however, many riparian areas continue to be degraded and are not functioning properly.

Many of the current grazing regulations no longer lead to efficient program administration or are applied inconsistently in different areas. In addition, BLM and Forest Service regulations differ in several respects. Since many ranchers graze livestock on rangelands administered by both agencies, these differences sometimes create confusion.

Over time, the costs of administering the grazing program have risen. While budgets also rose once Congress recognized the need for rangeland management, grazing fees have changed little in recent years. The increased costs of administering the livestock grazing program are approximately double the revenue generated through grazing fees. This added cost of administering the grazing program is borne mostly by the American public.

For decades, the federal government has studied aspects of livestock grazing on public lands. The U.S. General Accounting Office and the Department of the Interior, Office of Inspector General audited selected features of BLM public rangeland programs (USDI OIG 1992; GAO 1988a, 1988b, 1990, 1991a, 1991b, 1991c, 1992). The audits found several BLM administrative and policy issues that needed attention, including the following:

- The unauthorized practice of permittees leasing (rather than using) their federal permits for fees much higher than the federal grazing fee and making a profit;
- The need for procedures to allow prompt correction of rangeland abuse;
- The questions about BLM methods for protecting the Nation's fragile hot deserts;
- The question of whether it is proper to spend Range Betterment Funds on repairing watersheds, stabilizing soil, and rehabilitating vegetation;
- The advantage of implementing an ecosystem approach to rangeland management; and
- The value of a fair return to the federal government from grazing fees.

In 1987, the Forest Service reviewed its existing regulations and found parts that needed to be revised and clarified. Other parts were outdated and needed to be removed. On August 16, 1988, the Forest Service published a proposed rule responding to the findings of the review (53 FR 30954). That proposed rule was not finalized, but this EIS considers the main features of and comments received on that proposed rule.

In 1991, the BLM Director asked the agency's National Public Lands Advisory Council to recommend ways to improve BLM's rangeland management program. The council chartered a blue ribbon panel of professional ecologists and rangeland managers. Producing the report *Rangeland - Program Initiatives and Strategies* (Sharpe and others 1992), the panel concluded that BLM's main objective should be to protect the basic components of rangelands—soil, water, and vegetation—and that goals to achieve this objective should be based on modern ecological concepts.

In the fall of 1992, several conservation organizations requested that the Secretary of the Interior require BLM to improve its grazing administration by encouraging stewardship and designing ways to quickly improve the environment.

BLM organized an Incentive Based Grazing Fee Task Force in 1992 to consider ways to set an equitable fee for federal forage and to examine the feasibility of using fee credits to encourage public land stewardship. The Incentive-Based Grazing Fee System report was published in August 1993, and many of its suggestions were incorporated into the Rangeland Reform '94 proposal. Also in June 1993, the Western Governors' Association drafted a resolution on grazing fees, reiterating that a healthy livestock industry is essential to the western states and acknowledging that the current grazing fee formula results in a fee, and subsequently revenue, that does not reflect the value of the forage. The resolution called for a fee structure that is predictable, affords stability to permittees, and is linked to credits for land stewardship.

The National Research Council published a report in January 1994 entitled *Rangeland Health: New Methods to Classify, Inventory, and Monitor Rangelands*. BLM and Forest Service thoroughly reviewed the report and considered its information in formulating the final EIS. Some of the information in the report was used to develop the direction for the BLM national requirements and standards and guidelines as described in Chapter 2.

## Administrative Actions

The Rangeland Reform '94 EIS analyzes separate regulations proposed by BLM and the Forest Service. An EIS is not itself a decision document; rather it is a document to assist the decision maker by disclosing the environmental consequences of implementing a proposed action or its alternatives. Modifications in the final regulations may be made during the administrative decision making process as a result of the consideration of the EIS and public comments on the proposed rule.

After the 30-day availability period for the public to review the final EIS, the Secretaries of Agriculture and the Interior plan to make separate decisions regarding adoption of Rangeland Reform '94. The Secretaries will issue separate records of decision because the agencies operate under different authorities. Final regulations will be published by each Secretary in conjunction with the issuance of their respective records of decision. The BLM record of decision will address the BLM management practices and grazing fee structure. One Forest Service record of decision will address the grazing fee structure the agency will adopt. A second record of decision will address Forest Service grazing use management.

The BLM and the Forest Service began the rulemaking process for grazing administration regulations in July 1993 and published separate Advance Notices of Proposed Rulemaking (ANPRs). More than 8,000 comment letters on the ANPRs were received between July 13 and October 20, 1993.

Public comment was requested in the proposed rules published in the *Federal Register* on March 25, 1994, for the BLM and on April 28, 1994, for the Forest Service, and the notice of availability for the draft EIS on May 13, 1994. More than 29,000 comments were received. The final rules issued by the Secretaries of the Interior and Agriculture may reflect modifications made during the administrative decision making process as a result of public comment and consideration of the final EIS.

# CHAPTER 2
# BLM-Forest Service Preferred Alternative

Chapter 2 of the draft EIS for Rangeland Reform '94 is incorporated by reference, in accordance with 40 CFR 1500.4(j) and (o), 1502.21 and 1506.4. The incorporated material can be found on pages 9 through 21 and 2-1 through 2-63 of the draft EIS and its content is briefly summarized below. The appendixes A through S, pages A-1 through S-6, are incorporated by reference. However, those pages in the Executive Summary and Chapter 2 of the draft EIS related to the Proposed Action are superseded and updated by the discussion of the BLM - Forest Service Preferred Alternative contained in this chapter.

## *Introduction*

This chapter provides a description of the five management alternatives, seven fee alternatives and combinations of these alternatives. In accordance with the requirement that an EIS focus on significant environmental issues (40 CFR 1502.1), this chapter focuses on those actions that would cause or contribute to significant environmental impacts, based on the analysis in Chapter 4 of the draft and final EISs. In addition, this chapter discusses alternatives considered but not presented in detail as well as a brief discussion on implementation.

A comparison of the alternatives considered in the final EIS is contained in tables 2-1 (management alternatives) and 2-2 (fee alternatives). In Chapter 4, each of the five management alternatives is combined with each of the seven fees, and the cumulative impacts are analyzed. Chapter 4 also includes an extensive analysis of a high, moderate, and low fee combined with each of the management alternatives.

The BLM and Forest Service Preferred Alternative is Management Alternative 2 which appeared in the draft EIS as the Proposed Action, but with changes reflected in the final EIS, and Fee Alternative 3 which appeared in the draft EIS as the Proposed Action. The changes reflected in the Preferred Alternative are within the scope and analysis of the draft EIS, and do not alter the analysis of the environmental consequences.

The Preferred Alternative contains changes to the Proposed Action described in the draft EIS, as follows:

*Standards and Guidelines* - BLM national requirements, guiding principles, and standards and guidelines would be modified to incorporate more fully a watershed management approach and current science, and to be more consistent with rangeland health goals. The standards and guidelines are intended to establish a direction toward restoration of rangeland health in areas where rangeland health has not yet been achieved. These changes were made in response to internal review and public comment on the draft EIS. The standards and guidelines also have been reorganized and rewritten for clarity.

*Leasing* - The proposed BLM rule provided for the imposition of a surcharge on authorized base property leases and pasturing agreements, except with respect to children of the permittee or lessee. The Preferred Alternative would retain the exemption for children, would eliminate the surcharge on base property leases, and would modify the calculation of the surcharge authorized for pasturing agreements.

*Disqualification* - The Forest Service and BLM would adopt the proposal for disqualification as set forth in the draft EIS with slight modifications with respect to Forest Service renewals, and consideration of past performance on grazing permits and leases by BLM. The Preferred Alternative would limit the provision for disqualification on the basis of cancellation of grazing permits during the preceding 36 months to applications for new or additional permits and leases. Also, consideration of an applicant's history of compliance with the terms and conditions of state permits and leases has been limited to state permits and leases within the boundary of the BLM grazing allotment for which the application has been made.

*Permit Tenure* - In limited situations, Forest Service grazing permits could be issued for less than 10 years.

*Advisory Councils* - The structure of BLM resource advisory councils would be more flexible than under the proposal in the draft EIS.

*Forest Service Rangeland Project Decisions* - Discussion of the proposed Forest Service rangeland project decision (RPD) process is expanded to clarify the link with NEPA and the role of the permittee and other interested parties in the planning process, and to explain why allotment management plans (AMPs) are being phased out. This discussion also explains that Forest Service grazing permits could be issued for less than ten years during the transition period to RPDs. The term of such permits could coincide with the priority scheduling of the NEPA analysis and RPD for each grazing allotment. The expansion and clarification of this section was in response to public comment that questioned the intent of the RPDs, the permittee and public involvement in the planning process, and the ability of the Forest Service to complete RPDs.

The Preferred Alternative presented in the final EIS reflects modifications to the original proposed action based on public comment and agency review. It should be noted that the final regulations may contain some modifications made as a result of public comment and further consideration of the alternatives during the administrative decision making process. Any changes would be reflected in the final rules and records of decision.

# *Management Alternatives*

Five management alternatives are analyzed in this final EIS.

(1) Current Management (No Action)
(2) BLM-Forest Service Preferred Alternative
(3) Livestock Production (Increase livestock operator influence or control.)
(4) Environmental Enhancement (Authorize livestock grazing only where it can be demonstrated that livestock grazing would not cause unacceptable conflicts with other resources).
(5) No Grazing

## Management Alternative 1: Current Management (No Action)

Under Alternative 1, BLM and the Forest Service would not revise existing policies, regulations, and management practices. This alternative is discussed in detail on pages 2-2 through 2-7 of the draft EIS. BLM, under current management, has no comprehensive guidelines for ecosystem health. The Forest Service has national rangeland management policy and objectives and establishes standards and guidelines for rangeland management in national forest land and resource management plans. The objectives of the regulations that direct BLM and the Forest Service in administering their rangeland programs are to protect rangeland resources, to allow for the orderly use of rangeland, and to enable improvement of the federal lands. Current management does not meet the purpose and need described in Chapter 1 of the draft and final EIS.

## Management Alternative 2: Preferred

Alternative 2 responds to the purpose and need described in Chapter 1 by changing many elements of the agencies' current rangeland policies, regulations, and management practices (Table 2-1 summarizes key elements of this alternative). The Preferred Alternative is described in detail on pages 2-8 through 2-18 in the draft EIS with changes described in this document (See further discussion in this Chapter, *infra*). The changes reflected in the Preferred Alternative are within the scope and analysis of the draft EIS, and do not alter the analysis of the environmental consequences.

The Preferred Alternative includes national requirements and guiding principles that provide the basis for developing state or regional standards and guidelines for managing livestock grazing in rangeland ecosystems administered by BLM. It includes proposed Forest Service measures for planning rangeland activities and for regulating grazing use within an ecosystem management framework. The Preferred Alternative would also establish more consistent BLM and Forest Service management programs to improve ecological conditions while maintaining opportunities for long-term sustainable development. The proposed

fee formula would obtain for the public a fair return for grazing livestock on public land.

## Management Alternative 3: Livestock Production

The Livestock Production alternative would place more control of rangeland management in local communities. BLM and Forest Service would continue to fulfill their responsibilities under laws and regulations. This alternative is described in detail on pages 2-18 through 2-22 of the draft EIS. A goal of this alternative would be to meet interdisciplinary resource objectives through increased cooperation and shared responsibility for good stewardship among BLM, the Forest Service, and the livestock industry. Local community involvement in grazing advisory boards would play a lead role in making decisions about public rangeland management planning, implementation, and evaluation.

Regulation changes would make BLM and Forest Service program administration more efficient and consistent. These changes in regulations or policies would improve the agencies' abilities to manage federal land.

## Management Alternative 4: Environmental Enhancement

The Environmental Enhancement alternative would shift the philosophical basis for livestock grazing from "livestock grazing would continue unless problems are documented through monitoring" to "livestock grazing would be authorized only where enough data shows resource condition standards and goals are being met." This alternative is described in detail on pages 2-22 through 2-28 of the draft EIS. This alternative would focus on authorizing grazing where it is most acceptable in light of other resources and uses.

Some areas would be closed to grazing, such as wilderness, critical habitat for threatened and endangered species, developed recreation sites, and areas where rangeland health is unacceptable. Grazing might, however, be allowed on areas where rangeland health was formerly unacceptable when conditions improve and the intensity of proposed management would ensure that grazing would not degrade rangeland health. This alternative might require amending existing legislation, such as the Wilderness Act of 1964, which allows livestock grazing in wilderness. Following improvement in rangeland health, livestock grazing might be allowed to resume.

## Management Alternative 5: No Grazing

Under the No Grazing Alternative, all grazing privileges would be canceled, and all livestock would be removed from public lands over a 3-year phase-out period. This alternative is described in detail on pages 2-28 through 2-31 of the draft EIS. Public lands would be managed for values other than livestock grazing. No new range improvement projects would be built to benefit livestock, and existing range improvements and land treatments would be maintained only if considered beneficial to other uses. Any structures considered harmful to other resource uses would be removed, and permittees with investments in cooperative range projects would be entitled to salvage rights. Livestock operators using land adjoining federal lands would be responsible for preventing the unauthorized use of these federal lands. The agencies would not pay any costs for needed fencing. Range administration would concentrate on issuing crossing permits to or from nonfederal land inholdings and resolving unauthorized livestock use. None of the other livestock grazing management measures considered in the other four alternatives would be needed.

Under No Grazing, BLM and the Forest Service could use livestock to manage vegetation to achieve resource objectives. For example, sheep and goats might be used to control such noxious weeds as leafy spurge, or livestock might be used to stimulate the growth or sprouting of browse to improve forage for deer. Operations using such control methods would not gain grazing preferences or term permit status.

Livestock use would be permitted in a variety of ways, including the issuance of temporary permits or contracts that spell out the conditions of the permit. Fees might or might not be charged, depending on the objectives. In some cases, the agencies would pay the livestock owner for the services received.

BLM and the Forest Service would both continue developing policies but not regulations on ecosystem management specifically for rangeland ecosystems.

These policies would establish procedures for how and where livestock might be used as management tools to help achieve landscape or ecosystem objectives.

Table 2-1: DESCRIPTION OF THE MANAGEMENT ALTERNATIVES

| ELEMENTS | CURRENT MANAGEMENT | PREFERRED | LIVESTOCK PRODUCTION | ENVIRONMENTAL ENHANCEMENT | NO GRAZING |
|---|---|---|---|---|---|
| STANDARDS AND GUIDELINES | BLM-No<br>FS-Yes (In forest plans) | BLM-Yes<br>FS-Yes (In forest plans) | BLM-Yes<br>FS-Yes (In forest plans) | BLM-Yes (National)<br>FS-Yes (National) | BLM-No<br>FS-Yes (In forest plans) |
| LEASING | BLM-Own or control<br>FS-Prohibited | BLM-Own or control; pasturing surcharges (except for children)<br>FS-Prohibited | BLM-Own or control<br>FS-Same as BLM | BLM-Requires ownership<br>FS-Prohibited | N.A. |
| FOREIGN CORPORATIONS | BLM-U.S. citizen or licensed to conduct business in state<br>FS-U.S. citizen or corp. 80% owned by U.S. citizens | BLM-U.S. citizen or licensed to conduct business in state<br>FS-Same as BLM | BLM-U.S. citizenship required<br>FS-Same as BLM | BLM-U.S. citizen or licensed to conduct business in state<br>FS-Same as BLM | N.A. |
| DISQUALIFICATION | BLM-None<br>FS-None | BLM-Consider applicant's record over last 3 yrs.<br>FS-Disqualified if any permit canceled for permit violation within last 3 yrs. | BLM-Grazing advisory board determines<br>FS-Same as BLM | BLM-In addition to Preferred Alternative, all permits canceled<br>FS-Same as BLM | N.A. |
| PROHIBITED ACTS | BLM-Bald Eagle Protect. Act and ESA violations<br>FS-Broad range of conditions | BLM-Broad range of conditions<br>FS-Broad range of conditions | BLM-Bald Eagle Protect. Act and ESA violations<br>FS-Broad range of conditions | BLM-Broad range of conditions<br>FS-Broad range of conditions | N.A. |
| GRANT POLICY | BLM-Prioritized; no performance criteria<br>FS-Some criteria applied | BLM-Adds performance criteria<br>FS-Same as BLM | BLM-Performance criteria first priority<br>FS-Same as BLM | BLM-No allocations of more forage<br>FS-No allocations of more forage | N.A. |
| PERMIT TENURE | BLM-Normally 10 yrs.<br>FS-Normally 10 yrs. | BLM-Normally 10 yrs.<br>FS-Normally 10 yrs; may be less than 10 yrs. in limited situations | BLM-10 yrs. min.; up to 20 yrs. good stewardship<br>FS-Same as BLM | BLM-10 yrs. to permittees who meet criteria<br>FS-Same as BLM | BLM-Temporary: up to 1 yr.<br>FS-Same as BLM |

Table 2-1: DESCRIPTION OF THE MANAGEMENT ALTERNATIVES

| ELEMENTS | CURRENT MANAGEMENT | PREFERRED | LIVESTOCK PRODUCTION | ENVIRONMENTAL ENHANCEMENT | NO GRAZING |
|---|---|---|---|---|---|
| UNAUTHORIZED USE | BLM-Three-tiered fee formula; no incidental use<br>FS-Two types, one charge; incidental use | BLM-Three-tiered fee formula; nonmonetary settlement<br>FS-Same as BLM | BLM-One fee; nonmonetary settlement<br>FS-Same as BLM | BLM-Three-tiered fee formula; nonmonetary settlement<br>FS-Same as BLM | BLM-Three-tiered fee formula; nonmonetary settlement<br>FS-Same as BLM |
| NONUSE AND CONSERVATION USE | BLM-Year-to-year, or for 2 yrs. after decision<br>FS-Up to 3 consecutive yrs. personal; up to term of permit for resource protection | BLM-Up to 3 yrs. personal; up to 10 yrs. resource protection<br>FS-Up to 3 consecutive yrs. personal; up to 10 yrs. resource protection | BLM-Up to 5 yrs. personal; yr. to yr. resource protection<br>FS-Same as BLM | BLM-Automatic, up to 10 yrs. nonuse<br>FS-Same as BLM | N.A. |
| SUSPENDED NONUSE | BLM-Carry on permit<br>FS-None | BLM- Carry on permit<br>FS-None | BLM-Carry on permit<br>FS-None | BLM-Eliminate<br>FS-None | N.A. |
| WATER RIGHTS | BLM-Mixed ownership, subject to state law<br>FS-Federal ownership, subject to state law | BLM-Federal ownership of new water rights, subject to state law<br>FS-Federal ownership, subject to state law | BLM-Mixed ownership<br>FS-Same as BLM | BLM-Same as Preferred Alternative<br>FS-Same as Preferred Alternative | N.A. |
| RANGE IMPROVEMENT OWNERSHIP | BLM-Mixed<br>FS-Federal | BLM-Federal<br>FS-Federal | BLM-Federal<br>FS-Federal | BLM-Federal<br>FS-Federal | BLM-Federal<br>FS-Federal |
| RANGE BETTERMENT FUND DISTRIBUTION | BLM-1/2 district of origin, 1/2 priority basis<br>FS-1/2 forest of origin, 1/2 regional forester discretion | BLM-1/2 district of origin, 1/2 priority basis<br>FS-1/2 forest of origin, 1/2 regional forester discretion | BLM & FS-All to BLM district or Forest of origin | BLM-1/2 district of origin, 1/2 state director discretion<br>FS-1/2 forest of origin, 1/2 regional forester discretion | BLM-No range betterment fund<br>FS-No range betterment fund |
| RANGE BETTERMENT FUND USE | BLM-Engineer & build<br>FS-Plan & build | BLM-Plan, engineer, build, env. assess., monitor<br>FS-Same as BLM | BLM-Engineer & build<br>FS-Plan & build | BLM-Plan, engineer, build, & env. assess; monitor<br>FS-Same as BLM | N.A. |

Table 2-1: DESCRIPTION OF THE MANAGEMENT ALTERNATIVES

| ELEMENTS | CURRENT MANAGEMENT | PREFERRED | LIVESTOCK PRODUCTION | ENVIRONMENTAL ENHANCEMENT | NO GRAZING |
|---|---|---|---|---|---|
| APPEALS | BLM-Automatic stay upon appeal; full force & effect for resource protection<br>FS-No automatic stay upon appeal for permit admin. decisions | BLM-No automatic stay upon appeal<br>FS-No automatic stay upon appeal for permit admin. decisions | BLM-Automatic stay upon appeal; full force & effect for resource protection<br>FS-No automatic stay upon appeal for permit admin. decisions | BLM-No automatic stay upon appeal<br>FS-No auto. stay upon appeal for permit admin. decisions | N.A. |
| ADVISORY COUNCILS | BLM-Yes<br><br>FS-No | BLM-Replace with resource advisory councils<br>FS-No. Sec. of Ag. can establish multi-interest boards | BLM-Yes (allow for grazing assoc.)<br>FS-Same as BLM | BLM-Replace with joint resource advisory councils<br>FS-Same as BLM | N.A. |
| SUITABILITY | BLM-N.A.<br>FS-Defined in Forest Plans | BLM-N.A.<br>FS-Defined in Forest Plans | BLM-N.A.<br>FS-Defined in Forest Plans | BLM-Sensitive areas unsuitable<br>FS-Same as BLM | N.A. |
| SERVICE CHARGE | BLM-Charges to cover processing<br>FS-Fee for split billing | BLM-Charges to cover processing<br>FS-Charges to cover permittee-initiated processing | BLM-None<br>FS-None | BLM-Charges to cover processing<br>FS-Same as BLM | BLM-Charges to cover trailing permits<br>FS-Szme as BLM |
| RANGELAND ECOSYSTEMS | BLM-No regs.<br>FS-No regs. | BLM-Regs.; policy implemented thru nat'l requirements & regional stds. and guidelines<br>FS-Regs. Implemented through forest plan stds. & guidelines. | BLM-Consult with grazing advisory boards<br>FS-Same as BLM | BLM-All uses managed to sustain ecosystems<br>FS-Same as BLM | BLM-No regs.<br>FS-No regs. |

# *Preferred Alternative For Management*

## National Requirements and Standards and Guidelines for BLM

Under the Preferred Alternative, BLM would adopt and implement national requirements for public rangelands and would develop state or regional standards and guidelines to ensure that livestock grazing management is conducted in accordance with proven principles already being successfully applied in rangeland ecosystems. National requirements and standards and guidelines would be aimed at maintaining already healthy rangeland ecosystems and establishing a trend leading to the restoration of ecosystem health in those areas that are non-functioning or functioning at risk. Management practices that diminish ecosystem health would be modified or eliminated, and activities promoting ecosystem health would be implemented. Informa-

tion in *Rangeland Health: New Methods to Classify, Inventory, and Monitor Rangelands* (National Research Council 1994) was considered in preparing the proposed direction for developing state or regional standards and guidelines.

The guiding principles for the standards and guidelines and the fallback standards and guidelines contained in the Proposed Action in the draft EIS have been modified and superseded by the Preferred Alternative. The guiding principles for the standards and guidelines and fallback standards and guidelines presented in the proposed rule have been modified to incorporate more fully a watershed management approach and current science and to improve the agency's ability to aid in the restoration and maintenance of properly functioning rangeland ecosystems. They have also been reorganized and rewritten for clarity. Appendix T, the Biological Opinion and Conference Report, includes an updated version of these standards and guidelines at pages 2 through 9. Any further refinements will be recorded in the record of decision as a part of the administrative decision making process.

Some standards and guidelines would be implemented through design and contract specifications for range improvements. Others would be implemented through terms and conditions attached to grazing permits and related authorizations for the next grazing year. Failure to comply with such terms and conditions would result in appropriate administrative action with respect to the permit; modification of grazing systems, stocking levels, or seasons of use; or other changes.

BLM has two levels of planning decisions below the policy tier described in Rangeland Reform '94. Decisions made in Resource Management Plans (RMPs) and Management Framework Plans (MFPs) provide general planning guidance for resource use and allocation. Activity plans are site-specific plans that identify resource objectives and management actions to meet RMP objectives. RMPs and site-specific actions or projects are subject to appropriate levels of environmental analysis and public involvement required by NEPA.

State or regional standards and guidelines would be prepared to ensure livestock grazing management is sensitive to the resources of specific ecoregions. These state or regional standards and guidelines would be incorporated into BLM resource management plans following completion of NEPA analyses and documentation.

No state or regional standards or guidelines proposed by the BLM state director would be implemented prior to their approval by the Secretary.

In the event that state or regional standards and guidelines are not completed within 18 months, fallback standards and guidelines would be implemented.

Standards and guidelines for grazing administration would be incorporated into the grazing-related portions of activity plans, and would be reflected in the terms and conditions of permits and leases and grazing authorizations. In areas where existing grazing management fails to attain the conditions specified in the standards and guidelines, the authorized officer would take appropriate action pursuant to 43 CFR 4100 no later than the start of the next grazing year to begin the process of restoring rangeland health.

All existing or ongoing grazing-related plans and actions would be reviewed for compliance with national requirements, standards and guidelines. BLM intends that the review would be accomplished within three years after the effective date of the rule through the use of assessments for functioning condition and biological health of rangelands. Criteria to prioritize the order in which the areas would be assessed would be set by the state directors in consultation with resource advisory councils, Indian tribes, other agencies responsible for the land and resources of the area, and the interested public. If the assessments showed that the rangelands were not healthy, the authorized officer would take appropriate action not later than the start of the next grazing year to begin the process of restoring rangeland health. Deviation from the three-year assessment period would have to be approved by the Secretary.

## Forest Service Framework for Rangeland Planning and Decisions

Forest Service national policy and objectives for managing the rangeland resource are set forth in Forest Service manuals covering such programs as

range, wildlife and fisheries, and watershed management. These policies and objectives are summarized in Appendix A of the draft EIS, Forest Service National Policy and Objectives for Managing Rangeland Resources.

The Forest Service has a two-tier planning process. The first tier is the land and resource management plan (forest plan); the second tier is the site-specific project planning level. Each National Forest and Grassland formulates rangeland management goals, objectives, standards, and guidelines in their forest plans, including identification of lands suitable for livestock grazing. Although the forest plan identifies lands suitable for livestock grazing, it does not authorize grazing. The programmatic management direction in the forest plan is carried out through site-specific project planning and implementation. The site-specific project decisions may include authorization for grazing use. Site-specific planning is done with the full participation of the public; permittees; and county, state, and other federal agencies.

Under the Preferred Alternative, rangeland project decisions (RPDs) on Forest Service-administered lands are made at the second tier of planning and are decision points based on planning and disclosure of environmental effects through the NEPA process for site-specific rangeland management activities. Rangeland project decisions authorizing livestock grazing would typically be made through analysis conducted at the landscape or watershed level. This process would allow any cumulative effects of management decisions to be evaluated fully, rather than to focus solely on individual grazing allotments as was historically done through allotment management plans (AMPs). Rangeland project decisions include activities such as maintenance or modification of plant communities or other resources, rangeland improvements, and authorization of livestock grazing. When a RPD authorizes livestock grazing, issuing a grazing permit is an administrative act and is not subject to an additional NEPA analysis.

When a grazing permit is issued by the Forest Service, management requirements from the RPD would be included as terms and conditions of the grazing permit. Failure to comply with these terms and conditions could result in administrative action, to include suspension, modification, or cancellation of the permit. Currently, the NEPA decision is made in conjunction with the allotment management plan (AMP) and then the AMP is made a term and condition of the grazing permit. Under the Preferred Alternative, AMP preparation is eliminated as an unnecessary step in the process. This new procedure does not eliminate or limit the permittee's involvement in developing a rangeland management strategy. The Forest Service would still consult with the permittee and other interested parties.

While the Forest Service intends to move toward rangeland project decision making at broader ecological scales, project level decisions cannot be undertaken and completed for all grazing allotments immediately. Pending completion of rangeland project decisions, the Forest Service could issue term permits for less than 10 years which could coincide with the scheduled completion of the RPD. During the transition period, the authorized officer would develop and maintain a schedule for completing NEPA analyses and RPDs. The schedule would be developed and maintained in consultation with grazing permittees and other interested parties. Those areas with significant resource concerns such as protection of threatened and endangered species, riparian and aquatic habitat, and water quality would have priority for completing rangeland project decisions.

Under the Preferred Alternative, Forest Service authorized officers would continue to ensure that grazing permits were annually administered in a manner that meets vegetation, soil, water, and other forest plan standard and guideline requirements. If existing management practices failed to meet these requirements, then the authorized officer would take corrective action to adjust the amount, timing, and/or duration of grazing as necessary for proper rangeland management. Such action also could include administrative action (modification, suspension, or cancellation) against the grazing permit.

Annual adjustments in management in order to achieve forest plan standards and guidelines would be accomplished in annual operating or other written instructions. These instructions would fall within the scope of the decisions authorizing grazing use, and the NEPA documentation associated with those decisions.

Monitoring of rangeland (including livestock grazing) management effectiveness in achieving forest plan standards and guidelines would continue. The

kind, quantity, and quality standard of such information would be determined by the Forest Service authorized officer.

## Rangeland Program Administration

### Leasing

In response to concerns that permittees who enter into private leases or agreements are unduly benefiting from their grazing permits, BLM under the Preferred Alternative would collect surcharges for pasturing agreements involving federal grazing permits and leases. BLM would continue to allow base property leases and the transfer of associated grazing preferences and permits. A transfer would be allowed for leases of base property for a minimum of three years unless a shorter term were determined by the authorized officer to be consistent with management and resource condition objectives. Under the Preferred Alternative, BLM permittees would also be allowed to enter into agreements to pasture another person's livestock (management lease) if the permittee showed proof of control through a formal agreement transferring control of the livestock. BLM would assess a surcharge for all livestock authorized under a pasture agreement. In most cases, no agreement would be needed for a permittee to pasture livestock owned by his or her own children, nor would a surcharge be applied.

The Forest Service is not proposing a surcharge because it does not authorize leasing or pasturing agreements. Under the Preferred Alternative, Forest Service permittees would have to own both livestock and base property to qualify for a term grazing permit except as authorized in the eastern states. Children of Forest Service permittees may run up to 50 percent of their parent's permitted numbers under specified conditions.

### Foreign Corporations

Current BLM policy allows foreign interests or corporations licensed to conduct business in the state in which grazing use is sought to hold grazing permits. The Preferred Alternative would not change BLM's policy. Forest Service policy would change from the current requirement of U.S. citizenship or being a corporation with at least 80 percent of its owners being U.S. citizens to BLM's current policy.

### Disqualification

The Forest Service and BLM would adopt the proposal for disqualification as set forth in the draft EIS with slight modifications with respect to Forest Service renewals, and consideration of past performance on grazing permits and leases by BLM.

A Forest Service permit applicant would be considered disqualified for the issuance or renewal of a Forest Service grazing permit if they, as either a permittee or affiliate, have had any federal grazing permit or lease cancelled for permit or lease violations within 36 months prior to the date of application.

### Prohibited Acts

For BLM, the Preferred Alternative would redefine prohibited acts to include violations of not just the Endangered Species and Bald Eagle Protection acts, but also the Wild Horse and Burro Act and other federal or state laws or regulations concerning, among other things, conservation or protection of natural and cultural resources or environmental quality when public lands are involved or affected. The Preferred Alternative would include provisions that were in BLM regulations before 1984 and would make BLM and Forest Service regulations more consistent. After conviction or an administrative finding of violation by a permittee, the BLM authorized officer could cancel, suspend, or withhold a grazing permit if public lands had been involved or affected and no further appeals of the conviction or determination were outstanding.

Current Forest Service policy would not change. The Forest Service would cancel, suspend, or modify a grazing permit when a permittee is convicted of violating federal or state environmental laws or regulations related to grazing use authorized by the Forest Service grazing permit.

### Grant Policy

Under the Preferred Alternative, Forest Service policy and BLM regulations would be changed to add the proven ability of an operator to improve or

maintain the condition of rangeland ecosystems through satisfactory performance records as a new criterion for issuing grazing permits for "new" or unallocated forage.

## Permit Tenure

The Preferred Alternative would retain current provisions for permit tenure. As under current regulations, 10-year term grazing permits would normally be issued to permittees who meet the qualification criteria for holding term grazing permits. A permittee who refuses to accept the terms and conditions of an offered permit would not be authorized to graze livestock on federal lands. Grazing permits could be issued for less than 10 years in limited situations, in accordance with existing regulations.

To update Forest Service permits more efficiently over time, the Preferred Alternative includes a provision that would allow the authorized officer to cancel a permit at any time so that a new, updated permit could be issued. The Preferred Alternative would cause other changes to Forest Service permit regulations. Use previously authorized under livestock use permits would be authorized under temporary grazing permits. Temporary grazing permits would be issued for up to a 3-year period.

## Unauthorized Use

The Preferred Alternative would allow BLM to reach nonmonetary settlements where unauthorized use is clearly unintentional, incidental, causes no resource damage, and where no substantial forage is consumed. This change would be consistent with Government Accounting Office findings and recommendations (GAO 1990).

When assessing charges for unauthorized use, the following three categories of charges would be used.

(a) Nonwillful: The current private land lease rate for the state in which the unauthorized use occurred.

(b) Willful: Double the current statewide private land lease rate.

(c) Repeated Willful: Three times the current statewide private land lease rate.

The Forest Service would replace its term "excess use" with BLM's term "unauthorized use" relating to the grazing permit. It would also adopt BLM's three levels of financial penalties for unauthorized use. Under the Preferred Alternative both agencies would define the kinds of unauthorized use and apply financial penalties consistently.

## Conservation Use and Nonuse

The Preferred Alternative would address BLM's authority to allow conservation use. Currently, BLM managers may approve conservation use (removal of livestock grazing for protection of the federal range) only on an annual basis. Under the Preferred Alternative, conservation use could be authorized for extended periods when needed to meet management objectives consistent with resource condition objectives of existing land use plans and in compliance with standards and guidelines. Once resource condition objectives were met, the area would no longer be eligible for conservation use. Conservation use could be included in the conditions of grazing permits for up to the 10-year term of the permit. Forage set aside for conservation purposes could not be used by other livestock operators. Nonuse requested solely for the personal convenience or economic benefit of a permittee could be approved for up to three years.

The Forest Service's current policy of authorizing nonuse for up to three consecutive years for personal convenience, and nonuse for up to permit term for resource protection would remain the same. The proposed changes for BLM would make the two agencies consistent in their administration of nonuse.

## Suspended Nonuse

Under the Preferred Alternative, both agencies would continue to deal with suspended use (the same as suspended nonuse) as they do under Current Management. BLM grazing permits could contain both active and suspended nonuse animal unit months, and the Forest Service would not include suspended nonuse on its grazing permits.

## Water Rights

The Preferred Alternative provides consistent direction for BLM regarding water rights on public lands for livestock grazing and in general makes BLM's policy more consistent with Forest Service practice and with BLM policy before it was changed in the early 1980s. Under the Preferred Alternative, any new rights to water on public land for livestock watering on such land would be acquired, perfected, maintained, and administered under state law. To the extent allowed by the law of the state within which the land is located, any such water right would be acquired, perfected, maintained, and administered in the name of the United States.

The Preferred Alternative would create no new federal reserved water rights, nor would it affect valid existing water rights. Any right or claim to water on public land for livestock watering on public land by or on behalf of the United States would remain subject to 43 U.S.C. §666 (the McCarran Amendment), and section 701 of Public Law 94-579 (the Federal Land Policy and Management Act disclaimer on water rights). Finally, this provision would not change existing BLM policy on water rights for uses other than public land livestock grazing, such as irrigation, municipal, or industrial uses.

No changes in Forest Service policy would result. The Forest Service acquires, maintains, and administers water rights for livestock grazing on National Forest System lands subject to state law.

## Range Improvement Ownership

The Preferred Alternative would provide that the United States hold title to all new structural and non-structural grazing-related improvements on public lands administered by BLM, except temporary or removable improvements. The ownership of existing range improvements would not be affected. For range improvements built under cooperative agreements, permittees would hold a financial interest in proportion to their contribution. Permittees could continue to own temporary structures such as dip tanks, loading chutes, or portable water troughs placed on public lands under permit. These proposed changes would make BLM policy consistent with current Forest Service policy, which would not change under the Preferred Alternative.

## Range Betterment Fund Distribution

The Preferred Alternative would change the way BLM Range Betterment Funds are distributed. Under the Preferred Alternative, 50 percent of Range Betterment Funds would be returned to the district of origin, and the remaining 50 percent would be distributed to BLM state offices, which would then direct such funding on a priority basis for rangeland ecosystem rehabilitation and protection. This change would make BLM's procedures equivalent to Forest Service policy. Regional foresters distribute 50 percent of the Range Betterment Funds directly to the national forest where generated and retain 50 percent for distribution on a regional priority basis.

## Range Betterment Fund Use

The Preferred Alternative would revise BLM and Forest Service regulations and policies to expand and clarify the use of Range Betterment Funds. The proposed changes would allow such funds to be used for a wider range of activities needed to maintain and improve rangeland ecosystem health. These funds could be spent for planning projects, conducting environmental analyses and doing compliance inspections related to on-the-ground range improvements, improving vegetation conditions and quality, building range improvements, and monitoring the effectiveness of range improvements in achieving rangeland ecosystem management objectives.

## Appeals

The Preferred Alternative would remove the current provision for an automatic suspension of decisions upon filing of an appeal of BLM rangeland management decisions and would make grazing regulations consistent with the appeals provisions in 43 CFR 4.21, which govern other BLM actions. Those choosing to appeal an authorized officer's decision would be given a 30-day period in which to file an appeal. Appellants requesting a stay of the decision would be required to file a petition for stay with their appeal. If a petition for stay were filed with an appeal, the Department of the Interior's Office of Hearings and Appeals would have 45 days from the expiration of the 30-day appeal period to grant or

deny the petition for stay, in whole or in part. Thus, when a person has filed a petition for stay of the authorized officer's decision along with an appeal and when the request for stay is denied, decision implementation could be delayed up to 75 days. If a stay of the decision is granted, the decision would be stayed until a determination is made on the appeal. This procedure is more consistent with Forest Service provisions.

As under Current Management, the Preferred Alternative would continue to allow BLM managers to make decisions effective immediately where action is needed to protect rangeland resources.

Forest Service appeal provisions would not change. Use and occupancy decisions of authorized Forest Service officers would continue to be implemented automatically unless a stay of the decision is requested and granted. Procedures to obtain a stay of Forest Service decisions would follow appeal regulations in 36 CFR 251.91. Decisions made under the National Environmental Policy Act would have an automatic 45-day stay if appealed (36 CFR 215), but the appeal would have to be resolved within the 45-day period.

## Advisory Councils

The Preferred Alternative would replace BLM grazing advisory boards and district advisory councils with resource advisory councils subject to the Federal Advisory Committee Act (5 U.S.C. Appendix; FACA). These councils would focus on the full array of ecosystem and multiple use issues associated with BLM-administered public lands but would not give advice on internal BLM management concerns such as personnel or budget expenditures. The structure of these councils would be flexible.

Membership of the resource advisory council would reflect a balance of views to ensure that the council would represent the full array of issues and interests associated with public land use, management, protection and an understanding of the federal laws and regulations governing public lands. Individuals would qualify to serve on a resource advisory council because of their commitment to collaborative effort, possession of relevant experience or expertise, and commitment to successful resolution of resource management issues and to applying the relevant law. An individual may serve on only one resource advisory council.

The Forest Service currently does not use grazing advisory boards. Although these boards are authorized by current regulations, the law authorizing them expired in 1985. Under the Preferred Alternative, this reference to grazing advisory boards would be removed from Forest Service regulations.

The Secretary of Agriculture does have authority to set up advisory boards consisting of a variety of resource interests and viewpoints to advise the Forest Service, subject to the Federal Advisory Committee Act. The Forest Service could use these boards to gain input for rangeland use and management planning. All interested people and state, county, and federal agencies are allowed and encouraged to participate in forest planning and project decision making in accordance with NFMA and NEPA.

Under the Preferred Alternative, Forest Service officials would continue to recognize and consult with a broad array of publics, to include other agencies, livestock associations and districts, noxious weed control districts and boards, and other institutions, organizations and individuals interested in the protection and management of the rangeland ecosystem.

## Service Charges

Under the Preferred Alternative, the Forest Service would assess service charges for permit actions initiated by current permittees or applicants or other actions relating to permit violations or willful unauthorized use that require permit processing or supplemental billings. BLM would add service charges for applications made solely for temporary nonuse or conservation use. Forest Service and BLM service charge practices would then be more similar. A service charge would be assessed by BLM for each crossing permit, transfer of grazing preference, application solely for nonuse, and replacement or supplemental billing notice, except for actions initiated by the authorized officer. The service charge would offset the costs of processing such applications.

## Rangeland Ecosystems

The Preferred Alternative would improve the current methods of making rangeland decisions to integrate all of the biologic, cultural, social, and economic factors needed to maintain or restore ecosystems. Both the BLM and the Forest Service would implement policies to manage rangeland resources using an ecosystem approach.

BLM would implement this approach in two ways: (1) through national requirements, guiding principles, and state or regional standards and guidelines; and (2) through regulation changes that would reform the administration of the rangeland program. These actions would speed up the restoration and improvement of western rangelands. All implementation actions would be subject to conformance with existing land use plans and compliance with NEPA.

The Forest Service would implement an ecosystem approach by changing its regulations to establish the authority and direction for managing rangeland resources and making site-specific rangeland project decisions on the basis of a landscape analysis of rangeland ecosystems, subject to NEPA compliance. These decisions would be designed to accomplish specific, on-the-ground purposes or results that implement the programmatic management direction in the forest plans. Rangeland project decisions could include maintaining or modifying plant communities or other resource conditions, constructing rangeland improvements, and authorizing livestock grazing.

Implementing ecosystem management could require permittee participation in long-term resource monitoring and inventory. This approach would give the Forest Service and permittee greater flexibility to adjust annual operations to meet ecosystem objectives established in the landscape analysis.

## Special Status Species

Requirements of the Endangered Species Act and agency policy as discussed in the Current Management section of Chapter 2 of the draft EIS (see page 2-7) would continue to be implemented under the Preferred Alternative. An updated Appendix F (Threatened, Endangered, or Proposed Species List) and a new appendix, Appendix T (Biological Opinion and Conference Report), are included.

## Fee Incentives

The Preferred Alternative contains a provision for a 30 percent incentive fee that would be developed in a separate rulemaking. The Preferred Alternative would restrict implementation of the $3.96 base value in the event a separate regulation setting forth eligibility criteria for the incentive fee is not issued by 1997. In recent years the Department of the Interior has considered several proposals for incentive-based grazing fees targeted at encouraging good stewardship of the public lands. Both Departments intend to move forward in the preparation of a separate rules addressing incentive-based grazing fees. Those rule will set forth the eligibility criteria for the incentive fee. (Additional information can be found in the Preferred Alternative fee discussion.)

To ensure timely development of the eligibility criteria for the fee incentive rule, the Preferred Alternative provides that an alternative base value of $3.50 would be implemented in 1997 if the Departments have not completed the eligibility criteria. This discounted base value would result in a grazing fee of $2.77 per AUM in 1997 for qualifying permittees and lessees. The Departments intend to use their best efforts to issue final rules establishing incentive criteria in time to provide an opportunity for the reduced fee in grazing year 1996.

# Fee Alternatives

Seven fee alternatives are analyzed in this EIS:

(1) Current Public Rangeland Improvement Act (PRIA) (No Action)
(2) Modified PRIA
(3) BLM-Forest Service Proposal (Preferred)
(4) Regional Fees
(5) Federal Forage Fee
(6) PRIA with Surcharges
(7) Competitive Bidding

Table 2-2 summarizes the key elements of each fee alternative.

*Table 2-2: Description of Fee Alternatives*

| Elements | PRIA | Modified PRIA | BLM-FS Proposal | Regional Fees | Federal Forage Fee | PRIA with Surcharge | Competitive Bidding |
|---|---|---|---|---|---|---|---|
| BASE VALUE | $1.23 | $1.23 | $3.96 | $4.68-$10.26 | 3-yr. avg. | PRIA ($1.23) | None |
| MINIMUM FEE | $1.35 | $1.23 | $3.96 | $4.68-$10.26 | 3-yr. avg. | PRIA ($1.35) | Market driven |
| FACTORS AFFECTING FEE | BV FVI BCPI PPI | BV FVI BCPI ICI | BV FVI | Regional BV FVI | WAPLLR NFCD PrLFVR NPD | PRIA fee, Admin. Surcharge | Demand |
| MAXIMUM ANNUAL FEE VARIATION | 25% | 25% | 25% | 25% | 25% | Fee: PRIA × 2 Surcharge 10% | Would vary |
| 1993 CALCULATED FEE | $1.86 | $3.69 | $4.28 | $5.05-$11.08 | $2.36 | $3.72 | Would vary |

BV=Base Value; FVI=Forage Value Index; BCPI=Beef Cattle Price Index; PPI=Prices Paid Index; ICI=Input Cost Index; WAPLLR=Weighted Average of Private Land Lease Rates; PrLFVR=Ratio of WLGS Private Land Lease Rate to 1964-68 Base Year Private Land Lease Rate; NFCD=Nonfee Cost Differential; NPD=Ratio of Federal Permittee Cash Receipts to Nonfederal Producers Cash Receipts; PRIA=Public Rangelands Improvement Act

## Fee Alternative 1: PRIA (No Action)

The fee alternative based on the Public Rangeland Improvement Act (PRIA) consists of a base value of $1.23 per AUM that is updated annually using three indexes. The indexes consider the change in forage value, the change in beef cattle prices, and prices paid for selected items purchased by permittees. The annual fee would not differ by more than 25 percent from the fee charged in the previous year.

## Fee Alternative 2: Modified PRIA

The Modified PRIA alternative would use the same base as PRIA, $1.23, but would differ in using an index for all production costs rather than selected production costs as used in the PRIA alternative. The annual fee would not differ by more than 25 percent from the fee charged in the previous year.

## Fee Alternative 3: BLM-Forest Service Proposal (Preferred Alternative)

The grazing fee actions would apply to all BLM-administered lands and National Forest System land in the western states (except for the National Forests in Oklahoma and Texas). Historically, the national grasslands fee system differed from that of the national forests and BLM-administered lands. Under the Preferred Alternative, BLM and the Forest Service would have identical fees for the western states. The Preferred Alternative would not apply to fees on National Forest System Lands in the eastern states where fees are based on fair market value or competitive bidding.

Under the Preferred Alternative, the fee increase would be phased in over a 3-year period. This alternative contemplates that fee incentive criteria would be developed during the first 2 years. The third year of the phase-in would be implemented only if the incentive criteria were developed in separate rule makings.

The base value of $4.68 is derived from the 1983 federal Land Forage Appraisal of the value of grazing on lands managed by the Forest Service and BLM in 16 western states (Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, and Wyoming). Dividing the 16 states into six pricing regions, the appraisal concluded that the value of public land grazing varied from $4.68 per AUM in the lowest value region (Southwest) to $8.55 per AUM in the highest value region (Northern Plains).

The 1992 update, based on more data for private grazing lease rates gathered during 1991, found no change in the value of grazing in the lowest value region. The 1991 appraised value of public land grazing varied from $4.68 per AUM in the Southwest to $10.26 per AUM month in the Northern Plains.

Appendix B of the draft EIS, Technical Description of Fee Alternatives, contains a detailed description of the 1983 appraisal and the 1992 update.

Alternative 3 differs from Alternatives 1 and 2 in having a different base value and in having a Forage Value Index (FVI) for 17 western states rather than 11 western states.

Fee = BV x FVI;
BV=Base Value of $3.96

In preparation for the development of an incentive-based fee, a provision has been included in the Preferred Alternative that would substitute a base value of $3.50, beginning in the year 1997, in the event that the Departments have not completed separate rulemakings establishing criteria and procedures for the implementation of an incentive fee formula. The incentive would be a 30 percent discount from the fee calculated using the proposed $3.96 base value.

The Preferred Alternative would set a base value of $3.96 per animal unit month (AUM). This value represents a mid-range between the results obtained through the use of two methods for estimating a fair base value. The methodology used in arriving at the $3.96 base value is explained in Appendix C of the draft EIS, Rationale for the Proposed Grazing Fee Formula . The proposed fee would be phased in over the years 1995 through 1997. Thereafter, annual increases or decreases in the grazing fee resulting from changes in the forage value index (FVI) would be limited to 25 percent of the amount charged the previous year. This approach would provide a measure of stability that would facilitate business planning. The Department intends to examine the effect of the fee increase.

The Forage Value Index (FVI) would be the weighted average of the prior year's private grazing land lease rate (PGLLR) per AUM for pasturing cattle on private rangelands in each of the 17 contiguous western states (Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming), divided by the weighted average of the PGLLR per AUM for pasturing cattle in the year 1996 in each of the 17 contiguous western states. The weighted averages are calculated by multiplying the PGLLR for each of the 17 states by the number of public AUMs sold on public rangelands, National Forests and National Grasslands in each of the states during the respective years and dividing by the total number of public AUMs sold in the 17 western states in the respective years. See Appendix D in the draft EIS, Private Grazing Land Lease Rates.

This Preferred Alternative would establish 1996 as the base year for the FVI. The forage value index would not be used as a basis for annual fee adjustments, in response to market conditions, until 1997. This Preferred Alternative would establish the 1995 grazing fee at $2.75 and the 1996 grazing fee at $3.50. Thereafter the fee would be calculated, using the base value of $3.96 multiplied by the revised forage value index. By definition, the forage value index in the 1997 would equal one, yielding a 1997 grazing fee of $3.96. In later years, the calculated fee would depend on changes in the market rate for private grazing land leases as reflected by the forage value index.

This change in the derivation of the forage value index would reduce the uncertainty in the fee in the immediate future that resulted from using a forage value index based on less current private land lease rate data. Under the proposal presented in the advance notice of proposed rule making, the fee would have been adjusted annually by a forage value index based on the average price paid for private grazing in the years 1990 through 1992. Assuming that forage value index would have

remained constant until the end of the phase in period provided in the advance notice, the formula would have yielded a grazing fee of $4.28 per AUM as compared to a 1997 fee of $3.96 per AUM using the revised forage value index.

## Fee Alternative 4: Regional Fees

The regional fee alternative is the same as the Preferred Alternative fee, except that a different base value would be applied to six pricing regions. The regional base values would be derived from the 1983 Federal Land Forage Appraisal (updated in 1992) as described above. The regional base values would be updated annually using the FVI. The annual fee would not differ by more than 25 percent from the fee charged in the previous year.

## Fee Alternative 5: Federal Forage Fee Formula

The federal forage fee formula developed by the Western Livestock Producers Alliance is based on a 3-year average of private grazing land lease rates for 16 western states. The formula uses multipliers of private land lease rates and deducts the updated 1966 nonfee costs as described in the proposed fee alternative. That amount is multiplied by the percentage difference of cash receipts per cow for federal and nonfederal livestock producers. The annual fee would not differ by more than 25 percent from the fee charged in the previous year.

## Fee Alternative 6: PRIA with Surcharges

This alternative would use the fee under the PRIA fee alternative ($1.86 for 1993) and add a surcharge to cover the cost of administering the grazing program at the local Forest Service and BLM administrative level. Each year the fee would be limited to twice the fee produced by the PRIA formula. After a 1-year phase-in, the surcharge would not differ by more than 10 percent from the previous year's surcharge. The 1993 fee range would have been between $1.86 and $3.72. For evaluation purposes, the $3.72 fee is used.

## Fee Alternative 7: Competitive Bidding

Under this alternative, competitive bidding would be used to set grazing fees. The successful bidder would be required to adhere to the terms of the permit and perform specific management practices and facilities maintenance. The terms of the permit would be part of the bid process, allowing bidders themselves to estimate the market value of the forage.

## Alternatives Considered, but not Presented in Detail

In addition to the seven fee formulas considered in detail in the draft EIS, three other fee options were identified for consideration by public comment on the draft EIS.

*1.) "Base the fee on weight gain per AUM. Fees could be calculated by compiling statistics on AUM weight gain for each region in the West, multiplying them by the economic worth of each pound's gain, then adjusting each spring by a factor based on the previous winter's precipitation."*

Although this innovative approach would relate forage value to the rancher's economic returns from using the public forage, it has conceptual and practical difficulties. One of the main practical problems is developing a consistent data base on weight gains that would be representative of various regions in the West. One of the conceptual problems would be how much of the economic value of each pound gained should be captured by the government. Another conceptual problem would be selecting a proper factor to use in accounting for the previous winter's precipitation. Therefore, this option was not considered further.

*2.) "Establish a fee based on $0.89 per AUM multiplied by the proposed construction of the private rangeland rental rate index. This alternative is supported by the 1966 Western Livestock Grazing Survey (WLGS) as adjusted to higher 1994 operating costs."*

The proposed base value of $0.89 is apparently based on the Grazing Fee Task Group (GFTG)

estimate of the value of cattle grazing on federal lands in the three-state test area using the total cost approach (USDA/USDI, 1993a). The GFTG authors concluded that the values derived from the total cost approach were not valid for purposes of establishing a grazing fee because the values yielded inconsistent results. A base value of $0.89 multiplied by the FVI would not yield a fee that would meet the goal of a fair and reasonable return to the public. Because of these problems, this alternative was not considered in detail in the EIS.

*3.) "Keep PRIA, but charge a higher fee for summer pasture than the one charged for winter pasture."*

There is no consistent basis for charging more for summer pasture than for winter pasture. The price of forage is based on supply and demand and how valuable forage is to the ranch operation. In the northern United States, forage is more plentiful in the summer and thus can be worth less than winter forage. In the Southwest, where there is year round grazing, the price of forage may not differ from winter to summer. Also, the kind of livestock, sheep or cattle, using the public lands affects the season of grazing and the total demand for forage. Consequently this proposal was considered but eliminated from detailed analysis in the EIS.

## Relationship Between Alternatives

The five rangeland management alternatives and seven grazing fee formula alternatives provide an array of management and fee formula options that respond to both the purpose and need identified in Chapter 1.

Management alternatives address management aspects other than fees of the BLM and Forest Service rangeland management programs, including standards and guidelines and 19 other elements of rangeland policy and regulations identified during agency reviews and scoping. Fee formula alternatives consist of different methods for setting grazing fees.

Thirty-five alternatives could be developed by combining the five management alternatives with the seven fee formulas. In Chapter 4 of the draft EIS, which is incorporated by reference, each management alternative is combined with each of the seven fees, and the cumulative impacts are analyzed. Chapter 4 of the draft EIS also includes an extensive analysis of a high ($6.38), moderate ($4.28), and low ($1.86) fee combined with each of the management alternatives. (See analysis of impacts on economic conditions in Chapter 4 and the appendices of the draft EIS.)

Table 2-1 provides a side-by-side comparison of the five management alternatives considered in detail, as well as a comparison of BLM and Forest Service rangeland management policies and regulations. Table 2-2 provides a side-by-side comparison of the seven fee alternatives considered. The key elements of Rangeland Reform '94 identified by the BLM and the Forest Service in analyzing the impacts of the alternatives are grouped together under the following headings:

Climate
Air Quality
Vegetation and Watershed Conditions
Wildlife
Special Status Species
Grazing Administration
Wild Horses and Burros
Recreation and Scenic Values
Cultural and Paleontological Values
Economic Conditions
Social Conditions

Tables comparing the impacts of the alternatives are found on pages 2-46 through 2-55 of the draft EIS. Charts comparing the alternatives for: change in environmental status of BLM and Forest Service uplands in the long-term and short-term; changes in environmental status of BLM and Forest Service riparian areas for the long-term and short-term; and, reductions in livestock industry income for the long-term and short-term appear on pages 2-56 through 2-63 in the draft EIS. The changes made to the Preferred Alternative do not affect the impacts and conclusions set forth in these tables.

# CHAPTER 3
# Affected Environment

Chapter 3 of the draft EIS for Rangeland Reform '94 is incorporated by reference, in accordance with 40 CFR 1500.4(j) and (o), 1502.21 and 1506.4, with changes set forth in Chapter 5 of this document. The incorporated material can be found on pages 3-1 through 3-82 in the draft EIS and pages 23 through 30 in the Executive Summary and the content is briefly summarized below. The BLM and Forest Service team reviewed the public comments and concluded the analysis in the draft EIS adequately describes the affected environment. The public comments did not raise significant issues or information that would affect the adequacy of that analysis to support the selection of the preferred alternative.

Chapter 3 of the draft EIS describes the physical, biological, social, and economic environment of the West that would be affected by implementing the Preferred Alternative. The draft EIS describes resources of the lands analyzed including, vegetation, wildlife, nongame wildlife, wild horses and burros, recreation, wilderness, palentological and cultural resources, economic conditions, and social conditions.

## *Rangelands*

This chapter describes the natural resources and economic values of rangelands and discusses factors that have influenced current conditions.

The rangelands of the American West form a vast and varied landscape. Spanning nine climatic zones and containing diverse soils, vegetation, and wildlife, these rangelands include the hot deserts of the Southwest, the sagebrush plateaus of the Great Basin, the grasslands of the Great Plains, and the understory of Rocky Mountain coniferous forests.

Rangelands contain two basic types of vegetation communities: upland and riparian. Upland vegetation communities occur on dry sites and are by far the most widespread. Riparian vegetation communities occur in wet areas and occupy only one percent of rangelands.

Healthy riparian communities stabilize and protect streambanks from erosion. They help filter sediments, improve water quality, reduce flooding, recharge groundwater, and maintain streamflow. Riparian areas are also the most biologically productive and diverse habitats on public land. They provide food, water, cover, nesting areas, and protected pathways for wildlife movements and migrations. All fish and nearly all terrestrial wildlife species depend on riparian areas to survive.

When a stream loses watershed characteristics, it is said to be nonfunctioning. Nonfunctioning riparian communities cannot provide important watershed values and provide the amount and quality of habitat needed by fish and wildlife.

Once riparian areas become nonfunctioning, they usually will not recover without major changes in management. But, because they have good dry-season soil moisture, most riparian areas will respond relatively rapidly to management changes once disturbance factors are controlled. Many riparian areas have improved and have begun to function properly within five years after management changes. In some cases, restored riparian habitats have re-established perennial streamflow in streams that were previously intermittent.

BLM is responsible for managing about 176 million acres of uplands and 1 million acres of riparian areas. The Forest Service is responsible for managing about 144 million acres of uplands and 2.2 million acres of riparian areas.

Interpreting rangeland conditions has always been controversial. In the past, BLM and the Forest Service have applied field measurement techniques that describe vegetation communities but do not tell whether overall ecological processes are working properly and meeting ecosystem needs. To reflect this broader view, the agencies are adopting new methods of evaluating and/or reporting rangeland conditions.

The Forest Service has implemented a reporting system based on whether rangeland conditions are meeting resource objectives for a given site. The resource objectives incorporate the fundamental needs and health of the ecosystem. The Forest Service estimates that 80 percent of the uplands it manages either meets or is moving toward objectives while 20 percent is not. The Forest Service also estimates about 78 percent of the riparian areas under its management either meets or is moving toward objectives while 22 percent is not.

BLM is implementing a system based on whether rangeland conditions on a site can sustain natural plant communities and basic ecological functions where livestock grazing occurs. This system describes three categories of rangelands:

*Proper Functioning* - When vegetation and ground cover maintain soil conditions that can sustain natural biotic communities.

*Functioning at Risk* - When the capabilities of vegetation and soil are susceptible to losing their ability to sustain natural functioning biotic communities. Human activites, past or present, may increase the risks.

*Nonfunctioning* - When vegetation and ground cover are not maintaining soil conditions that can sustain natural biotic communities.

BLM estimates that about 57 percent of the uplands it manages are in proper functioning condition; another 30 percent are functioning at risk; the remaining 13 percent of the uplands are nonfunctioning. BLM estimates that about 34 percent of the riparian acres it manages are in proper functioning condition; another 46 percent are functioning at risk; the remaining 20 percent of riparian acres are nonfunctioning.

## Wildlife and Special Status Species

More than 3,000 species of mammals, birds, reptiles, fish, and amphibians inhabit public rangelands. Wildlife species and populations vary widely, depending on regional climates and local habitat conditions. Overall, wildlife reflects the diversity and health of rangeland vegetative communities and watersheds. More than 100 species that use rangelands are listed as federally threatened or endangered, including the desert tortoise, Utah prairie dog, bald eagle, and Lahontan cutthroat trout. Many other wildlife species are considered in serious decline and have been given sensitive, special status, or other protective designations.

The decline in species that depend on riparian communities is especially extensive and alarming. Many species of native fish, upland birds, neotropical migratory birds, and raptors have been greatly affected. For example, more than 100 special status riparian species inhabit Arizona and New Mexico, and most salmon stocks that use rangeland streams are at risk.

In addition to wildlife, 75 plant species are listed as federally endangered or threatened, and more than 1,100 other plant species are protected.

## Economic Conditions

The economy of the western states is highly diversified. Between 1982 and 1990, employment in all industries grew by 11 million workers. The percentage of total employment has increased in the service, finance, insurance, real estate, construction and retail sectors. Industries that have decreased as a percentage of total employment include government, manufacturing, agriculture, transportation, communication, utilities, and mining.

As with employment, income in the agriculture sector has declined relative to other industries of the Western economy. In the 16 western states (Washington, Oregon, California, Arizona, New Mexico, Colorado, Wyoming, Montana, Idaho, Nevada, Utah, North Dakota, South Dakota, Nebraska, Kansas, and Oklahoma), income increased by $350 billion from 1982 to 1990. Although income in the agriculture industry grew between 1982 and 1985, by 1990, the income level had fallen back to the 1982 level. All industries except agriculture grew in income over this period.

Beef cattle producers with federal permits make up about 3 percent of the 907,000 producers in the 48 contiguous states. In 11 western states (Arizona, California, Colorado, Idaho, Montana, Nevada, New

Mexico, Oregon, Utah, Washington and Wyoming), federal permittees and lessees make up 22 percent of total beef producers. Sheep producers with federal permits in the 11 western states make up about 19 percent of the total sheep producers.

The importance of federal rangelands to livestock production can be measured by rancher dependency on federal forage. Average dependency of permittees on federal forage is highest in Arizona and lowest in Montana. The difference is due to the amount of federal land compared to private land, the availability of year-long grazing, and the number of permittees who have BLM and Forest Service permits.

According to the 1990 Farm Costs and Returns Survey, BLM and Forest Service permittee grazing fee expenses represent about 3 percent of total cash costs. Average per-cow costs for permittees are significantly lower than for non-permittees. An estimate of the cost differential suggests that non-permittee net costs are about $40 per cow higher than permittee costs.

Permittees spend more per cow for breeding stock, fences, and hired labor than non-permittees. Non-permittees spend more per cow overall for capital items, machinery, buildings, equipment, feed, pasture rental, purchased stock cattle, and other variable and fixed cash costs.

# CHAPTER 4
# Environmental Consequences

Chapter 4 of the draft EIS for Rangeland Reform '94 is incorporated by reference, in accordance with 40 CFR 1500.4(j) and (o), 1502.21 and 1506.4, with changes set forth in Chapter 5 of this document. The incorporated material can be found on pages 31 through 53 in the Executive Summary in the draft EIS, and on pages 4-1 through 4-123 in the draft EIS. Its content is briefly summarized below. A team reviewed the public comments and concluded the analysis in the draft EIS adequately describes the environmental consequences of the management and fee alternatives. The public comments did not raise significant issues or information that would affect the adequacy of that analysis to support the selection of the Preferred Alternative. Some changes were made as a result of public comment. However, the changes reflected in the Preferred Alternative are within the scope and analysis of the draft EIS and do not alter the analysis of the environmental consequences contained in that document.

This chapter (including material incorporated by reference) contains a discussion of the environmental consequences of each alternative. It addresses: livestock use levels; availability and use of range betterment funds; vegetation (upland conditions and riparian conditions); watershed; wildlife; special status species; wild horses and burros; recreation, wilderness and cultural resources; economic conditions; and social conditions. In Chapter 4 of the draft EIS, each of the five management alternatives is combined with each of the seven fees, and the cumulative impacts are analyzed. Chapter 4 of the draft EIS also includes an extensive analysis of a high, moderate, and low fee combined with each of the management alternatives.

The Preferred Alternative described in the final EIS contains changes to the Proposed Action described in the draft EIS. They are as follows:

*Standards and Guidelines* - BLM standards and guidelines would be modified to incorporate more fully a watershed management approach and current science, and to be more consistent with rangeland health goals. The standards and guidelines are intended to establish a direction toward restoration of rangeland health in areas where rangeland health has not yet been achieved. The standards and guidelines have also been reorganized and rewritten for clarity. These changes were made in response to internal review and public comment on the draft EIS and proposed rule.

*Leasing* - The proposed BLM rule provided for the imposition of a surcharge on authorized base property leases and pasturing agreements, except with respect to children of the permittee or lessee. The Preferred Alternative would retain the exemption for children, would eliminate the surcharge on base property leases, and would modify the calculation of the surcharge authorized for pasturing agreements.

*Disqualification* - The Forest Service and BLM would adopt the proposal for disqualification as set forth in the draft EIS with slight modifications with respect to Forest Service renewals, and consideration of past performance on grazing permits and leases by BLM.

*Advisory Councils* - The structure of BLM resource advisory councils would be more flexible than under the Proposed Action described in the draft EIS.

*Forest Service Rangeland Project Decisions* - Discussion of the proposed Forest Service rangeland project decision (RPD) process is expanded to clarify the link with NEPA and the role of the permittee and other interested parties in the planning process, and to explain why AMPs are being phased out. This discussion also explains that Forest Service grazing permits could be issued for less than 10 years during the transition period to RPDs. The term of such permits could coincide with the priority scheduling of the NEPA analysis and RPD for each grazing allotment. The expansion and clarification of this section was in response to public comment that questioned the intent of the RPDs, the permittee and public

involvement in the planning process, and the ability of the Forest Service to complete RPDs.

*Permit Tenure* - In limited situations, Forest Service grazing permits could be issued for less than 10 years.

# Alternative 1: Current Management

## Livestock Use Levels

Livestock forage authorized by BLM would decline by 18 percent and forage authorized by the Forest Service would decline by 19 percent over 20 years.

## Vegetation

### Upland Conditions

In the long term (20 years), it is estimated that about 117 million upland acres of BLM uplands would be in proper functioning condition (an increase of 30 percent from 1993). Another 22 million acres of BLM uplands would be functioning at risk (a decrease of 55 percent from 1993), and BLM upland acres in nonfunctioning condition would be about 20 million acres (a decrease of less than five percent from 1993). In the long term, about 60 million acres (82 percent) of Forest Service uplands would either be meeting objectives or moving toward objectives. Another 13 million acres (18 percent) would not be meeting objectives.

### Riparian Conditions

In the long term, about 33 percent of BLM riparian acres would be in proper functioning condition (a decrease of three percent from 1993), 45 percent would be functioning at risk (a decrease of less than one percent from 1993), and 21 percent would be nonfunctioning (an increase of seven percent from 1993). In the long term, about 75 percent of Forest Service riparian areas would either be meeting objectives or moving toward objectives (a decrease of four percent from 1993). About 25 percent would not be meeting objectives (an increase of 14 percent from 1993).

### Watershed Conditions

Watershed and water quality conditions would remain static or decline slightly in many areas over the long term. Accelerated erosion and runoff from uplands would decrease, but streambank trampling and continued decline in overall riparian conditions would increase sediment discharge in many areas. Over the long term, important watershed functions such as water quality maintenance, flood peak reduction, and ground water recharge would remain nonfunctioning or functioning at risk.

## Wildlife and Special Status Species

Improvements in upland vegetation would benefit upland-dependent wildlife. Big game species would remain generally stable. However, the decline in riparian conditions in many areas would affect big game species, such as mule deer, that rely on riparian habitats for thermal and hiding cover.

The abundance and diversity of wildlife species dependent on riparian habitat would decline in many areas over the long term. At greatest risk would be waterfowl, many upland game birds, and raptors associated with cottonwood and aspen riparian habitats.

About 20 percent of anadromous fish habitat would significantly improve, but habitat conditions elsewhere would remain static or decline. Overall, anadromous fish populations would continue to decrease in many areas over the long term.

Special status species associated with upland vegetation would benefit from improvements in upland conditions. But many special status species are associated with riparian habitat. Their status would be unlikely to change and as many riparian areas continue to decline, additional species dependent on these areas would be designated special status.

## Economic Conditions

Employment and income impacts would be minor in the agriculture sector in particular and compared to the westwide economy as a whole. The impacts would occur in the context of a western economy that

has shown consistent growth over the past 10 years and is expected to continue growing.

# Alternative 2: Preferred

The environmental consequences associated with the Proposed Action can be found in pages 4-38 through 4-63 in the draft EIS and are incorporated by reference.

## Livestock Use Levels

After 20 years, livestock forage authorized would be three percent less than under Current Management.

## Vegetation

### Upland Conditions

In the long term (20 years), it is estimated that about 138 million acres of BLM uplands would be in proper functioning condition, an increase of 55 percent from 1993 (as compared to a 30 percent increase under Current Management). Another six million acres of BLM uplands would be functioning at risk, a decrease of 90 percent from 1993 (a 55 percent decrease is expected under Current Management). BLM upland acres in nonfunctioning condition would be about 15 million acres, a decrease of 30 percent (less than five percent decrease is expected under Current Management). In the long term, about 60 million acres (82 percent) of Forest Service uplands would either be meeting objectives or moving towards objectives (an increase of two percent). Another 13 million acres (18 percent) would not be meeting objectives (a decrease of nine percent).

### Riparian Conditions

In the long term, about 43 percent of BLM riparian acres would be in proper functioning condition (an increase of 27 percent from 1993). In contrast, under Current Management, proper functioning BLM riparian areas would decrease by three percent. About 41 percent would be functioning at risk (a decrease of 11 percent from 1993), and 16 percent would be nonfunctioning (a decrease of 20 percent from 1993). In contrast, riparian areas under Current Management in nonfunctioning condition would increase by seven percent. In the long term, about 84 percent of Forest Service riparian areas would either be meeting objectives or moving toward objectives (an increase of seven percent from 1993). About 16 percent would not be meeting objectives (a decrease of 26 percent from 1993).

### Watershed Conditions

The Preferred Alternative would substantially improve upland watershed conditions over the long term. Plant cover and water infiltration would increase, resulting in less runoff and erosion. Riparian watershed conditions would benefit moderately from proper grazing management and reduced livestock use. Water quality, ground water recharge, and increased streamflow would improve or increase on the 20 percent of the nonfunctioning riparian areas projected to improve.

## Wildlife and Special Status Species

The overall improvements in vegetation and watershed conditions would benefit most wildlife species. Projected increases in upland grasses would favor such big game species as elk over pronghorn and mule deer, but habitat diversity would be maintained on a local basis through management treatments and natural events such as wildfire and drought.

Increases in functioning riparian habitat would improve food sources, nesting, broodrearing, and thermal cover for most wildlife. Big game, nongame, upland birds, waterfowl, raptors, and anadromous and resident fisheries would benefit over the long term.

Over the long term, the Preferred Alternative would improve the vegetation communities favored by most special status species. Special status species dependent on native upland vegetation, such as sage grouse, could benefit substantially from the projected changes in upland condition. Improvements in riparian conditions would benefit populations of aquatic special status species such as the Lahontan cutthroat trout, Gila trout, and others.

## Economic Conditions

Impacts on employment and income would be greater than current management under the Preferred Alternative in the short term, but over the long term would be similar. Ranch employment and income could continue to decline in a western economy that has consistently grown over the past 10 years and is expected to continue growing. Continued growth in employment and income in other sectors would overshadow the relatively small employment and income reductions from declines in livestock grazing on federal lands.

Specific local impacts would be expected to differ from the overall impacts. Ranching operations with a large number of livestock and large dependency on federal forage would be affected the most.

Improvements in resource conditions under the Preferred Alternative would create some positive economic impacts in the long term and offset some of the declines in employment and income from reduced forage allocations. Improved wildlife habitat and recreation sites could increase employment and income as hunting, fishing and wildlife viewing opportunities increase.

# *Alternative 3: Livestock Production*

## Livestock Use Levels

Based on current trends, the amount of federal forage would decline by four percent in the short term. For the long term, vegetation manipulation and range improvements would somewhat offset these trends, but forage would decline by 10 percent for BLM and 14 percent for the Forest Service, as compared to 15 percent in five years and 18 percent in 20 years under Current Management. After 20 years, livestock forage would be four percent greater under this alternative than under Current management.

## Vegetation

### *Upland Conditions*

In the long term (20 years), about 129 million acres of BLM uplands would be in proper functioning condition, an increase of 40 percent from 1993 (as compared to a 30 percent increase under Current Management). Another 12.5 million acres of BLM uplands would be functioning at risk, a decrease of 75 percent from 1993 (a 55 percent decrease is expected under Current Management). BLM upland acres in nonfunctioning condition would be about 17.5 million acres, a decrease of 15 percent (less than five percent decrease is expected under Current Management). In the long term, about 60 million acres (82 percent) of Forest Service uplands would either be meeting objectives or moving towards objectives (an increase of two percent). Another 13 million acres (18 percent) would not be meeting objectives (a decrease of nine percent).

### *Riparian Conditions*

In the long term, about 32 percent of BLM riparian acres would be in proper functioning condition (a decrease of eight percent from 1993). In contrast, under Current Management proper functioning BLM riparian areas would decrease by three percent. About 45 percent of BLM riparian areas would be functioning at risk (a decrease of two percent from 1993), and 24 percent would be nonfunctioning (an increase of 18 percent from 1993). In contrast, BLM riparian areas under Current Management in nonfunctioning condition would increase by seven percent. In the long term, about 70 percent of Forest Service riparian areas would either be meeting objectives or moving toward objectives (a decrease of 10 percent from 1993). About 30 percent would not be meeting objectives (an increase of 37 percent from 1993).

### *Watershed Conditions*

Watershed and water quality conditions would decline over the long term. Improvement in upland vegetation over the long term would reduce runoff and erosion, but improper grazing management in riparian areas would more than offset this improvement. Improper grazing management in riparian areas

would cause increased sediment, altered stream channel structure, warmer water temperatures, lower dissolved oxygen levels, and continued nonpoint-source pollution at or near existing levels.

## Wildlife and Special Status Species

The decline of many riparian areas would contribute to the long-term decline in riparian-dependent wildlife. Big game species, such as pronghorn antelope and mule deer, rely on riparian habitat for shade and cover. The overall decline in riparian vegetation conditions would reduce water, nesting habitat, roosting habitat, forage, and cover for upland game, waterfowl, and raptors. Overall aquatic habitat for resident and anadromous fish would continue to decrease as riparian conditions in many areas decline.

As many riparian areas would decline, special status species dependent on riparian habitat would decrease and become listed at an accelerated rate. Upland species dependent on livestock forage may increase slightly over the long term due to improved upland conditions.

## Economic Conditions

Fewer employment and income impacts would result from the Livestock Production alternative than from other alternatives. The impacts would be slight in the agriculture sector in particular and compared to the westwide economy as a whole. Continued growth in employment and income would tend to offset the relatively small employment and income declines from reduced forage. Short term and long term rates of decline in employment and income would be lower than the rates of decline under Current Management but would not be reversed.

Increased emphasis on producing livestock forage would slightly slow the decline in the livestock subsector of the agriculture industry, but population growth and demographic changes in the West and in many western rural communities would continue to transform rural economies.

The overall projected deterioration of resource conditions in many areas would lessen recreation opportunities, which could adversely affect recreation-related economic activity.

# *Alternative 4: Environmental Enhancement*

## Livestock Use Levels

In the short term, authorized livestock forage would decline 53 percent from existing forage consumption on BLM lands (as compared to 15 percent under Current Management) and 45 percent on National Forest System lands. In the long term, authorized livestock forage would decline 30 percent on BLM lands (as compared to 18 percent under Current Management) and 29 percent on Forest Service administered land. After 20 years, livestock forage would be 12 percent less than under Current Management.

## Vegetation

### *Upland Conditions*

In the long term (20 years), about 151 million acres of BLM uplands would be in proper functioning condition, an increase of 65 percent from 1993 (as compared to a 30 percent increase under Current Management). No BLM uplands would be functioning at risk. BLM upland acres in nonfunctioning condition would be about eight million acres, a decrease of 60 percent (a decrease of less than five percent is expected under Current Management). In the long term, about 69 million acres (95 percent) of Forest Service uplands would either be meeting objectives or moving toward objectives (an increase of 18 percent). Another 3.8 million acres (five percent) would not be meeting objectives (a decrease of 73 percent).

### *Riparian Conditions*

In the long term, about 59 percent of BLM riparian acres would be in proper functioning condition (an increase of 71 percent from 1993). In contrast, under Current Management, proper functioning BLM riparian areas would decrease by three percent. About 32 percent of the BLM riparian acreage would

be functioning at risk (a decrease of 30 percent from 1993), and nine percent would be nonfunctioning (a decrease of 53 percent from 1993). In contrast, BLM riparian areas under Current Management in nonfunctioning condition would increase by seven percent. In the long term, about 100 percent of Forest Service riparian areas would either be meeting objectives or moving toward objectives (an increase of 28 percent from 1993).

### *Watershed Conditions*

Watershed values and water quality would improve significantly in the long term. Erosion and runoff would not change in the short term. Improved riparian and upland conditions would complement each other.

## Wildlife and Special Status Species

Improved upland and riparian vegetation would increase cover for many wildlife species. Such improvements would benefit big game, upland game, waterfowl, raptors and fish by providing more diverse, healthy ecosystems. Such ecosystems provide more habitat and diverse diets for all wildlife.

Special status species would trend toward recovery in the short and long term as upland vegetation and riparian areas improve and provide the habitat characteristics required by many of these species.

## Economic Conditions

The five year declines in employment and income across all fee levels would amount to 0.5 percent of total westwide agricultural employment. Employment and income impacts would be greater under the Environmental Enhancement alternative in both the short term and long term than all other alternatives except for No Grazing. Still, the impacts would be minor in the agriculture sector in particular and to current economic conditions and trends in the westwide economy as a whole. Continued growth in employment and income in other sectors would overshadow the relatively small employment and income reductions from declines in federal forage grazed by livestock. Locally, substantial impacts in some rural communities would result.

Improved resource conditions would create positive economic impacts in the long term . These impacts would be greater than under any other alternative, except for No Grazing. Greatly improved wildlife habitat and recreation site improvements could generate increases in employment and income as hunting, fishing, and wildlife viewing opportunities increase.

# *Alternative 5: No Grazing*

## Livestock Use Levels

No forage would be permanently allocated for livestock grazing . Livestock would graze only where needed to help achieve resource objectives. Livestock management work in the BLM and Forest Service would decline. Permittees would be compensated for the current value of their investments in range improvements, which would be expensive in the short term.

## Vegetation

### *Upland Conditions*

In the long term (20 years), about 151 million acres of BLM uplands would be in proper functioning condition, an increase of 65 percent from 1993 (as compared to a 30 percent increase under Current Management). No BLM uplands would be functioning at risk. BLM upland acres in nonfunctioning condition would be about eight million acres, a decrease of 60 percent (a decrease of less than five percent is expected under Current Management). In the long term, about 69 million acres (95 percent) of Forest Service uplands would either be meeting objectives or moving toward objectives (an increase of 18 percent). Another 3.8 million acres (five percent) would not be meeting objectives (a decrease of 73 percent).

### *Riparian Conditions*

In the long term, about 65 percent of BLM riparian acres would be in proper functioning condition (an increase of 91 percent from 1993). In contrast, under

Current Management, proper functioning BLM riparian areas would decrease by three percent. About 28 percent of the BLM riparian areas would be functioning at risk (a decrease of 38 percent from 1993), and six percent would be nonfunctioning (a decrease of 68 percent from 1993). In contrast, BLM riparian areas under Current Management in nonfunctioning condition would increase by seven percent. In the long term, about 100 percent of Forest Service riparian areas would either be meeting objectives or moving toward objectives (an increase of 28 percent from 1993).

### *Watershed Conditions*

Watershed values and water quality would improve to their maximum potential in the long term. Increases in upland vegetation and plant litter would improve soil properties, increase water infiltration, and reduce the amount of runoff and erosion from upland areas. Water quality, ground water recharge, flood peak reduction, and other riparian watershed benefits would substantially increase as essentially all riparian areas move toward proper functioning condition. Erosion and runoff would not change in the short term. Improved riparian and upland conditions would complement each other.

## Wildlife and Special Status Species

The projected improvements in vegetation and watershed conditions would increase the diversity and abundance of wildlife. About 75 percent of degraded anadromous fish habitat would be restored. Waterfowl populations would increase, although expected increases may be limited by changes in resource conditions on private lands. Upland game and nongame species would benefit from improved riparian habitat and from increased vegetation for winter food and cover. The use of management tools such as fire would need to increase to maintain optimal habitat for certain big game species.The broad, accelerated improvement in ecological conditions would result in long term trends toward the recovery of many listed and sensitive species.

## Economic Conditions

The economic impacts would be greatest under the No Grazing alternative. This alternative would affect about eight percent of the beef cattle inventory in the 11 western states, 2.4 percent of the beef cattle inventory in 17 western states (including Texas), and 0.8 percent of the sheep inventory in the 11 western states.

Employment and income impacts would be minor relative to the total westwide economy. In agriculture, impacts would be relatively greater. But, in the long term, continued growth of employment and income in other industries would tend to offset employment and income reductions from eliminating grazing on public lands.

The effect on beef prices of eliminating livestock grazing on public lands would be slight. In the near term, liquidating sheep and cattle herds would lower prices as more livestock are slaughtered. In the long term, a one percent decrease in national cattle inventory could result in about a one percent increase in retail beef prices. But this price affect could be negated by an increase in the national cattle inventory.

Greatly improved wildlife and fisheries habitat and recreation site improvements could increase employment and income as hunting, fishing, and wildlife viewing opportunities increase.

# CHAPTER 5
# Consultation and Coordination

Chapter 5 of the draft EIS for Rangeland Reform '94 is incorporated by reference, in accordance with 40 CFR 1500.4(j) and (o), 1506.4 and 1520.21. The incorporated material can be found on pages 5-1 through 5-13 of the draft EIS and the content is briefly summarized below.

## Introduction

This chapter is a restatement and revision of the draft EIS Chapter 5. The Consultation section below contains an update on Endangered Species Act Section 7 consultation. New sections include information on distribution of the proposed regulations and the draft EIS, public hearings, distribution of the final EIS, and how public comments on the draft EIS were processed. These are followed by a section containing changes to the draft EIS resulting from a review of public comments.

The last section of this chapter, "Comments and Responses," includes comments made during the public review period, summaries of public comments on the draft EIS, and responses to those comments. It includes responses to comments that bear directly on the analysis of the draft EIS, as well as some comments that relate to the proposed regulations, but do not affect the environmental analysis.

In responding to public comments, the agencies considered not only those comments specifically addressed in the EIS but also those comments on the proposed rules that had the potential to affect the analysis of impacts. There were also comments addressed to the EIS suggesting possible revisions to the proposed rule. Those comments addressing matters unrelated to environmental impacts will be addressed in the Preamble to the Final Rule. However, some of them are also addressed in the comment and response section of this EIS. If several commenters raised the same issue, the team generally responded to it only once, rather than repeating the response at various places throughout the chapter.

## Cooperating Agency

The Forest Service, U.S. Department of Agriculture, was a cooperating agency in the preparation of the final EIS.

## Consultation

During preparation of the draft EIS, BLM and the Forest Service formally consulted on listed species and informally conferenced on species proposed for listing with the Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) under Section 7 of the Endangered Species Act (ESA). Formal Section 7 consultation and conferencing with the FWS and the NMFS includes the establishment of a framework for additional consultations and conferences at regional, state, or site-specific levels as necessary. Formal consultation and conferencing has been completed and are included in Appendix T, Biological Opinion and Conference Report.

The FWS and NMFS have found that administrative changes and the grazing fee rules addressed in the Preferred Alternative would have "no effect" on threatened, endangered, or proposed species, or their critical or proposed critical habitat. Forest Service rules for management of grazing use were determined to "not likely to adversely affect" threatened, endangered, or proposed species, or critical or proposed critical habitat. Formal consultation under the ESA was requested because the BLM Preferred Alternative for national requirements and state or regional standards and guidelines "may affect" threatened, or endangered species, or species proposed for listing, or their critical or proposed critical habitat (see Appendixes T and F).

Before implementing additional actions at the regional or site-specific level that might affect listed species or species proposed for listing or their critical or proposed critical habitat, the agencies would consult or confer with the FWS or the NMFS as

required by Section 7 of the ESA. When appropriate, BLM and the Forest Service would conduct these consultations and conferences using an ecosystem or range wide approach.

Before authorizing surface disturbance undertakings at the regional or local level, BLM and the Forest Service would identify cultural properties eligible for inclusion in the National Register of Historic Places and consider the effects of the proposed undertakings through the consultation process in Section 106 of the National Historic Preservation Act of 1966.

## Overview of Public Participation

The EIS public participation process consists of several phases. Public participation begins with scoping, which is conducted to help identify issues and alternatives before any decisions are made. Information gathered during scoping is analyzed and used in determining the issues to be addressed and the alternatives to be presented in detail in a draft EIS.

A draft EIS is subject to further public review and comment during the public comment period. Following the comment period, comments are analyzed and a final EIS is developed. The final EIS also responds to comments received during the review period.

Public involvement throughout the EIS process ensures that the process is open and considers information from all interested parties, including other federal agencies, Indian tribes, state and local government, the scientific community, professional organizations, a variety of public land users, conservation organizations, and citizens at large.

Public participation opportunities for Rangeland Reform '94 have included the following:

- five grazing town hall public meetings,
- 60-day comment period on the BLM and Forest Service advance notices of proposed rulemaking,
- 70-day scoping period for the draft EIS,
- formal hearings conducted throughout the West during the public comment period on the proposed rule and draft EIS
- 167-day comment period on the BLM proposed rule,
- 133-day comment period on the Forest Service's two proposed rules, and
- 119-day comment period on the draft EIS.

During a three-month period beginning November 17, 1993, Secretary of the Interior Babbitt met on 20 occasions throughout the West with groups that included western governors, state and local officials, ranchers, environmentalists, and other public land users. Representatives from the Department of Agriculture (including the Forest Service) accompanied the Secretary at these meetings. He visited locations in Colorado, Wyoming, and Oregon where local groups were already addressing land management issues. He also participated in hundreds of hours of discussion about the components of Rangeland Reform '94. The meetings in Colorado, Idaho, Arizona, New Mexico, Wyoming, Oregon, Nevada, and Utah resulted in many productive suggestions that are reflected in the new proposal.

## Grazing Town Hall Meetings

During the spring and summer of 1993, Secretary of the Interior Bruce Babbitt conducted the following public meetings in the West to obtain public views:

| | |
|---|---|
| April 30 | Bozeman, MT |
| May 1 | Reno, NV |
| May 5 | Grand Junction, CO |
| May 6 | Albuquerque, NM |
| July 9 | Flagstaff, AZ |

Representatives from the Department of Agriculture, including the Forest Service, accompanied the Secretary at these meetings. More than 300 members of the public testified, and more than 1,300 people submitted letters and comment sheets during or after the meetings. Discussions centered on the importance of protecting and restoring the condition of the public rangelands, the need to change the current grazing fee and formula, and the economic importance of public resources to rural communities.

Although these meetings were not part of the formal scoping process for the draft EIS, BLM and the Forest Service considered the views expressed at these meetings and in later correspondence while

developing the Rangeland Reform '94 initiative and the draft EIS. (For further information, see draft EIS, Appendix S, Summary of 1993 Grazing Town Hall Meetings.)

## Scoping

An extensive public scoping process was conducted for the Rangeland Reform '94 draft EIS. A notice of intent to prepare the EIS and to invite public comments and suggestions on the scope of the analysis was published in the July 13, 1993, *Federal Register*. The scoping period was reopened for 30 more days through an August 13, 1993, *Federal Register* notice, and then for 30 more days through a September 20, 1993, *Federal Register* notice. BLM and the Forest Service each published a separate advance notice of proposed rulemaking in the August 13, 1993, *Federal Register*. These notices provided a 30-day comment period, which was extended by 30 days in the September 20, 1993, *Federal Register*.

News releases were issued nationwide at the same time that the *Federal Register* notices were published in July, August, and September. Beginning in August, information packages on Rangeland Reform '94 were provided to permittees, interest groups, state and local governments, congressional offices, and Native American groups. When requested, briefings were provided to entities such as local and state governments, grazing advisory boards, industry associations, and environmental and recreation groups.

More than 12,600 pieces of mail were received from July 13 through October 20, 1993. Of these, more than a third were duplicates (letters sent by the same party more than once or to more than one government entity). Comment letters were sent not only to the Rangeland Reform '94 mailing address, but also to the Secretary of the Interior; the Secretary of Agriculture; the BLM Director; BLM's Assistant Director for Land and Renewable Resources; the Director, Range Management, Forest Service; and Members of Congress.

A BLM-Forest Service comment analysis team was established to review the comment letters. After identifying and filing duplicate letters, the comment analysis team recorded more than 56,000 comments from more than 8,000 letters. All comments were reviewed, analyzed, and considered. The results of comment analysis were given to the EIS team. Letters postmarked after October 20, 1993, were reviewed for unique ideas and also given to the EIS team. All original letters and analyzed copies of letters have been kept on file in sequential order.

## Distribution of the Proposed Rulemakings

BLM's proposed rulemaking was published in the *Federal Register* on March 25, 1994. The Forest Service's proposed rules were published in the April 28, 1994, *Federal Register*. All of the notices provided for public comment periods ending on July 28, 1994. *Federal Register* notices published on July 27 extended the comment periods through September 9, 1994. Copies of the proposed rulemaking were provided to federal agencies, state and local governments, congressional offices, Indian tribes, livestock operators and companies, environmental organizations, and other people interested in Rangeland Reform '94.

## Distribution of the Draft EIS

The impacts of BLM's and the Forest Service's proposed action and alternatives were analyzed in the draft EIS, which was filed with the Environmental Protection Agency (EPA) on May 6, 1994. Both EPA and BLM published notices of the availability of the draft EIS in the May 13, 1994, *Federal Register*. The notices provided the address for submission of written comments and established a 90-day public comment period expiring on August 11, 1994. In an August 4 *Federal Register* notice, BLM extended the EIS comment period until September 9, 1994. News releases announcing the availability of the draft EIS and the extension of the comment period also were issued throughout the West. Comments were provided to BLM and the Forest Service in two ways: (1) in writing, sent to the address provided, and (2) orally or in writing at one of 49 public hearings held on June 8, 1994.

More than 14,000 copies of the draft EIS were distributed to federal agencies, state and local governments, congressional offices, livestock operators and companies, environmental organizations, and

many individuals concerned about the outcome of the Rangeland Reform '94 process. Correspondence generated by the grazing town meetings, EIS scoping, and BLM and Forest Service advance notices of proposed rulemakings was used to develop the basic mailing list for the draft EIS. Copies of the draft EIS also were available for review and distribution in BLM's resource area offices and the Forest Service's National Forest supervisors' offices. Copies of the draft EIS may be obtained by contacting the BLM at (202) 452-7740.

## Public Hearings

On June 8, 1994, BLM and the Forest Service held 48 hearings throughout the West on the draft EIS and the proposed rulemakings; one hearing also was held that day in the East. Hearings were preceded by open houses staffed by BLM and Forest Service personnel to answer individual questions about Rangeland Reform '94 proposals. The location and procedures for the open houses and hearings were published in the May 16, 1994 *Federal Register* and announced in news releases. More than 1,900 people testified at the hearings. A transcript was made of each hearing. The transcripts are part of the public comment record and were analyzed during preparation of the final EIS.

## Distribution of the Final EIS

Copies of the final EIS have been sent to federal agencies, state and local governments, Indian Tribes, livestock operators and companies, environmental organizations, and other members of the public, including all people and organizations who commented on the draft EIS.

The final EIS includes:

- a statement of the purpose and the need for the action;
- a description of the alternatives, including the preferred alternative;
- a description of the affected environment;
- an analysis of the environmental consequences;
- an analysis of over 20,000 public comments on the draft EIS; and
- other items required by the Council on Environmental Quality regulations.

# Additional Actions

No sooner than 30 days after publication of the final EIS, the Secretary of the Interior will make a decision regarding adoption of a final rule and will issue a record of decision. Final regulations will be published in the *Federal Register* that will implement the BLM's rangeland management reform, including a grazing fee formula.

Concurrently with the Secretary of the Interior's decision, the Secretary of Agriculture will issue a record of decision and publish in the *Federal Register* final rulemaking for the Forest Service's grazing fees. A second record of decision for changes to Forest Service grazing use management regulations will be issued when the rules are published in the *Federal Register*.

The final rules issued by the Secretaries of the Interior and Agriculture may reflect some modifications made as a result of public comment and consideration of the final EIS during the administrative decision making process.

# How Public Comments on the Draft EIS Were Processed

This chapter includes responses to all comments that bear on the analysis of the draft EIS and that were received during the comment period. The chapter also includes some comments that relate to the proposed regulations, but do not affect the environmental analysis.

More than 20,000 pieces of mail were received during the comment period on the draft EIS and proposed rulemakings. In addition, transcripts from the 49 public hearings were reviewed. All comments received on both the draft EIS and the proposed rule were carefully considered in preparation of this final EIS. This chapter includes a description of public comments on the draft EIS and responses to those comments. At a minimum, comments on both the draft EIS and the proposed rule have been addressed

if they relate to inadequacies or inaccuracies in the analysis or methodologies used; identify new impacts or recommend reasonable new alternatives or mitigation measures; or involve substantive disagreements or interpretations of significance.

In responding to public comments, a team considered not only those comments specifically addressed to the draft EIS, but also those comments on the proposed rule that had the potential to affect the analysis of impacts. Similarly, comments addressed to the EIS, but suggesting possible revisions to the proposed rules, were passed on to the BLM-Forest Service group responsible for reviewing public comment on the proposed rules. If several commenters raised the same issue, the team generally responded to it only once, rather than repeating the response at various places throughout the chapter.

Responses are of three kinds: A statement that the EIS has been revised in accordance with new information presented in the comment; an explanation of why the EIS text has not been revised in accordance with such information; or a clarification of issues peripherally related to the analysis of the EIS but outside its scope.

Public comments were carefully considered and used in the preparation of the final EIS. A number of clarifying statements and some expanded analysis has been added in response to comments. Some comments addressing clarification issues were incorporated in the document without changing the analysis and some were beyond the scope of the Proposed Action. In addition, the Proposed Action has been modified based on public comments. A brief description of these changes is included in the preface of this final EIS and the Preferred Alternative is described in Chapter 2. Many comments were related to regulatory language and will be addressed in the preamble discussion of the final rule making.

A BLM-Forest Service comment analysis team was established to review the comment letters and hearings transcripts. The comment analysis team recorded more than 38,000 comments from more than 20,000 letters and hearings transcripts. All original letters and transcripts have been kept on file in sequential order.

Comments were grouped and summarized in a comment statement. Responses were developed for each of the comment statements. These are presented in this chapter under "Comments and Responses."

Because of the volume of comments received on the draft EIS, it was not feasible to reprint individual letters or testimony in the final EIS, although they are retained as part of the record.

## Response Categories

Process
Standards and Guidelines
Suitability
Rangeland Health/Condition
Vegetation Zones
Ecosystem Management
Special Status Species
Wildlife/Wild Horses and Burros
Associated Resources
Riparian Health/Condition
Fees
Employment and Income Impacts
Local Communities
Livestock Operations/Livestock Industry
Permit Value
Lending Institutions
General Economics
Social
Water Rights
Public Participation
Appeals
Permits and Leases
Lease and Pasturing Agreements
Authorizing Use
Conservation Use
Forest Service Planning

In addition, it was not feasible to list each agency or organization that commented on the draft EIS.

The complete mailing list was provided to the Environmental Protection Agency with the filing of the final EIS. A copy of the mailing list is available upon request.

## Changes to the Draft EIS

Public comments received on the draft EIS did not necessitate extensive changes in the data, analyses, or

conclusions. Changes generally clarify the analysis without altering it. In some cases, the analysis has been expanded with new information in response to comments. The conclusions of the analysis have not changed.

The standards and guidelines contained in the Proposed Action in the draft EIS have been modified and superseded by the Preferred Alternative. BLM standards and guidelines have been modified to incorporate more fully a watershed management approach and current science, and to be more consistent with rangeland health goals. The standards and guidelines are intended to establish a direction toward restoration of rangeland health in areas where rangeland health has not yet been achieved. The standards and guidelines have also been reorganized and rewritten for clarity. These changes were made in response to internal review and public comment on the draft EIS and proposed rule.

Changes to the BLM-Forest Service Proposed Action have been incorporated directly into the Preferred Alternative in Chapter 2 of this document. An updated Appendix F (Threatened, Endangered, or Proposed Species List) and a new appendix, Appendix T (Biological Opinion and Conference Report), can be found at the end of this document.

Following are changes to other portions of the draft EIS, derived from both public comment and internal agency review.

## *Text*

Make the following changes:

Executive Summary, Page 37, Column 2, under Social Conditions: Add the following:

> "Losses in ranch income could decrease the economic well-being of affected permittees and their families. Lifestyle changes in response to the income loss could include families decreasing their discretionary spending, diversifying their operations to make them less dependent on ranching, sending family members to work off the ranch to earn more income, or selling their ranches, either to other ranchers or developers. Most permittees would try to adjust their operations to absorb the income losses rather than sell their ranches because maintaining the ranching lifestyle is important to them. The size of the loss for any permittee would depend on the size of the ranch, the dependency on federal forage, the amount of forage lost, and the grazing fee. The effect of the loss on any individual permittee would vary, depending on the size of the loss, the financial condition of the operation, and the dependence of the ranch family on the operation. The location and intensity of impacts are difficult to estimate."

Executive Summary, Page 42, Column 1, Riparian Conditions, Paragraph 1, Line 7: Change "an increase of 53 percent" to "a decrease of 53 percent."

Page 1-9, Column 1, Paragraph 2, Line 13: Sentence should read, ". . . fact that grazing bills on more than 73 percent of BLM permits and leases and about 50 percent of Forest Service permits would increase less than $1,000 per year, . . ."

Page 3-15, Column 2, Paragraph 1, Line 6: Replace the word "number" with "composition."

Page 3-18, Column 1, Line 2: Delete "also" and substitute "the large ungulates." At the end of that sentence, add "Many granivores, small herbivores, and their predators have high reproduction rates and may rapidly respond to a change in vegetation composition, structure, or condition."

Page 3-48, Column 2, Paragraph 3, Line 5: Delete ". . ., and any other group that has been formally designated as a management concern."

Page 3-51, Column 1, Paragraph 1, Line 6: Sentence should read, ". . . on more than 4.79 million acres of critical habitat for the desert tortoise ."

Page 3-65, Column 1, Paragraph 1, Line 8: Delete the words "off the farm . . . programs and policies." Replace with "The growing importance of off-farm income to farm households implies that, for most farm operator households, public policies that strengthen the rural nonagricultural economy are more important to maintaining household income than are agricultural commodity programs and policies."

Page 3-68, Column 2, Paragraph 1, Line 12: Sentence should read, ". . . information on 16,482 permittees and 51,807 nonpermittees. . ."

Page 3-70, Column 2, Paragraph 3: Delete the first sentence "As a general rule . . .". Change the beginning of next sentence from "A value associated . . ." to "The value associated . . ."

Page 3-75, Column 1, Paragraph 3; add these sentences to the end of this paragraph: "Overall in the 11 western states, 8.3 percent of the beef cattle operations are female owned or managed. California has the highest number and proportion of female owned or managed operations. Nearly 7 percent of the beef cattle operations in the 11 western states are minority owned or operated. New Mexico has, by far, the largest number and proportion of these operations. Arizona, California, and Colorado also have high numbers and proportions of minority owned or operated beef cattle operations."

Page 3-75, Column 1, Paragraph 4 "Fowler and others . . .: The first part of the second sentence should be changed from "Although their research does not represent all ranches with federal permits, . . ." to "Although their research was not a random sample of all ranches with federal permits, . . ." After this sentence, add "The survey was conducted in 1982 before the Rangeland Reform '94 proposal was developed."

Page 4-11, Column 2, Paragraph 2: Drop the first three sentences of the paragraph. Paragraph 4: Delete the word "essentially" from line 4.

Page 4-12, Column 1, Paragraph 3: Change the word "could" to "would" in the first sentence.

Page 4-14, Column 1, after the last paragraph "Under some of the alternatives . . .": Add the following new paragraph:

> "To varying degrees, each of the alternatives under consideration would affect the economic and lifestyle stresses felt by ranching families. The magnitude of these affects is examined for each alternative in the alternative-specific section."

Page 4-15, Column 1, after Assumptions and Analysis Guidelines Common to All Alternatives: Add the sentence, "In this discussion, 'long term' effects are those expected to be realized in 20 years; 'short term' effects, in 5 years."

Page 4-15, Column 1, after Vegetation: Add the sentences, "This analysis only considered impacts to upland and riparian functioning status from livestock grazing. The existing situation data for upland functioning condition was developed through the professional judgement of agency resource specialists and provides the basis for analysis of impacts from livestock grazing on the proposed action and alternatives as well as a comparison between alternatives. The only risk factor considered for nonfunctioning or functioning-at-risk areas is livestock grazing."

Page 4-26, Column 2, Paragraph 2; Drop the first two sentences and replace with: "Where livestock grazing occurs without appropriate controls or constraints, continued grazing could degrade the watershed and water quality."

Page 4-39, Column 1, Paragraph 1: Drop the entire paragraph and replace it with:

> "The rangeland project decision process would improve Forest Service efficiency, since a two-tiered planning/decision making process would be adopted. The Forest Service would strengthen its ability to meet forest plan goals by implementing rangeland project decisions (RPDs), and incorporating forest plan standards and guidelines and RPD requirements as terms and conditions in grazing permits. Forest plan goal attainment would be more rapid than under current management."

Page 4-61, Column 2: Add the following before paragraph 2:

> "Losses in ranch income could decrease the economic well-being of some affected permittees and their families. Lifestyle changes in response to the income loss could include families decreasing their discretionary spending; diversifying their operations to make them less dependent on ranching; sending family members to work

off the ranch to earn more income or selling their ranches, either to other ranchers or developers. Most permittees would try to adjust their operations to absorb the income losses rather than sell their ranches because maintaining the ranching lifestyle is important to them."

Page 4-64, Column 1, Paragraph 5, Line 8: Sentence should read, ". . . to decline by 3 percent. . ."

## Figures and Tables

Make the following changes:

Page 52, 53, 2-62, 2-63, 4-33, 4-57, 4-78, 4-102: The figure title should read, "Reductions in Total Income. . . " Delete the table descriptor "BLM and Forest Service permittees only" located in the bottom left corner of the figure.

Page 3-32, 3-33: Footnote to table and figure should be added as, "Unknown acreage was prorated to the other categories in figures presented in Chapter 4 and the summary."

Page 3-59: Most of the employment numbers (percentages) presented for Mining, Construction, Manufacturing, Services, and Government in Figure 3-5 were in error. The 1982 figures for Mining and Construction were slightly under-represented. Percentages for all years (1982, 1985, and 1990) for Manufacturing, Services, and Government were greatly understated. The result is that in relation to the latter three categories, employment figures for Agriculture represent a considerably smaller percentage of overall employees than shown in the figure. (Note: For the correct numbers, see page 3-58, Table 3-12.)

Page 3-69, Figure 3-18: Values representing the "Number of Ranches" should read 16,482 for Permittees and 51,807 for Nonpermittees.

Page 3-72, 3-73: The following information clarifies the figures on outlining the distribution of grazing receipts and Range Betterment Funds. The distribution for each $1.00 received in grazing receipts is illustrated as follows:

*BLM Grazing Permits* - 37.5 cents to the federal Treasury; 12.5 cents to the state for the benefit of the county where fees were collected; 25 cents to the Range Betterment Fund for expenditure on a priority basis; and 25 cents to the Range Betterment Fund of the state and district where the fees were collected.

*BLM Grazing Leases* - 50 cents to the state for the benefit of the county were collected; 25 cents to the Range Betterment Fund for expenditure on a priority basis; and 25 cents to the Range Betterment Fund of the state and district where the fees were collected.

*Forest Service Grazing Permits* - 25 cents to the federal treasury; 25 cents to the state for the benefit of the county from which they were derived; 25 cents to forest of origin, subject to Congressional appropriations (Range Betterment Funds); and 25 cents to regional office of forest of origin, subject to Congressional appropriations (Range Betterment Funds).

Page 4-32, 4-56, 4-77, 4-101: The table title should read "Decreases in Westwide Regional. . ."

Page 4-36, 4-60, 4-82, 4-105: These tables should show the change in grazing fee receipts from current conditions for each of the management alternatives (Current Management Alternative, Proposed Action, Livestock Production, and Environmental Enhancement) under all fee alternatives. Instead, they show total grazing fee receipts for each of the alternatives.

To determine the change in receipts from current conditions after 5 years, subtract the number in the column titled "5 Years" from the column titled "Current."

For example, in Table 4-3 (page 4-36), to determine the change in grazing fee receipts after 5 years under continuation of the current PRIA fee formula, subtract the column titled "Current PRIA Fee - 5 Years" from the column titled "Current."

Page 4-39, Figure 4-6: Figure shows potential short and long term livestock forage that could be authorized.

Page 4-43: The Value representing "CM Long Term, Functioning" should read 117,000.

Pages 4-68, 4-111: The descriptor located at the bottom of the figure should read,"Thousands of Acres."

## Appendixes

Make the following changes:

Page G-6: The value for the item, "Other public pasture, Permittees, Dollars per Ranch" should read 625.

Page G-7: The values for item, "Ranches represented, 1990 FCRS, Permittees, Ranches" should read 16,482. The values for item, "Ranches represented, 1990 FCRS, Non-Permittees, Ranches" should read 51,807.

Page G-8, Column 1, Paragraph 1, Line 7: Sentence should read, ". . . costs per unit (see Table 3)."

Page G-8, Column 2, Paragraph 1, Line 4: Drop "(see table 3)."

Page G-8: The table title should read, "'t'-test results...nonpermittees, 1991[1]." Variable "Per Cut" should read "Per Hundredweight (CWT)." The value of the "Per Hundredweight (CWT), Cash Costs, Small" should read +.01.

Page G-8, Footnote 4, Line 1: Sentence should read, ". . . cash returns per cow and per hundredweight (CWT) were regressed . . ."

Page G-8, Footnote 4, Line 5: Sentence should read,". . . numbers squared, hundredweights of cattle sold per cow, and percent dependency."

## Glossary

Make the following changes:

Page GL-3, Column 2: Delete phrase "BIOTASEDIMENT YIELD" and its definition.

Page GL-9, Column 2, before GRASSLANDS: Add "GRANIVORES: Animals that subsist mainly or entirely on grain and seeds."

Page GL-9, Column 2, under GRAZING: The definition should read, "Consumption of standing forage by livestock or wildlife."

Page GL-16, Column 2, after Paragraph 4: Add,"RANGELAND HEALTH: The degree to which the integrity of the soil and the ecological processes of rangeland ecosystems are sustained. Rangeland health exists when ecological processes are functioning properly to maintain the structure, organization and activity of the system over time."

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Add the following citations:

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# Comments and Responses

Comments have been addressed if they relate to inadequacies or inaccuracies in the analysis or methodologies used; identify new impacts or recommend reasonable new alternatives or mitigation measures; or involve substantive disagreements or interpretations of significance.

## Process

1. ***Comment:*** *Although Rangeland Reform '94 proposes to make BLM and Forest Service policies consistent, it doesn't go far enough. Alternatives should be developed to adapt Forest Service policies to BLM policies.*

   **Response:** As stated in the Purpose and Need section of Chapter 1, one goal of Rangeland Reform '94 is to make BLM and Forest Service rangeland management policies more consistent. Some BLM policies would change to be more like Forest Service policies and vice versa. The goal of such changes is to improve efficiency in administering rangeland grazing use, while requiring management practices that promote functional biotic communities. During the course of developing the alternatives for Rangeland Reform '94, a variety of policy changes for both agencies were considered and evaluated.

2. ***Comment:*** *The data used to justify Rangeland Reform '94 is considered by some to be either inadequate, insufficient, or too old to be useful. Many feel that the agencies do not have and likely will never have enough quantitative data to make assumptions about the resource conditions that exist at any given time and that changing conditions make data outdated even before it is used.*

   *The National Research Council study commissioned by the National Academy of Sciences reports that the conditions of rangeland health in the West are largely unknown. If the conditions are unknown, it is impossible to demonstrate a need for the proposed change.*

   **Response:** The draft EIS proposes broad programmatic decisions. Sufficient quantitative and qualitative information relating to rangeland condition to provide an adequate basis for this level of decision making is included in the draft EIS. Information came from academic reports, resource monitoring data, previous planning efforts, and the professional judgement of agency staff and land users. Historical data was also used to compare existing and past conditions and to identify trends in resource conditions and use.

   Field Offices would continue to collect and analyze site-specific data. Such data would be used by the field offices to assess resource needs and develop site-specific management actions.

3. ***Comment:*** *Data and references used in preparation of the draft EIS must be made available for public review on the west coast before the EIS can be finalized.*

   **Response:** The draft EIS, incorporated by reference into this document, provides a sum-

mary of the information used and conclusions drawn from all of the data and literature sources used in the development of the draft EIS. The materials listed in the "References" section at the end of the document are merely a bibliography of source materials consulted. These references relate to 40 CFR Section 1502.24 - "Methodology and scientific accuracy." This section says "Agencies would insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They would identify any methodologies used and would make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. An agency may place discussion of methodology in an appendix." There is no requirement for the agency to make available all EIS references listed in a bibliography. However, these references have been compiled and are available for public inspection or review in Washington D.C. Many are also available through public libraries throughout the country.

4. ***Comment:*** *The timeframes for public input were too short for constructive comments. Some commenters felt that they were not given enough time to review the entire document and make comprehensive and detailed comments. Others believed that the 90-day comment period was a violation of due process.*

   **Response:** We disagree. The public comment periods were established well in advance and are in accordance with Council on Environmental Quality regulations for implementing the National Environmental Policy Act (NEPA). NEPA requires at least 45 days for public comment on a draft EIS. The agencies concluded that a 90-day comment period was appropriate given the amount of information presented and the public interest generated by the proposals. The comment period was extended for an additional 30 days (total 120-day comment period) to provide additional opportunity for public comment.

5. ***Comment:*** *Commenters believed that the proposed action demanded access to private land. This is a concern because it limits private land value and amounts to a taking of private assets or values without compensation. This impact must be addressed in the EIS.*

   **Response:** A Takings Implication Assessment was conducted which concluded that the actions proposed in Rangeland Reform '94 would not constitute a taking of private property rights. The rancher holding grazing permits (Executive Summary, page 29 and 3-70, 71) cannot recover from the United States for losses in ranch value due to modification of grazing permits.

6. ***Comment:*** *Rangeland Reform '94 ignores state and local mandates, and therefore the process should be abandoned or delayed for more conformance analysis.*

   **Response:** The agencies have considered state and local policies as required under the National Environmental Policy Act throughout their decision making process. The policy changes would be incorporated into local land use plans with the appropriate level of NEPA analysis and public involvement. The BLM's resource advisory councils would serve as a vehicle to work on resolving inconsistencies with state and local plans or mandates.

7. ***Comment:*** *Rangeland Reform '94 will result in the majority of western ranches being subdivided. This will have a tremendous negative impact on wildlife populations.*

   **Response:** The impact assessment in Chapter 4 of the draft EIS addresses this concern and concludes that this would not happen. Subdivision of ranches on a broad scale has not been observed and would not be expected to occur due to implementation of Rangeland Reform '94.

8. ***Comment:*** *The agencies received a wide spectrum of comments outside the immediate scope of the Rangeland Reform '94 initiative. Some examples of these requests or suggestions include the following.*

   - *Transfer ownership or jurisdiction of public lands to private, local government, state, or other federal entities;*

- *Consolidate public land ownership or agencies;*
- *Assess the constitutional basis for public land ownership and the existence or authorities of the land managing agencies;*
- *Research the legitimacy of BLM and the Forest Service to develop this initiative;*
- *Explain or research a variety of existing laws or treaties that are not directly related to this initiative or public land grazing;*
- *Develop legislation to require federal agencies and policies to conform to local ordinances and initiatives;*
- *Repeal or amend federal laws such as the Wild Free Roaming Horse and Burro Act, the Endangered Species Act, and the Wilderness Act;*
- *Develop legislation to provide federal appropriations for economic stimuli to rural or livestock-dependent economies;*
- *Redistribute grazing receipts, including the payment in lieu of taxes given by the United States to counties;*
- *Provide more objectives to stabilize the livestock industry and rural economies;*
- *Develop a variety of (nongrazing) uses of public lands to benefit local economies;*
- *Issue regulations and standards for other uses of the public lands;*
- *Assess the costs of managing wildlife and other (mainly amenity) resources of the public lands;*
- *Establish agency policies for vegetation manipulation, animal control, or fire management for grazing or other purposes;*
- *Mandate management techniques or philosophies in range management or other resource programs;*
- *Increase the scope of the initiative to consider more geographic areas, jurisdictions, or public land uses; and*
- *Increased savings to the Treasury via elimination of livestock grazing, because the rangeland management program does not presently pay for itself.*

**Response:** Many of these requests or suggestions may be useful to BLM, the Forest Service, or other federal agencies, but they all fall outside the scope of this undertaking, i.e., Rangeland Reform '94. The intent of this initiative is described on page 6 of the Executive Summary as well as pages 1-2 and 1-3 of the draft EIS. Furthermore, certain issues not addressed by this initiative were noted on page 8 of the Executive Summary and pages 1-20 and 1-21 of the draft EIS. Versions of these recommendations require legislation; pose constitutional questions; expand the breadth of the initiative; or suggest management philosophies, policies, or techniques that are either more specific than the level of this initiative or relate to later planning and implementation phases.

Several of the comments suggested Rangeland Reform '94 be expanded to more of an ecosystem management approach and apply to other activities as well. The proposed rule deals with grazing regulations. It is inappropriate to deal with other activities not governed by grazing regulations in this EIS.

9. ***Comment:*** *This action would have significant monetary cumulative impacts. The draft EIS analysis fails to say how many AUMs would be reduced under the Proposed Action or discuss the adverse impacts of removing livestock under the No Grazing alternative. The Livestock Production alternative is a misnomer and is misleading because the impacts would be almost the same as those under Current Management.*

**Response:** We considered this in the draft EIS and reached different conclusions. The area of analysis is described on page 8 of the Executive Summary and page 1-6 of the draft EIS. The analysis (draft EIS page 4-38) projects that, at

the end of 20 years, livestock forage (relates directly to AUMs) would be reduced by 3 percent from the current trend under the Proposed Action, whereas the No Grazing alternative would result in mixed impacts due to the removal of livestock (draft EIS page 4-108 to 4-123). The Livestock Production alternative differs in many ways from Current Management as shown in the charts in the Executive Summary (draft EIS pages 11 through 12 and 15 through 16). The significant differences between the Livestock Production alternative and Current Management are that under Livestock Production (but not under Current Management), BLM standards and guidelines would be developed by permittees and grazing advisory boards; leasing would be allowed with no surcharge; new forage could be granted to good stewards; permit tenure would be expanded to 20 years for good stewards; authorized nonuse would be expanded up to five years; both BLM and Forest Service would allow permittees to file for water rights on public lands; both agencies would have expanded roles for grazing advisory boards; and no grazing service charge or transaction fee would be charged.

10. ***Comment:*** *Many commenters felt that the draft EIS was too broad in scope and that it should be abandoned or supplanted by more specific analyses. Examples of these requests include developing a series of regional or site-specific EISs without Rangeland Reform '94; developing a network of regional, county, ranch, or allotment-specific EISs before adopting the policies or standards that result from Rangeland Reform '94; developing more EISs for the fee proposal and rulemaking; expanding the EIS to cover the impacts of any specific changes required by the rulemaking; developing specific impact mitigation and range management measures; delaying Rangeland Reform '94 until more local participation is ensured; and assigning the boundaries of all public lands and related grazing allotments.*

    **Response:** We disagree. Rangeland Reform '94 is a policy-level document. Therefore, site- or locality-specific assessments would be improper at this time. The public, including affected local communities, would have opportunities for input in developing BLM regional standards and guidelines, the Forest Service rangeland project decisions process, and activity-level plans intended to implement the initiative. During these later planning phases, specific management requirements would be considered. As part of these planning efforts, appropriate levels of environmental analysis would be required. (Also, see Process, Response 6.)

11. ***Comment:*** *The draft EIS does not contain any discussion of carrying capacity. Geomorphology, soils, and effective moisture are all well-studied factors constraining carrying capacity. These relationships should have been used to identify carrying capacity and stocking rates.*

    **Response:** This was considered in the draft EIS (page 4-19). The EIS analyzes impacts based on the functioning of riparian and upland sites as an indicator of carrying capacity. If the stocking rates exceed carrying capacity, sites would not function properly, or would function at risk.

12. ***Comment:*** *The analysis did not consider the increased cost of herding, fencing, etc, which will add another $5/AUM to the cost of ranching. So the fee increase is really $7/AUM.*

    **Response:** These costs were considered and summarized in the "Ranch Income and Operation Impacts" sections of Chapter 4 in the draft EIS.

13. ***Comment:*** *The draft EIS was developed with an inherent bias against public land grazing and the livestock industry. For example, the alternatives should have emphasized positive stewardship rather than focusing on the negative aspects of past grazing. The draft EIS was prepared outside the affected area by people with little understanding of the West. The mix of people who prepared the draft EIS did not include all the needed specialists. The draft EIS ignores improvement in western rangeland conditions.*

    **Response:** Livestock grazing is a valuable and viable use of public land. The general condition of public rangelands has improved as noted on page 5 of the Executive Summary and pages 1-2, 1-3, and 3-26 through 3-28 of the draft EIS. Certain rangelands, especially in riparian areas, remain in a degraded condition. The broad

spectrum of specialists who helped assemble the draft EIS represent more than 1,500 years of relevant field experience in the West. The vast majority of the preparers of the draft EIS were agency field personnel. Many of the personnel from Washington also have recent (within two years) field experience. Over 140 agency specialists with backgrounds and training in rangeland science, ecology, economics, wildlife biology, fisheries management, threatened and endangered species management, archeology, air resources, soil science, hydrology, outdoor recreation, sociology, realty, resource planning, statistics and editing participated in the development of the draft EIS. These specialists recognize the improvement that has occurred and the continued need for further improvement in rangeland conditions. Rangeland Reform '94 recommends changes to build upon the positive aspects of existing range stewardship.

14. ***Comment:*** *Some people felt that the range of alternatives presented in the draft EIS is too limited. Suggestions included alternatives to increase the level of livestock grazing on public lands, reinitiate the Cooperative Management Agreements (CMA) program within BLM, and reflect the management philosophy of Holistic Resource Management (HRM). Others felt the alternatives do not go far enough to prevent unnecessary resource degradation.*

    **Response:** The alternatives considered and presented in detail in the draft EIS address a reasonable range of options for the purpose and need of the proposal to move toward improved management of rangeland ecosystems. The effects analyses display the extent to which the alternatives meet this goal. A maximum livestock production alternative was considered but not in detail because this alternative does not meet the purpose and need for Rangeland Reform '94. Many components of a maximum livestock production alternative are incorporated into other alternatives that were considered in detail (draft EIS, page 2-42). Three other fee structure alternatives were also considered but not presented in detail (draft EIS, page 4-43). The EIS analyzed and presented the impacts of these alternatives.

    Local level planning is appropriate for decisions on specific management practices to prevent resource damage. Factors to be considered at the local level to meet ecosystem needs include the number of livestock, season and time of use, and other aspects of grazing management. Decisions to apply HRM principles and methods or increase the level of livestock use as tools to meet regional or forest standards and guidelines are best made at the landscape or ecosystem level rather than at the national level.

15. ***Comment:*** *Grazing fees have no relationship to rangeland management. Inclusion of fee alternatives detracts from the main issue, which is rangeland management.*

    **Response:** Rangeland management is not the only purpose of Rangeland Reform '94. One of the primary purposes for Rangeland Reform '94 is to provide the American public with a fair return for the private use of public land resources. In order to provide full disclosure of the impacts on the human environment resulting from the entire Rangeland Reform '94 proposal, an analysis of environmental, social and economic impacts of the fee alternatives combined with management alternatives is presented in Chapter 4 of the draft EIS. This analysis shows some effects on rangeland conditions as a result of changes in range betterment fund usage which is directly tied to the fee. (See p. 4-41 of the draft EIS).

16. ***Comment:*** *Combining the public participation process for the EIS and the proposed regulations on BLM and Forest Service administration of grazing was confusing for many people. The connection between proposed rules and the EIS is unclear.*

    **Response:** The purpose of the agencies was to involve the public in developing Rangeland Reform '94 proposals while meeting statutory requirements for the rulemaking and EIS processes. The draft EIS and proposed rules are interdependent documents. The EIS analyzes the environmental impacts of the proposed rules. The proposed rules are the proposed action of the draft EIS. As connected actions, these documents must be considered together during public

comment for the intent and impacts of Rangeland Reform '94 to be understood fully.

Combining the hearings and comment periods for the draft EIS and proposed rules helped the agencies to hear public concerns in a timely and cost-efficient manner. This procedure also allowed coordinated efforts by the agencies on any changes or re-analysis needed to respond to public comments. Finally, it allowed the public to submit one, rather than two sets of comments.

17. ***Comment:*** *The public and government agency involvement solicited through the public involvement phase is inadequate given the potential impacts and commitment of resources proposed by Rangeland Reform '94. Comments made by federal, state, and local environmental agencies were not released to the public. Several federal agencies and state and local officials were not involved. In addition, the public responses during all phases of the input process, from public hearings to meetings with state and local groups already addressing the needs and processes of land management decision making, were not made generally available to the public.*

**Response:** Public participation was actively sought during all phases of Rangeland Reform '94, beginning with the scoping phase in the fall of 1993 and continuing through September 9, 1994. Scoping for Rangeland Reform '94 is the most extensive ever undertaken by the agencies involved. To reach as many people as possible, the agencies used mailings, notices, public roundtable discussions, open houses, formal hearings, media presentations, and public presentations across the United States. In addition, the Secretary of the Interior and representatives from the Department of Agriculture and Forest Service visited representative states with significant livestock grazing on public lands to talk with concerned people and groups that could be affected by the decisions made during this process.

Throughout the process, comments and ideas were also solicited from other federal agencies, field-level BLM and Forest Service staff, and state, county, and local government officials. All comments were considered; many of the changes reflected in the Proposed Action and subsequent effects analysis in the EIS reflect comments received throughout the process from all interests. All comments and meeting documentation are part of the record of the rulemaking. The public may review the record by contacting the Washington, D.C. office of the cooperating agencies. This chapter of the final EIS provides the public with the agencies' evaluation of those comments on the draft EIS.

18. ***Comment:*** *The draft EIS ignores the cumulative impacts of other federal actions, such as threatened and endangered (T&E) species issues, FEMAT, PACFISH, and the cumulative effects of the fee increase combined with the proposed regulation changes which have restricted livestock operations on public lands.*

**Response:** We disagree. Based on reasonably foreseeable future actions (including PACFISH, FEMAT, etc.), a cumulative effects analysis was done as required by 40 CFR 1508.7, and is presented in Chapter 4 of the draft EIS. The impact and application of the requirements of these federal actions varies by region, ecosystems within regions, local species, and conditions. Appendix O, "Changes in Ranch Returns from Reduced AUMs and Higher Grazing Fees," in the draft EIS describes the cumulative effects of management actions and increased grazing fees.

19. ***Comment:*** *The one percent per year reduction in livestock grazing assumed by the draft EIS cannot be based on historic trend because use levels have remained constant over the past 10 years, except for minor annual fluctuations related to drought and market conditions.*

**Response**: The assumption of declining grazing use on federal rangelands is based on BLM (1992a) and Forest Service (1993a) statistical data summaries that show continuing, though not necessarily steady, declines in permitted grazing use. From 1982 through 1992 there was a 12% decrease in grazing preference levels. Drought and market conditions do cause minor fluctuations in use, but the draft EIS's assumption that grazing use would continue to decline with or without programmatic changes in federal range-

land management policies and practices was based on local rangeland planning decisions.

20. ***Comment:*** *The EIS fails to clearly identify the timeframes for assessing the short- and long-term impacts of implementing the Rangeland Reform '94 initiative.*

    **Response:** The timeframes used by the interdisciplinary team to assess the impacts of Rangeland Reform '94 were five years for short-term impacts and 20 years for long-term impacts. These timeframes were not specifically stated in the text of the draft EIS but were stated in some tables within Chapters 2 and 4 of that document. This has been corrected in the final EIS (see Chapter 5, the section on changes to the draft EIS).

21. ***Comment:*** *The No Grazing alternative should have a 25-year phaseout period rather than the three-year period stated in the draft EIS on page 2-28. This delay would reduce the immediacy of any adverse economic impacts to grazing lessees and permittees.*

    **Response:** The No Grazing Alternative was developed with a three-year phase-out as a comparison to the other alternatives. The three year phase-out provided a basis from which to analyze the environmental, economic and social impacts, while striving to meet the purpose and need described in Chapter 1 of the EIS.

## Standards and Guidelines

1. ***Comment:*** *Livestock grazing should not be allowed because it degrades the public lands.*

   **Response:** We disagree. Under the Preferred Alternative, management programs would be implemented to improve ecological conditions while maintaining opportunities for long-term sustainable development. BLM standards and guidelines developed under the proposed criteria could be applied to many, if not all, uses of public lands, but applying the standards and guidelines to these other uses is beyond the scope of this analysis. Criteria for national requirements, guiding principles for state or regional standards and guidelines, and fallback standards and guidelines have been developed with a focus on livestock management. Under the Preferred Alternative, the national requirements would require the BLM authorized officer to take action to modify or improve uses that fail to establish or maintain a satisfactory direction toward restoration of rangeland health in properly functioning ecosystems and riparian areas. Inclusion of forest plan standards and guidelines and management requirements from rangeland project decisions (RPDs) as permit terms and conditions would be initiated by the Forest Service under the Preferred Alternative. This is designed to prevent resource degradation by livestock and to facilitate management within an ecosystem framework.

2. ***Comment:*** *The wording in the draft EIS discourages or would eliminate continuous season-long grazing. Failures under continuous grazing usually are not failures of the grazing system but failures of management. Regulations and standards and guidelines can be too restrictive and thus not allow a manager to base management on local conditions and the skill of the operator.*

   **Response:** The Preferred Alternative would allow for continuous season-long grazing in situations where such grazing would be shown to establish satisfactory direction toward maintenance or restoration of rangeland health by means of properly functioning ecosystems and riparian systems.

3. ***Comment:*** *What ecological values would be protected around springs, seeps and other waters, and associated resources as identified on page 2-11 paragraph 5 under minimum BLM state or regional guidelines?*

   **Response:** Values protected would include water quality, quantity, and availability; and aquatic and riparian or meadow habitats associated with water sources (often critical to special status species such as the Great Basin spring snail and several desert fish as well as other wildlife). The physical properties of these unique features and their interaction with the biological communities of western rangelands are important to help establish a satisfactory direction toward maintenance or restoration of rangeland health by

means of proper functioning ecosystems. For a more detailed discussion of ecological values, see Chapter 3 of the draft EIS.

4. ***Comment:*** *BLM multiple resource advisory councils should be used to develop standards and guidelines for local areas. Any standards and guidelines formulated above the local level would not work. If monitoring shows that implemented standards and guidelines are not doing the job, then resource advisory councils should strengthen the local standards and guidelines. If agency people determine that more specific standards and guidelines are needed for a particular site, they would have 6 months to develop them. If the specific standards and guidelines are not issued in that period, the area should not be grazed. The complete set of standards and guidelines should have its own public comment period and final rule before the Rangeland Reform '94 rule is published. The standards and guidelines should be prepared using cooperation, coordination, and consultation with the permittees because permittees would end up with the standards and guidelines as terms in their allotment management plans. Resource advisory councils do not have the expertise to develop standards and guidelines. Professional societies such as the Society for Range Management should be used to develop standards and guidelines on either a national or local level.*

   **Response:** Under the Preferred Alternative, regional and state standards and guidelines would be prepared within 18 months of the record of decision. If these standards and guidelines are not completed in the prescribed timeframe, site-specific management would have to comply with the fallback standards and guidelines. The area of coverage for each set of standards and guidelines would typically be an entire state, although individual standards or guidelines may only apply to resources found in a portion of the state. The regional and state standards and guidelines would be developed by BLM interdisciplinary teams in close cooperation with resource advisory councils and other interested parties. In most regions and states, standards and guidelines are currently in place for various activities such as logging; those standards, guidelines, stipulations, terms and conditions have already been through the NEPA process. Future resource management goals and the standards and guidelines to attain them would be developed in close coordination with resource advisory councils. The resource objectives found within resource management plans and activity plans would have to comply with applicable standards and guidelines. As provided by the Preferred Alternative, resource advisory councils could use technical input from a variety of people to develop their recommendations to the BLM. These individuals would be people knowledgeable of issues and could include agency specialists and members from academia and professional societies.

5. ***Comment:*** *National standards and guidelines, coupled with a review of livestock grazing impacts, are the guts of Rangeland Reform '94. The direction is needed now rather than 18 months from the final regulations. The 18-month fallback standards are weak and do not even require that state standards be as strong as the fallbacks. The entire idea of state-based standards and guidelines serves to maintain the status quo. State or local standards should add to rather than modify the national requirements. Phasing in new standards and guidelines with permit renewal is not acceptable from a biological approach because some degraded areas would not be considered for corrective action for years. Standards and guidelines set differently by BLM state offices could be a source of confusion and would tend to put pressure on the Department of the Interior to settle for the lowest common denominator. Strong and explicit national standards and guidelines should be in place for all rangelands, and each BLM state director should have to meet or exceed these standards and guidelines.*

   *BLM should be required to review current management practices to determine whether they comply with either the state or national standards and guidelines or the national requirements. The 18 month kick-in provisions of the draconian fallback standards and guidelines invite suits by those who seek the severe provisions of the fallback plans. Eighteen months is too short for standards and guidelines implementation because of the need to first establish*

*resource advisory councils. The implementation period should be extended to 24 months. Concrete national minimum standards and guidelines need to be restored to the proposed rules. They would ensure consistent ecosystem-sensitive management. Regional standards and guidelines would allow wide discrepancies across BLM lands with respect to ecosystem protection. The national requirements as written are not sufficient.*

**Response:** The intent of developing regional and state standards and guidelines is to tailor the standards and guidelines to fit regionally specific ecological variations and local livestock management practices that have evolved. The up to 18-month delay in implementing standards and guidelines would not result in significant environmental effects. Having the public involved would aid the agency in developing sound standards and guidelines. The prescribed timeframe for preparing state or regional standards and guidelines is an ambitious but realistic one. A significant amount of research and field experience about regional guidelines and practices already exist; as a result, the development of regional or state guidelines should be possible in a relatively short time. Western universities have been conducting research and management applications for livestock grazing practices, and agency offices have been developing management objectives, both of which would form the foundation for the guidelines needed for ecosystem management.

The regional and state standards and guidelines must at least meet all national requirements and the guiding principles for standards and guidelines. These standards and guidelines or, in their absence, fallback standards and guidelines, would be incorporated into conditions of permits on a regional and state basis. A review of current rangeland management practices would be completed to assure compliance with national requirements and applicable standards and guidelines.

Corrective actions directed at solving site-specific resource problems would not be deferred to the expiration of the permit. Following scheduled assessments, or anytime when problems are recognized, permits would be modified by the next grazing year to incorporate actions needed to begin the process of restoring healthy, properly functioning conditions.

6. ***Comment:*** *The draft EIS implies that grazing has the same generic problems across the board and ignores a main tenet of proper grazing, which is "the proper timing and duration of use as relating to ecological and climatical conditions." One might assume that grazing benefits rather than harms all resources.*

   **Response:** The BLM rationale for implementing regional and state standards and guidelines is that ecological processes vary significantly between ecological regions. Proper livestock grazing management can be effective in attaining ecologically based objectives. Improper livestock grazing management has been shown to be a causative agent in the deterioration of rangeland or riparian conditions. The draft EIS recognized this throughout the assessment of impacts.

7. ***Comment:*** *The BLM's national requirements should be broadened to include the perspective of watershed function because the ecological health of a watershed depends on upland and instream, as well as riparian components. Even a healthy riparian area may not be able to filter all the sediment from poorly vegetated uplands with erodible soils.*

   **Response:** The BLM national requirements have been clarified to specifically recognize the importance of watersheds. The Preferred Alternative has been modified to clarify that all components of a watershed affect rangeland health.

8. ***Comment:*** *Desired plant community (DPC) concepts are highly desirable and useful. DPC should be a guideline above the allotment management plan (AMP) level and a major part of the standards at the AMP level once appropriate and achievable objectives have been defined. DPC should be a cornerstone of objectives and standards in the AMP, which should be developed at the local level for every range site on the allotment. Progress and trend should be measured by progress toward or away from the*

*DPC. DPC concepts are flawed, and the agencies should focus more on a Natural Plant Community concept. Standards above the AMP level lead managers into a "cookbook" approach, which does not allow the flexibility for site-specific conditions. All direction above the AMP level should be called guidelines, but these guidelines should not include most of the information suggested in the draft EIS. Standards that are not developed at the local level on a site-specific basis violate a fundamental tenet of ecology, the limiting factor concept.*

**Response:** The BLM believes that desired plant community (DPC) concepts are useful. BLM intends to use DPC concepts as an important tool in developing site-specific vegetation objectives that include native plant species. National requirements and regional or state standards and guidelines would serve as the basis for managing rangelands, developing site-specific actions establishing resource objectives, including DPCs and developing permit and lease terms and conditions at the local level. These requirements, standards, and guidelines would be developed in cooperation and coordination with resource advisory councils and other interested parties. Allotment management plans and other activity plans provide ideal opportunities to develop site-specific requirements; however, AMPs have not and may never be developed for all BLM allotments. The use of state or regional standards and guidelines does not mean that the terms and conditions of permits and leases are developed without consideration of local conditions. See Vegetation Zones, Response 7.

9. ***Comment:*** *The requirement for "reproduction" and "maintenance of different age classes" should not apply to herbaceous plants because sexual reproduction seldom is necessary and it is impossible to tell if you actually have "different age classes."*

**Response:** Both sexual and asexual reproduction (e.g., stolons and tillers), as appropriate, are evaluated in the rangeland health evaluation process. Sexual reproduction is important in some ecosystems where plants do not reproduce vegetatively. Age class determinations are typically applied only to shrubs. See Standards and Guidelines, Response 15.

10. ***Comment:*** *The assumption that "the least amount of utilization is best" is seldom valid. Utilization limits should be correlated with measured trend before they are applied too rigidly. Publications by Heady and Child and Sharp, Sanders, and Rimby, WRCC-40, and virtually all range scientists in research organizations and universities deplore the sole use of utilization data to set stocking rates. Utilization limits should not be used as standards and guidelines at any level.*

**Response:** Utilization studies in combination with actual use, climate, and trend studies (if available) are all used to adjust stocking rates. Limiting utilization gives ecosystems sufficient vegetative material to meet the physical requirements of watersheds. Plant community structure and total biomass are more critical to functioning condition than the species or community composition measured in trend studies. No assumption that the least amount of utilization is "best" was made in the draft EIS.

11. ***Comment:*** *Photosynthesis occurs throughout the growing season. The photosynthesis requirement is unworkable because there is no way to determine if it is being met. It is unscientific because the time of photosynthesis during the growing season depends entirely on soil moisture. Lack of photosynthesis is not necessarily a sign of poor health. This concept should not be incorporated into the standards and guidelines at any level.*

**Response:** A comparison between the period that plants photosynthesize on reference areas and on assessment areas accounts for the effects of soil moisture during the period that plants are green and actively growing. The practical use of measurements of photosynthetic activity would depend greatly on the comparison between the site being assessed and the reference site. This indicator would be applied by the BLM to compare differences in length of the photosynthesis period between species, not differences in a plant's photosynthesis period due to drought effects on a single species. For example, cheatgrass, an alien annual grass, has a shorter

period of photosynthesis than native bunchgrasses in the Great Basin Desert.

12. ***Comment:*** *Rooting throughout the available soil profile may be a good indicator of rangeland health, but it would require digging soil pits and mapping the roots. Rooting should not be used as a standard at any level because it would be misused.*

    **Response:** Assessments of degree of rooting throughout the soil profile can be determined by comparing the proportion of plant lifeforms in a reference area to the area being evaluated. If the proportions of grasses/forbs/shrubs are roughly similar between the two areas, it is inferred that the soil profile has adequate root distribution.

13. ***Comment:*** *The BLM proposal calls for reducing grazing use without requiring 5 years of monitoring data, and permits such changes without regard to the quality or type of data. Because empirically documented information or scientific studies would not be needed, BLM officials would have too much broad, undefined power in their hands.*

    **Response:** The Preferred Alternative does not call for specific reductions in grazing use. Any reductions would be based on documented assessments of functioning condition. The Preferred Alternative recognizes that there are other methods in addition to extended monitoring, to determine a need for action. A major factor in achieving the improvements in rangeland health identified in the draft EIS is responsible, timely action once problems have been identified. To require extended monitoring prior to initiating the corrective action would greatly reduce the benefits of the Preferred Alternative. Well documented monitoring information would certainly be required to provide support and rationale for resource decisions affecting grazing on the public land. Assessment of functioning conditions for riparian systems has been developed on the basis of scientifically sound principles delineated in the following Technical References developed by the BLM: TR 1737-9 - Process for Assessing Proper Functioning Condition, and TR 1737-11 - Process for Assessing Proper Functioning Condition for Lentic Riparian-Wetland Areas. Assessment processes are being developed for upland systems, which would result in significant efficiencies in the agencies' ability to cooperatively implement management that deals with improving rangeland health.

14. ***Comment:*** *Plants display "normal growth forms and vigor." The growth form of herbaceous plants and vigor are very arbitrary and subjective because they cannot be measured. "Normal" growth forms are not necessarily correlated with anything either good or bad. "Instantaneous trend" measures do not work and should not be used as a standard or guideline at any level. Shrub growth form can be an indicator of past use.*

    **Response:** The vigor and growth forms of plants are acceptable indicators if the observer compares the condition of plants on site relative to similar species in a nearby reference area or with protected plants on the sites being evaluated. Vigor is best presented by plant height, seedstalk production, or biomass production relative to plants that are protected from grazing impacts from herbivores.

15. ***Comment:*** *Plant communities display a "complete range of age classes." This concept is without any scientific basis or merit. The range of age classes for herbaceous plants simply cannot be determined and means little or nothing in terms of health. Note: The age class of woody plants may be meaningful.*

    **Response:** Use of this indicator is directed only towards shrubs in the range health assessment procedure. Except for seedlings of grasses and forbs, determining the age of herbaceous plants is very difficult .

16. ***Comment:*** *The Forest Service should adopt national grazing reform goals and standards similar to those proposed by BLM. Standard and guideline issues should not be left to general forest planning. A vague reference was given in the draft EIS on page 2-9 that states the Forest Service develops standards and guidelines for forest plans and that these would be made conditions of grazing permits.*

**Response:** Forest Plans provide for the development of standards and guidelines at the national forest level. The Forest Service's position is that standards and guidelines would continue to be developed at the forest level. Monitoring is scheduled in forest plans to evaluate the implementation, effectiveness, and validity of forest plan standards and guidelines. Forest plans can be amended to modify standards and guidelines in response to monitoring results. Monitoring results would be considered when revising forest plans. Forest plan standards and guidelines can be refined or strengthened as a result of site-specific landscape analysis and NEPA documentation in the course of preparing rangeland project decisions.

17. ***Comment:*** *Standards and guidelines cannot be developed outside of the standard planning process. The draft EIS implies that BLM's standards and guidelines would be developed outside the routine resource management plan (RMP) process and may not be compatible with the RMP. There is no assurance that the RMP would be amended/changed to incorporate the new standards and guidelines. Not incorporating these standards and guidelines in the RMP would violate the Federal Land Policy and Management Act. BLM should adopt the Forest Service planning process. The standards and guidelines, once compatible with the RMP, should be stipulations to the grazing permit, and the livestock operator should have to accept them.*

    **Response:** The Rangeland Reform '94 draft EIS is a national programmatic EIS. The EIS serves as the NEPA analysis for the national regulatory and policy changes, including national requirements and guiding principles for the regional or state standards and guidelines and the fallback standards and guidelines. State or regional standards and guidelines or other implementing actions would be subject to the proper level of NEPA analysis. Additional NEPA compliance would tier to the analysis of the national regulations and policy presented in the EIS and would be at the proper level (i.e. none, categorical exclusion, environmental assessment, or environmental impact statement, adopting other NEPA work, etc.), depending on plan conformance determinations and previous NEPA work. Standards and guidelines not conforming to existing land use plans would require plan amendments with appropriate NEPA documentation.

18. ***Comment:*** *What is the Forest Service definition of "meeting or moving towards forest plan objectives."*

    **Response:** Goals and objectives are established in forest plans. These goals and objectives describe the desired future condition of the resources on a landscape scale. Desired future condition of resources is based on ecological, social, and economic factors considered during the land and resource management planning process. Desired future condition of rangelands is typically expressed as ecological status or management status of vegetation (species composition, habitat diversity, age and size classes of species) and desired soil qualities (condition of soil cover, erosion, compaction, soil productivity, etc.).

    If an area is determined currently to be at the desired future condition, then it is meeting forest plan objectives. If an area is not currently at the desired future condition but resource trends are in the direction of that condition, then the area is moving toward forest plan objectives. Trend in rangeland vegetation and soil quality is monitored to determine whether the trend is not apparent, moving toward, or moving away from desired future condition. Methods for determining trend are well established and have been used by rangeland managers for many years.

19. ***Comment:*** *There are no known ways to easily determine distribution of nutrients in either time or space. How can BLM standards be written to determine if cycling is taking place?*

    **Response:** The ability of ecosystems to cycle nutrients and energy is denoted by indirect indicators that can be observed. The presence of organic matter, nitrogen-fixing plants and cryptobiotic crust (relative to site capability) are indicators that can be used to qualitatively evaluate nutrient cycling. Length and distribution of the period that plants are active (photosynthesis

period) relative to a reference area is an indication of the status of a system's energy flow. Through the use of these kinds of indicators, an ecosystem's health can be qualitatively assessed.

20. ***Comment:*** *The BLM's "recovery mechanism" requirements would be used as a club by environmental organizations to state that perfectly "healthy" range ecosystems are unhealthy because of the lack of seedlings and other recovery mechanisms. These requirements would be used to reduce stocking rates or completely remove livestock. A community in high seral status will generally be a closed community, and young plants cannot survive in this type of environment.*

    **Response:** The "recovery mechanism" requirement has been modified from the initial proposal for developing rangeland health assessment procedures. Recruiting new individuals in the plant community is tempered by the qualifier that recruitment occurs when conditions are favorable. This approach lets the evaluator consider poor climatic conditions or closed plant communities in evaluating the absence of recruitment opportunities. This change does not affect the analysis of environmental effects because it does not alter the focus on managing for healthy rangelands.

21. ***Comment:*** *The final EIS should address issues raised by the National Research Council report entitled "Rangeland Health". The report uses a soil-based classification rather than a climax vegetation system.*

    **Response:** The ecological site classification system used by BLM is a soil-based vegetation classification system. The National Research Council report "*Rangeland Health*" was used in preparing the draft EIS.

22. ***Comment:*** *The draft EIS implies that the PACFISH decisions on management practices have been made.*

    **Response:** Management of anadromous fish and their habitats and livestock grazing standards and guidelines under the proposed PACFISH strategy, an ecosystem based aquatic habitat and riparian area management strategy for Pacific salmon, steelhead, and sea-run cutthroat trout, on lands administered by the Forest Service and BLM, and the Upper Columbia Basin planning projects are considered through separate analyses. These projects are consistent with the national requirements and guiding principles, fallback standards and guidelines described for the Preferred Alternative of the Rangeland Reform '94 EIS.

23. ***Comment:*** *The provisions discussed under the BLM's national requirements now require that grazing practices meet state water quality standards and ensure maintenance and restoration of habitat for listed species only "to the extent practicable." This phrase should deleted from the final EIS. National and regional/state guidelines should be changed to state that practices would "result in" or "will ensure" instead of "to assist " in recovery of special status species or "to assist" in meeting water quality standards.*

    **Response:** The phrase "to the extent practicable" has been removed from the national requirements narrative as suggested in the comment. The intent of the qualifying term was to recognize that some grazing management may have little if any effect on threatened or endangered species or the achievement of certain water quality standards. It was not a suggestion that statutory requirements of the ESA or the Clean Water Act (CWA) be ignored or that efforts to benefit threatened or endangered species, and water quality be reduced to benefit livestock operations. The focus on landscapes and watersheds by the standards and guidelines will improve the agency's ability to develop objectives that will assure that CWA requirements will be meet.

24. ***Comment:*** *By adding criteria relating to age class distribution, plant vigor, community structure, etc., the National Research Council procedures confuse the concepts of "sustainability" with desired plant community.*

    **Response:** The National Research Council procedures were not incorporated verbatim into the Proposed Action; however, they were certainly considered in the preparation of the draft EIS; particularly with respect to the development

of the national requirements and guiding principles. The Preferred Alternative would provide a basis to establish a satisfactory direction toward maintenance and restoration of rangeland health. Age class distribution and plant vigor are indicators relating to sustainability of the community and are consistent with the desired plant community concepts.

25. ***Comment:*** *Page 2-12 of the draft EIS lists nine BLM standards to which grazing activities must conform. The first eight essentially repeat guidelines on page 2-11. These specific standards (page 2-12) should be dropped. Specific standards should be developed to meet specific management objectives at the local level. Item 9 on page 2-12 should be moved to page 2-11 and modified to read "Allotment management plans...would specify desired plant communities that would meet management objectives established for both uplands and riparian ecosystems. Management objectives should be consistent with national policy and legal requirements, including those for sustainable multiple use, and those providing for public input and consideration of local needs and property values."*

**Response:** The draft EIS on page 2-11 lists guiding principles to be followed in developing regional or state standards and guidelines. These principles have been modified to reflect public comment and to focus more clearly on abiotic and biotic processes of the ecosystem. The guidelines on page 2-12 of the draft EIS have been dropped as recommended. Fallback standards are listed for implementation in the absence of regional or state standards and guidelines after a prescribed period. BLM intends to have regional or state standards and guidelines in place and implemented within 18 months of the record of decision. These standards and guidelines would be developed with input from the resource advisory councils (RACs), public land users and other interested members of the public at the local level. Item 9 on page 2-12 of the draft EIS has also been dropped and replaced with fallback standards and guidelines as stated above.

26. ***Comment:*** *The BLM's ecosystem-based standards and guidelines must meet provisions of the Clean Water Act and Endangered Species Act. Implementing grazing practices to restore water quality may take longer than the start of the next grazing year. The draft EIS fails to state what priority would be given to water uses that benefit people who live in the watershed. Grazing by large herbivores has always been part of the biologic complex of natural rangelands and is environmentally compatible with reasonable water quality standards. Many western streams cannot meet state water quality standards because of the parent material in the watershed. Improperly built and maintained roads often contribute massive amounts of sediment to a stream. Permittees have no control or authority over these situations.*

**Response:** Regional or state standards and guidelines would be developed and must at least comply with the national requirements and the guiding principles for the development of the standards and guidelines.

The draft EIS is national and programmatic in scope and does not address local priorities. To be effective, the prioritization process must be implemented locally. Cause and effect relationships, such as the effect of parent material on water quality, would be analyzed on a site-specific basis before addressing any resource problem.

Water quality standards developed by the states usually consider the natural community, including biotic and abiotic components of the watershed.

27. ***Comment:*** *The exact methodology that BLM would use to determine rangeland categories was not discussed in the draft EIS.*

**Response:** A riparian functioning condition inventory would use the methodology outlined in BLM Technical Reference 1737-9 - *Process for Assessing Proper Functioning Condition*. BLM Technical Reference 1737-11 - *Process for Assessing Proper Functioning Condition for Lentic Riparian-Wetland Areas* will also be used. A methodology for qualitative assessment for uplands is presently being developed by an interdisciplinary, interagencywork groupp con-

sisting of members from the Forest Service, Soil Conservation Service, BLM, Agricultural Research Service, Environmental Protection Agency, Agricultural Extension Service, National Biological Survey, and the Society for Range Management. Additionally, BLM has access to a wide range of methods to assess the condition of the public rangelands, such as Ecological Site Inventory. Appendix I outlines the biological methodologies used in the development of the draft EIS.

28. ***Comment:*** *The draft EIS ( page 4-49) states that BLM national and regional standards and guidelines would benefit ecological conditions. No credible basis is presented for this statement. Ecological conditions are not specified. The draft EIS states that the standards and guidelines emphasize principles of ecosystem management and improvement of biological diversity but offers no explanation of how. No link has been established between standards and guidelines and either ecosystem management or biological diversity except to say that the Endangered Species Act would be obeyed.*

**Response:** We disagree. The Preferred Alternative provides national requirements and guiding principles for regional and state standards and guidelines that are based not only on federal legislation but also on ecologically sound principles. The national requirements have been more clearly defined for the final EIS. Ecological processes that are monitored to assess and improve rangeland health include the hydrologic cycle, nutrient cycle, and energy flow. The national requirements have been clarified so that public rangeland management would focus on the health of the ecosystems.

29. ***Comment:*** *The draft EIS on page 2-9 suggests that national standards would apply where no forest plan has been prepared or where the forest plan lacks standards and guidelines for livestock grazing and no project decision has been made.*

**Response:** The Forest Service is not proposing to implement national standards and guidelines. The Forest Service develops standards and guidelines in the forest planning process. Forest plans can be amended to incorporate standards and guidelines for livestock grazing if suitable standards and guidelines are lacking. Management requirements would be documented in the rangeland project decision and incorporated as terms and conditions of the term grazing permit. The rangeland project decision and resulting permit terms and conditions must comply with the goals, objectives, standards, and guidelines in the forest plan.

30. ***Comment:*** *Develop minimum uniform standards and guidelines that are scientifically sound, measurable, and enforceable. If standards and guidelines are not met, then management changes in the grazing allotment must be made before the start of the next grazing season. Ecological health should be a main goal of rangeland management. The criterion to evaluate rangeland management should be based on sound ecological science by professional biologists and ecologists who would determine the rangeland conditions . The final EIS should clearly state that standards and guidelines must ensure restoration and maintenance of proper functioning condition for riparian, stream channels, uplands, and ecosystems. Without national standards and guidelines, BLM state directors would be able to change the vague rules to fit "old" local "needs." The state directors would not be able to withstand the pressure of local cattle interests. The emphasis on national or regional standards and guidelines thwarts local decision making and public input processes.*

**Response:** The proposed BLM national requirements and the guiding principles for standards and guidelines and the state or regional standards and guidelines are and would be scientifically sound, measurable, and enforceable. A national effort has been underway to develop scientifically sound methods for assessment of health and function of rangeland ecosystems. Close coordination has taken place among representatives of the National Biological Survey, Environmental Protection Agency, Forest Service, Soil Conservation Service, Agricultural Research Service, and Agricultural Extension Service in developing standards and guidelines.

BLM regional or state standards and guidelines would be developed, at a minimum, to meet the

national requirements, which call for maintaining or achieving healthy, properly functioning rangeland ecosystems, including riparian systems. These standards and guidelines would be developed in cooperation and coordination with resource advisory councils and other interested members of the public.

Functional status of rangelands on a large scale is not measurable but can be determined on a more localized scale by experienced, knowledgeable interdisciplinary teams applying the guidelines. The Preferred Alternative specifies that where use does not conform to national requirements and standards and guidelines, the authorized officer would take appropriate action to begin the process of restoring healthy, properly functioning rangeland conditions before the start of the next grazing use period. The BLM does not intend to abdicate its authority to meet national requirements and to develop and enforce applicable regional or state standards and guidelines. The focus of standards and guidelines developed at any level would be to maintain or restore rangeland ecosystems in proper functioning condition.

31. ***Comment:*** *The criteria for local rangeland health standards focus only on soil factors. The Preferred Alternative should also address the degree to which viable populations of native plants, animals, and fish species are being maintained. More guidelines should be added to achieve or maintain a specified ecological status for identified range sites. All sites should have a stable or upward trend in soil or vegetation. The fallback health standards ignore the health of native plant, animal, and fish species. Another standard should be added: "Native plants, animals, and fish are not being lost either directly or indirectly as a result of livestock grazing."*

**Response:** The regional or state standards and guidelines must conform to national requirements in the Preferred Alternative and to the guiding principles for standards and guidelines.

BLM's assessment process for evaluating rangeland health emphasizes the physical environment, i.e. soils and the biotic environment (plants). This assessment process assumes that if ecological processes (nutrient cycle, energy flow, and hydrologic cycle) and plant community dynamics are functioning properly, then native faunal populations would be maintained or improved.

The degree to which viable populations of plants and animals are maintained is typically a local land use plan decision; however, in some instances it may be appropriate for state or regional standards and guidelines to address these concepts.

Managing for a specified ecological condition class does not give managers the flexibility to meet land use plan objectives. Because multiple plant communities may exist within a given ecological condition class, specificity is needed to identify and describe which plant community, the desired plant community, would best meet management objectives.

The invasion of noxious weeds on relatively undisturbed sites precludes managing some sites for stable or upward trend.

32. ***Comment:*** *The BLM's function and health standards must be achievable. Some of the standards/requirements in the draft EIS cannot be met in many areas with naturally undeveloped soils, or they are either without scientific merit or cannot be measured. Clear definitions of healthy rangelands are needed before guidelines can be developed.*

**Response:** The BLM intends to have function and health standards that are measurable and achievable. The Preferred Alternative provides for situations in which each and every indicator of rangeland health need not be met on a given specific site in order to be considered as meeting the standard. Compliance with applicable standards would be based on the preponderance of evidence derived from the on site assessments.

Definitions used are presented in the Glossary in the draft EIS. Rangeland health has been addressed under ecological status and the definitions of properly functioning condition for uplands and riparian systems. Soil surveys, ecological site descriptions, and other information should be used, or completed if they do not

exist, to determine site potential in terms of desired plant communities and natural soil erosion characteristics. Subpart 4180 of the grazing regulations has been amended to establish criteria for developing standards that focus on the functions and processes needed to establish a satisfactory direction toward maintenance or restoration of healthy, properly functioning rangeland ecosystems. This focus allows the development of regional or state standards that are tailored to regional or local ecosystems and resource conditions.

33. ***Comment:*** *The current BLM criteria for standards and guidelines are inadequate because they focus on criteria for livestock management and fail to address the need to establish criteria for healthy ecosystems. The standards mentioned in the draft EIS on page 2-11 are either without scientific merit or cannot be measured. The proposed national requirements and standards and guidelines contradict human welfare public policy objectives in existing statutes.*

**Response:** The guiding principles for standards and guidelines have strong ecosystem health criteria for both riparian areas and uplands. These criteria are based on good science. "The purpose of Rangeland Reform '94 is to carry out a rangeland management program that improves ecological conditions, while providing for sustainable development" (Executive Summary of the draft EIS, page 6, paragraph 1). Standards and guidelines developed using the proposed criteria could be applied to many if not all uses of public lands, but applying the standards and guidelines to these other uses is beyond the scope of this EIS. Therefore, relative to the purpose and need for this EIS, the criteria for developing regional standards and guidelines and the national requirements and guiding principles for standards and guidelines have been developed with a focus on livestock management.

State or regional standards and guidelines would be developed to consider existing data, studies, and information. Rangeland monitoring, including health assessment, would continue, and new data would be analyzed to assess the effectiveness of actions implemented under the standards and guidelines.

Ecological succession is a process of a healthy, functioning ecosystem, not an effect. As discussed in the draft EIS, structural diversity and plant and animal composition would vary with successional changes.

34. ***Comment:*** *Pesticide policy and the terms and conditions provisions included in points six and seven in the standards and guidelines section of Alternative 4, Environmental Enhancement, need to be addressed as part of the Preferred Alternative in the final EIS.*

**Response:** Pesticide policy provisions referenced above are not directly included in the national requirements and guiding principles in the Proposed Action because the agencies already have adequate regulations and policy to deal with concerns in this area. The terms and conditions provisions in the Environmental Enhancement Alternative are essentially the same as those identified in the Preferred Alternative.

35. ***Comment:*** *The animal unit month (AUM) data provided is merely that which existed in 1991 and 1992 on public land. This information is not the same as the actual carrying capacity in AUMs. Since the draft EIS did not establish a correlation or relationship between actual AUMs sold and the actual carrying capacity of the public range, how can the agencies make conclusions about how the vegetation communities would respond to the specified changes in AUMs for each alternative?*

**Response:** Changes in management practices and AUM levels were considered in making projections of changes in vegetation. Carrying capacity does not necessarily equate to proper functioning condition or healthy rangelands. An area in less than the desired condition may be properly stocked to maintain that level and at an appropriate level per the grazing regulations, but may not be able to progress to proper functioning condition without management change and/or stocking rate change.

Carrying capacity is routinely evaluated and adjusted as required to achieve the desired multiple use objectives for the public lands. The

actual AUMs grazed each year may differ from the grazing preference or carrying capacity but should not exceed the identified carrying capacity of the land.

Conflicts with carrying capacity occur when field office staffs are unable to conduct routine evaluations of grazing permits as desired. Work efforts are prioritized and funds and labor efforts are channeled towards the highest priorities. Rangeland Reform '94 is designed to improve the efficiency and effectiveness of completing these assessments and to expedite the resolution of conflicts with grazing use where they occur. See Process, Response 11.

36. ***Comment:*** *Voluntary conservation efforts rather than mandatory methods are more beneficial for the sound management of our natural resources. The rancher should receive any increased forage that results from his range stewardship.*

**Response:** Grazing public lands is an authorized use and the permittee is granted the privilege to graze within specified limits, including terms and conditions directed at conservation of the resource. Allocation of forage increases would be directed by the land use plans and applicable standards and guidelines. Voluntary conservation is promoted in the Preferred Alternative in the form of conservation use, permit terms and conditions, allotment management plan flexibility, etc., and likely would be further supported through the criteria being developed to qualify for the incentive fee reduction.

37. ***Comment:*** *Erosion should not exceed historic levels of geologic erosion.*

**Response:** The proposed national requirements and the guiding principles for standards and guidelines are intended in part to address this concern. Evidence of excessive erosion would indicate a less than proper functioning condition status.

## Suitability

1. ***Comment:*** *Can healthy, diverse, sustainable rangeland ecosystems ever coexist with livestock grazing? Livestock are not a natural part of these ecosystems.*

**Response:** Although livestock are not a natural part of western ecosystems, proper livestock grazing can be compatible with healthy, diverse, and sustainable ecosystems in most cases.

2. ***Comment:*** *The Preferred Alternative needs stronger provisions to protect fragile rangelands, such as the hot desert.*

**Response:** The BLM state or regional standards and guidelines would more specifically address guidelines for managing individual fragile rangelands. Management within an ecosystem framework would further address this need.

3. ***Comment:*** *Livestock should not have access to live natural water in desert lands. They should be allowed to use only well water.*

**Response:** The standards and guidelines would provide management guidelines for water sources to ensure that the biological integrity, including water quality and riparian vegetation, is maintained. Often, the relevant issue is the degree of use, not strictly the use of the water.

4. ***Comment:*** *Grazing is inappropriate on millions of acres of BLM lands because the costs of grazing administration and the harm to other resources far exceed the economic benefits. BLM's land use plans have almost uniformly failed to address the issue of suitability.*

**Response:** Livestock grazing is one of the multiple uses of the public land as authorized by FLPMA. However, this does not mean it is in the public interest to have grazing on all public lands. The diverse representation on the resource advisory councils whose members would be advising the BLM in regard to development of state or regional standards and guidelines and implementation of ecosystem management policies would represent the public interest. Suitability criteria per se would not be developed but areas where grazing is not compatible with healthy sustainable ecosystems would be determined as regional standards are applied. See Suitability, Response 13.

5. ***Comment:*** *Suitable land for livestock grazing should be rested every second or third year.*

**Response:** The agencies strive to manage public lands to meet physiological needs of vegetation and maintain healthy rangelands. Neither rest every two or three years nor any one particular method of grazing management is appropriate in every case.

Resting rangelands that are suitable for grazing every second or third year can be an effective method for maintaining healthy ecosystems. This is essentially the rest-rotation grazing method. Rest-rotation systems are effective in many cases, but are certainly not the only effective option. Rest-rotation has not been proven effective in salt desert shrub environments. In many environments, rest-rotation would not achieve riparian recovery, particularly if livestock graze during the hot season. Season of use, length of use period, and degree of use are the most critical factors to manipulate in maintaining or achieving the ecological health of rangelands.

6. ***Comment:*** *The suitability language and provisions for national level standards and guidelines for the Environmental Enhancement alternative should be incorporated into the Proposed Action.*

**Response:** The Proposed Action does not include suitability criteria because national criteria cannot be developed to fit each local situation. The Preferred Alternative would address suitability issues through regional standards and guidelines developed in consultation with the resource advisory councils and interested publics. BLM's position is that bringing the decisions closer to the ground and involving all stakeholders would result in increased ownership and support for the decisions rather than imposing "one size fits all" national suitability criteria.

7. ***Comment:*** *Grazing suitability should be based on the amount of precipitation in an area: less than 10 inches = no graze, 10 to 20 inches = no grazing for 10 to 15 years, and more than 20 inches = OK to graze if improved management is in place.*

**Response:** Suitability for grazing cannot be simplified to a precipitation decision model as suggested. Current health of the ecosystem and certain physical characteristics (slope, distance from water, vegetation type, etc.) are the key factors in assessing suitability of a particular area.

8. ***Comment:*** *The suitability review of lands for grazing should remain in the Forest Service planning process.*

**Response:** Forest Plans determine the suitability of land for grazing and establish minimum standards that must be met. The forest planning process is programmatic and does not typically analyze site-specific effects of grazing on a specific area of land. The National Environmental Policy Act (NEPA) requires a site-specific project-level analysis of the environmental effects of a proposed action. The Forest Service rangeland project decisions based on landscape analysis would include the site-specific NEPA analysis and decision making process that would determine if and how grazing would be authorized on a specific area of land on the basis of the suitability of the land for livestock grazing.

9. ***Comment:*** *Any land classified as "functioning at risk" should be classified as unsuitable for livestock grazing to balance local economic considerations against biological integrity.*

**Response:** The BLM suitability criterion, as suggested by the comment, was analyzed for the Environmental Enhancement Alternative. Classifying all functioning at risk land as unsuitable might be appropriate in certain ecosystems, but might not be appropriate or desirable in other ecosystems. In ecosystems where the flora and fauna depend on grazing, improved grazing management would be much better than eliminating livestock grazing.

10. ***Comment:*** *Grazing capacity is normally determined by the average annual forage yields produced and available on suitable range within an allotment. Nonsuitable range is often not excluded from grazing, leading to undesirable environmental consequences. Livestock must be physically and administratively excluded from*

*nonsuitable range and allowed access only to lands defined as suitable according to standards and guidelines in forest plans.*

**Response:** The decisions to physically or administratively exclude livestock from lands meeting the forest plan criteria for suitability are made on an allotment-specific basis through the landscape analysis and rangeland project decision process. Where the land would not be harmed by incidental grazing and no forage is allocated for the land, no physical or administrative exclusions are placed to keep livestock from the land. Where allowing grazing on nonsuitable lands would cause undesirable consequences, management would be adjusted, and physical or administrative barriers would be imposed. The BLM does not propose to establish a specific suitability criteria as part of Rangeland Reform '94.

11. ***Comment:*** *The suitability language in the Environmental Enhancement alternative is too restrictive. Voracious consumption in the United States is leading us to devastate other areas of the biosphere beyond our borders. We need to keep our consumption at home where we can better control the impacts. Suitability should be tied to ecological processes rather than artificial boundaries. Nonbiological criteria should not be used to preclude economic opportunities.*

    **Response:** The suitability language in the Environmental Enhancement Alternative would exclude grazing within certain nonecological boundaries, such as within Wilderness and Wilderness Study Areas, even though from an ecological view, these areas may be well suited for grazing under sustainable management.

12. ***Comment:*** *Poor condition areas should be withdrawn from grazing until they recover (or are in excellent condition) from previous grazing damage. Sustainable grazing use should be considered only after complete recovery of the grazing land.*

    **Response:** Long-term rest is one method for restoring areas in poor condition, but complete rest is not the only method to restore depleted rangelands. Certain stable low seral communities like cheatgrass would not change, even with complete rest. Implementing sound grazing management, including proper grazing use levels, timing of use, and rest periods, would often achieve recovery as effectively as long term rest.

13. ***Comment:*** *Land managers must have guidelines and mechanisms for determining lands that are unsuitable for livestock grazing because of environmental sensitivity, fragility, recreation, cultural or historical significance, degraded conditions, having less than 10 inches of precipitation, not functioning, or having important wildlife habitat. Commenters have argued that the Proposed Action has no criteria or mechanism to determine areas that should not be grazed by livestock. Grazing management efforts should focus on the most suitable land to free up public land managers for other critical tasks. Clear direction is needed for scientifically sound rangeland management. Don't graze unsuitable rangeland. The issue of grazing suitability on an allotment needs to be tied to the issuance, transfer, or renewal of grazing leases or permits. A suitability determination should be made for every allotment as soon as possible and should not be delayed until the end of the 10-year permit period.*

    **Response:** The BLM national requirements, guiding principles for developing state or regional standards and guidelines, and the fallback standards and guidelines all focus on attaining and maintaining healthy rangeland ecosystems. Regional and state guidelines would more specifically address physical and biological requirements necessary to establish a satisfactory direction toward maintenance and restoration of rangeland health by means of properly functioning ecosystems. The regional standards and guidelines would be incorporated into land use plans. Forest plans determine the suitability of land for grazing and establish minimum standards that must be met. If livestock grazing conflicts with attaining or maintaining properly functioning ecosystems due to the sensitive, fragile nature of the site or other resources, the area is not suitable for grazing. Sensitive areas not suited for grazing are expected to be identified by applying regional or state standards and guidelines or forest plan standards and guidelines

through site-specific analyses. Decisions to restrict or eliminate grazing in these areas would be made through the land use planning process.

14. *Comment: Grazing of nonfunctioning areas under any alternative is not consistent with current law, policy, and regulation. Each alternative should account for no grazing in all nonfunctioning areas.*

    **Response:** The concept of no grazing in nonfunctioning areas has been fully analyzed in the EIS. Under the Preferred Alternative, the authorized officer would take " appropriate action. . . where existing management practices fail to meet the requirements . . . ." Appropriate action on nonfunctioning areas could be the elimination of grazing or it could be a change in grazing management to "achieve healthy, properly functioning ecosystems".

## Rangeland Health/Condition

1. *Comment: The Department of the Interior must give local land managers guidance to protect and maintain ecological health of the public lands.*

   **Response:** The Department of the Interior would give local land managers guidance in the form of manuals, handbooks, and memorandums to aid in implementing policies and regulations. Further guidance for implementation of Rangeland Reform '94 will be developed to aid the field offices in managing public land.

2. *Comment: Monitoring information and historical facts on private ground show that soils are not becoming less fertile.*

   **Response:** Information and conditions on private land are not necessarily an indication of the status of public lands. Consideration of soil stability and watershed function combined with plant community structure and function are essential in determining rangeland health. Much of the public lands is in a proper functioning and healthy condition representing stable and productive soils. Rangeland Reform '94 proposes to continue the successful management of these areas to maintain those conditions. At the same time, some areas are not maintaining soil stability or are in such a state that soil stability and watershed function are at risk of being lost.

3. *Comment: The federal lands are overstocked, and riparian areas have virtually no protection. Monitoring would always be inadequate because of the minimal income derived from grazing permits. The net results on private land are more weed invasions, increased wildlife grazing, lower water quality, and poorer fisheries.*

   **Response:** Implementing Rangeland Reform '94 would include developing a process to qualitatively assess the health of rangelands. This process would give the BLM land manager a valuable tool to prioritize work toward resolving conflicts. The use of qualitative assessment procedures can be compared to a preliminary medical examination to see if a patient needs further attention. This examination gives a quick diagnosis of the patient's health. If the illness is pressing, the patient may need immediate medical attention, or further tests may be required to determine what the illness is.

   Likewise, if a qualitative health assessment finds that the rangeland is unhealthy, more monitoring or inventory may be required to corroborate the initial assessment and provide managers with causal factors responsible for the "illness". In some instances, the qualitative health assessment alone or in combination with previously collected monitoring, inventory, or professional judgment may be adequate to initiate actions to correct management problems causing unhealthy rangelands. These management problems may be with grazing use of a geographic area in question or may be from another source. When the action causing an unhealthy situation is determined, steps would be taken to resolve those conflicts.

   This assessment would at first be applied to areas with higher resource values and that exhibit indicators of possible problems with rangeland health. Riparian areas, threatened and endangered species habitat, and areas in degraded condition would certainly fall within those types of areas receiving first inspection. Emphasis would be placed on analyzing areas experiencing problems and then on taking steps

to fix areas in critical need. This approach would provide greater progress toward attainment of healthy rangeland in comparison to an approach that starts with a complete inspection of all public lands, which would require spending time and effort to assess areas already in proper functioning condition and would detract from the time that could be spent towards fixing problem areas.

This qualitative assessment process would not be used as an inventory of the public rangelands to satisfy requirements of the Federal Land Policy and Management Act (FLPMA) for reporting on the conditions of the public rangelands. BLM is participating in an interagency effort led by the Environmental Protection Agency to develop a process that is intended to satisfy that national reporting requirement.

The Environmental Enhancement alternative analyzes the removal of livestock from certain areas. The Preferred Alternative of Rangeland Reform '94 is a means to assess and evaluate the rangelands and modify grazing use as required. The removal of livestock from an area is also an option, if necessary to establish a satisfactory direction toward restoration of rangeland health and multiple use objectives.

4. ***Comment:*** *The Environmental Enhancement Alternative, and the No Grazing Alternative both show no upland areas in functioning at risk categories in 20 years. This implies that livestock grazing is the only factor that contributes to risk. Other factors that have nothing to do with livestock grazing contribute to upland risk. The analysis for riparian areas has the same bias. There is no reason to think that riparian areas in nonfunctioning condition would increase under the Livestock Production Alternative. The assumptions made are blatantly false (Executive Summary pages 48-51).*

*Disturbance to a plant community in a terrestrial ecosystem is a natural and functional part of the system.*

*Recreation should be controlled in instances where it is degrading environmental health.*

**Response:** For the purposes of the Rangeland Reform '94 EIS, the upland acres analyzed within the classes of functioning condition are only those areas that are potentially affected by livestock. The "at risk" and "nonfunctioning" acres shown are the estimated acres that are at risk or nonfunctioning due to grazing. This was an assumption made for the analysis. This estimate has been included in the final EIS. Other factors on the public land may also affect its functioning capabilities, but an analysis of those factors is not within the scope of this EIS. For example, large areas of existing or historic riparian habitat along the Colorado River may be not functioning or may be functioning at risk as the result of hydroelectric dams. This type of impact is not within the scope of analysis of the Rangeland Reform '94 EIS.

Factors such as fire, climate, wild horses and burros, wildlife, and recreation may affect plant succession and may also affect the functioning of a site. As the result of such factors, some acres of the public lands are expected to be functioning at risk in the long term. Rangeland Reform '94, however, deals with the analysis of impacts resulting from livestock grazing. This analysis estimates impacts from livestock grazing for the Proposed Action and other alternatives and compares expected impacts among alternatives.

Under Alternative 4 (Environmental Enhancement) and Alternative 5 (No Grazing)in the long term, no acres are expected to be in nonfunctioning or functioning at risk status as a result of livestock grazing. Under these alternatives, livestock would be removed from areas not in properly functioning condition and from riparian areas.

The increase in acres of nonfunctioning riparian areas under the Livestock Production alternative would result from the increased emphasis on the use of forage for livestock. While the development of BLM state or regional standards and guidelines might recognize the value and restoration of riparian resources, management emphasis under the Livestock Production alternative might not support hard decisions to change livestock grazing use for riparian protection. Improvement of riparian areas might be considered secondary

to the socioeconomics of western livestock production, and overall riparian area conditions would decline.

5. ***Comment:*** *Grazing is a bigger threat to rangeland health than the increased possibility of wildfire associated with a No Grazing situation. It is incorrect to equate livestock grazing with resource damage. It is more accurate to state that poor livestock management has led to resource damage. This changes the focus to "management" rather than "grazing." The probability of fire increases with no grazing. Livestock grazing can reduce the fire hazard.*

**Response:** Grazing and wildfire can both have adverse effects on rangeland values. The issue and concern is not which is a bigger threat, but rather is effective management in place that would minimize any adverse affects and maintain or achieve rangeland health goals. With proper management, grazing use can occur consistent with multiple use objectives and rangeland health. In many instances, well-managed grazing can be used as a tool to improve resource conditions.

The Proposed Action would not eliminate grazing. The role of fire relative to no grazing was addressed in the discussion of the No Grazing alternative (see pages 4-109 through 4-112 of the draft EIS). The role of fire was also addressed in the Description of the Environment section for most of the vegetation zones (see pages 3-15 through 3-25). As described on the referenced pages, fire is an integral part of functioning ecosystems throughout the West.

6. ***Comment:*** *Evaluation of range conditions: Use successional classes because management objectives cannot be met if monitoring measures are constantly changing or inconsistent. The monitoring measures need long-term research to ensure that desired objectives are attainable. Ecological succession, the most dynamic component of watershed and structural diversity, has been almost completely ignored in the draft EIS. The biological data that forms the foundation of the draft EIS is incomplete, misleading, and predominately more than 10 years old.*

**Response:** Range condition information (ecological status) is continually reported following agency mandates. Currently, qualitative approaches are under development to insure that the health of selected landscapes can be assessed with existing ecological health information. Rangeland assessment is being focused towards those resources where change is expected to occur so management actions can be focused to manage those changes.

Successional classes do not make good resource objectives because many plant communities can exist within each successional class. The BLM's desired plant community concept addresses this shortcoming by describing a combination of species, within site capabilities, that would meet resource objectives.

Ecological succession (Clementsian concept) is being modified by a multiple steady state and transition model theory that states that plant communities do not progress back towards a stable climax plant community, but rather they can become locked into a state that does not change until a major disturbance occurs.

The data used in the draft EIS, the most current information at the national level, was further evaluated by an experienced interdisciplinary team of resource professionals. Many years may be needed to realize vegetation change in upland vegetation communities, and data that is more than 10 years old is still pertinent.

7. ***Comment:*** *Noxious weeds can be attributed in large degree to overuse of the land. The Desert Tortoise Research Natural Area is a prominent example of the ecological benefits of excluding livestock grazing from sensitive desert ecosystems over the past 17 years. The proliferation of nonnative weeds has been slowed. The diversity of native plants is significantly higher in the ungrazed area. Undesirable plants are a serious threat to the biological diversity of the entire federal land management system. This issue needs more attention. BLM should be a good weed management neighbor with cooperative state grazing districts.*

**Response:** While noxious plants can and do invade healthy rangelands, most noxious plants take advantage of stresses to vegetation communities by means of fire, overgrazing, or other disturbances. Rangeland Reform '94 addresses the maintenance and improvement of the public rangelands so they become as productive as feasible for all rangeland values. This final rule addresses rangeland health specifically in relation to livestock grazing. Rangeland Reform '94 focuses on developing standards and guidelines that would be combined with existing BLM practices of developing site specific objectives for desired plant communities. Desired plant community objectives would consider the diversity of species, present or desired, as well as any management actions to change the existing community. If noxious plants are a concern, they would be considered in this process. A more in-depth analysis of the control of noxious weeds on public land was conducted in the Final Environmental Impact Statement: *Vegetation Treatment on BLM Lands in Thirteen Western States* (BLM 1992a in draft EIS References).

8. ***Comment:*** *The responsibility to determine range condition should be left to BLM and the Forest Service. AUM levels for all allotments need to be reevaluated.*

   **Response:** Condition information is collected in a cooperative effort between agencies and interested parties. The Environmental Protection Agency is leading an interagency effort to consider a standard method for reporting on the condition of all lands nationwide. The responsibility to make the final determination of range condition would continue to reside with the BLM and Forest Service. To arrive at decisions, the agencies rely on information from a variety of sources, making assessments based upon the needs of the resources and priorities for monitoring.

9. ***Comment:*** *Grazing Systems: yearlong rest should be implemented at regular intervals to allow plants selectively grazed by livestock to remain healthy and not be eliminated by grazing.*

   **Response:** The Proposed Action and other alternatives, other than No Grazing, in Rangeland Reform '94 provide for establishing BLM grazing management practices (incorporated as conditions of grazing permits) that would be required to meet the physiological needs of the vegetation and be consistent with standards and guidelines and multiple use objectives. Each grazing allotment and permit can have its own unique set of circumstances that require grazing practices designed for that permit. Yearlong rest is an option that may be included as a condition of a grazing permit if appropriate. For example, the establishment of yearlong rest periods on a Forest Service allotment could result from non-use for resource improvement on a temporary basis, or could result from a management prescription decided upon in a rangeland project decision.

10. ***Comment:*** *The term "Rangeland Health" is not well defined in the draft EIS, and consistent, reliable data is not available to test the hypothesis. The indicators for rangeland health identified in the National Research Council report do not represent accepted principles of rangeland assessment. To rationally establish if the range should be grazed, we need to consider site potential, the history of land use and natural disturbances on the site, and the trend under current management. Healthy is an evaluative term and probably immeasurable. The agencies must prepare and circulate for comment a revised draft EIS or supplemental EIS to address the Rangeland Health, New Methods to Classify, Inventory, and Monitor Rangelands (National Research Council 1994) Report. Although the agencies invite comment on the Rangeland Health report, the report information is not incorporated into the draft EIS. Public comment on the report, a separate document that has not been considered in the draft EIS, does not satisfy the National Environmental Policy Act (NEPA). Proper functioning condition is undefined. Grazing practices are to "maintain or achieve healthy, properly functioning ecosystems." No definition is given for "healthy," and the definition for "properly functioning" is unsatisfactory and unworkable. Expansion of the riparian checklist to include uplands would convert management based on scientific principles to management by checklists. Using checklists, there is no way to determine trend over time.*

*Trend can only be determined via repeat measurements, using valid statistically analyzable techniques, over time on the same area. The draft EIS does not have any valid techniques to measure trend in the future even though trend, especially riparian trend, is given a major amount of attention.*

*The proposed regulations and subsequent monitoring ignore those criteria that the Academy considers most important: soil stability and watershed function, nutrient cycling and energy flow, and recovery mechanisms.*

**Response:** For the purposes of analysis within the EIS, proper functioning condition of upland areas represents the minimum conditions that must be present to allow the soil and vegetation to produce a sustainable natural biological community. A definition of "properly functioning condition" is given in the glossary of the draft EIS.

The checklist and proposals concerning the health and functioning of upland rangeland ecosystems as presented in the Advance Notice of Proposed Rulemaking were recognized as needing revision. An interagency taskforce is developing a qualitative assessment process for determining rangeland health. The approach to evaluating uplands would not be based upon a simple yes/no checklist. It would consider such things as cover, which would be estimated by lifeform and other biotic and abiotic indicators. The upland assessment process would be used by an interdisciplinary team and would be based upon scientific principles, i.e. ecological processes and their relationship to flora and fauna. For riparian areas, the process of determining function is described in the BLM Technical Reference TR-1737-9.

The report entitled *Rangeland Health, New Methods to Classify, Inventory and Monitor Rangelands* (National Research Council 1994) was considered in the development of the draft EIS and proposed rule. This report is consistent with many of the proposals of Rangeland Reform '94 and was used in developing direction for standards and guidelines.

The comment on not being able to determine trend with a checklist is correct. Quantitative monitoring data is still needed to determine trend. As a general rule, the qualitative assessment procedures are not suitable to determine trend. The draft EIS does not propose any changes to existing methodology for collection of trend data or other current forms of monitoring data.

The following definition of rangeland health has been added to the glossary of the Final EIS: "The degree to which the integrity of the soil and the ecological processes of rangeland ecosystems are sustained. Rangeland health exists when ecological processes are functioning properly to maintain the structure, organization and activity of the system over time."

11. ***Comment:*** *For Alternative 1, Current Management, the draft EIS states that, in the long term, the acreage of the sagebrush plant communities in properly functioning condition would increase. Explain how they would improve and why.*

    **Response:** Past and future improvements in upland rangeland condition are attributed to management prescriptions that guide grazing use levels, establish proper seasons of use, and install proper rangeland improvements. Over the long-term, prescriptions are expected to continue to improve sagebrush communities acknowledging the increase in numbers and frequency of wildfire as in the Great Basin. Sagebrush communities with cheatgrass would decline as a result of wildfire, while properly functioning sagebrush communities would move toward a diverse vegetation community after a disturbance by fire.

12. ***Comment:*** *Range condition is better now than in the past. There is no scientific basis to assert that the Nation's rangelands are deteriorating or that rangeland ecosystems are not functioning properly. Grazing plant communities with ungulates does enhance the ecological function of rangeland by introducing disturbances, cropping plants, and recycling nutrients. Grazing is a form of active enhancement that improves resource conditions rather than a destructive process. Rangelands have a demonstrated track record of*

*improvement under past and current management regimes since the passage of the Taylor Grazing Act in 1934. The draft EIS figures show that only about 1 in 5 acres is either not meeting agency objectives or not functioning correctly (20 percent for Forest Service uplands, 22 percent for Forest Service riparian, 13 percent for BLM uplands, and 20 percent for BLM riparian).*

*Fig. S-4 on page 26 of the Executive Summary shows that 78 percent of Forest Service riparian areas are meeting or moving toward objectives. Pg 3-32 shows the correct percentages. The terminology of "meeting or moving toward objectives" is ambiguous and should be replaced with percentages based on actual monitoring of riparian condition. One can assume that the acres of unknown condition are probably in poor condition.*

*The draft EIS states that uplands and riparian areas would decline in the next 20 years. This is not true. Present trend on upland and riparian areas is upward under present management. Documented studies prove it. That range conditions have held steady and continued to improve is a glowing testament to the effective stewardship of the permittees.*

*The draft EIS states that ecological status and vegetation trend in the uplands would not be significantly affected by any alternative in the short term because uplands would need more than 5 years to significantly change. The draft EIS also states that functioning uplands would most notably improve in the short term under the No Grazing and Environmental Enhancement alternatives. If the first statement is true then the second statement cannot be true.*

**Response:** Rangeland conditions have improved on many upland areas since the 1930s. After initial improvements, this trend has progressed at a slower rate. Range condition and trend were addressed in the draft EIS on pages 3-26 through 3-28. While upland conditions have improved, and trend is generally stable or upward as a result of both management practices and climatic factors, many areas are not improving. Riparian conditions were addressed in the draft EIS on pages 3-31 through 3-32. Riparian areas have not improved to the same degree as the uplands. In some localized areas, substantial progress has been made in riparian management, but much remains to be done. Rangeland Reform '94 is intended to accelerate the improvement in ecological health.

Figures S-3 and S-4 on page 26 of the draft EIS show the present condition of upland and riparian habitat for BLM- and Forest Service-administered land. These figures do not show an unknown category. For analytical purposes, it is assumed that the relative percentages of known condition class would be the same for the unknown acres as well. Table 3-7 on page 3-32 and Figure 3-1 on page 3-33 show the current condition of upland and riparian habitats, which include the unknown category. Data portrayed for uplands on BLM-administered land do not include an unknown category because this data was estimated for analytical purposes in the EIS. Appendix I of the draft EIS further explains these estimates.

For both upland and riparian areas, BLM information on acres of nonfunctioning and functioning at risk both show areas of conflict with livestock grazing. In addition, the acres classified as unknown that may fall within these categories also present concerns that need to be resolved. Rangeland Reform '94 proposes to maintain the improvements to date and to increase the rate of improvement for areas still experiencing conflicts.

The EIS does not project a large degree of short-term change in upland functioning condition under any alternative. The most noticeable change would result from the Environmental Enhancement and No Grazing alternatives. But as stated in Appendix I, the upland acres in proper functioning condition would increase by only 5 percent under these alternatives. No estimated change would result in the short term under Current Management, and only a minimal increase would result under the Proposed Action and Livestock Production Alternatives.

13. ***Comment:*** *Ranchers are the stewards responsible for taking care of fragile soils, fragile environments, etc. If they had not set the goal of*

*clean water and air, there would not be any rangeland in excellent condition. The ranchers have strong personal and financial incentives to nurture the land. Good ranchers can apply peer pressure on ranchers who abuse the land.*

**Response:** Good stewardship of the land adds value to the land. Good stewardship in the public rangeland context involves cooperation and innovation on the part of the permittee, including cooperation with BLM and Forest Service in implementing livestock management designed to achieve multiple use objectives, helping to monitor this use, being open to changes in management as monitoring data is evaluated, and recognizing riparian and other values that may not necessarily be consistent with current grazing use. Stewardship of this kind is critical to meeting BLM and Forest Service objectives as well as the resource, social, and long range financial goals of the permittee.

Ranchers who are actively involved in cooperative stewardship would find that Rangeland Reform '94 would have few direct impacts on their operations. Maintenance of rangelands in proper functioning condition, and issuance of grazing permit terms and conditions that would achieve multiple-use objectives, would result in added value for both the permittee and the public lands. This type of cooperative relationship provides a good example to grazing permittees and federal agencies that would aid them in improving other rangeland areas that are in nonfunctioning condition. See also Wildlife/Wild Horses, Response 3.

14. ***Comment:*** *Proper livestock grazing is a management tool to aid and improve ecological conditions. Reductions in livestock grazing can harm the environment. Grazing is a vital component of sound range management practices, and managed livestock grazing is an important conservation tool that converts natural forage into food and fiber without environmental damage. Use the digestive tract of cattle to reseed native plants. This would reduce the need for mechanical manipulations of the soil or vegetation (ARS office in Las Cruces). Enormous rangeland benefits can accrue due to no grazing. Commodity production is a tool of land management rather than the principal goal. The draft EIS alternatives do not leave room for using livestock as a management tool to both increased production and environmental enhancement; i.e., excellence in management.*

*On the White Sands missile range in southern New Mexico, there is a great contrast in ecological condition between the areas protected from grazing for 46 years and those areas currently being grazed. The protected area is a functioning native ecosystem with gramma, tobossa, and dropseed grasslands that range in height from 2 to 6 feet. The adjacent public rangeland shows bare eroding soils, depleted grass cover, and noxious herbaceous plants. Creosotebush and mesquite are common.*

*Improvement in range condition when grazing is reduced or removed often is extremely slow or absent. When range condition of arid and semi-arid vegetation types are in stable states, even complete removal of livestock grazing results in little or no improvement in range condition for many years or even decades.*

*Use Holistic Resource Management to improve range condition. MORE grazing is required rather the reductions or total elimination as proposed in the draft EIS. A lower level of resource production does not equate with a healthy ecosystem. Animal impacts are of vital importance to rangeland health.*

**Response:** Livestock grazing is one of the many multiple uses on the public lands. With proper management, grazing use can be consistent with achieving multiple use objectives and maintaining rangeland health.

In developing multiple use objectives, one must determine the tools required to achieve those objectives. Both grazing and rest can be used as tools to achieve multiple use and ecosystem management goals and objectives. However, this does not require that all grazing use of the public lands be used as a tool or be eliminated. Livestock grazing is a commodity use that uses sustainable levels of forage produced on the public rangelands.

If livestock grazing is found to be in conflict with meeting an area's objectives, then appropriate actions would be taken to modify the grazing use.

Animal impacts are important in ecosystems that evolved with grazing pressure by herbivores (such as the shortgrass prairies in the Midwest). In many of the western ecosystems, the Great Basin being a good example, large herbivores were not present, and the vegetation that evolved (cool-season bunchgrasses) was not adapted to heavy grazing. These systems do not need excessive animal impacts to function. Animal impacts such as grazing, trampling, and trailing can be detrimental.

Many references in the scientific literature show recovery of desired plants with no grazing and reduced grazing (see the article by Yorks, West, and Capels in the *Journal of Range Management*, volume 47, pages 359-364), while other studies show no increase in desirable species under no livestock grazing. Every system reacts differently depending on climate, soils, and the existing assemblage of species and human impacts. Management decisions must reflect the variation in these factors in different regions and sites.

Implementing Rangeland Reform '94 would work toward resolving resource conflicts by establishing the required terms and conditions of grazing permits to establish a satisfactory direction toward desired rangeland conditions.

15. ***Comment:*** *The single biggest obstacle to significant rangeland improvement is the agencies' inability to consistently support or approve intensive range management practices. For the past 10 years, BLM has failed to spend all of the range betterment funds because many of the proposed rangeland improvements are often delayed due to administrative appeals filed by local environmental groups.*

    *New range improvements should not degrade resources, fragment ecosystems, cause concentrated overuse, or interrupt proper functioning condition.*

    **Response:** Many times the management actions desired to achieve multiple use objectives go beyond the funding and workload capabilities of the federal agency. As a result, we must look at alternative means of achieving objectives. We intend to achieve objectives through collaborative efforts between stakeholders and federal and state agencies that may be involved to seek alternative sources of funding and other alternatives. These efforts, however, must result in meeting objectives in a reasonable timeframe. Rangeland Reform '94 would give the BLM increased flexibility in distributing range improvement funds by allowing 50 percent of those funds to be distributed within priority areas.
    Range improvements are designed and installed to achieve specific multiple use objectives. Range improvements must be consistent with all resource objectives for the area they may affect and should not hinder maintaining or improving rangeland health.

16. ***Comment:*** *The BLM did a good job of summarizing 1989 range condition information and comparing it with data going back to 1936 in the agency's* State of the Public Rangelands, *1990. Not only is the data from this publication not used anywhere in these documents, the publication is not even cited as a reference.*

    **Response:** While the EIS does not refer specifically to the report *State of the Public Rangelands, 1990*, it considers the same parameters including vegetative trend and ecological condition. the EIS team is familiar with the contents of the report, has conducted a review of the report, and recognizes, as does the above mentioned report, that successes have been made on the public lands toward improving rangeland conditions, but that more improvements can and should be made. To that end, Rangeland Reform '94 proposes to improve ecological conditions while providing for sustainable development.

17. ***Comment:*** *The draft EIS categorizes upland and riparian habitats as either meeting/moving toward objectives or not meeting objectives. This lumping obscures the conditions existing on the ground and the changes that might be anticipated in the next 20 years under each alternative. We suggest that the final EIS report current*

*and projected (particularly long-term) habitat conditions as follows: (1) acres meeting objectives, (2) acres not meeting but moving towards objectives, (3) acres not meeting or moving towards objectives, and (4) acres of undetermined status. Appendix I briefly describes the methodology used by the Forest Service in 1992 to categorize rangeland status and trend. The methodology described in Appendix I parallels the categories described above.*

**Response:** Forest Service acres meeting objectives and acres not meeting but moving toward management objectives are assumed to be under proper management and are therefore combined for analytical purposes. Acres not meeting or moving toward management objectives are analyzed separately because they are assumed not to be under proper management at present. A comparison of the management strategies and effects of the Proposed Action and alternatives can then be made for areas under proper management and areas not under proper management. For the purposes of analyzing the overall environmental consequences of proper and improper management, the acres in undetermined status were prorated into the other categories based on the ratio of acres in the other categories.

The BLM methodology to categorize rangeland status and trend varies from that described for the Forest Service (See Appendix I in the draft EIS).

18. ***Comment:*** *The EIS uses the National Research Council's Rangeland Health book, which is general and does not contain good science in many places. The EIS completely ignored the "unity" document produced by the Society of Range Management (SRM, Task Group on Unity in Concepts and Terminology, New Directions in Range condition Assessment, 1991). All the agencies participated in this effort as well as numerous respected community ecologists in the range management profession. This is a much more credible document that the Rangeland Health book.*

*The other major omission is the 1994 book published by the Society for Range Management, Ecological Implications of Livestock Herbivory in the West. This book contains the most thoroughly referenced summaries of the major range ecosystems as well as information on the effect of grazing on riparian areas and wildlife habitat, ecological and physiological responses of plants to grazing and many other topics.*

**Response:** Principles and concepts contained in the publication *"Rangeland Health"* were incorporated into the draft EIS. Additionally, the working report of the Task Group on Unity in Concepts and Terminology cited in the comment above, was used as a resource for development of rangeland health and ecosystem concepts and in preparation of the final EIS.

The book, Ecological Implications of Livestock Herbivore in the West cited in the comment above, was published after the draft EIS was going to print and as such was not considered in the draft; however, it has been reviewed and considered in the preparation of the final EIS.

19. ***Comment:*** *How do you plan to go about determining, at the field level, which grazing allotments have streams that are violating state and or a federal clean water law? Will your offices have people taking "grab" water samples and monitor livestock adjustments based on just one sample if it is shown to exceed one of the standards? If not, how many samples would you be required to take over what period of time? How much would you be relying on State Water Quality Bureaus for monitoring data? If monitoring shows a particular stream exceeds a federal or state standard, how would you determine if it is being caused by livestock grazing on BLM land, when a stream also passes through private lands that are being grazed, as is often the case?*

**Response:** Monitoring management treatments and impact mitigation would ensure that regional and state standards and guidelines are being implemented and are attaining the desired results while protecting resource values. BLM and Forest Service monitoring plans would utilize other federal and state agency data if sampling and analysis methods meet agency quality assurance standards. Field level monitoring plans would be designed to measure resource proper-

ties that are directly affected by the action being evaluated. Monitoring that evaluates a specific action accesses that specific action and not preexisting or offsite actions.

## Vegetation Zones

1. *Comment: Native plants like western wheatgrass should be used to reclaim affected areas rather than nonnative plants like crested wheatgrass.*

   **Response:** BLM and Forest Service policy is to use native plants, including western wheatgrass, for reclamation applications. In certain situations, BLM and the Forest Service may use nonnative plants to meet specific goals.

2. *Comment: The draft EIS states that wildfire suppression has resulted in grass depletion and subsequent shrub dominance; yet, other parts of the draft EIS say that the uplands have improved since the 1930s. Which is it?*

   **Response:** Both are true. In many cases, fire suppression has reduced natural fire frequencies and resulted in an increase in shrubs and trees. But because of reduced grazing and improved management since the 1930s, the grass and forb component has improved within many shrub communities. Improved upland condition does not necessarily equate directly to increased grass composition.

3. *Comment: The term "ephemeral rangeland" needs to be clarified. On annual ranges with no perennials, what is the purpose of leaving minimum levels of residual growth? No matter how ephemeral range is grazed, enough seed always remains to germinate in the next grazing season.*

   **Response:** Ephemeral rangeland is defined in the glossary of the draft EIS on page GL-8. Ephemeral rangelands do not consistently produce enough perennial forage to sustain a long-term livestock operation, but may briefly produce unusually large volumes of forage to accommodate livestock grazing. The purpose of leaving "minimum levels of residual growth" on annual ranges with no perennial plants is to protect the soil surface and the watershed from accelerated erosion and to provide food and habitat for wildlife.

4. *Comment: Pinyon-juniper stands will not improve unless they are chained, burned, or reseeded. This was recognized in the description of the environment but not in the analysis. The resulting grass stands stay erosion, hold moisture better, and significantly improve forage for livestock. Sagebrush should be controlled with techniques such as burning, plowing, or herbicide applications. Grass and forbs have too much competition in most areas.*

   **Response:** Because Rangeland Reform '94 is a broad national program, the analysis for the Proposed Action could estimate what, if any, change in the level of land treatments would occur. Page 2-9 of the draft EIS briefly discusses the role of range improvements in achieving healthy ecosystems. The health and seral status of pinyon-juniper would not change without a reduction in the tree canopy, either through fire, mechanical treatment, or tree cutting. Pinyon-juniper chaining continues to be one tool for land managers to use. Rangeland Reform '94 does not restrict any management tools.

5. *Comment: The discussion of desert shrub communities combines the hot deserts with cold deserts, i.e. Mojave, Sonoran, and Chihuahuan deserts. This discussion is too general.*

   **Response:** We disagree. The analysis in the draft EIS did not require the level of detail suggested. As regional standards and guidelines are developed, these differences would be addressed more fully.

6. *Comment: The statement on page 3-15 of the draft EIS that "number of species native to sagebrush communities has declined" is in error.*

   **Response:** Your comment is correct. The text has been changed to replace "number" with "relative composition."

7. *Comment: The conclusion under "No Grazing" that annual grassland response would depend on how "well wildlife and fire would replicate the*

*role of livestock" is incorrect. Livestock have no natural role in arid western ecosystems.*

**Response:** The annual grasslands of California have been annual grasslands since overgrazing in the early Spanish settlement. Modern management of grazing has been designed to prevent increases of undesirable annuals such as ripgut brome and wild oats (page 3-41 draft EIS) while encouraging spring maturing forbs and summer annuals. Without livestock grazing, undesirable species may increase in some areas to the detriment of wildlife and other uses. This relationship of livestock grazing to the desired plant community was the basis for the conclusion referred to in the comment.

## Ecosystem Management

1. ***Comment:*** *Chaining, lethal forms of predator control, and blocking wildlife access to forage or water should be eliminated because these actions are all inconsistent with ecosystem management. Pesticide use should be allowed only when it has been shown to contribute to improved biodiversity and to ecosystem functioning.*

   **Response:** Predator control is not within the scope of this EIS. Activities such as chaining are covered in the Final Environmental Impact Statement *Vegetation Treatment on BLM Lands in Thirteen Western States* (BLM, 1991a). Both the Forest Service and BLM have policies that promote wildlife access to forage and water.

2. ***Comment:*** *The primary goal of Rangeland Reform '94 should be maintaining, protecting, and restoring native biodiversity. Commodity uses should only be allowed to the extent they do not compromise biodiversity. Ecosystem diversity and integrity should be sustained. Management actions should maintain ecosystems that support plants and wildlife to their maximum benefit and that are also good for recreationists. Sustainable ecosystems are compatible with Holistic Resource Management. We want a biosphere at optimum health for humanity. We cannot limit our efforts to simply maintaining on the landscape museum specimens of all species. Each species must be extensive enough to perform its role to the fullest in its respective ecosystem.*

   **Response:** The purpose of Rangeland Reform '94 includes improving ecological conditions and providing for sustainable uses. Sustainability is a cornerstone of Rangeland Reform '94 and can be compatible with the concept of holistic resource management (HRM). Both BLM and the Forest Service agree that this purpose is consistent with maintenance, protection, and restoration of native biodiversity. Current Forest Service policies and proposed BLM standards and guidelines lead toward achieving these values.

3. ***Comment:*** *The effectiveness of using fire as a management tool should be determined, and this approach should have been given more consideration in the draft EIS.*

   **Response:** Although fire is often mentioned in the EIS, fire management is outside the scope of the Rangeland Reform '94 EIS. Treatments such as prescribed or controlled fire are covered in the Final Environmental Impact Statement *Vegetation Treatment on BLM Lands in Thirteen Western States* (BLM 1991a). BLM and the Forest Service intend to continue using proper tools in managing rangelands.

4. ***Comment:*** *How do administrative inconsistencies impede ecosystem management?*

   **Response:** Administrative inconsistencies may impede ecosystem management when two agencies with neighboring lands cannot collaborate on objectives or actions as an effective unit because rules or regulations differ significantly. In addition, administrative inconsistencies create confusion and introduce uncertainties for rangeland users that use federal lands administered by different agencies.

5. ***Comment:*** *The agencies should withdraw large areas of representative ecosystems from livestock grazing so that the ecology of such areas can be better understood.*

   **Response:** Rangeland Reform '94 does not preclude setting aside representative areas from various uses. Such land and resource uses are allocated in resource management plans or forest management plans. Both the BLM and the Forest

Service have set aside natural areas, research natural areas, areas of critical environmental concern, congressionally designated Wilderness areas, and primitive areas that meet such needs. However, if livestock grazing is compatible with such designations, it is allowed.

6. ***Comment:*** *The number of livestock grazing on the public land should be reduced in all areas, and priority should be given for native plants and wildlife to become reestablished and to occupy better habitat.*

   **Response:** A nation-wide reduction of livestock numbers would be arbitrary without a rational basis. Proposed standards and guidelines are aimed at the establishment of a satisfactory direction toward maintenance and restoration of range conditions necessary to support native species. Together with ecosystem management objectives, and management actions in site-specific plans, the standards and guidelines provide for native plants and wildlife.

7. ***Comment:*** *Public land should be managed for natural plant communities rather than desired plant communities. An area's ecology should not be forced in a direction that does not occur naturally for the sake of a vested interest.*

   **Response:** The BLM concept of desired plant communities relates to the capability of an ecological site to produce a real, documented plant community. Desired plant communities would be determined via the use of interdisciplinary teams. This is an important mechanism to protect against any particular "vested interest" making the sole determination of what the desired plant community should be. Desired plant communities would be determined subject to the direction and constraints of the appropriate land use plans. See the definition for "Desired Plant Community" in the draft EIS Glossary.

8. ***Comment:*** *A major ecosystem such as a river basin consists of many smaller ecosystems, each with its own combination of soil types, slope, and climate. Under Current Management we can continue to enhance ecosystems one locality at a time.*

   **Response:** We agree that many systems make up the whole ecosystem. Under Rangeland Reform '94 ecosystems would be easier to improve than under Current Management. Rangeland Reform '94 includes coordinated management at many different levels, not the least of which is the allotment level.

9. ***Comment:*** *An ecosystem management act would achieve the following objectives: improve soil, water, and vegetation of public rangeland ecosystems by transferring public land management to the Soil Conservation Service and using their existing resources and management tools.*

   **Response:** The passage of an ecosystem management act is beyond the scope of this EIS.

10. ***Comment:*** *Instead of conducting one-point-in-time inventories and analyses, the agencies should develop an ecological succession data base and monitoring system at the district level to allow them to manage for ecological change.*

    **Response:** Rangeland monitoring includes tracking ecological condition and trend over time. Such data is localized and works in concert with rangeland inventories, such as ecological site inventories and upland or riparian assessments of functional status. Both agencies' management tools provide information necessary to manage for ecological change.

11. ***Comment:*** *How would the ecoregions be determined (physiographic regions, vegetation zones, etc.)? Would the BLM ecoregions be compatible with those of the Forest Service and other agencies? The final EIS should include a mechanism for agency coordination.*

    **Response:** Physiographic regions were determined for this EIS through coordination between BLM and the Forest Service. The regions were determined for purposes of analysis only. In order to implement BLM standards and guidelines under Rangeland Reform '94, ecoregions would be determined through coordination with interested parties.

12. ***Comment:*** *The draft EIS (page 3-14) states that "A disclimax community may diminish the bio-*

*logical diversity of a landscape." This statement reveals a lack of knowledge of what contributes to biodiversity at the landscape level. A mosaic of communities, including some "disclimax" communities would give the highest landscape diversity. A mosaic of communities representing a wide range of seral conditions provides the highest landscape diversity. Credible ecologists say that the highest species biodiversity is somewhere near mid-seral conditions, which for range condition means in the fair/good range. F.E. Clements in 1905 wrote the following about species diversity in relation to plant succession: "The number of species is small in the initial stages, it attains a maximum in the intermediate stages; and again decreases in the ultimate formation, on account of the dominance of a few species." His "initial stages" would be early seral or "poor" condition. His "intermediate stages" would be ranges in "fair" and "good" condition. And his "ultimate formation" would be the "climax" or "excellent" range condition. Most ecologists still subscribe to Clements' ideas on this. This misinformation on the effects of grazing on biodiversity shows that the draft EIS does not meet NEPA procedural requirements.*

**Response:** The disagreement with the draft EIS analysis is largely over a matter of scale. At the large landscape scale described, landscape diversity would be highest with the widest array of communities in a mosaic. The highest biodiversity, however, does not necessarily occur in such a case. Too much edge habitat or too many nonnative monocultures or patches of insufficient size have been found to result in reduced biological diversity. A diversity of ecological status or seral stages in some arrangement over a very large area is needed. If all sites were in a climax state, certain flora and fauna dependent on other seral stages would be lost.

The statement referenced from the draft EIS in the above comment is factual (page 3-14). Cheatgrass is an excellent example of a disclimax community where the biological diversity of the landscape is diminished.

13. ***Comment:** Generally speaking, the environmental groups strongly support the mission of Rangeland Reform '94 to improve and restore rangeland ecosystems and productivity. One goal of ecosystem management should be to encourage heterogeneous landscapes consisting of diverse mosaics of plant and animal communities that foster the ecological structure and function that sustains productive and resilient systems. Achieving this goal would require increased efforts to sustain and improve habitats and populations of threatened and endangered wildlife and plant species. It is critical that grazing reform be undertaken before more species are listed as threatened or endangered; once species are listed, management flexibility is reduced considerably.*

**Response:** Both BLM and the Forest Service desire to conduct land use planning in collaboration with other agencies and groups across jurisdictional boundaries on large landscape scales. Achieving this goal would be long term. BLM standards and guidelines would include requirements to establish satisfactory direction to "Restore, maintain, and enhance habitats of Federal Proposed, Category 1 and 2 Federal candidate, and other special status species to promote their conservation."

14. ***Comment:** Private inholdings, including base property, would be sold off because of Rangeland Reform '94. The developing of private lands would cause a loss of open space, degrading of the environment, and lowering of red meat production. Deeded lands and water would be fenced separately from the public land. The pressure of expanding urban areas onto surrounding rangelands, public and private, needs more attention. Would the moderate increase in the condition of the public lands be enough to compensate for the massive complete destruction of wildlife habitat, riparian areas, and vegetation growth associated with housing tracts?*

**Response:** The West is already experiencing a trend toward sales of private inholdings in developing areas where market pressures are great. But that analysis is beyond the scope of this EIS. The Proposed Action would not significantly affect the sale of ranches (pages 4-54 to 4- 56, page 4-62). Therefore, the Preferred Alternative would not cause a significant loss of open space or degradation of the environment.

15. ***Comment:*** *The following statement about special status species on page 3-49 of the draft EIS is false: "As native plants die, they are usually replaced by exotic plants; inherently decreasing forage, watershed protection, and wildlife habitats." Native plants that die may be replaced by exotic plants, but they may not be. Exotic plants are not inherently less valuable for forage, watershed protection, or wildlife habitats. There is simply no basis for this statement at all.*

    **Response:** This statement was corrected. See Chapter 5 of the final EIS for changes to page 3-49 of the draft EIS.

16. ***Comment:*** *Grazing and grazing disturbance are needed parts of many ecosystems, and their loss can harm biodiversity and lower productivity. Do they not dramatically improve ecosystem health as stated in the draft EIS? Grazing is a part of functional ecosystems, not simply something that man "does" to the system. The absence of grazing is unnatural. The ecosystem management approach creates a preference for nongrazing on historic rangeland rather than a more balanced approach. The assumption that livestock grazing emulates grazing behavior and use by native species is false. Many of the lands west of the Rockies should never have been grazed by livestock.*

    **Response:** In ecosystems that developed with large ungulates, livestock grazing can simulate some natural processes. Livestock grazing, however, does not often mimic natural ungulate use patterns of moving, herding, and naturally leaving an area once it has been heavily impacted. National standards and guidelines that halt yearlong grazing on the same piece of ground would help mimic natural ungulate activities. The benefits of grazing and grazing disturbance in some ecosystems are discussed in several places in the draft EIS, particularly under the impacts of No Grazing. The benefit of large ungulate impact in certain cases is discussed on pages 3-22, 4-109, 4-110, 4-112, and 4-113. In ecosystems that developed without large ungulates, livestock grazing does not replace a natural process.

17. ***Comment:*** *The draft EIS intentionally overstates the adverse impact of grazing on special status species to justify its purpose. Page 27 of the Executive Summary states that "Many species... and raptors have been greatly affected." The largest concentration of nesting raptors in the United States is in the Snake River Birds of Prey Conservation Area; an area dominated by annual grasslands caused by overgrazing during settlement times and continuously ravaged by fire ever since.*

    **Response:** The text from the draft EIS cited in the comment refers to riparian decline and species that depend on riparian areas. The cited text does not apply to most raptors in the Snake River Birds of Prey Conservation Area. Raptors in this area are mainly upland species that nest in the cliffs of the gorge.

18. ***Comment:*** *The terms "ecosystem" and "ecosystem management" are poorly defined in the draft EIS. Any definitions should include human activity, both historic and social, as well as the culture that has developed around grazing cattle. If both BLM and the Forest Service do not know what ecosystem management is or how to achieve it, they cannot regulate ecosystems. The term "preservation" falsely identifies managing for static, unchanging systems. This is an antiquated concept because modern ecological theory recognizes the dynamic qualities of these natural systems. The draft EIS frequently states that continued livestock grazing is causing ecological damage, but the data does not support this sweeping statement. The agencies already have ample authority to address biological diversity and ecosystem management issues. Biodiversity is an ambiguous term that envisions a new, unproven, subjective way to micromanage resources. The simplistic notion that removing cattle from the land would return the ecosystem to its condition before European settlement ignores interim climate changes, the effect of nearby cities, the impact of recreationists, and the balanced interdependence of the current ecosystem. The best way to preserve the ecosystem is to preserve the rancher and his cattle because the rancher's self-interest in the regeneration and improved health of the renewable grass resource motivates good stewardship. Ecosystem*

*management must be site specific and consistent with the spirit of the Taylor Grazing Act. The section on national requirements and standards and guidelines to manage rangelands in a manner that would achieve or maintain ecological health is contradictory to the Taylor Grazing Act and thus violates the intent of Congress.*

**Response:** A dictionary definition of ecosystem is "the complex of a community and its environment functioning as an ecological unit in nature." The Department of the Interior defines ecosystem as "an interconnected community of living things, including humans, and the physical environment with which they react". These definitions have been incorporated into the changes in the final EIS. Ecosystem management is also defined by both agencies in the final EIS. The problem with attempting to conform ecosystems to precise definitions or lines on a map is that ecosystems occur at multiple geographic scales that change and evolve in response to both human influence and natural events. The only ecosystem boundaries are those that we choose or can recognize.

BLM and the Forest Service recognize ecosystems are dynamic entities with dynamic processes. Preservation, in an ecological sense, can be the act of retaining systems and their processes within certain variable bounds, recognizing natural changes within those bounds. Our intent is to manage rangelands so that those ecosystems and their processes can be sustainable over time. Our intent is not to regulate ecosystems, but to regulate resource uses so that rangelands are properly functioning (healthy) and their ecological process are sustainable. Similarly, Rangeland Reform '94 does not intend to return ecosystems to conditions as they were before European settlement. Biodiversity or biological diversity is defined in the Glossary of the final EIS. Biodiversity is a result of management and not a management technique.

19. ***Comment:*** *Current Forest Service inventory procedures do not produce statistically reliable estimates of the proportion of rangelands in each ecological status class. Different methods are used to measure ecological status in different Forest Service regions. In addition, the ecological status data are collected as part of ongoing Forest Service management activities rather than as part of a representative sampling program. The differences in methods used and the absence of a statistically reliable sampling design do not allow confident compilation of Forest Service ecological status data at the national level.*

**Response:** This comment is correct in that the Forest Service does not compile ecological status data at the national level because this data does not exist for all National Forest System lands. We agree that it would be desirable to collect statistically valid ecological status information on all National Forest System lands. Ecological site descriptions do not exist for all ecological types. The Forest Service does not presently have the resources available to develop ecological site descriptions for all ecological types or to inventory all National Forest System lands for ecological type and status. The Forest Service does compile data nationally on the status of rangelands relative to forest plan objectives. Forest plan rangeland objectives are typically expressed as ecological status or management status of vegetation and desired soil qualities.

20. ***Comment:*** *To our knowledge, neither the BLM or the Forest Service have tested a no grazing alternative on an ecosystem level to determine the environmental consequences. If this has been done the results should be disclosed to the public. Native herbivores of all shapes and sizes would still be present, and would likely increase in populations in the absence of competition from livestock (as stated in the section on impacts to wildlife, page 2-48). Therefore, the ecosystem would continue to "evolve" with herbivore. The draft EIS conclusion is pure range management dogma, i.e., it epitomizes the narrow view that livestock "improve" vegetation and ecosystems.*

**Response:** Projections in the No Grazing Alternative are based on professional judgements of interdisciplinary teams using knowledge of research conducted in many areas throughout the West. In certain cases, livestock may be used to achieve certain habitat characteristics. Comparing alternative discussions in Chapter 4, one can see a difference in predictions with and without

grazing, and that environmental health would vary by vegetation type and grazing history.

## Special Status Species

1. *Comment: According to materials published by the Wilderness Society and the Environmental Defense Fund, 13 percent of the animals and 25 percent of the plants on the Endangered Species List are listed because of grazing. This situation places a double burden on taxpayers. Between 1982 and 1993, the number of threatened and endangered plants and animals on lands administered by BLM has tripled. On the basis of first-hand observation and monitoring of grazing in the western Mojave Desert over the past 20 years, livestock grazing has contributed to the decline of the Mojave population of the desert tortoise.*

   **Response:** When species are listed as threatened or endangered by the Fish and Wildlife Service or the National Marine Fisheries Service, reasons for listing are described in the final rule. Rarely does a single source cause a listing. In the cases described by the Wilderness Society and Environmental Defense Fund, certain aspects of livestock grazing were most often included as a contributing factor along with other factors. A backlog of species that may warrant listing exists due to workload and other factors. Listings have increased recently because of increased petitions and settlement of lawsuits regarding the listing of species. Impacts of certain livestock grazing practices have been implicated along with other factors in the decline of the Mojave population of the desert tortoise.

2. *Comment: We strongly disagree with the draft EIS's conclusion that livestock grazing has led to the decline of many sensitive species on public rangelands (microhabitats, edge of historic range, etc.). NEPA should address this issue at the allotment level. The decline of sensitive species results from many causes other than livestock. What evidence exists that livestock grazing is detrimental to any or all threatened and endangered species or that changes in livestock grazing would reverse the downward trends?*

   **Response:** When species are listed as threatened or endangered, the reasons for listing, such as threats, are published in the final rule in the *Federal Register*. Background documentation on the threats is included for each species in each final rule. As Rangeland Reform '94 is applied to the regional and then allotment level, more NEPA analysis may be required. Livestock grazing practices affect each ecosystem and each species differently. The scientific literature is replete with evidence that certain livestock grazing practices, such as heavy year-long grazing in riparian areas, harm many species. Given that changes in livestock grazing can change plant community composition and structure, reason and experience reveal that changes in livestock grazing can be one factor in reversing the downward trends in some species depending on that composition or structure. A variety of factors or threats affect the status of many species. Livestock grazing is but one, and grazing changes must be part of a suite of changes to bring about recovery.

3. *Comment: Some threatened and endangered species require degraded rangeland for their habitat. Is overgrazing acceptable in an approved recovery plan? The rancher may be punished for not providing threatened and endangered species habitat (poor condition range in this instance) and/or punished for not maintaining the uplands in proper functioning condition. The fallback standards and guidelines would conflict with the Endangered Species Act where a threatened or endangered plant (meadow pussytoes in this example) requires an overgrazed riparian habitat.*

   **Response:** A recovery plan describes objectives and actions that should result in threatened or endangered species recovery. Agencies like BLM or the Forest Service can use information in recovery plans to set desired plant communities or vegetation conditions needed for a particular species. Such conditions could then be applied at the allotment level, and treatments could be prescribed through plans, permit terms, or other means to achieve the desired conditions. Permittees cooperating on the plan or complying with the terms of a permit would not be punished for not maintaining the uplands in a differ-

ent condition. Both BLM and the Forest Service believe that many livestock grazing practices can be compatible with and can be a valid management tool for improving federal rangelands. Additionally, standards and guidelines call for management practices that restore, maintain, and enhance habitats for threatened and endangered species. In this way, BLM rangeland actions would be compatible with the Endangered Species Act.

4. *Comment: The Preferred Alternative in the final EIS should include the special status species discussion that is part of the Environmental Enhancement alternative in the draft EIS. Designated habitat for threatened and endangered species should not be grazed by livestock.*

   **Response:** Through the Section 7 process under the Endangered Species Act, an agency whose actions may affect a listed species or destroy or adversely modify its critical habitat would have to consult with the Fish and Wildlife Service or the National Marine Fisheries Service. Through such consultation, BLM would likely propose actions that would promote recovery. If eliminating livestock grazing is the only action that could achieve a recovery objective for a species, then that action may be proposed. Eliminating livestock grazing just because a critical habitat is designated in the area is not warranted in the absence of impacts to the species or its critical habitat.

5. *Comment: The fallback standards and guidelines place threatened and endangered species ahead of all other habitat requirements.*

   **Response:** Listed species can be indicators of ecosystem health. The agencies work toward achieving the goal of ensuring proper habitat for all species by ensuring that the ones under the greatest threat are the ones that get immediate attention. Because of the national legal mandate of the Endangered Species Act, standards are described to ensure threatened and endangered species are conserved. Habitats for other species do not have such a national mandate.

6. *Comment: The draft EIS gives no indication that the Proposed Action would result in a change of direction, just a slowing of the degradation.*

   **Response:** The Proposed Action raises the rangeland management emphasis on threatened and endangered species habitats and incorporates standards and guidelines that when developed and applied at the local level would result in habitat improvements for many species. See the Vegetation Section, pages 4-41 to 4-48, Figures 4-7 through 4-10, and 4-51 to 4-53 in the draft EIS. Analysis of the Proposed Action in these sections does not describe a slowing of degradation, but long-term improvement.

7. *Comment: Critical habitat has only been designated for a fraction of the threatened and endangered candidate species listed in the draft EIS. Critical habitat is supposed to be designated by the Secretary of the Interior when the species is listed. BLM should use the opportunity provided by the standards and guidelines to designate critical habitat.*

   **Response:** The Secretaries of the Departments of the Interior and Commerce are authorized to designate critical habitat under the Endangered Species Act. BLM has not been delegated the authority to designate critical habitat. That duty resides with the U.S. Fish and Wildlife Service within the Department of the Interior and with the National Marine Fisheries Service within the Commerce Department. The Fish and Wildlife Service and the National Marine Fisheries Service may determine that designating critical habitat is not prudent or that insufficient data exist at this time to make a designation. See Special Status Species, Response 14.

8. *Comment: Stronger wording needs to be used in place of "to the extent practicable" in situations where habitat for listed species needs to be maintained, restored, and enhanced.*

   **Response:** The comment refers to page 2-12 of the draft EIS on fallback guideline number 1. This phrase has been deleted from the Preferred Alternative. The focus of the Preferred Alternative would provide national requirements and guiding principles that would establish a satisfac-

tory direction to maintain, restore and enhance habitat for listed species.

9. ***Comment:*** *Many times protection of a species is used as a tool to eliminate livestock grazing. The endangered species issue is a tool being used in the West to remove cattle as well as hunting and recreation from the public land.*

   **Response:** Specific guidance governs the tools that the U.S. Fish and Wildlife Service and National Marine Fisheries Service must use to protect species via listing as threatened or endangered. Species are listed as threatened or endangered because one or more of five listing factors mandated by Congress in the Endangered Species Act have been met such that the species are threatened with endangerment or are in danger of extinction. The factors include (1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) over utilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; or (5) other natural or man-made factors affecting a species' existence. We know of no cases where the presence of endangered species has directly caused removal of cattle, hunting, or recreation from public land without a clear linking rationale.

10. ***Comment:*** *The "change in rangeland vegetation communities since the settlement period" has not been the only reason for the decline of species on rangeland. Enhancement of rangeland ecosystems would not solve all of the issues of species decline as implied on page 22 of the Executive Summary, Wildlife and Special Status Species.*

    **Response:** We agree with this statement. Many factors help explain why species are listed as threatened or endangered, such as the following: (1) the present or threatened destruction, modification, or curtailment of habitat or range; (2) over utilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; or (4) inadequacy of existing regulatory mechanisms. Usually several factors contribute to the need to list a particular species, such as predation, water diversion, habitat fragmentation from urban development, and introduction of exotic competing species.

11. ***Comment:*** *Cooperation with the Fish and Wildlife Service should be improved in actions that reduce grazing to prevent grazing from having to be eliminated because of the Endangered Species Act.*

    **Response:** BLM, the Fish and Wildlife Service, and the Forest Service worked on Rangeland Reform '94 from the beginning thus ensuring close coordination. A Memorandum of Understanding between Department of the Interior agencies and the U.S. Forest Service was signed in January 1994. This memorandum commits the agencies to work together on activities that could remove threats to candidate species before there is a need for federal listing as threatened or endangered. The White House has begun an Endangered Species Act working group charged with improving interagency coordination through several means. Additionally, BLM and the Fish and Wildlife Service coordinate directly or through NEPA and/or Endangered Species Act reviews of proposed actions at programmatic and ground levels, thus providing more opportunities for cooperation.

12. ***Comment:*** *Declines in anadromous fisheries can be almost exclusively attributed to water developments and diversions. Efforts by the large power consumers on the Columbia River system to identify livestock grazing as the cause are flatly contradicted by data correlating the salmon decline to new dams. The same is true on other rivers.*

    **Response:** Interdisciplinary teams of federal, industry, and academic specialists have evaluated a full array of conflicts with anadromous fisheries in the Pacific Northwest, including the Columbia Basin. While water levels and diversions are clearly major contributors to the salmonid's decline, other factors include impacts to small-order streams above large diversions and impoundments. These impacts include siltation of spawning gravels, higher water temperatures, declines in base flows, and lowered diversity of instream habitat structure, all of which can be attributed to improper livestock grazing management in certain areas.

13. ***Comment:*** *As commodity users, ranchers are the only people held liable for the recovery of threatened and endangered species without any type of incentive being given for recovery. Recovery of threatened and endangered species is a broad sweeping requirement that should be reworded to reflect that grazing would not further endanger the existence of any threatened and species now present. Additional commenters felt that the BLM standards and guidelines should require that management practices ensure the recovery of every special status species listed in the draft EIS.*

**Response:** Ranchers would benefit by the good stewardship requirements under the grant policy. Habitat recovery can improve a species' status, rangeland health and productivity, as well as potentially increasing red meat production. Increasing management flexibility would be likely in the long term. Improved rangeland health and productivity are likely to improve ranch value.

When consulting with the Fish and Wildlife Service, both BLM and the Forest Service propose actions and receive biological opinions that also consider species recovery. The results of such biological opinions are incorporated into the terms of permits. In this way other commodity users are also held accountable.

There is no intention of solely issuing permits on the basis of recovery. Livestock grazing is an activity authorized on public land by permit. Standards and guidelines would apply some terms to all grazing permits. The standards and guidelines would conform to the law. The Standards and Guidelines section in the Preferred Alternative have been changed in the final EIS to respond to many other comments and clarify this issue.

The Endangered Species Act has several parts. The requirement that actions must be "...not likely to jeopardize the continued existence of any endangered species or threatened species..." is in Section 7 (a)(2). Recovery activities are covered under Section 7(a)(1), which states, "The Secretary shall review other programs administered by him and utilize such programs in furtherance of the purposes of this Act." This section includes recovery. Both BLM and the Forest Service are moving toward the recovery requirement in administering their many programs, including rangeland management.

14. ***Comment:*** *There is no mention in the draft EIS of consultation with the U.S. Fish and Wildlife Service on the effects of this proposed action to federally listed species. Section 7 of the Endangered Species act requires consultation on all agency actions which may affect the continued existence of a listed species.*

**Response:** Impacts to Special Status Species are discussed in chapter 4 of the draft EIS for each alternative under the headings "Special Status Species" and "Resident and Anadromous Fish." Threatened and Endangered species are included in that discussion. Additionally, a biological assessment has been prepared and the biological opinions of both the National Marine Fisheries Service and Fish and Wildlife Service are included in the final EIS, Appendix T.

15. ***Comment:*** *Table 2-9 of the draft EIS shows that the Proposed Action will not lead to the doubling of salmon and steelhead which is a Northwest Power Planning Council (NPPC) goal. The Environmental Enhancement Alternative is the only "action" alternative that may allow the accomplishment of the NPPC goal, because it would double the riparian recovery rate in the long term.*

**Response:** The tables and figures relating to the above are estimates for rangelands across the nation, and do not attempt to portray regionally-specific changes or consequences resulting from a particular alternative. The Preferred Alternative does not preclude development of management actions responsive to goals.

## Wildlife/Wild Horses and Burros

1. ***Comment:*** *If the grazing on public land is reduced or eliminated, ranchers would move their displaced livestock to private land. This action in turn would displace more wildlife.*

**Response:** The Preferred Alternative could result in some localized reductions or exclusions of livestock from nonfunctioning rangelands and riparian areas until a functional condition could be reestablished. But more likely changes might be seen in season of use or methods of grazing management with livestock continuing to graze public lands. Where livestock would be excluded, particularly from nonfunctioning riparian areas, this action in the long term is expected to benefit both livestock and wildlife generally with improved range conditions.

2. ***Comment:*** *Wildlife habitat needs should be subordinate to livestock grazing on any suitable grazing rangelands. Overgrazing by wildlife must be recognized. The damage done to riparian areas and overall ecosystems by great numbers of wildlife in the western states should be addressed in the final EIS. The final EIS needs to clarify the relationship between wildlife utilization, livestock stocking rates, and the authority of the authorized officer to make stocking rate reductions on the basis of wildlife utilization. Wildlife grazing should not be given priority over livestock grazing with respect to forage utilization. Wildlife should share grazing reductions needed to protect the resource. If not, the incentive for ranchers to improve conditions for wildlife would be lessened. Historic use by livestock must be satisfied before wildlife has any grazing preference. On Forest Service System land, big game numbers are increasing, largely because of ranchers building thousands of watering sites. Wildlife grazing preferences complement livestock grazing preferences. Cattle like grass, and sheep and deer prefer forbs and shrubs. Public lands should be a wildlife sanctuary. Wildlife populations should be first priority ahead of grazing permits. Rules should provide for adequate residual cover for ground-nesting birds and waterfowl. Livestock grazing should be limited on wildlife winter ranges, fawning and calving grounds, and riparian areas. Domestic sheep grazing should be prohibited on bighorn sheep range because of diseases.*

   **Response:** The Federal Land Policy and Management Act (FLPMA) provides for multiple uses and does not identify dominate uses on public lands. With the exception of the No Graze Alternative, the other management alternatives in the draft EIS recognize domestic livestock grazing as a legitimate use of the public lands. In localized instances, wildlife populations do overgraze their range. In Arizona, elk inhabiting national forests compete with livestock for limited forage. In some cases, elk populations may need to be adjusted to improve range condition. In other areas, livestock may be causing the main damage, and their numbers may need to be reduced. In still other areas, livestock and wildlife do not compete for the same forage. For example, livestock consume grass, while deer consume forbs and shrubs. Each situation of this type needs to be evaluated on a case-by-case basis so the federal manager can make management decisions that would result in improved rangeland function. Management of wildlife populations is the responsibility of state wildlife management agencies, but BLM and the Forest Service work with each state to keep big game populations healthy and within reasonable limits that can be supported by the habitat managed by the federal agencies.

3. ***Comment:*** *The ranchers provide water, salt, grass, and predator control for wildlife. If the ranchers disappear, so would the wildlife. The No Grazing alternative or ranch bankruptcies or noncompetitive returns on investments would reduce the number of watering facilities for wildlife because these facilities would no longer be maintained by the permittees. What effect would this have on wildlife? Ranchers have added value to the public land, improved range condition, and greatly improved the natural habitat for a more favorable environment for wildlife. Ranching management improves the land for wildlife. Note the increase in big game numbers since the 1960s. Livestock water development has favored water-dependent species. Many wildlife species that don't require water tend to increase on grazed areas because they are favored by mid-seral conditions. It is doubtful that more than one or two species could be named that might be harmed by water development. This approach is an attempt to counter proven benefits to wildlife of livestock water developed in the uplands. This type of speculation without any data (page 4-27) does not belong in the draft EIS. The draft EIS does not*

*name any upland species said to be threatened by upland water development. Given the concern over the effects of water developments on the abundance of wildlife species that do not require surface water, wouldn't it be a good idea to turn the water off when livestock are not using it to avoid the establishment of "water dependent" wildlife species?*

**Response:** Water developments, predator control, salting, seedings, and other projects designed to benefit livestock do not always benefit all wildlife. As multiple use agencies, both the Forest Service and the BLM must manage habitats to benefit all wildlife species in the ecosystem, not just those that benefit from livestock grazing improvements. For example, wildlife in a desert have largely evolved without access to surface water. Developing water in such an area may benefit a few wildlife species, allowing them to move into the immediate area of the water, an action largely supported by big game hunters. But as water-dependant species move into an area, they displace many species that evolved in the area but have no water dependence. Water-dependent species moving into just a few areas may not be significant, but as more and more waters are developed for livestock, the cumulative impact on wildlife not depending on surface water may become significant. An objective of Rangeland Reform '94 is to recognize, restore, and maintain natural ecosystem function. Displacing certain wildlife species does not promote this objective. The effect of livestock-related developments on specific wildlife species depends on the type of development, its location, and the species that have evolved naturally in the area. The effectiveness of turning the livestock water off to lessen the opportunities for establishment of water-dependent species would depend largely on the season the livestock were using the water.

4. ***Comment:*** *Livestock numbers should be reduced, and ranchers should be compensated by paying them via the grazing fee receipts to grow, manage, and feed migrating wildlife, mainly deer and elk, during winter. This approach would give ranchers a source of income and would be environmentally responsible. Additionally, grazing fee receipts can be used to fund wildlife habitat improvement projects. Ranchers do not charge the government for wildlife that graze on private land. Perhaps they should. Who pays for feeding elk on private property?*

   **Response:** Neither BLM nor the Forest Service has the authority to compensate ranchers to provide feed for wildlife, and this issue is beyond the scope of this document and Rangeland Reform. Managing wildlife populations is the responsibility of state wildlife management agencies. Currently and under Rangeland Reform '94 wildlife habitat improvement projects would be developed with grazing fee receipts.

5. ***Comment:*** *Under the No Grazing alternative who would maintain the water projects, and at what cost? This issue needs more analysis.*

   **Response:** If this alternative were implemented, the agencies would maintain water projects that would be deemed important for wildlife or other values.

6. ***Comment:*** *The impacts of range improvement construction and road building on wildlife should be considered.*

   **Response:** The National Environmental Policy Act (NEPA) requires that the significant impacts to any resource resulting from a major federal action (including range improvements and road building) would be assessed before construction or implementation. These NEPA documents are completed at the local field office level of both BLM and the Forest Service.

7. ***Comment:*** *The report entitled "Grazing to Extinction" shows that decreases in wildlife between 1982-1993 are due to livestock grazing. This decline has more than one cause: drought, severe winters, lack of predator control, reduced habitat because of development of private lands, etc.*

   **Response:** There are many factors in addition to improper livestock grazing management that have resulted in the decline of certain wildlife species in the West. Livestock grazing on public lands has had widespread effects on wildlife habitat overall. As a case in point, the decline in

riparian habitat quality and quantity compared to historic levels resulting largely from livestock grazing, has resulted in the listing of many species dependant on functioning riparian communities. As an additional note, the lack of predator control is not considered over all to be a detriment to wildlife. Predator control is a human action usually undertaken to protect livestock and personal property. As a result of this human activity, populations of certain species of wildlife have increased. Some of these population increases have benefitted man (big game) while others have caused additional problems (i.e. rodent infestations, elk and deer competing for livestock forage, etc.). The effects of drought serve as an example of a situation that has been magnified by improper livestock grazing management. Here again the deteriorated condition of riparian resources can serve as a prime example. If all riparian resources across the west were in proper functioning condition, water tables would remain high and perennial or late season flows would be maintained, even during droughts, minimizing dry season impacts. The water storage capability of a functioning watershed is enormous, and the loss of this capability is most significant to wildlife, livestock, and people.

8. ***Comment:*** *No fences that can impede pronghorn antelope movement should be allowed. Reintroducing the buffalo east of the Rocky Mountain front should be considered. The EIS should consider the impact of grazing on ground-nesting birds and other animals.*

   **Response:** Standard fence designs have been developed to allow the movement of specific wildlife species. Based on extensive research and the needs of individual species, these designs are routinely used today. In the case of pronghorn antelope, which prefer to pass under fences rather than jumping over them, fence design includes a smooth bottom wire elevated to allow passage. Reintroducing bison east of the Rocky Mountains or any native species to habitats in which they evolved is a distinct possibility that would be evaluated during site-specific implementation planning. The impact of grazing on ground-nesting birds was discussed in the Chapters 3 and 4 of the draft EIS.

9. ***Comment:*** *Over the past quarter century wildlife numbers on public land have dramatically increased, largely due to the presence of livestock grazing (USDI-BLM, Director's Bulletin No. 89-03, 1989). The use of properly prescribed livestock grazing to manipulate vegetation to benefit wildlife is well documented. Elk, deer, and bighorn sheep have increased by 100 to 800 percent in Colorado. These increases are not the result of declining public land habitat. Rangeland Reform '94 attempts to fix something that is not broken. Wildlife numbers increase due to improvements made by ranchers. Livestock grazing can also be used to alter plant growth forms to benefit wildlife, such as hedging bitterbrush to keep it within reach of mule deer.*

   **Response:** Proper grazing management and the rangeland improvements built to improve livestock distribution or protect private property have benefitted certain species of wildlife (deer, elk, pronghorn). For that matter, virtually any human use of rangeland resources would benefit some wildlife species. But this is not necessarily the case for wildlife in general. Many wildlife species have been harmed by improper grazing management, a fact supported by extensive research and by the growing number of species being listed as threatened or endangered in the West. The agencies must carefully ensure that resource use would be managed to protect rangeland health and function of natural systems, not just a few animal species.

10. ***Comment:*** *The statement "General vegetation changes would favor species associated with upper seral stages" contradicts the assumption of downward trend (page 4-25). You can't have "upper seral stages" with a downward trend in condition. Mule deer are mid-seral species virtually everywhere, and elk mostly prefer mid-seral areas. The 1990 BLM publication on Range Condition and Big Game numbers must be cited with appropriate figures for each species over time. It appears that trends in big game populations would be the same regardless of which alternative is chosen; therefore the dire predictions about trends of riparian areas and their effects on big game numbers under Alternative 1 - Current Management and Alternative 3 - Livestock Production are false.*

**Response:** In response to this comment, changes to the text of the final EIS have been added to allow a clearer understanding of the relationship between big game and how the Preferred Alternative deals with habitats. Generally the current condition of upland range administered by the BLM is static to a slightly upward trend as stated on page 3-27. Implementing Rangeland Reform '94 would accelerate this upward trend toward the desired future condition of plant communities. As this occurs, vegetative species dominance, density, and distribution would change. Rangelands now dominated by shrubs in many areas would convert to historic perennial grasslands over the long term. As vegetation changes, wildlife species occurrence would also change. A simplified example would be the following: the common occurrence of a big game browser (deer) that depends on shrubs in a specific area would shift to the big game grazer (elk) that prefers perennial grasses. This is a general statement, and many other factors (wildfire, drought, land treatments) would provide habitat for species that prefer earlier successional stages or vegetation communities. The presence of proper functioning riparian areas generally gives big game species protective cover for rest and bearing and rearing of young, reliable water sources, and food not necessarily required but not otherwise available. As a result, if an alternative reduces the condition and quality of riparian areas, big game would be generally be harmed. The improved condition of riparian areas would generally benefit big game.

11. ***Comment:*** *If cowbirds increase with livestock, cite some published confirmation. It is stated on page 3-49 of the draft EIS that indirect impacts of livestock grazing, such as the increase of cowbirds, can reduce the nesting success of endangered species. No solid evidence was presented in the draft EIS which indicated that livestock grazing in riparian areas has any significant impact on the southwest willow flycatcher; therefore, the statement is speculation and should be deleted.*

**Response:** The statement of page 3-49 concerning cowbirds is well-established fact. Impacts to willow flycatchers from livestock or livestock-related land treatments is offered in Serena (1982), Stafford and Valentine (1985), Valentine et al. (1988), Hanna (1928), Mayfield (1977), Flett and Sanders (1987), Klebenow and Oakleaf (1984), Taylor (1986), Taylor and Littlefield (1986), and Harris et al. (1987). These sources are cited in the Proposed Rule to list the Southwestern Willow Flycatcher, Federal Register Vol. 58, No. 140, Friday, July 23, 1993, pp. 39495-39522. Some recent publications on the cowbird issue include the following.

Bock, C.E., V.A. Saab, T.D. Rich, and D.S. Dobkin. 1993. "Effects of Livestock Grazing on Neotropical Migratory Landbirds in Western North America." Status and Management of Neotropical Migratory Birds, edited by D.M. Finch and P.W. Stange, 296-309. General Technical Report RM-229. Fort Collins, CO: USDA Forest Service, Rocky Mountain Forest and Range Experiment Station.

Brittingham, M.C., and S.A. Temple. 1983. "Have Cowbirds Caused Forest Songbirds to Decline?" BioScience 33:31-35.

Harris, J.H. 1991. "Effects of Brood Parasitism by Brown-Headed Cowbirds on Willow Flycatcher Nesting Success along the Kern River, California." Western Birds 22:3-26.

Rich, T., and S.I. Rothstein. 1985. "Sage Thrashers Reject Cowbird Eggs." Condor 87:561-562.

Robinson, S.K. et al. 1993. "Management Implications of Cowbird Parasitism on Neotropical Migrant Songbirds." Status and Management of Neotropical Migratory Birds, edited by D.M. Finch and P.W. Stange, 93-102. General Technical Report RM-229. Fort Collins, CO: USDA Forest Service, Rocky Mountain Forest and Range Experiment Station.

Rothstein, S.I. 1980. Range Expansion and Diurnal Changes in Dispersion of the Brown-Headed Cowbird in the Sierra Nevada." Auk 97:253-267.

Terborgh, J.W. 1989. Where Have All the Birds Gone? Princeton, NJ: Princeton University Press.

Trail, P.W., and L.F. Baptista. 1993. "The Impact of Brown-Headed Cowbird Parasitism on Populations of the Nuttal's White-Crowned Sparrow." Conservation Biology 7:309-315.

12. ***Comment:*** *The statement that "when not in proper functioning condition this type can be less valuable for Montezuma and scaled quail" is another example of baseless statements made in this section of the draft EIS. Can the southwest shrub steppe be only in "proper functioning condition" when it meets the habitat requirements for scaled quail, i.e. predominantly grasslands?*

    **Response:** Species that depend on native perennial grasses benefit when range conditions are at their best. The potential natural vegetation in this community is dominated by native perennial grasses and a very small shrub component. Livestock as well as most wildlife species would benefit from this vegetation type if the potential natural vegetation community could be achieved and maintained in proper functioning condition (PFC). When range condition is less than optimal, fewer grasses are present, shrubs dominate the vegetation community, and species which do not depend on the presence of native perennial grasses are favored. Not all habitat in this vegetation type needs to be in a climax seral stage to be in proper functioning condition (PFC) at any one time. Natural events such as wildfire and drought would always maintain some diversity of habitat at various seral levels, even under optimal range conditions. This natural diversity of habitats is most desirable and maintains the greatest biological diversity overall. But to achieve this desirable condition, rangelands need to be in proper functioning condition (PFC) overall.

13. ***Comment:*** *On page 3-48 the draft EIS wants to "substantially increase acres not grazed to help neotropical migrant birds." But the draft EIS also states that the "effects of grazing on these birds are not known." Grazing may actually benefit these birds since they evolved with 1,000 years of grazing on the Upper Great Plains. Livestock grazing to the detriment of migratory birds should not be part of the Proposed Action.*

    **Response:** We do not fully understand the consequences of livestock grazing for all species of neotropical migratory birds, but what we do know suggests that improper livestock grazing management contributes to the decline in many of these species and favors a few. The reduction in the quality and amount of riparian habitat, whether caused by improper livestock grazing or other impacts, contributes to the decline of many of these migrant birds

14. ***Comment:*** *Several comments dealt with wild horse and burro issues, some opposing the use of rangeland by these animals, other favoring such use: Repeal the Wild Horse and Burro Act of 1971 because it wastes forage for both wildlife and livestock. Wild horses and burros compete with wildlife for forage and water and degrade range conditions. Remove wild horses and burros from the public land. Wild horses are not native. Control their numbers. The economic well being of ranchers should outweigh that of wild horses and burros. Why are wild horses and burros allowed to graze yearlong and such use by livestock is discouraged under the proposed standards and guidelines? The draft EIS assumes that any overgrazing is entirely due to livestock. Management standards for livestock must also be applied to wild horses if the standards are to achieve rangeland health objectives. Give the wild horses and burros priority over livestock. Don't cut up the range with fences or make horses compete with livestock for water and forage.*

    **Response:** Management of wild horses and burros is beyond the scope of Rangeland Reform '94. If regional standards and guidelines are developed in those areas where wild horses and burros are contributing to poor ecosystem health and nonfunctioning conditions, corrective actions would be expected.

15. ***Comment:*** *Due to the fact that predators are highly impacted by livestock grazing use, and because they are of primary importance to*

*ecosystems, an EIS that does not analyze the impacts to them would have to be regarded as fatally flawed. The considerable financial savings associated with the elimination of predator control associated with grazing use, not to mention the current decimation of predator populations with concurrent destabilization of ecosystems, demand that an impact analysis of grazing on predators be included.*

**Response:** The draft EIS has included predators in the upland game and nongame category for this programmatic and national scope analysis. The impacts for this category are identified in Chapter 4 and, relative to expected changes in vegetative communities and habitat components by alternative, appropriately describe impacts to predator populations. Much existing work has been completed on NEPA documentation relative to the implementation of the Animal Damage Control programs throughout federal lands in the west. This comment, as described on page 1-20 of the draft EIS, is beyond the scope of the document.

16. ***Comment:*** *The draft EIS is broad and does not adequately address the impacts of the alternatives on fish and wildlife species dependent on public rangelands for all, or part, of their life history. The document places all fish, amphibians, birds, mammals, reptiles, and invertebrates as one value to be impacted. The draft EIS must analyze and disclose how livestock affect wildlife from a competitive standpoint, including: spacial and temporal competition, displacement, competition for food resources, and indirect effects such as grazing impacts to wildlife cover.*

    **Response:** The draft EIS is a national level and programmatic analysis and as such cannot address all site specific impacts to all species. The Preferred Alternative calls for the development of regional or state standards and guidelines. As these standards and guidelines would differ from region to region based on specific differences in abiotic and biotic interactions within these areas, a more specific and detailed analysis of species specific impacts would be addressed at this level. The draft EIS does categorize wildlife species into the general groupings of big game, upland game and non-game, waterfowl, raptors, resident and anadromous fish, and special status species.

17. ***Comment:*** *Current Management is stated as improving upland and nongame populations. This conclusion is not supported by fact. The basis for this analysis and the specific data used to arrive at this conclusion should be displayed in the draft EIS.*

    **Response:** Under current management, upland and nongame populations associated with improved upland range condition would improve slightly in some areas, especially in areas of high elevation with over 12 inches of precipitation. This conclusion is based on trends of reduced AUM use on federal lands continuing as described on page 4-19 and condition and trend information presented on page 3-26, 3-27, and 3-28.

## Associated Resources

1. ***Comment:*** *The proposed regulations violate the intent of Congress; i.e., multiple use. Ranching is highly compatible with recreation because the ranchers maintain the roads that provide access to the public land. Recreation use and livestock grazing are compatible. Many users of the public land appreciate the opportunity to view cattle and sheep as well as game animals. Eliminating grazing in wilderness areas is contrary to the Wilderness Act; therefore grazing reductions in wilderness areas should not be considered in Rangeland Reform '94 without a change in legislation. The draft EIS makes overly broad and erroneous assumptions about the compatibility of recreation and grazing. The draft EIS makes the assumptions that "[current livestock grazing generally degrades the quality of recreation user experiences" and that "[recreation users are becoming increasingly sensitized to intrusions, including livestock and structural range improvements." (4-16) These assumptions are not based on facts. It is the self-serving opinion of the environment interest groups. Many recreationists enjoy seeing cattle and sheep, cowboys on horseback, and, with luck, a roundup, in the mountains as an opportunity to experience a taste of the old West. It cannot be assumed that hunter, hikers, off-highway vehicle users, and weekend archaeologists and historians*

*all believe that their outdoor experience is degraded by livestock grazing. The conclusion made by the draft EIS is speculative, self-serving, and factually in error.*

**Response**: Rangeland Reform '94 is consistent with multiple use. The Preferred Alternative does not require any shift from grazing to recreation uses. Certainly, in some areas a change will result, but for the most part such change would be better managed grazing. Where proper livestock grazing is compatible with healthy ecosystems, grazing would continue. As regional standards and guidelines are developed, recreation and other uses of the land would also need to conform to such standards and guidelines.

The referenced statements from the draft EIS reflect the view of many recreationists. The commenter is correct, however, in stating that these opinions can not be applied in blanket fashion to all recreation users. Some recreationists enjoy seeing livestock, others are neutral, and others do not. Recreation and proper livestock grazing are compatible for the bulk of public lands.

2. ***Comment:*** *Recreation and Wilderness should not be grouped together. "Wilderness" is a resource representing a wide composition of other disciplines, whereas "recreation" is but one component. Recognize Wilderness for its own identity.*

**Response**: Agreed. Recreation and Wilderness are not combined in either Chapter 3, Affected Environment, or Chapter 4, Environmental Consequences.

3. ***Comment:*** *Rangeland Reform '94 would likely decrease public recreation access because access is usually denied when ranches are sold to nonranching or "hobby" ranch owners or private land is developed. The draft EIS fails to address this impact.*

**Response:** The economic and social impact sections of the draft EIS (pages 4-54 and 4-62) recognize that Rangeland Reform '94 could potentially contribute to the ongoing trend in subdivision of ranch properties or the loss of recreational access.

In many areas throughout the West landownership is intermingled, and permittees could profit from closing private lands and limiting access to adjacent public lands. Change in land use from ranching to subdivision development could vary from no change to significant change, depending on the local economies, the land ownership pattern, the recreational value of the land, and the amount of change engendered in the local area by the Proposed Action.

4. ***Comment:*** *The environmental consequences of the Proposed Action as it relates to Wilderness values and management are not clearly explained.*

**Response:** The draft EIS Proposed Action sections in the Executive Summary and Chapter 4 describing the environmental consequences to Wilderness are adequate for a programmatic rangeland EIS; however, the following information provided by commenters gives a more detailed description of these environmental consequences.

Projected habitat developments would benefit ecological values of Wilderness and Wilderness Study Areas. However, continued livestock and range development projects may negatively impact naturalness as well as primitive and unconfined recreation. Additional developments would add to the human influence of an affected Wilderness or Wilderness Study Area, which would increase the evidence or presence of human activity. The general rule within Wilderness or Wilderness Study Areas is that range improvements would not be allowed unless they clearly benefit Wilderness resources and would be primarily for the purpose of resource protection and more effective management of those resources. Structures may be placed to enhance ecological conditions. Once an ecological condition or Wilderness objective has been met, the structure normally would be removed unless it was necessary to maintain Wilderness rangeland conditions. An example would be a fence to protect vegetation following a wildfire.

## Riparian Health/Condition

1. ***Comment:*** *The draft EIS lacks data to support the assumption of a widespread downward trend. The following statement is false: "Riparian areas are in the worst condition in history." BLM ignores current and historic documentation. Nearly all ranchers use a rest-rotation grazing program in riparian areas as well as in uplands. Photographs show that riparian areas are better than in the past. Riparian quality is stable and is improving in some instances. The proposal is a "scare tactic." The following statement from the draft EIS is also false: "the downward riparian trend results from the difficulty of preventing livestock from congregating in riparian areas and the current amount of continuous season-long grazing in riparian habitats." In the past decade, both agencies have improved their emphasis on riparian management, and it is rare or unlikely that livestock continuously graze in riparian habitat. In the past decade many allotments have been cut back by 10-30 percent. Haven't these management changes improved riparian areas? If not, the final EIS should explain why.*

   **Response:** The statement, "Riparian areas are in the worst condition in history.", was taken from a 1990 EPA document entitled "*Livestock Grazing on Western Riparian Areas*" and is a general statement that applies to riparian areas throughout the West. The draft EIS cites only a few of the scientific studies that have been conducted confirming degraded riparian-wetland area conditions. This degradation is further documented by data on the functioning condition of riparian areas. Shown in tables in Chapter 3 of the draft EIS, this data was solicited from all BLM and Forest Service field offices during the compilation of information for this document. As stated in the draft EIS, riparian area condition has improved in localized areas where proper management, including strict controls of livestock grazing, have been undertaken. Rangeland Reform '94 has not ignored historic documentation, but, in fact recognizes that much of the degraded riparian condition resulted from improper grazing management near the turn of the century. While grazing management has significantly improved over time, generally resulting in improved upland range conditions, livestock grazing management within many riparian communities has not been improved sufficiently. Degradation continues in many places due to improper grazing management. If left unmanaged, livestock tend to stay in riparian communities until they have used all available forage and/or have caused damage to soil, water, and other resources. Grazing systems like rest-rotation do not generally allow enough rest to restore these fragile areas unless a system is designed for that purpose. Although both BLM and the Forest Service have increased their emphasis on riparian management, continuous season-long grazing continues in many areas of the West.

   A most recent technical paper that further attests to the existing deteriorated condition of western riparian communities is as follows:

   Armour, C., D. Duff, and W. Elmore. 1994. "The Effects of Livestock Grazing on Western Riparian and Stream Ecosystems." *Fisheries* 19(9):9-12.

2. ***Comment:*** *Some commenters believe that livestock grazing should be removed from all riparian areas, others believe that proper livestock management is the key to riparian improvement. Proper grazing should be the top priority for the agency. Not all ranchers abuse the land. Ranchers should be rewarded for proper grazing, and fined severely for noncompliance.*

   **Response:** Though removing livestock from all riparian areas would improve most of these areas to a functioning condition, proper livestock grazing can be compatible with ecosystem health, even in riparian areas. A healthy properly functioning riparian community may sustain a certain degree of well-managed livestock grazing. (The key is limiting grazing duration and intensity, and then allowing enough rest for complete recovery). Proper grazing management is one of the main objectives of Rangeland Reform '94. More importantly, BLM and the Forest Service's goal is to restore all rangeland ecosystems (including riparian communities) to proper functioning condition over the long term. Riparian communities are an integral part of most watersheds, landscapes, and ecosystems. Although ecosystem or watershed function

improves with proper functioning riparian communities, these communities are only one part of the overall system. Ecosystems function best when all components (including riparian and upland systems) are in proper functioning condition. A proper functioning ecosystem is healthy and supports the greatest natural biological diversity.

3. ***Comment:*** *All grazing systems for riparian areas must consist of at least five-pasture deferred or six-pasture rest-rotation systems. Anything less would not meet riparian objectives.*

   **Response:** The variability of plant communities across the West is high, and a management system that meets riparian management objectives in one area may fail in another. A riparian community in Oregon having stable soils and high annual precipitation may need only one year of rest out of three to maintain proper functioning condition. But a riparian community in New Mexico, having extremely erosive soils and slight annual precipitation, may require four years of rest out of five to maintain proper functioning condition. No single grazing system or management action works in all areas all the time. Resource conditions, management objectives, techniques, and knowledge change over time, and agencies must remain flexible to respond with a variety of management options.

4. ***Comment:*** *All cloven footed animals congregate around water; not just livestock. Elk are known to tromp out riparian areas. Factors other than livestock grazing are responsible for much of the damage that continues to occur, including wallows tramped out by elk in sensitive meadows, wild horses, etc. The graph on page 47 of the Executive Summary shows that 100 percent of the Forest Service riparian areas would be meeting objectives by banning livestock use. This is contradictory because wild horses and burros would continue to use riparian areas at current levels.*

   **Response:** Many animals (including wild horses and burros) congregate around water at some point. In some areas over utilization by wildlife is a problem and is dealt with on a case-by-case basis. Few wildlife species, however, congregate in the numbers or duration of livestock. Wild ungulates generally develop migration patterns and systematically move over a wide range minimizing their impact on an ecosystem in which they have evolved over centuries. Livestock generally have not evolved with the ecosystems that they inhabit, and humans have seriously constrained most migratory movements, confining large numbers of animals for long periods of time in a limited amount of preferred habitat. This long-term concentration in preferred habitat (riparian areas preferred by livestock) has resulted in most of the degradation we see today. Recreation uses (including offroad vehicle use and heavy use areas such as campsites and trails) can also damage resources around water and other attractants, but these uses affect site-specific areas. This is beyond the scope of Rangeland Reform '94.

5. ***Comment:*** *Cattle are the most valuable tool in managing riparian areas. Well-managed livestock eat off tall grass thus reducing fire danger and preparing a seedbed for the next year's grass.*

   **Response:** While consuming forage, livestock do reduce potential wildfire fuels. But fire is a natural occurrence in most ecosystems of the West. The evolution of most vegetation communities has been largely influenced by the relatively frequent occurrence of wildfire. Human-induced suppression of naturally occurring wildfire has contributed significantly in altering the diversity, density, and species dominance of natural vegetation communities. Prescribed burning is becoming an often used management tool benefitting livestock, wildlife, soils, and vegetation.

6. ***Comment:*** *All livestock facilities in riparian areas should be removed, not just livestock. Roading along streambanks should be addressed. How far from the riparian area can facilities (salt, corrals, etc.) be placed? If a "riparian pasture" would be considered a holding facility, then riparian pastures--a valuable management tool--cannot be used.*

   **Response:** National requirements and state or regional standards and guidelines for rangeland

administration require any facility that conflicts with proper functioning to be placed outside riparian-wetland areas. Standards and guidelines developed at the regional and state level would establish criteria relating to specific management actions on riparian-wetland communities. The main criterion is that no management action conflict with the proper functioning of a riparian-wetland area. The same would hold true for uses of a riparian pasture: no action should be allowed that would conflict with the area's proper functioning.

7. ***Comment:*** *The definition for "riparian" in the draft EIS (page 3-29) does not match the definition in BLM's 1737 Technical Reference. The arroyo series should be dropped since these are not true riparian areas. Ephemeral water courses are not riparian. The term "proper functioning riparian system" cannot be defined or measured. Commonly accepted riparian areas such as seeps, springs, mesic and xeric meadows, and aspen groves are not included in the riparian-wetland area definitions. These areas are important to natural diversity and wildlife and need to be included in the definitions and subsequent management requirements. Figure S-4 on page 26 of the Executive Summary shows that 46 percent of BLM riparian lands are functioning at risk. The term "functioning at risk" needs to be better defined and explained in far more detail. How many of these areas are actually being damaged? The Forest Service classification system, which shows trend as well as the current condition, is far more useful.*

   **Response:** The draft EIS did contain some inconsistent uses of terminology. In the final EIS, we have tried to be more consistent with terminology. The agencies have the responsibility to protect and improve all wetlands (including riparian areas). Much of the vegetation associated with arroyos and ephemeral streams consists of true riparian habitat. In many cases this riparian vegetation is what remains of what historically bordered perennial streams, some of which could be restored to perennial flow if protected and properly managed. The term "proper functioning condition" for riparian habitats has been defined in the glossary of the final EIS as well as have associated terms such as "nonfunctioning condition" and "functioning at risk."

8. ***Comment:*** *The draft EIS fails to recognize the impact of saltcedar on riparian areas. Can saltcedar be removed under this proposal?*

   **Response:** The removal of saltcedar within riparian communities is beyond the scope of Rangeland Reform. Nothing in Rangeland Reform '94 prohibits removal of saltcedar, Russian olive, or other introduced exotic species from riparian communities.

9. **Comment:** *Much natural erosion of drainage areas has nothing to do with livestock. All riparian areas are not equal. Many riparian areas are radically damaged each year by natural phenomena such as flash floods and wildfire. Potential for improving riparian areas is limited by the underlying geologic structure. The Clean Water Act is important when considering the effects of roading, mining development, and timber operations. Grazing practices to restore or improve water quality may take longer than the start of the next grazing season. The Clean Water Act has been seriously compromised by violations in wetlands. The plant and animal components of healthy wetlands all contribute to higher water quality and more stable water tables. Factors other than livestock grazing are responsible for much of the damage that continues, including off-road vehicle use, foot traffic along hiking trails, and disturbance around campsites. A natural background of erosion exists irrespective of livestock grazing. Perhaps the erosion requirement would have some utility in the tall grass prairie, but it is not realistic in the desert shrub or pinyon-juniper biomes.*

   **Response:** Natural erosion occurs in all drainages and is a normal occurrence in all functioning ecosystems. Many natural events (fire, floods) contribute to natural erosion, but the impact of these natural events is often magnified to accelerated erosion due to deteriorated watershed conditions resulting from improper livestock grazing management. Accelerated erosion (defined in Glossary) results from some human action that reduces an area's normal soil stability. In many areas of the West, improper

livestock grazing management is a significant cause of accelerated erosion. No other human use of the public lands is as widespread as livestock grazing. Other factors contributing to accelerated erosion include road construction, maintenance, and runoff; recreation trail development; off-road vehicle use; mining; timber harvesting; and wildfire. Minimizing the amount of accelerated erosion is critical to maintaining water quality and a necessary action to comply with the Clean Water Act. The key management objective of Rangeland Reform '94 is to reestablish a functioning healthy ecosystem that minimizes accelerated erosion of soils, thereby improving water quality and late-season quantity, and providing high quality habitat for fish and wildlife and sustainable forage for livestock and wildlife.

10. ***Comment:*** *Here is a suggested criterion for determining the priority for riparian improvement: (1) Within 3 years of the final rule, classify all riparian areas (except Alaska) by functioning. (2) All allotments with riparian areas not in proper functioning condition should be reviewed for compliance with national requirements and standards; 3.) At the end of 3 years no grazing would be allowed on any riparian areas that are not in proper functioning condition or that have not been reviewed for compliance, etc.*

    **Response:** The suggested sequence of riparian areas management actions is similar to that proposed by the BLM in the draft EIS. The 3-year timeframe for implementation is relatively consistent with the Proposed Action. The only difference of significance is the suggestion that nonfunctioning riparian areas would not be grazed. BLM proposes that at functioning "at risk" areas grazing would continue, but would be managed to achieve riparian area management objectives to reestablish proper functioning condition.

11. ***Comment:*** *How would the BLM determine "properly functioning riparian-wetland areas"? Why not look at riparian ecological status rather than functioning condition?*

    **Response:** BLM has developed a method for determining the functioning condition of riverine riparian-wetland areas, those associated with rivers and streams (BLM Technical Reference TR-1737-9) and is developing similar methods for lacustrine and palustrine habitats, those associated with lakes or marshes respectively (BLM Technical Reference TR 1737-11). The basis of these determinations is that they are conducted by an interdisciplinary team looking at a wide variety of parameters before making decisions on functionality. BLM has also developed technical procedures for determining ecological site potential for riparian areas; however, these procedures require much more time to conduct relative to the less intensive determination of functioning condition. BLM intends to determine functioning condition on all riparian communities in the short term to help implement Rangeland Reform '94 and then to follow up with a complete ecological site inventory in areas where intensive management or more data is needed.

12. ***Comment:*** *Effective environmental education, based on the riparian ecological research being conducted by BLM and academia, is in the best interest of all users of the public lands. Developing the shared vision and educating user groups has been a key to the success of the Utah Riparian Management Coalition. Many streams have improved riparian conditions compatible with continued livestock grazing. There is no reason this type of upward trend in riparian areas cannot be sustained under Current Management.*

    **Response:** Actually this is true and is occurring in a few areas. Nothing in current management prevents broad-scale watershed management partnerships from forming and being highly effective. But current management lacks the incentives needed to pursue these type of management agreements nationwide or on a large scale. Given the widespread deteriorated condition of riparian resources throughout the West, the critical need for rapid changes in management on a large scale is the basic impetus of Rangeland Reform '94.

13. ***Comment:*** *Livestock grazing has severely degraded almost all of the streams and riparian*

*areas throughout the West. In many areas on BLM- and Forest Service-administered land, heavy grazing and trampling by livestock have turned lush creek bottoms into deep gullies. Water tables have been lowered, and large wet meadows have been turned into dry sagebrush flats. Recreationists and cattle conflict in riparian areas because both seek the lush vegetation and proximity to water.*

**Response:** These are exactly some of the impacts of improper livestock grazing management that Rangeland Reform '94 is designed to alleviate over time. While livestock grazing and recreation do conflict in some riparian areas, both agencies are mandated to manage rangeland resources (including riparian areas) for multiple uses. Through proper management of all compatible uses, BLM and the Forest Service intend to allow both uses in most areas while restoring and maintaining proper functioning condition and overall ecosystem health. At some specific locations, the need to protect the basic function of a critical riparian community for the benefit of the watershed or ecosystem as a whole may preclude any direct use. Management prescriptions for specific areas would be handled on a case-by-case basis at the field-office level.

14. ***Comment:*** *Livestock grazing in riparian areas enables people to see through, walk through, and ride through the areas. After 34 years of nonuse some riparian areas are so thick with trees and brush that they are impassable. The grass understory has died out and the water has all dried up because it is used by the trees and brush.*

**Response:** Riparian areas in general are unlikely to become so dense and overgrown that they impede human access. Once a trend toward proper functioning condition is reestablished, Rangeland Reform '94 would normally allow a certain degree of well managed livestock grazing to continue in many riparian communities. In well established riparian communities that have been in proper functioning condition long enough to have established large trees and shrubs, management may use other tools (fire, beaver) to inject some form of disturbance or use of the vegetation periodically to help raise the water table, provide large woody material to improve aquatic habitat, or simply to maintain vigor and high productivity of the vegetation. But the idea that streams dry up because all the water is used by the vegetation is not correct. In fact the opposite is true. Riparian vegetation is a necessity, resulting in the capture of sediments, building of stable streambanks, and raising water tables allowing massive water storage in the accumulated soils. Stored waters then leach out through capillary action to extend streamflows yearlong or well into the dry season, a significant benefit to all users of the public lands. Without a functioning riparian community, erosion rapidly accelerates, streambanks are washed away, soils dry out, water storage capabilities are lost, precipitation flows away in flood events saving nothing for late season or yearlong flows, and the stream drys up.

15. ***Comment:*** *The term "in balance with the landscape setting" means little without a great deal of explanation. The current BLM riparian checklist was put into effect with little scientific scrutiny or review. Stream segments may be out of balance because of geologic, climate, and soil erosion processes rather than as a result of human management or influences. The entire watershed perspective is important. Riparian protection alone cannot provide the framework for the maintenance and recovery of aquatic ecosystems in rangelands. Processes throughout the watershed drive aquatic ecosystem health. Effective grazing regimes must be developed within a watershed perspective to be consistent with ecosystem recovery. The stream cannot be maintained independent of the uplands.*

**Response:** To manage riparian areas and all rangeland resources using an ecosystem perspective is the ultimate goal of Rangeland Reform 94. But we must recognize that in most watersheds there are other land owners and managers who have the potential to affect watershed condition or ecosystem health as a whole. As a result, it is critical that management agreements and partnerships be developed by all land owners, where possible, to achieve agreed-upon watershed wide objectives and goals. Aquatic resources are particularly susceptible to impacts of upstream land uses and difficult to manage

without cooperation of upland administrators. So, watersheds with perennial streams or those with potentials to reestablish perennial aquatic ecosystems are likely to be a priority in the developing management partnerships. In addition, upland assessment and management procedures would compliment and be integrated with riparian area assessment and management procedures for a "holistic" watershed- wide management approach.

16. ***Comment:*** *Projections of the conditions on riparian areas show large differences among the alternatives. The interpretation of current conditions and trends are based almost entirely on the opinions of selected individuals. There are no references to substantiate "present" or "unknown condition" on 22 percent of the Forest Service and 55 percent of the BLM riparian areas. The differences in riparian condition among the alternatives are based on subjective estimates by selected people rather than on firm data and science. The draft EIS (pages 3-31, 3-32) states that most riparian areas are in a degraded condition due to livestock grazing. This statement reflects a General Accounting Office report concluding that 80 percent were degraded on the basis of a very limited inventory of riparian areas that extrapolated information from Idaho and Colorado to all rangeland riparian areas. These two assessments were not based on a comprehensive inventory and do not reflect conditions throughout the West.*

    **Response:** Many scientific studies and inventories have been conducted in locations throughout the West (the findings of many have been summarized in the General Accounting Office report) confirming the general condition of riparian resources. The draft EIS cites only a few of these studies to document specific points. Although the functioning condition of riparian areas remains unknown on a large percentage of the lands administered by BLM and the Forest Service, we cannot assume that the condition of these areas differs significantly from those where functionality determinations have been made. Therefore, for the purposes of evaluation, known riparian area conditions have been extrapolated proportionally to unknown areas. Until site-specific evaluations of functionality can be made on all riparian areas, this is the best means of estimation we have.

17. ***Comment:*** *Water Quality and Hydrologic Function. The BLM's TR 1737-9, 1994 separates hydrologic function, the stream's ability to dissipate watershed energy, from habitat condition, the riparian area's ability to support biologic diversity. This recent approach goes beyond the simple classifications of good, fair, and poor. The "checklists" to determine riparian function are arbitrary and nonmeasurable. The "checklist" uses a qualitative approach that is highly influenced by the experience or bias of the observer. How much "landform" is required for proper riparian function?*

    *Riparian management considers three very different functions that cannot be assessed or measured by a single set of criteria. Hydrologic function addresses the role of water flows in the drainage system. Streambank vegetation can decrease or increase water in the system and thus alter the hydrologic function. Suitable streambank vegetation needs to be better defined. Streambank stability is also related to vegetation, soil, and hydrologic function, but conclusions can only be drawn in the context of particular soil and the area's geology.*

    **Response:** The assessment of riparian area functionality is only the first step needed to determine and prioritize BLM management actions needed to reestablish a functioning condition. At this point, data collected is based on general observations made by an interdisciplinary team. No measurements are required, but the team can take measurements if desired. This initial step is followed by establishing monitoring and/or trend studies (i.e. measurable data) sufficient to determine if management actions are achieving riparian management objectives over time. However, the lands covered by this EIS contain nearly 112,000 miles of streams and 1,088,000 acres of lakes and reservoirs making intensive inventory of all associated riparian habitats impractical and unaffordable in the short term.

    Procedures to determine riparian area functionality, described in BLM Technical References TR-

1737-9 (for flowing water sites) and TR-1737-11 (for nonflowing sites), allow for relatively rapid, inexpensive assessment but are much more complex than a simple classification of good, fair, and poor. The assessment procedure evaluates a riparian areas relative to hydrologic function, soils and erosion potential, and the vegetation makeup of the community itself. While the condition and physical makeup of each one of these categories can influence the capability of the other categories, each one is a critical element in a functioning riparian community. This new procedure is based on ecosystem needs rather than the needs of a single resource. One of the problems of the old classification system was that determinations were based on one resource perspective (i.e. good for livestock forage, good for mule deer habitat, etc.). Now if a riparian area is determined to be properly functioning, it is assumed to be meeting the needs of the watershed/ecosystem as a whole, not those of a single resource.

18. ***Comment:*** *Livestock should be removed from nonfunctioning riparian communities until the communities are fully restored to proper functioning condition.*

    **Response:** This is generally the direction Rangeland Reform '94 would take when livestock are a contributing factor, as stated in the assumptions for the Proposed Action (page 4-18, Executive Summary). Obviously this action would not be undertaken immediately, but initiated over a period during which functional determinations would be made. As implementation progresses, priorities would be given to areas where degradation to the riparian community directly results from livestock grazing or where grazing is shown to be aggravating an existing degraded condition. This action is not without problems and later may need to be modified, particularly as standards and guidelines are developed for specific locations. For example, to require removal of livestock from all nonfunctioning riparian communities until they are fully restored to proper functioning condition removes the flexibility to develop or choose other effective management options and assumes that livestock grazing is the direct cause of all nonfunctioning riparian communities, which is simply not the case. Although this requirement would go a long way to restore degraded riparian communities, it is not needed in all situations. For example, livestock grazing may be responsible for riparian degradation in the headwaters of a large watershed, and that degraded condition is affecting water quality and runoff throughout the system. Complete rest from livestock grazing may be appropriate in the headwaters (area of direct livestock impact), but unnecessary downstream areas where heavy runoff resulting from the degraded upstream watershed is degrading streambank stability. To impose such a policy would unfairly penalize permittees who have developed good livestock management systems that protect and maintain the productivity of riparian areas. In some cases, proper functioning condition can be restored by manipulating livestock grazing intensity, season of use, distribution, and other factors.

19. ***Comment:*** *A BLM standard should be developed to allow no more than 25 percent streambank trampling. Once the standard is exceeded, complete rest should be required until streambank stability is restored. Utilization limits: spring at 60 percent, summer at 45 percent, and fall at 30 percent.*

    **Response:** The suggestion to develop a BLM streambank stabilization standard or to impose utilization limits has merit. But because all streams, lakes, or wetlands, and their associated stabilizing riparian communities are not the same, each state or region is expected to consider developing specific standards that would meet the needs of their particular riparian ecosystems. These standards, if developed, may be designed for individual watersheds, soil types, or some other factor common to a group of similar riparian areas. Because not all riparian areas are the same, what is effective in one area may not work at all in other areas.

20. ***Comment:*** *Livestock should be fenced out of riparian areas to protect these fragile areas from long-term damage. To fence all riparian areas would be very expensive. People responsible for damaging riparian areas should pay the rehabilitation costs. Livestock water should be pumped to a trough outside the fenced riparian area*

*using small-scale technology (solar, wind power). The final EIS should show agency monitoring and fencing costs to protect riparian habitat for each alternative. What is the trespass penalty for livestock that intrude into riparian areas?*

**Response:** While effective in many situations, fences are expensive to build and maintain. Other management options are also effective. In some situations the condition of riparian communities reflects poor upstream watershed conditions and not livestock grazing in the immediate area. If fencing were the only management option, permittees who have developed good livestock management practices that effectively protect riparian communities and maintain proper functioning condition over the long term would be unfairly penalized. Fencing should be kept as one of many possible options but should not be considered the only option to control livestock impacts on riparian-wetland areas. Rangeland Reform '94 has no special unauthorized use regulation for cattle that intrude on riparian areas fenced and closed to grazing. The cattle would be treated as any other livestock found to be in trespass. Where fencing is used, water is often pumped to troughs outside the fence for livestock use. Many methods are used for pumping water, including solar and wind power.

21. ***Comment:*** *The draft EIS states that about 1 percent of federal lands are riparian whose productivity belies their small area. The document fails to identify what percentage of livestock and wildlife forage is produced in such an environment. Chapter 3 needs more data on existing riparian conditions (forage from riparian areas and quantification of water developments) and Chapter 4 needs more data on the anticipated consequences of affecting those resources. Otherwise the decision maker and public cannot reach a reasoned and informed conclusion.*

**Response:** The draft EIS statement referring to the fact that riparian areas make up only one percent of federal lands is applicable to public lands as a whole. Specific watersheds or allotments can always be found where riparian areas make up a larger percentage of the total area or visa versa. In a typical allotment without proper livestock management, livestock typically use upland forage significantly less than adjacent riparian areas. Again, this is a general statement based on the tendency of unmanaged livestock to congregate in and heavily use riparian areas. In areas where forage allocations have been made based on a large percentage of riparian areas, reallocation of forage would be necessary to meet riparian management and other Rangeland Reform '94 objectives. However, the need for this type of specific adjustment should be evaluated on a watershed or allotment by allotment basis and designed to meet the management goals of that immediate watershed area. In addition, the current condition of many riparian areas restricts their ability to produce the amount of forage they could potentially produce if they were in proper functioning condition. Over time, Rangeland Reform '94 would allow deteriorated riparian communities to be rehabilitated; and once rehabilitated, they could be available for grazing by closely managed livestock. The long term outcome would most likely result in more riparian forage utilized by livestock in proper functioning riparian communities than is now removed from riparian areas that are in less than proper functioning condition even though time of use would likely be reduced. Upland utilization of higher quality forage would probably also be improved as overall grazing management improves.

22. ***Comment:*** *The "pie" charts representing the present conditions of upland and riparian habitat for both agencies use different units of measurement. If you are going to manage ecosystems that cross agency boundaries, it would be helpful to use a common unit or standard of measurement for habitat condition.*

**Response:** Both agencies entered into the development of Rangeland Reform '94 analyzing a variety of inventory and monitoring information. BLM and the Forest Service are developing a common set of rangeland inventory and monitoring procedures and techniques that will facilitate a more consistent data set in the future.

## Fees

1. *Comment: The proposed fee increase does not consider nonfee costs.*

   **Response:** We disagree. The proposed fee of $3.96 per AUM recognizes the nonfee costs of leasing federal lands as compared to leasing private grazing lands. The $3.96/AUM was developed, in part, by using an updated value ($3.25 per AUM) of the $1.23 per AUM base value established in the 1966 Western Livestock Grazing Survey (WLGS). The $1.23 per AUM base value was established by accounting for the higher nonfee costs of leasing federal as compared to private grazing lands. This nonfee cost difference was carried forward when the $1.23 per AUM was updated.

   The other value ($4.68 per AUM) used in establishing the $3.96 per AUM base value was from the update of the 1993 appraisal. The appraisal accounted for differences in private grazing land leases as opposed to federal leases by making a 15 percent adjustment for "terms and conditions" and advance payment.

2. *Comment: The proposed formula has no economic or scientific justification whatsoever. First, the mass appraisal results used to develop the proposed fee are unscientific and undefensible. Second, indexing the 1966 base value of $1.23 per AUM to 1991 using the forage value index fails to account for changes in costs for grazing on public lands over this period. Finally, there is no basis for averaging these two numbers to determine a new base value.*

   **Response:** We disagree. According to the standards of the American Institute of Real Estate Appraisers (AIREA) it is uniform professional practice to use three approaches to valuation. In fact, the following three approaches may be required in some instances: the sales comparison approach, the replacement cost approach; and the income approach. The results of these three approaches are to be reconciled. Reconciliation as defined by the AIREA is "the analysis of alternative conclusions to arrive at a final value estimate."

   Updating the $1.23 per AUM base value (to $3.25) is a modified income approach. The appraised value of $4.68 is based on the sales comparison approach using grazing lease data rather than land sales data. The replacement cost approach did not apply.

   Arrived at via a thorough and professional process, the two values represent a reasonable estimate of public forage value. The two studies that established these values are the most comprehensive and scientific studies available. Both studies cover the entire western United States, and there is no better set of data on which to estimate federal forage value.

   The 1993 appraisal was peer reviewed at that time by three independent appraisers, holding the designation of Master American Institute (MAI) from the American Institute of Real Estate Appraisers. They concluded that the appraisal met the standards of the American Institute of Real Estate Appraisers and approved the valuation conclusions. The 1992 update of the appraisal was prepared by the appraisal firms of two of the MAI appraisers that peer reviewed the 1993 appraisal and this update met professional MAI appraisal standards. Moreover, since the lowest of the regional appraised values is used ($4.68), this public forage value represents a conservative estimate.

   Differences in nonfee costs were accounted for in establishing the 1966 base value of $1.23 per AUM. Indexing the $1.23 per AUM by the forage value index does not adjust for any changes in the relative difference in nonfee costs that may have occurred since 1966. No adjustments were made for changes that may have occurred in the relative difference in nonfee costs because there is no conclusive basis for making a change. Some studies have attempted to reassess the nonfee cost differences of leasing federal as compared to private grazing but none has been comprehensive. Since these studies do not cover the entire western United States, we did not consider it appropriate to use these or any other studies to adjust the relative difference in the 1966 nonfee costs.

   The $3.96 per AUM base value was arrived at by averaging the two values because in our

professional opinion it was appropriate to give equal weight to each value.

The Grazing Fee Task Group, a sub-group of the 1993 BLM/Forest Service Incentive Based Grazing Fee Task Force, reached a similar conclusion; that the fee should be between $3 and $5 per AUM (USDA/USDI, 1993a). The group based its conclusion mainly on the results of a permit value approach, which applied an expected rate of return to the observed market value of federal grazing permits.

3. ***Comment:*** *Many recent studies conducted by western universities show that public land grazing costs are higher than private land grazing costs. The Grazing Fee Task Group found public land grazing costs to be 60 percent greater than private land grazing costs. The indexing (of the 1966 base value of $1.23/AUM) used to determine the $3.96 per AUM base value recognizes only a 19 percent cost differential.*

**Response:** More recent studies of the nonfee cost differences of leasing federal as compared to private grazing lands have shown mixed results.

The most comprehensive of these recent studies was the one by the Grazing Fee Task Group (GFTG) conducted as part of its incentive-based grazing fee system study (USDA/USDI, 1993a). The GFTG included four university economists, one each from New Mexico State University, University of Idaho, University of Wyoming, and Colorado State University. The results of these total cost studies of leasing private land as compared to public land were mixed and not consistent with observed permit values between $37/AUM in Wyoming to $89/AUM in New Mexico.

These results led the GFTG to state, "Total cost valuations yield inconsistent results.... Consequently, this method has been discounted as a way to estimate the willingness of ranchers to pay for public land grazing."

4. ***Comment:*** *The forage value index (FVI) is in error because it weighs 17 western states, which are not representative of federal rangeland. Grazing fees in California, Kansas, Nebraska, North Dakota, Texas, and Washington cannot be used to value, say, Wyoming forage, or most federal land forage.*

**Response:** The FVI is not being used to value the federal forage. It is used only to adjust the federal forage value for year-to-year changes as reflected by the private land lease rate. The FVI would be determined by a weighted average of the private land lease rate in each of the 17 western states. The rates would be weighted by the number of federal AUMs in each state and thus would represent changes that apply to the federal AUMs. For example, the private land lease rates changed from $12.60 in 1993 to $13.20 in 1994 in South Dakota and changed from $7.55 in 1993 to $8.08 in 1994 in New Mexico. The change in New Mexico would be given more weight than the change in South Dakota because New Mexico has more federal AUMs.

5. ***Comment:*** *The forage value index (FVI) cannot be used to set the federal grazing fee for sheep operations because it does not include data from sheep grazing leases on private lands.*

**Response:** The FVI is not used to value federal forage but to adjust the value of forage from year to year as reflected by the change in the private land lease rate. The private grazing land lease rate that the National Agricultural Statistics Service compiles does not necessarily exclude rates that apply to sheep grazing. Ranchers are asked to report the private land lease rate, which applies to sheep as well as cattle grazing. Although cattle grazing dominates the market, there is no reason to expect the sheep grazing rate to differ from the cattle grazing rate because sheep and cattle, as a general rule, are in the same competitive market.

6. ***Comment:*** *Page 2-37 of the draft EIS, bottom of the first column, states, "In subsequent years the calculated fee would depend on the changes in the market rate for private grazing land leases as reflected by the forage value index." Please give examples of how the fee would vary after 1997 in response to some different scenarios of changes in the private land lease rates.*

**Response:** Appendix L, A Comparison of Grazing Fee Formulas from 1983 to 2003, shows the indices used in the fee proposals, how they have performed in the past 10 years, and how they are projected to perform over the next 10 years (pages L-3 and L-4). The forage value index is projected to change by about two percent per year, on average, over the next 10 years; thus the fee level under the Preferred Alternative would on average change two percent annually.

7. ***Comment:*** *The forage value index (FVI) cannot be used to determine federal grazing fees because it does not reflect the differences in value between private and public grazing lands.*

   **Response:** The FVI does not need to reflect the difference in value between private grazing lands and public grazing lands because it is not used to determine the base value fee of $3.96/AUM.

8. ***Comment:*** *The proposed fee increase does not even cover the cost of administration. Permittees contend that they must pay for fencing, water, and other improvements on public lands, but they are stretching the truth. Some BLM records show that BLM pays most, and sometimes all, of these costs on some allotments.*

   **Response:** BLM and Forest Service records show that the contributions of BLM and Forest Service permittees to range improvements were highly variable by individual but averaged $0.17 per AUM in 1990. Permittees in the Grazing Fee Task Group study estimated that their share of the investments, including paid and unpaid labor, in federal rangelands from 1971 to 1992 averaged annually about $0.35 per AUM in Idaho and New Mexico and $0.09 per AUM in Wyoming. See Fees, Response 31.

9. ***Comment:*** *If fees are increased on public lands, private land lease rates would also increase. This would cause public land fees to increase even more, creating a never-ending spiral of increasing fees on public lands.*

   **Response:** We disagree. The private grazing land lease rate is established through a competitive market. The price is based on the supply and demand of forage. Ranchers bid what they believe the private forage is worth, and the private grazing land owner, all other things being equal, leases to the highest bidder. Federal grazing is not part of this competitive market, so there is no reason to believe that increasing the price of federal forage would affect the price of private forage. If permittees seek more private pasture as a substitute for federal forage in response to implementation of the Preferred Alternative, there could be upward pressure on private land lease rates. However, this would likely be a short-term response and would stabilize over the long-term.

10. ***Comment:*** *The government has made a significant retreat from the original Rangeland Reform '94 proposal to raise the fee to $4.28 per AUM through a three-year phase-in period, and has reduced the fee to $3.96/AUM. The $4.28/AUM was too low to begin with.*

    **Response:** The original Rangeland Reform '94 grazing fee proposal used a base value of $3.96 per AUM, so the base value has not changed. What has changed is the way the base fee would be indexed to reflect the change in the private land lease rate. The $4.28 per AUM was the base value of $3.96 per AUM indexed to 1993. The $3.96 per AUM indexed to 1994 would be a little less, $4.25 per AUM. Indexing the base value while it is being phased in creates uncertainty and is destabilizing.

    To minimize the uncertainty of the fee, it is appropriate that the base value not be indexed while it is being phased-in. The important factor is that the $3.96 per AUM base value would be used. The index can work both ways. It can pull the fee up, but it can also pull it down; depending on the movement of the private grazing land lease rate.

11. ***Comment:*** *The government justifies the increase in the grazing fee as necessary to erase permit value or reduce it to zero. Since the publicity and debate over the fee has already decreased permit value, this makes it unnecessary to increase the fee.*

**Response:** The government is not justifying the increase in the grazing fee on the basis of reducing or eliminating permit value. However, in theory, an economic consequence of raising the fee may be that any "permit value " resulting from the privilege to graze on federal lands may be reduced by the amount of the increased fee.

12. ***Comment:*** *The 1993 Grazing Fee Task Group (GFTG) study (USDA/USDI, 1993) does not support the $3.96 per AUM grazing fee and the study results support a lower grazing fee. Also, the permit value rationale in the 1993 GFTG study that was used to conclude that the fee should be between $3 and $5 is no longer valid.*

    **Response:** This comment misinterprets the conclusions of the GFTG study. The GFTG applied three approaches to valuation of federal forage: the total cost comparison of the fee and nonfee costs of grazing public and private land, market value appraisal, and annualization of permit value.

    Using the total cost method, the study concluded that the forage value for grazing cattle on BLM land was in the range of $3 to $4 per AUM. However, the total cost approach estimated a minus $2.86 per AUM for cattle grazing on National Forests. Average forage values were also negative for sheep grazing on BLM and Forest Service land.

    The implication of the negative values is that the government should pay permittees to graze federal lands. These results conflicted with the GFTG's conclusions that ranchers are actually willing to pay between $3 and $5 per AUM for federal forage as reflected by the market price of federal grazing permits. This led the group to question the validity of low forage value derived using the total cost approach. Thus, the GFTG concluded just the opposite of the issue statement, that is, that the total cost approach does not support a lower grazing fee.

    In a follow-up discussion (E.T. Bartlett, et al., *Rangelands* 16[2] April 1994), the University authors of the task group made the point that they agreed with the BLM and Forest Service's interpretation of the study that the public forage value was in the range of $3 to $5 per AUM. However, they went on to point out that the government, in setting the base fee at $3.96 per AUM and using the $3 to $5 per AUM value to support this determination, must acknowledge that this would reallocate permit value from the rancher to the government. The government acknowledges this. However, the comment statement apparently interprets the university authors to mean that the estimate of $3 to $5 per AUM based on permit value is no longer valid. This interpretation is not correct.

13. ***Comment:*** *The 25 percent cap on annual increases in the fee would allow for increases without justification. This puts ranchers at the mercy of the government to just keep increasing government spending without end.*

    **Response:** Annual changes in the grazing fee under the Preferred Alternative would be limited to the annual change in the forage value index (FVI). Over the past 10 years the FVI has changed, on average, about two percent annually, and it is reasonable to assume that future changes would be similar.

14. ***Comment:*** *The proposed westwide fee is not reasonable or equitable and is arbitrary and capricious. With respect to the appraisal information used to establish the proposed fee, the BLM and Forest Service have never acknowledged or addressed the criticism by qualified academic economists of the 1983 Appraisal study and the 1992 Update.*

    **Response**: The proposed fee is fair, reasonable, and equitable. It is comparable to fees paid for leasing private grazing land. It provides the public with a fair return for the use of its resources. It does not cause significant harm to the western livestock industry and to dependent rural communities.

    In the past, the government has addressed the criticism of the 1983 mass appraisal and the 1992 appraisal update. The criticism has been addressed by pointing out that the 1983 appraisal was peer reviewed by three independent appraisers, holding the designation of MAI from the American Institute of Real Estate Appraisers.

The MAI appraisers concluded that the appraisal met the standards of the American Institute of Real Estate Appraisers (AIREA) and approved the valuation conclusions. The 1992 Update of the 1983 appraisal was prepared by the appraisal firms of two of the MAI appraisers that conducted the peer review and this update meets professional AIREA standards. While the academic economists' criticism of the appraisal has been helpful and they have a contribution to make in the professional debate, it must be recognized that professionals can hold different opinions. Appraisers that hold the designation of MAI have proven through training, education, field experience and through actually preparing appraisals that they are qualified to estimate, in this case, the value of public forage.

At the same time, much of the debate over the validity of the appraisal is misplaced because the agencies are not proposing to adopt the Regional Fee Alternative (Fee Alternative 4) which is based on the appraisal value conclusions. In developing the Proposed Action the agencies selected the lowest of the regional values in order to make the westwide base value more equitable. Had the Government used the westwide value from the appraisal of $6.84 per AUM, for example, and given it equal weight with the updated 1966 value, the proposed base fee would have been $5.04 per AUM.

15. ***Comment:*** *We suggest the fee be phased-in over a longer period of time, such as five years to mitigate the economic impacts of the fee increase.*

    **Response:** During the alternative formulation phase of preparing the draft EIS, the agencies considered a variety of phase-in periods to help spread the increase in business costs over time, and determined that three years was a reasonable period of time for permittees to adjust to the increase. The phase-in of the proposed fee increase is incorporated into the Preferred Alternative, rather than a separate mitigation measure.

16. ***Comment:*** *The use of only the Forage Value Index (FVI) to update fees yearly is one of the few positive proposals in Rangeland Reform '94. The Grazing Fee Task Group (GFTG) used regression analysis with 28 years of data and concluded that the Beef Cattle Price Index (BCPI) and the Prices Paid Index (PPI) are insignificant variables in predicting annual variation in the private lease market and if used in a "PRIA-like" formula, the coefficients should not be 1 and -1.*

    **Response:** The work of the GFTG was reviewed during development of the proposed grazing fee formula. The results of this analysis were one of the reasons for dropping the BCPI and PPI from the grazing fee formula.

17. ***Comment:*** *Permittees are already paying full market value through the current fee, nonfee costs, and investments in grazing permits. Therefore, any fee other than that produced by PRIA is economically invalid. Increasing the fee would eliminate the value of our existing permits. These impacts are not addressed in the draft EIS.*

    **Response:** Pages 4-11 and 4-12 of the draft EIS include a discussion of the relationship between permit value and the Proposed Action. According to economic theory (see for example USDA/USDI, 1993a), permit value should be the capitalized difference in the current federal grazing fee and the private land lease rate after the nonfee costs differences such as maintenance and herding are accounted for. Therefore, adding the investment in permit value to the grazing fee and the nonfee cost differences makes the total cost equal to market value. It is important to understand why the government has never recognized permit value in the setting of grazing fees on public lands.

    First, the issue of whether permit value should be included as a cost in calculating the fee was litigated after the 1966 grazing fee study that set the base fee at $1.23 per AUM. The ruling was that the Secretaries of the Interior and Agriculture did not act improperly in not including permit value as a cost (Pankey Land and Cattle Co. v. Hardin and Hickel, 427 F.2d 43, 1970).

    Second, the Supreme Court ruled that permits to use the public domain for grazing are revocable and create no property rights to the holder

(*United States v. Fuller*, 409 U.S. 488 1973). Clearly the federal government does not recognize and has no legal authority to compensate permittees for their investments in grazing permits. To do so would, in effect, grant to permittees the capitalized value of a public resource which the United States has not conveyed to the permittee , and the permittee has not purchased from the United States. The Supreme Court has repeatedly affirmed this policy. Increasing the grazing fee, which may result in reducing the value of the permit, is not a taking.

Third, the reason that the private real estate market gives permits "value" is because the federal government charges less than the full market value for the livestock grazing. The federal grazing permits are usually transferred as part of the base property real estate transaction, but the government is not a financial party in the transaction. Permits are transferred to the new permittees if they are qualified and accept all the terms and conditions, but the public does not share in the revenue from the sale of the permit. Therefore, the government sees no reason to give ranchers that acquire federal grazing permits, credit for the money that is paid to the original permit holders.

Increasing the fee would reduce the value of permits to ranchers, but whether permit value is eliminated entirely would depend upon whether $3.96/AUM is market value for the forage provided by the permit. In any event, any loss in permit value to the ranchers would result in a gain in asset value to the owners of the public lands.

18. ***Comment:*** *BLM has not considered studies that support the current grazing fee as fair and equitable.*

**Response:** In developing the grazing fee, the government considered all the studies related to the fee, including those that supported the current grazing fee formula as fair and equitable. For example, we reviewed the Pepperdine University study (Rostvold and Dudley, 1992) that compared ranch income of Montana permittees and nonpermittees. The results of this study are difficult to assess because it does not describe in any detail the methodology that was used or how and which costs were included in the calculations of net ranch income. Moreover, the results are summarized in bar charts. It is not clear, for example, whether the costs of purchasing or holding (opportunity costs) federal grazing permits are included in the calculation of net ranch returns. Also, the results of such studies that apply to only one state may not apply westwide, and therefore their usefulness is limited. (See Appendix M of the draft EIS for a description of these studies.)

19. ***Comment:*** *The Federal Forage Fee Formula is more fair than the Secretaries' proposal because it accounts for nonfee costs of grazing on public lands and more accurately describes differences in forage value between public and private lands and the reduced productive capacity inherent on public lands.*

**Response:** The proposed grazing fee accounts for nonfee costs differences as well as the differences in "terms and conditions" of private grazing land leases as opposed to public grazing land leases. The Federal Forage Fee Formula (FFF Formula) is far too complex to be practical and is technically invalid because it triple counts the difference between federal and private land leases. Furthermore, adjusting for the "net production differential" as provided for in the FFF Formula results in an increase rather than a decrease in the base fee because the Economic Research Service study shows that permittees have significantly higher net returns above cash costs than do nonpermittees (see Appendix G of the draft EIS).

20. ***Comment:*** *Competitive bidding should be implemented on public rangelands. Let the demand determine the value of the forage. It works on federal lands in the eastern United States and we see no valid rationale for a different approach in the West. Possible conditions to be set under competitive bid could be five-year and/or 10-year permits; perhaps a minimum bid set at the lowest private land lease rate on comparable lands within the area of the allotment; penalties for collusion; and specification of a maximum number of AUMs. If there is a reluctance to adopt*

*competitive bidding everywhere, we urge its adoption at least for allotments that have no preference, e.g. allotments newly acquired through purchase or exchange.*

**Response:** Competitive bidding would give the best indication of the market value of federal forage as long as there is a competitive market. But even this approach has limitations, such as in cases where public land tracts are landlocked by private lands.

Competitive bidding is probably feasible without legislation for tracts acquired by the BLM either through purchase or exchange because no grazing preference has been established. But regulations would be required to provide for leasing these tracts.

21. ***Comment:*** *The Grazing Market Rental Appraisal completed in the 1980s for public rangelands is the most comprehensive and reliable evaluation of grazing fees in relation to the market value. This study accounts for nonfee costs of grazing on public lands and provides justification for regional grazing fees. The regional-fee alternative (Alternative 4) takes into account difference in growing areas (ecoregions) as influenced by climate, soil types, etc., and the reasonable production of forage relative to adjacent regions. It appears that this alternative is fair as it 'levels to playing field' somewhat between all federal land livestock operators.*

**Response:** We agree with this and we considered it in our analysis.

22. ***Comment:*** *The input cost index (ICI) used in the Modified PRIA fee alternative (Alternative 2) is a more comprehensive, but just as subjective, version of the prices paid index (PPI) used in the current formula. Further, the beef cattle price index (BCPI) and the ICI are presented as a ratio, instead of as a sum as in the current formula. This has the effect of nearly doubling the fee that would be produced under the current formula. While it is a step in the right direction, this formula has all the same faults as the current formula.*

**Response:** The ICI is a composite index and is more reflective than the PPI of all of the costs (farm and nonfarm) of beef production. Changing the PPI to the ICI and dividing the beef cattle price index by the ICI does not have the effect of nearly doubling the fee. What causes the fee to nearly double is a change in the base value. In the first few years there would be little difference in the fee using this modified fee formula rather than the current formula if the base values were the same. But, as is stated the modified fee formula has many of the same limitations as the current PRIA formula.

23. ***Comment:*** *Implementation of competitive bidding would be detrimental to public lands because there would be a high potential for frequent changes in permit holders. This would create instability for livestock operators and for the resource. Competitive bidding would be detrimental to my livestock operation as well, since I may not be the successful bidder. Without assurance that I would be able to run my cattle on public lands, investments in improvements, purchase and sale of livestock, and a variety of related business activity would become less attractive. If I were the unsuccessful bidder, I would probably go out of business, resulting in a loss of local payroll and taxes. This sort of uncertainty and instability would not promote a long-term interest in the health of rangeland ecosystems or the local livestock industry.*

**Response:** Competitive bidding would reveal the actual market value for forage given the specific terms and conditions of each permit or lease. It would allow for long-term leasing, and would allow the existing permittees and lessees the opportunity to match the highest bid. Competitive bidding is established and works successfully in other areas, for example on Forest Service lands in the eastern United States and on state lands in Montana. Competitive bidding may also be successful on a limited basis for those tracts that are acquired through purchase or exchange and do not have grazing preferences as provided for by the Taylor Grazing Act. Competitive bidding of all federal lands may cause instability, but this is not known because it has never been tried. Competitive bidding of

all federal lands may not meet other criteria, such as equity.

24. ***Comment:*** *Separate fee levels should be set in consideration of the different productive capacities on rangelands in the West, not one westwide fee. Thus, fees would be lower in less-productive areas such as Nevada and Arizona. The fee formula should be based on local market criteria and prepared by agricultural economists from land grant universities. Also, fee structure should be related to such geographical conditions as distance to water, slope and roughness of terrain, and other physical characteristics of the local environment.*

    **Response:** This alternative was considered under Fee Alternative 4: Regional Fees. All of the physical factors that are mentioned in this comment can affect the value of forage. Other physical factors such as quality of the forage and presence of poisonous plants also can affect forage value. To consider all site-specific factors would require an allotment-by-allotment appraisal, which would be impractical and prohibitively costly. In fact, in some instances the cost of the appraisal would exceed the revenue received from the allotment.

25. ***Comment:*** *Any fee structure should cover the typical costs of maintaining prime pasturage on private lands.*

    **Response:** One basis for establishing the Proposed Action was the update of the 1966 Western Livestock Grazing Survey base value of $1.23 per AUM. The original base value of $1.23 per AUM was established by accounting for the nonfee costs differences of using federal as opposed to private lands. Therefore, these costs differences have been considered in the Preferred Alternative.

26. ***Comment:*** *The fee structure should be brought up to fair market value, and the government subsidy to livestock producers should be stopped. The public lands livestock industry is heavily subsidized through low grazing fees. The federal government loses about $50 million a year subsidizing two percent of the cattle producers.*

    **Response:** These concerns were addressed in Fee Alternative 7: Competitive Bidding. The Proposed Action would raise the grazing fee to a base amount of $3.96 per AUM by 1997. Thereafter the fee would be kept current by being indexed by the annual change in the private grazing land lease rate. The proposed fee would approximate fair market value on a westwide basis because of its adjustments for differences in public land as opposed to private land grazing. The fee would generate levels of funding that approximates the direct cost of the government's livestock grazing program.

27. ***Comment:*** *The fee structure should be stable from year to year and should be reduced to a maximum change of 10 percent per year.*

    **Response:** After 1997 the grazing fee would be adjusted annually by the change in the private grazing land lease rate. The forage value index was established 26 years ago, and since that time the private land lease rate has changed more than 10 percent per year only four times. In three of those years the change was less than 15 percent. It is reasonable to assume that future changes would be similar to past changes.

28. ***Comment:*** *Federal grazing fee rates should be compared with similar conditions such as leases for grazing on state-held lands.*

    **Response:** Most state land in the West is leased under the legislative mandate to maximize revenue for the school system. This mandate is not consistent with the grazing fee objectives of the federal government.

29. ***Comment:*** *Fees should be structured to consider livestock prices and weather conditions. The Government should not set arbitrary prices but should participate in the risk and rewards associated with livestock-producing conditions.*

    **Response:** Livestock prices and weather conditions were considered in the development of the Proposed Action and several of the alternatives (see Chapter 2 of the draft EIS for details). The Proposed Action, for example, uses the private grazing land lease rate to adjust the fee annually.

The private rate reflects livestock prices and weather conditions indirectly through forage supply. The private land lease rate tends to increase with increased livestock prices, although there is a lag effect. Also, when there is good moisture and a good forage supply, the price of private grazing decreases.

30. ***Comment:*** *We propose a graduated fee based on herd size. Use the present fee for ranchers with fewer than 100 head. Progressively increase the fee for each additional 100 head authorization. The full fee of $3.96 per AUM should apply only where authorized use exceeds the average size operation of 221 head.*

    **Response:** This proposal was considered during alternative formulation but it is not part of the Preferred Alternative. However, it would be costly and impractical to administer. And though there is generally a correlation between ranch size and income, in many instances there is no relationship. For example, some small ranches in the West, particularly in scenic areas, are owned by wealthy absentee owners. In addition, some large corporate farming operations graze small herds of livestock on federal land. Other problems include when and how herd size is established. The size of a herd can vary by as much as 20 to 50 percent during the year. Also, if a permittee has 101 cows, it is not clear whether the higher rate would be charged for the entire herd or for just one cow. Or, whether the herd size would be based on the number of livestock that graze federal lands or on the entire ranch operation. Nonetheless, as stated on page 2-34 of the draft EIS, "Under all of the grazing fee alternatives, except Competitive Bidding, a tiered-fee arrangement could be implemented to provide financial relief to small operators."

31. ***Comment:*** *Grazing fees should cover all the costs of administration of a grazing program that incorporates sound ecological practices; research to determine functioning of disturbed and natural ecosystems; managers and public affairs specialists to hold the myriad of meetings in the proposed rules; resource staff to monitor range conditions and sensitive species and to produce quantitative data that is publishable in peer reviewed journals; the law enforcement staff to monitor boundary compliance and range conservationists to do the same; wildfire prevention and suppression programs in areas currently and formerly grazed by livestock; mitigation and compensation for damage to public land such as the cost to convert a nonnative plant community prone to fire to a biologically diverse native plant community; and the full costs to the public of livestock grazing on public lands covering all costs for all categories of livestock.*

    **Response:** Fee Alternative 6: PRIA with Surcharges, could use the fee produced by the Public Rangelands Improvement Act (PRIA) formula as a base value and add a surcharge to cover the cost of administering the grazing program at the local Forest Service and BLM administrative level. A number of the activities listed above in the comment do not relate directly to livestock grazing and, therefore, would not be appropriate to include as costs to be covered by revenue from the grazing fee. For example, the cost of prevention and suppression of wildfire should not be covered by the revenue from grazing fees because this is a public-service responsibility. Also, there are instances where proper livestock grazing can reduce the fuel source, and thus potentially reduce the cost of fire suppression. Nevertheless, it is not the intent of the Preferred Alternative to recover all costs of grazing management. Rather, the intent is to receive a fair fee for livestock grazing on federal lands.

    Expenses related directly to livestock grazing management include administration of permits, designing grazing systems, complying with NEPA, preparing and implementing plans, making improvements on grazed rangelands, and working with permittees. In FY93, BLM and Forest Service expenditures for these activities totaled $65.1 million, or $3.99 per AUM (see draft EIS, page 3-10). Raising the grazing fee to $3.96 per AUM would generate about $64.7 million (assuming current authorized-use levels), roughly equivalent to current total expenditures for livestock grazing management.

32. ***Comment:*** *The equity allocation fee formula developed by Owyhee County was dismissed by the agencies despite the fact that this is the only proposal that does meet the statutory mandates*

*and the agencies' criteria, is based on sound science and economic logic, does not disrupt the balance of relative values the free market has established between private land and federal leases, and enhances the stewardship incentive for ranchers. We urge that the Owyhee County proposal be examined in detail and offer our assistance.*

**Response:** This alternative was not dismissed, it was considered in the draft EIS. Under this alternative, the federal grazing fee would be set at 19.1 percent of the annual 11-state average private grazing land lease rate (PGLLR). The 19.1 percent is determined by dividing the federal grazing fee (set by PRIA) by the PGLLR over the past 15 years. Elements of this alternative-the current PRIA grazing fee formula and tying the grazing fee to the rate of change in the private grazing land lease rate-appear in some of the other alternatives. Therefore, the effects of this alternative were addressed within other alternatives analyzed in detail in the draft EIS.

## Employment and Income Impacts

1. ***Comment:*** *The model used to estimate income and employment impacts (MicroIMPLAN) in the West does not include family labor employed by ranch operations. Therefore, the model understates the number of employees and level of income in the agriculture sector. For this reason, it does not accurately assess the economic impacts of Rangeland Reform '94.*

   **Response:** The MicroIMPLAN model, used to depict baseline economic conditions and impacts, incorporated data collected and reported by the U.S. Dept. of Commerce, Bureau of Economic Analysis (BEA). This data includes employment and income for workers employed in the agriculture sector, including persons identified as self-employed. To the extent livestock operators are considered self-employed, they would be included in the estimates. Unpaid family labor, however, would not appear in the statistics. Including an estimate of the number of workers considered to be unpaid family labor would increase the baseline estimate of agricultural employment (and thus total employment) but would not significantly change the relative contribution of the agriculture sector to the western economy. (See also Appendix N of the draft EIS for an explanation of how impacts were estimated in response to initial changes in spending due to increased fees and reduced AUMs.)

   MicroIMPLAN is widely used to assess economic impacts of changes in spending of the type expected under the Proposed Action and in fact was used in a study submitted for review during the draft EIS public comment period on impacts to the Nevada economy of a reduction in AUMs in three BLM districts. See Employment and Income Impacts, Response 4.

2. ***Comment:*** *A careful look at the sheep industry suggests that the EIS's estimates of employment and income effects are not correct. If federal grazing lands were unavailable, 25 percent of the sheep industry would be lost. This lost output represents $1.686 billion in revenues for the United States economy and $523 million in contributions to the federal treasury. Without public-lands grazing, the U.S. economy would suffer $869 million in annual losses due to reductions in domestic wool sales. Approximately 40 percent of the fine wool production and 45 percent of the medium grade wool production in the U.S. is based on public lands. Losses in output would include reduced sales of lambs and wool at the producer level, reduced revenues to restaurants and meat packers from decreased supply of lamb and mutton, lost receipts at tanneries and exporters (decreased pelt shipments), loss of retail clothing and apparel export earnings, and lost value of lanolin production.*

   **Response:** The No Grazing Alternative is the only alternative in which federal lands would be unavailable for grazing. Under the No Grazing Alternative, the worst-case scenario estimated about 817,000 sheep would be lost, representing about 8 percent of the sheep inventory in the lower 48 states, not 25 percent (see draft EIS, pages 4-117 through 4-121). Under the Proposed Action, most public land would still be available for livestock grazing. In the long term forage availability under the Proposed Action would be

three percent less than under continuation of Current Management. The analysis of impacts on employment and income was based on these estimates of forage availability. Further, if sheep operators converted to cattle as has occurred in the past, the level of impact estimated in this comment would be less since cattle production would offset the loss in economic activity from sheep production. This would also be the case if sheep operators relinquished their permits and the permits were subsequently obtained by cattle operators.

3. ***Comment:*** *The draft EIS erroneously assumes that the demand for federal forage would remain constant regardless of the fee charged or regulatory conditions imposed.*

   **Response:** The analysis in the draft EIS assumes that as long as the fee is equal to or less than the value for federal forage determined by forage value appraisals conducted in the mid-1980s, public-land forage would continue to be in demand in the long run. It is recognized that at the higher fee level some operators would not continue to purchase federal forage but that other livestock operators would acquire this forage. As discussed in Appendix G of the draft EIS, supply and demand analysis that reveals the amount demanded of a particular good at different price levels is technically valid only under competitive markets for identical or similar goods. The diversity of federal AUMs and the nonmarket supply side render traditional supply and demand analysis speculative in finding the value of federal AUMs. Also, the institutional features of the federal grazing market make the market value of federal forage unobserved. The market value has to be imputed. All methods of imputing market value have faults and are subject to inaccuracies and criticism. Further, no empirical data exists on which to base estimates of Forest Service/BLM forage demand and supply elasticities. Even for indirect measures, such as permit value or subleases, there are no regular, consistent, or comparable data gathered from which responses or elasticities can be reliably estimated.

4. ***Comment:*** *The draft EIS assumptions regarding income impacts are incorrect. For example, a study of impacts from grazing fee increases on the Wyoming economy shows the reduction of income to the Wyoming economy alone to be $5.6 million. An analysis of grazing in Nevada shows that reductions in active-preference AUMs (totalling 484,000 AUMs) on allotments in three BLM districts alone over the past 30 years have caused a reduction of $19.9 million in capital investment (permit value). This study also shows that a reduction of 195,000 active-preference AUMs since 1986 has caused a decrease of $15.6 million in total economic activity (as measured by the MicroIMPLAN input-output model). These studies are evidence that the income impacts are much more extensive than reported, especially when one considers the reasonable assumption that BLM would reduce grazing levels by at least 25 percent in the next few years.*

   **Response:** The Wyoming analysis began with the assumption that AUM use would be unchanged at the higher fee level (as did the analysis in the draft EIS). It further estimated loss of income if production decreased due to the higher grazing fee, although it did not forecast loss of production due to higher fees. The analysis also assumed that the entire difference between the current fee and the higher fee would be a leakage from the economy. It did not account for the fact that about 70 percent of all grazing fee receipts are returned to either the state or county where the AUMs are located. These dollars should be considered as an injection into the economy when estimates of impacts are made.

   The Nevada study used the decline in active-preference AUMs from 1986 to the present as the basis for estimating impacts to economic activity. But the number of AUMs authorized, the number actually paid for from year to year, is the more suitable category of AUMs to use for estimating economic impacts. Although active preference and actual use may have declined on the allotments examined for the Nevada study, it is difficult to ascertain whether the $15.6 million impact occurred. BLM Grazing Administration Billing System (GABS) records show that actual-use AUMs in fiscal year 1993 were in fact lower than in fiscal year 1986 in Nevada. But actual use fluctuates from

year to year in response to a variety of factors such as drought and market conditions. Further, the number of actual-use AUMs in fiscal year 1993 was higher than in fiscal year 1983 in Nevada, indicating that at least for these two points in time livestock production from BLM-administered lands increased.

The conclusion that $19.9 million in capital investment was lost due to the loss of 484,000 AUMs over the past 30 years is also questionable. The method used to produce this result applied a current capitalized value ($41.17/AUM), but these active-preference AUMs were eliminated as far back as 30 years ago when values were much lower. In addition, the loss of some of these preference AUMs during the evaluation procedures of the past 30 years may have been "paper losses" in the sense that the AUMs may not have actually existed (which is why they were eliminated from the permit). In other words, the active preference may not have represented the actual forage capacity at that time. Under the Proposed Action, AUMs are expected to decline by only three percent more over 20 years than under continuation of Current Management. Thus, we disagree with the conclusion that this impact ($19.9 million) can be expected in the "next few years" from a 25 percent reduction in AUMs.

5. ***Comment:*** *The amount of income lost westwide under the Proposed Action would be only 0.2 percent more than under Alternative 4, the Environmental Enhancement alternative. Thus the cattle industry in the West would not experience substantially greater losses under Alternative 4 and would continue to be viable. The additional loss of 0.2 percent in westwide income from selecting Alternative 4 would be minimal and wholly offset by the economic benefits of this option.*

**Response:** Alternative 4, the Environmental Enhancement alternative, which includes among other provisions the suitability test, would decrease livestock industry income and employment by more than the Proposed Action. It would also restore fragile or nonfunctioning lands to improved conditions at a faster rate than the Proposed Action. These factors will be considered and balanced in preparing the records of decision.

6. ***Comment:*** *The negative economic impacts of the Environmental Enhancement Alternative and the No Grazing Alternative are greatly exaggerated Many of the grazing leases are held by large corporations or absentee ranching companies with no economic ties to local communities, and a majority of the cattle on public lands are owned by such large corporations and companies.*

**Response:** We disagree that the economic impacts have been exaggerated. The agencies recognize that many livestock operations with federal permits are large corporate operations and absentee ranching companies. However, to the extent that they hire local labor and buy or sell products and services locally, they do contribute to local economies. In addition, the economic impacts were not estimated to be significant under these two alternatives. It should be recognized however that impacts would vary depending upon each operation's particular circumstances; and for some operators, both large and small, the impacts could be significant.

## Local Communities

1. ***Comment:*** *Most ranchers in our area would go out of business due to Rangeland Reform '94. Small businesses who sell to ranchers would also close. Counties would have reduced tax revenues when businesses close and land is used less productively. Schools, hospitals, and other community services and professionals that depend on a given population level to be present in rural areas would be negatively affected. Truly rural counties, those that have not experienced economic diversification, would not be able to make up for the loss of ranching associated economic activity and employment through increased recreation and other industries. Especially in counties where public lands are 50 percent, 75 percent, or more of the total area, a substantial share of jobs-related income is tied to ranching on public lands.*

**Response:** The draft EIS discussed economic impacts of each alternative at both the macro and

micro level. Potential impacts of the Proposed Action on income and employment were analyzed for the 17-state region where most of the effects of the program would occur. The draft EIS found that impacts at both the micro and macro level would not be significant. Impacts on ranch income and operations were also discussed for operations at three differing herd sizes and two levels of dependency. The results of this analysis showed that marginal ranching operations with high dependency levels could be adversely affected and that the level of impact would also depend on the ranch's financial condition and ability to adjust to new circumstances. The analysis also recognized that counties and municipalities with large numbers of marginal, highly dependent livestock operations could also experience adverse impacts. Thus, impacts were described for all parts of the economy, not only for livestock producers but also for sectors that are directly and indirectly related to ranching. (See especially pages 4-31 through 4-38, 4-55 through 4-62, 4-77 through 4-82, 4-99 through 4-107, and 4-118 through 4-123 of the draft EIS.). It should be noted that proportionately few operations fall into the high dependency group and most public land ranchers would continue to operate. So businesses who sell to western ranchers would still have a substantial market. Similarly, data on local government general revenues provided by the U.S. Bureau of the Census (U.S. Department of Commerce, 1993) show that a substantial part of local governmental budgets in counties in the West now originate as intergovernmental transfers (grants, revenue sharing, appropriations, etc. from the federal or state governments). Thus the size of local government budgets and their ability to fund needed services would be little affected by the Preferred Alternative.

2. ***Comment:*** *Studies by state universities have found that each AUM grazed adds a substantial amount of economic activity to rural counties, for example, more than $60 per AUM in direct activity and more than $125 in total output. For one permit of 170 AUMs that translates to more than $11,000 in direct economic activity and about $23,000 in total economic output. Studies have concluded that the livestock industry adds $437 million dollars in direct economic activity to the local economy(ies) of the West. The EIS should have disclosed this.*

   **Response:** The draft EIS discusses the contribution of the agriculture industry in the West and recognizes that livestock production is an important industry in many rural communities (see pages 3-56 through 3-81of the draft EIS).

3. ***Comment:*** *The analysis of the effects of the Rangeland Reform '94 proposal does not adequately address economic impacts on local economies as required by the National Environmental Policy Act (NEPA), the Public Rangelands Improvement Act (PRIA), and the Taylor Grazing Act.*

   **Response:** The analysis of economic impacts is appropriate and meaningful for the programmatic nature of the Proposed Action. The draft EIS described impacts for all parts of the economy, not only for public-land ranchers but also for sectors directly and indirectly related to ranching. (See especially pages 4-31 through 4-38, 4-55 through 4-62, 4-77 through 4-82, 4-99 through 4-107, and 4-118 through 4-123 of the draft EIS). In addition, it was recognized that public land ranchers contribute to the local economies of their communities and counties (see especially pages 3-75 through 3-77 of the draft EIS).

4. ***Comment:*** *Ranching families support the local school systems both through the property taxes they pay and by providing many of the children who are students. If Rangeland Reform '94 were implemented, the local schools would be devastated as the tax base would decline and people move away. The EIS must disclose impacts to local revenues.*

   **Response:** The U.S. Bureau of the Census annually publishes data on local governmental revenues, by source. Its recent annual publication *Census of Governments (U.S. Department of Commerce, 1993),* showed that the local governments in the Mountain and Pacific West have general revenues in the aggregate of nearly $30 billion (1991 dollars). Ranch budgets reviewed during preparation of the draft EIS suggest that property taxes paid by ranchers, including real

and personal property, vary from $8 to $23 per mature breeding cow. On the basis of possible herd-size reductions discussed in the draft EIS (see especially Appendix O), it is estimated that the Proposed Action could reduce revenues to local governments in the West by up to six-tenths of one percent. A change of this size would be within the limits of the normal range of variation in the budgets of the local governments of the West. Although the draft EIS estimated that about 3,000 jobs would be lost in the long term under the Proposed Action, population would not necessarily decrease in rural western counties. Available data suggests that rural workers who lose their existing jobs are rehired on the average in less than one-half year. Stam and others (1991) found that many farm and ranch operators who cease operating during times of financial stress reenter as producers when conditions stabilize. Thus, population losses are not expected and school enrollment should not decline.

5. ***Comment:*** *Ranchers would be strapped to find alternative areas to graze their cattle if stocking rates were reduced on public lands. Private lands used for grazing are becoming scarce as the West is subdivided into urban and recreational developments. Increased costs of providing services to newcomers is driving up property taxes in western rural counties to the point that even families who don't want to sell or subdivide are doing so. Any increase in the grazing fees would interact cumulatively with the increased property taxes to squeeze out marginal ranching operations.*

   **Response:** The draft EIS discusses the growing trend in the West of subdivision and development of open spaces previously used for farming and ranching (pages 3-64 through 3-81). Many communities in the West are experiencing an influx of new residents, placing strain on existing services and local government revenues. In some areas of the West, marginal operators might likely go out of business in response to these pressures and sell their private lands, possibly for development. However, there is no evidence that the cumulative effect of these factors, coupled with the Preferred Alternative will accelerate the trend in areas where land-use conversions are already occurring or where permittees are currently facing the greatest financial stress.

6. ***Comment:*** *Operators in our county would have an increase in fees, based on the number of AUMs they have, averaging more than $3,500 per year, well above the estimate included in the EIS. Also, the EIS ignores the issue of the value added to the ranch by the federal permit. Since the permit value is part of the assessed value of the ranch, for ad valorem taxes, a decrease in permit value may affect schools which depend heavily on the property tax.*

   **Response:** In the analysis of impacts to livestock operators, three different herd sizes, each with two different levels of dependency, were used (see, for example, page 4-58 of the draft EIS). Three operations analyzed (herd size 210 at 60-percent dependency, and herd size 425 at 30- and 60-percent dependency) have between 1,500 and 3,000 AUMs. At $3.96/AUM, the increase in fees for these operations is $3,000 to $6,000, a range which includes an average increase in fees of $3,500. The analysis recognized that some operators, especially those with larger herds and/or the highest federal-forage dependency, have more AUMs than do the majority of BLM/Forest Service permitees and lessees. Although income impacts might be significant for operations using a large amount of forage, it should be noted that only eight percent of BLM permits and four percent of Forest Service permits have 2,000 or more AUMs. (See also draft EIS Appendices K and O).

   The issue of permit value was discussed in Chapters 3 and 4 of the draft EIS. A decrease in permit value would not reduce property taxes in most states. Most states classify, appraise and assess private land apart from any leased land in the ranch. See Permit Value responses.

7. ***Comment:*** *Economic devastation in our state and its counties would not be restricted to just the loss of jobs and income. Each American farmer/rancher feeds 128 people, 94 in the U.S. and 34 abroad. America produces much of the world's beef, a large part of which comes from public lands in the West. The character and*

*identity of people in the West has been shaped in part by the fact that they are producers whose efforts feed the world.*

**Response:** In the long term the Proposed Action is estimated to decrease the number of federal AUMs by three percent more than continuation of Current Management. The impact analysis in the draft EIS acknowledges that the most marginal permittees would be the most adversely affected. However, it does not conclude, nor is there any evidence, that any adverse impacts to the world food supply would occur.

8. ***Comment:*** *What would be the impacts on rural communities and local tax revenues of issuing permits to environmental groups for conservation use? Would environmental groups be required to own base property?*

**Response:** The draft EIS concluded the impacts to rural communities and local tax revenues from issuing conservation use would not be significant (see draft EIS p. 4-62). Permitttees currently can take nonuse for a variety of reasons. Thus, a significant increase in demand for nonuse is not anticipated under the Preferred Alternative.

All holders of grazing permits and leases, including conservation-use leases, would be required to hold base property. Terms and conditions of the permit would still be required to conform with the existing land-use plan. In addition, BLM would retain the authority to approve or disapprove a request for conservation use. See Conservation Use responses.

9. ***Comment:*** *What would happen to rural communities from the loss of grazing fee receipts returned to the communities under the Taylor Grazing Act (TGA)?*

**Response:** As described in Alternative 2 on pages 4-59 to 4-61 of the draft EIS, grazing fee receipts are not expected to decline. However, if receipts were to decline in any particular county, the net effect would depend on how Payments in Lieu of Taxes (PILT) are determined for that county. The change in revenues to counties from changes in grazing fee receipts and PILT payments was discussed in Appendix H of the draft EIS.

A county whose PILT payment is determined by "Formula A" would experience no change in total revenues received under the PILT Act and the TGA. This is because, when calculating a county's annual PILT payment, grazing fee receipts returned to the county from the prior year are deducted from the PILT payment. If grazing fee receipts are declining, the PILT payment increases by the same amount because a smaller amount is deducted. About 76 percent of all counties in the 17 western states fall into this category.

A county whose PILT payment is determined by "Formula B" would experience a decline in total revenues of the same amount by which grazing fee receipts decline. This is because grazing fee receipts are not part of the formula for calculating that county's PILT payment. Therefore, PILT payments would remain unchanged while grazing fee receipts decline; the net result is a decrease in revenue to that county. About 24 percent of all counties in the 17 western states fall into this category.

10. ***Comment:*** *Property owners with isolated private or state lands that are next to federal lands would need to fence those areas if they are priced off using their permits. It isn't economically feasible to lease and develop a water source for these marginal lands. By not using these for grazing, the tax base is lowered even more.*

**Response:** The tax base may decline if livestock production declines. Where and to what degree this would occur, however, is unknown. In addition, if one property owner fails to renew his or her permit, another livestock operator may obtain the permit, and production might increase on other private or state lands, thus offsetting some of the loss. However, where and to what degree this offsetting production might occur is also unknown.

## Livestock Operations/Livestock Industry

1. ***Comment:*** *The draft EIS must be amended to honestly acknowledge that as many as 50 percent of the livestock operators with federal permits would leave public land ranching voluntarily or involuntarily if the proposed regulations are implemented.*

   **Response:** The analysis of impacts under the Proposed Action acknowledges that some operators may not remain in business (see, for example, draft EIS, pages 4-57 to 4-59).

   The apparent source of the 50 percent estimate is a study of western livestock operators (Fowler and others, 1994) that reported the findings of a survey completed in 1992, one year before the Rangeland Reform '94 proposal was developed. In response to the survey question, "If ranching ceased on public lands what would you do?" the study reported that "[o]ver half (57%) of western ranchers with federal land indicated they would continue on a smaller scale if access to federal AUMs of grazing was lost" (page 17). This implies that 43 percent would leave ranching if access to graze public lands were restricted.

   Since the 50-percent figure was not established in response to the proposed increase in grazing fees and changes in regulations under the Proposed Action, it is inappropriate to use this figure as an estimate of the number of ranchers who would leave public land ranching if the proposed changes were implemented. Survey participants were not asked what they would do if the fee were increased to $3.96 per AUM or if regulations on livestock grazing were changed. Furthermore, the agencies are not proposing to take all public forage away from public land ranchers, so the response to the question is not relevant to the Preferred Alternative.

2. ***Comment:*** *The EIS deliberately ignores capital investments made by the permittees.*

   **Response:** There are two separate and distinct components to the issue of capital investments. The first component concerns the issue of capital investment in the purchase of a ranch operation and the associated value attached to ranches with permits by the real estate market. The second component relates to capital investment in range improvements.

   The issue of impacts to permit values was considered and discussed in the draft EIS on pages 4-11 and 4-12. Furthermore, this issue is discussed and explained in this chapter under the heading Permit Value. The issue of rangeland improvement ownership is discussed in the draft EIS on page 2-15. The Preferred Alternative would require that the United States hold title to all new grazing-related improvements built on public lands, except temporary or removable improvements. BLM would hold title to all permanent range improvements built in the future on public lands. The Forest Service policy on ownership of improvements would not change. The ownership of existing range improvements would not be affected.

3. ***Comment:*** *The draft EIS erroneously concludes (page 1-9) that grazing fees for 73 percent of the operators would increase by only $1,000 under the Secretaries' fee proposal.*

   **Response:** About 73 percent of BLM permits and leases currently have 500 or fewer AUMs of forage authorized. But some permittees and lessees have more than one permit, resulting in a total number of AUMs greater than 500 for these operators (although some permit such as those issued to grazing associations cover more than one livestock operator). The statement on page 1-9, referred to by the commenter "... more than 73 percent of BLM permittees and lessees would experience a fee increase of less than $1,000 per year..." has been revised to read, "... grazing bills on more than 73 percent of BLM permits and leases and about 50 percent of Forest Service permits would increase by less than $1,000 per year..."

4. ***Comment:*** *Livestock production would drop due to the fee increase. The short-run economic effects of the proposed fees would include a decrease in livestock production, an increase in livestock production costs, and a decrease in economic activity. By 1997, grazing on BLM land in Nevada would fall 18 percent (364,873 AUMs), resulting in a decrease of $13 million in livestock production. This, in turn, would result*

*in a decrease of $23.5 million in total economic activity and a decrease of 420 jobs statewide.*

**Response:** The draft EIS acknowledges that the amount of federal forage demanded would decrease at the higher fee levels for some operations (see page 4-17). However, at the higher fee level, it is also likely that as these AUMs become available other livestock operators would acquire these AUMs. Since federal AUMs have not been subject to competitive market conditions, there is no empirical basis on which to judge elasticity. The updated appraisal indicates that the lowest regional value is higher than the proposed fee; so, it can reasonably be assumed that all forage would be demanded, if not by the current permittee, then by a future permittee. There is no data available that provides the basis for a better assumption. See Employment and Income Impacts, Response 3.

5. ***Comment:*** *The EIS presented a deliberately misleading analysis by including beef production in the entire lower 48 states. A high proportion of total federal land acreage is in the West, and the EIS misrepresents this by including midwestern and eastern beef cattle numbers in determining the percentage of U.S. cattle that depend on federal forage.*

   **Response:** Chapter 3 of the draft EIS describes the general economic environment, and more specifically livestock operations and production, on federal lands in the West. Table 3-15 on page 3-66 was presented to enable the public to view western livestock production from both regional and national perspectives. The table lists the number of beef cattle and beef cattle producers in the United States in 1993; shows the number of beef cattle, beef cattle producers, producers with federal permits and leases; and shows the portion of all producers with federal grazing permits for the following:

   1. 11-state western region
   2. 5-state central west region
   3. Texas
   4. Total 17 western states (includes central west region and Texas)
   5. eastern region
   6. Total 48 contiguous states

   The draft EIS acknowledges that the western livestock industry and federal forage are economically important, both regionally and locally. Federal rangelands are essential to the economic vitality of many family farms and ranches, with some western communities relying heavily on ranching as the main economic activity. The importance of livestock production on federal rangelands is also described in Table 3-17 showing by state the estimated dependency of ranching on federal forage.

6. ***Comment:*** *The economic baseline information in the EIS pertaining to the sheep industry is inaccurate, misleading, and often inconsistent with other studies and even government documents. It tends to underestimate the importance of federal grazing to western sheep operators.*

   **Response:** The data on the role of federal lands in the sheep industry is not misleading or incorrect; the data is just presented differently than in previous documents. For example, while it may be correct that one-third of the sheep and lamb inventory graze on BLM/Forest Service lands, it is also correct that BLM land provides five percent and Forest Service land provides six percent of the overall feed requirements to sheep in the 11 western states. Both statements are correct; they just present dependency in different ways. Additionally, economic baseline information pertaining to the sheep industry was taken from recent studies, including permittee data from both BLM and Forest Service data bases, and statistical reports of the National Agricultural Statistics Service.

7. ***Comment:*** *The draft EIS incorrectly concludes that livestock grazing is decreasing in the western states and that the relative importance of agriculture, including public land ranching, has declined. Agriculture is the most significant sector or is one of the top industries in many states in the West, often contributing more to the economy than travel, timber, and mining combined. In some states, the dollar value of agricultural sales has been increasing. In several states, livestock production is the largest component of agricultural sales. If a complete loss of public land grazing occurs under the No Grazing Alternative, it could substantially decrease herd*

*sizes in the western states. Alternatively, if ranchers held herd sizes constant and public land was not available for grazing, supplemental feed (e.g., hay) would be required, driving up the costs to ranchers. Since calves, lambs, and wool are generally sold to out-of-state buyers, decreases in livestock production would show up as a loss of new money (export earnings) in the West, leading to a contraction in the economic base of the states.*

**Response:** We agree that agriculture, including livestock production, is an important industry for all Western-state economies and recognize the significant contribution it makes to many regions and rural communities in the West (see draft EIS, pages 3-56 through 3-82). We also recognize that a sustainable resource base plays a key role in agriculture's continued vitality. The Preferred Alternative does not propose, nor would it cause, "a complete loss of public land grazing." Thus, overall economic impacts estimated under the Preferred Alternative are not expected to cause significant adverse impacts to this important industry in the long term, although adverse impacts to some permittees may be significant, depending upon their financial condition.

8. ***Comment:** The impacts of Rangeland Reform '94 would include further reductions in the availability of public land forage, which comes on top of other forage reductions that BLM and the Forest Service have previously made. These historic reductions have made livestock operations marginal; further cuts could put us out of business.*

**Response:** The draft EIS discusses whether decreasing the supply of public land forage would adversely affect some ranch operations. (See especially Appendix O, which discloses the effects on herd sizes and ranch net returns from decreasing the availability of federal forage and increasing the grazing fee). The analysis in the draft EIS is clear that some livestock producers are operating on the margin. It also is clear that decreases in the availability of federal forage and an increase in the grazing fee would have the greatest effect on permittees who most highly depend on such forage and have the least flexibility in substituting alternative forage. The draft EIS analysis found, however, that proportionately few operations fell into the high dependency group and that only those with already marginal cash flows might be affected significantly.

9. ***Comment:** Studies conducted by the Integrated Resource Management Policy Group (IRMPG) conclude that with the phase-out of the National Wool Act, at least 47 percent of the sheep operations with federal permits would go out of business. These figures only include ranches without any present debt. For those ranches with debt, chances of survival only range from 22-35 percent. Any costs of federal grazing in addition to lost income from the phase-out of the Act would reduce the chances of survival to as low as seven percent.*

**Response:** The IRMPG study (Carande and others, 1994) did not conclude that 47 percent of the sheep permittees would go out of business due to the phase-out of the wool incentive payments. That study presented a simulation for one representative Colorado sheep operation. After full phase-out of the wool payments, the simulation indicated that the operation had a 100 percent probability of "survival," that is, a 100 percent probability "that the ranch would remain solvent during the simulation period." The simulation also indicated that the operation had a 53 percent probability of "success," that is, a 53 percent probability of "earn[ing] a return on initial equity greater than 5.76 percent." Looked at another way, this operation had a 47 percent probability of <u>not</u> earning a return on initial equity greater than 5.76 percent; this is the apparent source of the 47 percent reference in the comment. Increasing the debt-to-asset ratios in this simulation to 20, 30, and 40 percent showed probabilities of "success" between 96 percent and 81 percent, not 22-35 percent.

Combining the effect of the loss of the wool payments with increased grazing fees and increased production costs, this operation is estimated to have a 100 percent probability of "survival" (with no debt). At 20-40 percent debt-to-asset ratios, the probability of survival is estimated to be 90 percent to 63 percent, not seven percent.

Therefore, it is inappropriate to conclude from this study's results that 47 percent of the sheep operations with federal permits would go out of business, or that permittees' chances of survival are seven percent when combining the loss of wool payments with higher fees and increased production costs.

The IRMPG study noted that the greatest impact to this operation's net cash income would result from the phase-out of the wool incentive payment. But, it further recognized that the fee increase would contribute to the sheep industry's decline and this is acknowledged in the draft EIS.

10. ***Comment:*** *Impacts for larger-size operations (700 AUs, 1000 AUs, and 1500 AUs) need to be shown, at federal forage dependency levels of 70, 80 and 99 percent. Ranchers with various levels of debt would also be useful in analyzing effects of higher fees.*

    **Response:** We believe that the size and dependency of the operations depicted in the draft EIS adequately represents most livestock operations with federal permits. Data collected in the 1990 Farm Costs and Return Survey (FCRS) indicate that over 90 percent of cattle operations with federal permits have less than 500 cows (see Appendix G, Table 2, page G-6 of the draft EIS). Chapter 3 of the draft EIS also shows the average forage dependency of operations in the western states, ranging from 11 percent in Montana to 60 percent in Arizona (page 3-68).

11. ***Comment:*** *The National Wool Act, which would be phased out over the next three years, currently provides more than 20 percent of total income for the typical sheep operation in the West. This dramatic loss of income would financially pressure producers to convert to cattle or vacate their permits. Additional costs of grazing would put even more pressure to convert.*

    **Response:** We recognize that the cumulative effect of the loss of wool incentive payments and increased costs under the Preferred Alternative may cause some operators to go out of business. Thus, the long-term trends in the sheep industry over the past 50 years toward fewer operations and lower sheep inventory would continue.

12. ***Comment:*** *If ranchers without alternative forage sources go out of business, there would be increased concentration and monopolization in the livestock industry. This is contrary to public policy which encourages continued viability of small livestock operators.*

    **Response:** The trend toward fewer but larger farms and ranches has existed for decades in all regions of the country. In the 1970s, this trend slowed, and in the West there was even a slight increase in the number of farms. Many of these new farms were small part-time farms and this caused a decrease in the average farm size in the West (Reimund and Gale, 1992). During the 1980s farm crisis, the trend toward larger farms picked up again; but this was caused more by fewer entries rather than exits from the business. Reimund and Gale estimate that "...exits of farmers due to financial stress varied from about 2 to 4 percent of all farmers during the worst years of the [1980s] farm recession," (pages 12-13).

    The draft EIS acknowledges that some operators may go out of business, depending on their particular circumstances. However, there is no evidence this would be significant, widespread, or that implementation of the Preferred Alternative would accelerate the trend toward fewer and larger farms and ranches.

13. ***Comment:*** *The EIS assumption that only one percent of the nation's cattle herds are on federal lands is preposterous.*

    **Response:** The draft EIS states that permitted use on federal lands makes up about seven percent of beef cattle forage and about two percent of the total feed consumed by beef cattle in the 48 contiguous states. About a third of beef cattle in the West graze at least part of the year on federal rangeland (page 3-68 of the draft EIS).

14. ***Comment:*** *The draft EIS failed to consider impacts on small and family owned ranches. Small to medium sized family ranch enterprises*

*characterize that portion of the western livestock industry holding federal permits. Nationwide, the average cow herd size is 174 cows; on federal allotments average cow herd size is 150 to 188 cows. The rule-of-thumb minimum herd size for a one family ranching operation is 300 cows for a viable ranch operations.*

**Response:** The analysis of economic impacts in the draft EIS did consider operations in the range indicated in this comment (see, for example, pages 4-58, which show impacts to operations with herd sizes of 90, 210 and 425).

***NOTE:** Comments 15 through 26 pertain to analysis conducted by USDA Economic Research Service which appears in Appendix G of the draft EIS.*

15. ***Comment:** Economic Research Service (ERS) estimates do not match estimates for individual ranches or state budgets (extension budgets or cost studies). For example, "[i]n Idaho, average operating costs for the federal land dependent ranch enterprise budget are $334 per cow (versus $245 in the ERS report)." Another comment states that "[y]ou would notice that there is not much difference [between ERS estimates and a set of actual New Mexico ranch expense and income records] in expenses but a rather large difference in income per cow unit."*

    **Response:** ERS cost and return estimates and related production data and estimates differ from state and local data for a number of reasons. The Farm Costs and Returns Survey data are quite variable, from which it follows that some operations have characteristics or dollar amounts above the ERS averages and some have characteristics or dollar amounts below the averages. Likewise, averages or enterprise budgets from any single state or subregion within a state would not necessarily coincide exactly with ERS sector averages, nor should they be expected to. However, as averages across all operations, including all levels of management skills, size, diversification, natural phenomena, and other factors, ERS estimates of permittee receipts and cash costs are within the range of budget estimates published by state extension personnel (Torell and Word 1993; Smathers and others 1990a, b, c) and other published sources (Moline and others 1994; Workman 1994). Budget estimates from a variety of sources are both above and below ERS permittee estimates.

    In addition, extension budgets are often simplified and describe relatively pure, often idealized, cow/calf-only or other highly specific situations and thus cannot be considered as representative of even locally average situations. Further, budgets from various sources are not directly comparable because of differences in objectives, methodologies, and even what to include or exclude from the budget. These differences require that non-ERS budgets must be adjusted before they can be compared to ERS estimates. For instance, family or operator labor is excluded from ERS estimates because hours and value for family labor are difficult to assess. Other cost items are either omitted from extension budgets (like federal grazing fees from the Idaho extension budget MS 110-10) but included in ERS estimates or vice versa (like including family living expenses as cash expenses in Wyoming (Moline and others 1994) and including purchased bulls as variable costs in New Mexico extension budgets (Torell and Word 1993).

16. **Comment:** *Cow numbers decline by less than one-to-one as Forest Service/Bureau of Land Management (Forest Service/BLM) forage declines (Tables G-4 through G-7, Appendix G).*

    **Response:** The analysis in tables G-4 through G-7, Appendix G of the draft EIS assumes that other forage sources (purchased hay, for example) are available and can be substituted for Forest Service/BLM forage, although at higher costs. Thus, it is not necessary to decrease cow numbers one-to-one with reductions in Forest Service/BLM forage. This result is not unique to Economic Research Service reports. (See for example Marousek and others 1994.)

17. ***Comment:** The 10 states used in the ERS study are not truly or wholly representative of the spring calving, summer breeding, fall weaning and calf sale structure that typifies the cow-calf rangeland livestock industry in the 11 western states.*

**Response:** Appendix G of the draft EIS and the ERS report ("Cow/Calf Ranching in 10 Western States," AER 682) summarized a 10-state regional subset of data collected through the 1990 Farm Costs and Returns Survey (FCRS) of beef cow/calf operations. The FCRS sample was designed and drawn by the National Agricultural Statistics Service, U.S. Department of Agriculture (NASS) according to rigorous statistical procedures to be representative of the U.S. and regions. The FCRS is an annual survey in which special versions are conducted each year for selected commodities on a four- to five-year rotation. ERS estimates national and regional costs and returns according to procedures approved by the National Agricultural Costs of Production Standards Review Board (a national board made up of producers from all over the U.S. who are familiar with the major agricultural commodities, including cow/calf production, and land-grant university faculty who have expertise in farm management economics) for those commodities from this data. ERS estimates reflect beef cow/calf operations as observed in 1990, the year of the beef cow/calf specific version of the FCRS.

ERS observed yearling cattle sales due to retained ownership of calves beyond weaning and additional cattle purchased for resale, often stocker cattle, for many operations in 1990. The observation from the 10-state subset of FCRS data that operations do not always sell calves at weaning is consistent with other published reports characterizing similar groups of Western producers (Fowler and others 1994, page 6; Moline and others 1994, page 3; and Workman 1994, page 7).

Many previous studies presented as representing the western livestock industry focus only on permittee operations (for example, Fowler and other 1994). These permittee-based studies, however, do not truly represent the western livestock industry because permittees do not constitute the whole of the western livestock industry. Indeed, permittees comprise a minority of less than 10 percent of beef cow/calf producers in the 16 western states (24 percent in the ERS 10-state study). Nonpermittees comprise the majority of 90 percent of western beef cow/calf producers in the 16 western states.

It is inappropriate to suggest that the disaggregated individual state and within-state subregion extension budgets reflect national or multistate regional average costs of production. State extension budgets are not always statistically based representations of states, sub-state regions, or groups of producers because they depend on self-selecting groups, they lack random statistical basis for representation, or they depend on software developed for often different objectives (for example, FINPACK). There are notable exceptions. It is also inappropriate to expect ERS 10-state regional estimates to represent any state extension budget.

18. ***Comment:*** *ERS's work is biased because it was developed to prove the lack of economic impact and the ERS assumptions are not correct or are biased to accomplish a desired outcome.*

**Response:** ERS did not bias the results of the analysis for any group's benefit. Cost and return estimates for 1991 represent 1990 cost and return data (Farm Cost and Returns Survey) indexed to 1991 dollar amounts. These costs were estimated during 1992 and released and published in June 1993 as a national and regional cost of production study, Cow/Calf Costs of Production, 1990-91, (Agricultural Information Bulletin No. 670). The costs themselves were estimated according to procedures developed by ERS and approved by the National Agricultural Costs of Production Standards Review Board. ERS cost and return estimation procedures are basically consistent from year to year; all observations and costs and returns for all commodities are treated essentially the same (Economic Indicators of the Farm Sector, Costs of Production series). For "Cow/Calf Ranching in 10 Western States," the previously-estimated costs and returns were simply retabulated to reflect both permittee and nonpermittee subgroups of cow/calf operations. Costs were not reestimated for the permittee-nonpermittee analyses.

19. ***Comment:*** *There is no support whatsoever for the ERS position in the published literature.*

**Response:** The ERS report is the only study of which we are aware that includes both permittee and nonpermittee costs and characteristics in which data for both groups of cow/calf producers were collected using the same survey instrument, at the same time, and summarized, analyzed, and compared using approved procedures. The ERS report reflects the western beef cow/calf industry because it represents and, thus, describes averages for all beef cow/calf ranchers in 10 western states with 20 or more cows.

ERS estimates are supported by the literature in several contexts. First, ERS estimates of costs and returns are within the range of extension budgets and other cost and return studies, for example, between New Mexico extension budgets (Torell and Word 1993) and Wyoming's own 400-cow operation study (Moline and others 1994).

Second, extension budgets can be used to show permittees with cost and net return advantages. For example, comparing Idaho's 275-cow permittee budget (Smathers and others 1990a) with their 250-cow nonpermittee budget (Smathers and others 1990c), permittees have a total variable cost advantage of $54.09 and a net return advantage of $15.07. New Mexico's budgets also vary in their comparison of permittee to nonpermittee budgets. However, there is a scarcity of nonpermittee budgets, thus limiting the potential for comparison.

Third, in addition to the full enterprise budget approach ERS used to investigate differences between permittees and nonpermittees, an alternate approach in the literature is the nonfee cost (also called the total cost) approach, where nonfee costs are costs that, in addition to fee rates, are associated with pasturing cattle on Forest Service/BLM versus private leased land. While difficult to allocate ERS-estimated line item costs specifically to operating on Forest Service/BLM versus private leased land, and considering different bases, the per-cow, per-hundredweight (cwt) basis (ERS) versus the animal unit month (AUM) basis of nonfee cost studies, some qualitative observations are possible. A subset of ERS line item estimates of cost items (labor, protein supplements [includes salt and minerals], veterinary expenses, livestock hauling, fuel, lube, and repairs) that correspond to nonfee cost items shows higher permittee nonfee costs than nonpermittee costs both per cow and per hundredweight. This result is consistent with the nonfee cost literature and further demonstrates the limitations of such a partial-budgeting approach for capturing all of the differences between permittees and nonpermittees. (See Incentive-Based Grazing Fee System for other criticisms of the nonfee methodology [USDA/USDI, 1993].)

Fourth, ERS's estimates represent the beef cow/calf industry as observed in 1990-91. Extension budgets often focus on narrower needs. For example, the lack of consideration of retained ownership of calves in extension budgets is inconsistent with findings in both our own study and with other studies (Fowler and others 1994, p. 6; Moline and others 1994, p. 3; and Workman 1994, p. 7).

20. ***Comment:*** *The ERS study mistakenly assumes that the operator would sell 20 percent of the mother herd each year.*

    **Response:** It was not necessary to make assumptions in the ERS analysis about cow culling rates or certain other production characteristics. Data on number of cows sold were reported by operators on the Farm Costs and Returns Survey (FCRS) questionnaire, as were data on calves born, cow inventories, and other production data. The FCRS data showed that the ratio of cows sold to cows and heifers bred to calve in 1990 (hereafter referred to as the "culling rate") was 12 percent. ERS estimates of culling rates are consistent with other published culling rate information: 14 percent in Utah (Workman 1994), 17 percent assumed in Idaho extension budgets (Smathers and others 1990a,b,c), and 11-15 percent assumed in New Mexico extension budgets (Torell and Word 1993).

21. ***Comment:*** *Three states affected by Rangeland Reform '94, Arizona, Nevada, and Washington, were omitted from the ERS 10-state study of costs and returns to ranching.*

**Response:** Several western states were left out of the ERS 10-state analysis for various reasons. Arizona and Nevada each had less than one percent of the national beef cow herd in 1990, so were not among the 31 states from which the Farm Costs and Returns Survey (FCRS) sample observations were drawn for the national and regional beef cow/calf cost and return estimates. Washington was excluded from the 10-state report because no permittee operations were included in our sample of Washington beef cow/calf operations. Only states with samples containing both permittees and nonpermittees were included in the analyses.

The 10-state subsample of FCRS data summarized in the draft EIS Appendix G and AER 682 appears to be representative of the 10-state beef cow/calf industry. In the 10-state subsample, permittees accounted for 24 percent of operations and 43 percent of beef cows. These percentages compare quite favorably with data from other sources. The ratio of the number of permits (which is slightly larger than the number of permittees) to total beef cow operations (USDA-NASS, Cattle) was 25 percent for the 10 states used in the ERS analyses. The 10 states in Appendix G and the ERS report account for 91 percent of the total number of Forest Service/BLM permits in the 17 western states. Arizona, Nevada, and Washington account for only eight percent of the total number of Forest Service/BLM permits in the 17 western states. Finally, the 10-state subsample contained over a third of the total number of observations from the 1990 cow/calf version of the national FCRS cow/calf sample.

22. ***Comment:*** *Appendix G (draft EIS) and the ERS report "Cow/Calf Ranching in 10 Western States" (AER 682) were not peer reviewed.*

**Response:** This is incorrect. Both Appendix G and AER 682 went through a formal peer-review process that is standard at ERS.

23. ***Comment:*** *The ERS study results are invalid because they did not adjust the data to account for economies of size.*

**Response:** ERS incorporated size as one of several key factors explaining costs and returns to beef cow/calf producers in 10 western states. ERS found that size alone did not account for all of the differences between permittee and nonpermittee costs and returns. The draft EIS and AER 682 reported on two factors that accounted for much of the differences in costs and returns between permittees and nonpermittees: (1) permits to graze Forest Service/BLM land and (2) size of operation as measured by both number of cows and number of stockers.

Size was treated in several ways. In Appendix G of the draft EIS, size subgroups were reported in Table 3 (page G-8). A brief qualitative report of regression results was also included in both Appendix G (page G-8) and in AER 682 (pages 6-7). Regressions were conducted as an alternative to the comparisons of size subgroup means. Regressions were used to examine size by both comparing subgroups using binary variables for size groups and directly by incorporating the number of cows in each herd and the numbers of purchased stockers as explanatory variables.

24. ***Comment:*** *Capital replacement was not included in the ERS budget analysis.*

**Response:** It is customary to exclude capital replacement from short-run marginal analysis because, as a constant, capital replacement has no marginal effect. Capital replacement was excluded from the analysis in Tables 4-7 (see Appendix G of the draft EIS, pages G-11 to G-15) because it would have been a constant and would not have affected changes in cow numbers (Tables 4-6). In Table 7, including capital replacement would have changed dollar amounts by a constant in only the cash costs and net returns columns.

25. ***Comment:*** *Elasticity of substitution is not relevant to real effects to individual permittee ranchers.*

**Response:** Elasticity of substitution measures how well one input, like purchased hay, can substitute for another, such as Forest Service/BLM forage. As the elasticity of substitu-

tion grows more and more negative, that is, as it goes from -1.01 to -100 (see Appendix G of the draft EIS, Tables 4-6, pages G-11 to G-13), inputs become better and better substitutes for one another. In the context of Tables 4-7 (pages G-11 to G-15 of the draft EIS) this means specifically that other forage sources, including purchased hay, other leased pasture, and/or other forage sources, become better and better substitutes for Forest Service/BLM forage. At some large negative number, they become perfect substitutes.

Elasticities of substitution for inputs in the analysis in Appendix G were assumed values; they were not statistical estimates from the FCRS data. As assumed values, the elasticities of substitution in the analysis have no standard deviations. Other assumed values from among those analyzed could have been used in Table 7 and would have yielded qualitatively identical but slightly different numerical results (see Tables 4-6). ERS is not aware of estimates of elasticities of substitution for forages in the literature, and did not estimate elasticities in its analyses.

A wide range of assumed elasticities of substitution was analyzed to give an idea of the full variation in results from one extreme (not very good substitutes) to the other (almost perfect substitutes). An elasticity of substitution of -30 (Tables 4-7) suggests that other forages may be substituted for Forest Service/BLM forage, but that they are less than perfect substitutes. This seems reasonable in view of the fact that purchased hay and/or other forages are available as substitutes for Forest Service/BLM forage and serve quite well as forage for grazing livestock. These alternatives are almost always available to ranchers, although at some cost.

26. ***Comment:*** *The ERS ranch-budget analysis should have been conducted on a per acre basis, and it is not clear how feedlots were factored in.*

**Response:** Analysis on a per acre basis is not a good basis for comparison because there is so much variation in quality of land across the western states, and even within each state. Also, Joyce (1989) estimates that only about half of Forest Service land actually provides forage for livestock, which would further distort per acre comparisons.

Cow/calf operations where more than 10 percent of the total cattle sold were sold as 'fed cattle' were excluded from the FCRS and were not analyzed at the national or regional levels in the general cow/calf analyses, nor at the 10-state level which was the basis for the analysis in Appendix G. In addition to the fact that feedlots were excluded from the general FCRS analyses, they were not included in the 10-state study for a variety of reasons. First, there are no feedlots on federal land. Second, feedlots are not considered part of the beef cow/calf enterprise.

## Permit Value

1. ***Comment:*** *University studies have shown that an increase in the grazing fee would not only decrease net income but would also reduce the asset value of the ranch. This would occur because the grazing permit, purchased along with other ranch assets, would lose value as the fee is raised. If the fee is raised to a high enough level, the permit would lose all of its former value. Ranchers would then be left with a debt backed by an asset with less value. Some ranchers are reporting that their operations have had a substantial decrease in asset value already, due to the uncertainty surrounding grazing fees. Others report that the value of federal permits has declined by nearly $400 million since 1986, resulting in a concomitant decrease in private investment in range improvements on public lands.*

**Response:** It should be clearly understood that there is no private property right created by issuance and retention of a grazing permit. This is discussed fully under Current Fee Formula, Response 17.

In theory, as the grazing fee increases, the value of federal grazing permits to the permittees declines because there is less economic advantage to holding a grazing permit. The lost to the permittees would depend upon how close the proposed $3.96 per AUM is to the market value of the public forage on allotments. If the pro-

posed fee is less than the market value, then the entire permit value would not be lost to the permittee.

The impact of reducing the value of the permit is most significant for permittees who have just recently borrowed money to purchase ranches with federal permits. On an individual basis, permittees could experience serious financial problems if they paid too much for their permits or did not discount the value in anticipation of future changes in the fee and tenure. The financial problem is compounded if the lending agency did not discount the permit value and loaned a high percentage of the purchase price.

For permittees who have held their permits for years, the impact of reduced permit value may be less significant. They may not be losing out-of-pocket money, just the option of selling the permit for a higher price. Even if they "purchased" the permit a number of years ago, the impact may not be significant because they have essentially amortized their cost through a lower fee.

Resolving the fee issue would be healthy for the market. Permits would be neither over-valued nor under-valued, and both seller and prospective buyer would benefit. Also, lending institutions may be overreacting to the situation, and they too would benefit from more stability and reduced uncertainty.

2. ***Comment:*** *It appears that the government is trying to deny the existence of a market for permits and the value of the permit in those markets at the same time it is trying to create a new market by letting environmental organizations acquire permits and retire them for conservation use. Permits are traded in the market like other types of property, and increasing the grazing fee would devalue the permits and ranch values, and thus reduce the property tax base.*

   **Response:** The private real estate market for base properties with associated permits has ascribed a value to grazing permits. However, this is a private market transaction. The private real estate market may treat permits like other types of property, but a permit (privilege to graze federal land ) may only be transferred upon the approval of the government. A new owner of base property must be qualified and accept the terms and conditions of the permit before the permit can be transferred. The conservation use proposal does not create a new real estate market for permits but may recognize these entities as qualified to hold permits in the same market. See Fees, Response 17.

   An increase in the grazing fee would not reduce property taxes in most states. Most states classify, appraise, and assess private land apart from any leased land in the ranch.

3. ***Comment:*** *The Internal Revenue Service (IRS) specifically recognizes and taxes permit value. The government should be consistent in recognizing permit value.*

   **Response:** BLM and the Forest Service are not being inconsistent with the IRS because these are two entirely different issues. The IRS includes the value of grazing permits in the appraisal of assets that are transferred through inheritance. This is a transfer of wealth from the private estate of the deceased to another private party. The IRS is taxing the transfer of wealth from one private party to another. The BLM/Forest Service issue has to do with whether the government should pay permittees for their investment in permits. If a new owners of base property applies, is qualified and accepts the terms and conditions, a permit may be issued. The government does not transfer any property rights. Recognizing grazing permit value and giving permittees credit for it in calculating the fee amounts to government compensation for an asset which was never transferred from the owners (the public) to permittees. See Fees, Response 17.

4. ***Comment:*** *The draft EIS used the concept that permit value is the capitalized difference between the grazing fee and the cost of comparable private forage. This concept has not been empirically confirmed. Further, it is an outdated explanation of the source of permit value. A recently developed concept that has been empirically confirmed is that permit value may be due to*

*allowing the base property ranch to achieve economy of size.*

**Response:** Economists including Roberts (1963), Gardner (1962, 1963), Nielsen and Wennergren (1970), Torell and Doll (1991), Torell and others (1992), and Workman (1988) have explored the theoretical reasons for permit value. Their concept and the one used in the draft EIS is that permit value is the apparent capitalized cost advantage that leasing public land grazing has over leasing private land grazing.

Apparently, a research study of permit values in Eastern Oregon and Nevada (Iqbal 1993) confirmed empirically that permit value is due to the contribution that federal permits make to the economy of size of ranch operations. It is probably true that federal permits contribute to economy of size as the research indicates, but the point that is not researched is that private land grazing leases also contribute to the economy of size of ranches. They both contribute to economy of size; there is no difference in this respect.

The factor that is different is that it costs more to lease private grazing land than federal land grazing even after adjustments are made for nonfee costs. Since private and federal leases both contribute to economy of size, the difference is that private lands costs more to lease than federal lands; it is difficult to understand how permit value could be due to the contribution to size and not the capitalization of cost differences.

There does not seem to be any satisfactory explanation for this discrepancy; therefore, the capitalization concept of permit value that has been advanced by many economists for years and used in the draft EIS is not outdated and is still valid.

5. ***Comment:*** *The meaning of this statement (on page 4-11) is unclear: "As a general rule, a ranching operation which possesses a grazing permit is worth more than a similarly-situated ranching operation that does not possess a grazing permit."*

**Response:** This sentence and the next two sentences in that paragraph of the draft EIS have been deleted. (See the Text section in Chapter 5 of this document).

6. ***Comment:*** *Total loss of grazing does not "essentially" eliminate permit value, as stated on page 4-11. It completely eliminates it. Also, the draft EIS states (page 4-12) that the loss to a permittee of the ranch's economic viability "could" be significant. This loss would be significant.*

**Response:** The text containing these statements has been changed as follows. Page 4-11: "Whereas increasing grazing fees reduces permit value, total loss of public grazing eliminates the value of the permit." Page 4-12: "If the loss of federal grazing results in a ranch losing economic viability, then the loss would be significant."

7. ***Comment:*** *When the owner of a grazing permit is in default and a lending institution forecloses, the lending institution should merely obtain all rights to the allotment that the permittee had without the Forest Service or BLM being involved in the transaction.*

**Response:** As stated in previous responses in this section, there is no property right by law inherent in the issuance and retention of a grazing permit. A lending institution that holds a federal grazing permit obtained through foreclosure on the ranch operation which previously held the permit, obtains no property right. The lending institution may not automatically acquire the grazing permit through foreclosure on the base property. The permit can only be transferred upon approval of the BLM ( reissued in the case of the Forest Service). Likewise, if the lending institution were to dispose of the base property and the associated federal grazing permit to recoup its losses; the transfer of the permit must be approved by the BLM (reissued in the case of the Forests Service) because only they have authority over the permit. Further, the new pemit holder must be qualified and would be required to accept all terms and conditions of the permit.

## Lending Institutions

1. ***Comment:*** *Banks and other lending institutions are already cutting back on lending to public land ranchers due to uncertainty created by Rangeland Reform '94. They would curtail lending to public land ranchers even more in the future. Financial institutions with large portfolios of loans to public land ranchers may also go out of business. Throughout the West financial institutions have made many millions of dollars in production loans. Most of these would either be foreclosed or be forced to extend beyond normal banking practices. In summary, Rangeland Reform '94 would lead to the "Great Depression of 1994" in western states. In some cases ranches that have been operating profitably or have had positive cash flows after all costs are paid and debt is serviced may become unprofitable, making it questionable or unlikely that they could continue to obtain financing from banks. Operations that have substantial long-term debt secured by real estate, high debt/equity ratios, and/or operators with no offranch income would be especially affected.*

   **Response:** Under the Preferred Alternative, federal forage availability is estimated to decline three percent more than under continuation of Current Management in the long term (20 years). In the long term, improved rangeland health under the Preferred Alternative would result in greater sustainability of rangeland resources and thus greater sustainability for livestock operations with federal permits. In addition, the increase in the grazing fee would be phased-in over a three-year period, allowing ranchers some time to anticipate increased costs and adjust their operations. Thus, the impact to lending institutions would not be significant. The draft EIS acknowledges that already-marginal operations, those with the highest dependency on federal forage, fewest alternatives to federal forage, and/or poorest financial condition, would be the most adversely affected. It should be noted that an economic analysis of the impacts of the fee increase would be conducted during the phase-in period. Decisions on full implementation of the fee increase would be re-evaluated based on that economic analysis. See also Lending Institutions, Response 3.

2. ***Comment:*** *Rangeland Reform '94 proposals that reduce the ownership interest of ranchers in their operations, such as the claiming by the government of water rights and range improvements, would lead to a situation in which no banker with common sense would loan money to a public lands rancher. Without loans, the ranches would not be able to keep operating and would have to liquidate.*

   **Response:** Under the Preferred Alternative, valid existing rights would not be affected as the BLM policy regarding range improvements and water rights would apply prospectively. Forest Service policy regarding ownership of range improvements and water rights would not change. Effects of the Preferred Alternative on livestock operations and on banks and lending institutions that lend money to ranchers were addressed in responses to other comments. See Lending Institutions, Response 1., 3., and 5.

3. ***Comment:*** *The Farmers Home Administration (FmHA) concluded that about half of public land ranchers with FmHA direct loans [about 60 percent in New Mexico or 116 ranchers, 45 percent or 38 ranchers in Colorado, 51 percent or 38 ranchers in Wyoming and 165 ranchers or 46 percent in Montana] would not cash flow with the higher grazing fee level. This means that a total of 357 ranchers in these four western states can expect to lose their financing due to the proposed increase in the grazing fee. The data does not even consider the additional burden of increased management costs not related to increased fees. This is further evidence that Rangeland Reform '94 would create a financial crisis, forcing many permittees out of business immediately.*

   **Response:** We disagree. This interpretation of the FmHA data is incorrect. Further review of the data in the FmHA study reveals that the potential impact is not as significant nor as widespread as reported. In Montana, for example, permittees who are FmHA borrowers that would not cash flow at $3.96/AUM represent only about three percent of Montana permittees, and more than four out of five of these have zero or negative cash flow now. In New Mexico, operators who would not cash flow at $3.96

per AUM represent about four percent of that state's permittees; about two-thirds of this group currently have zero or negative cash flow. Those permittee/borrowers who currently have positive cash flow but would have negative cash flow at the higher fee levels represent 0.6 percent of permittees in Montana and 0.8 percent in New Mexico. Thus, the number of permittees potentially affected is small, and a high proportion of those affected are already in quite marginal condition. This is not surprising since it is necessary to be refused financing by three lending institutions before being considered for FmHA financing.

Further, FmHA did not conclude that these permittee/borrowers would lose their financing and face default. FmHA routinely works with borrowers to adjust to these types of financial changes. FmHA provides assistance in the form of primary loan servicing options, which include deferred payments, rescheduling and reamortization. Also, FmHA works closely with direct loan borrowers to adjust their ranch operations to respond to such changes as fee increases. In most instances, problems are resolved and loan default is avoided.

It can be concluded that the financial impact on this small group of permittees with FmHA loans is a worst-case scenario. This is because there are probably few, if any, BLM/Forest Service permittees that are as financially stressed as this group of permittees.

4. ***Comment:*** *Just as ranchers would see a reduction in their net worth because of the decrease in permit value and reduced salability of their operations due to the higher fees, so also lending institutions would show reduced assets on their books. When lending institutions are audited, they may have to adjust their lending practices to meet regulatory requirements on the ratio of loans to assets. In cases where lenders adjust the terms of repayment on permittees' loans, their ability to lend to other borrowers would be affected and total economic activity would decrease.*

**Response:** See Lending Institutions, Responses 1. and 3., and Permit Value, Response 1.

5. ***Comment:*** *The Federal Land Banks Association of Southern Colorado and the Farm Credit Services of New Mexico (FLBA) have more than 500 loans, totaling about $90 million, to public lands cattle ranches. Most of these ranches could not remain viable without the use of federal lands. As a lender, we must conclude that forcing many of these ranches out of business would not only be devastating for them but also for us, as financial institutions, and to the communities of the rural West.*

**Response:** We recognize the importance of a stable agriculture industry to financial institutions and rural communities in the West. Under the Preferred Alternative, permittees would not lose access to federal forage, although AUM use is estimated to decline slightly in the long term due to changes in rangeland management (three percent more than under continuation of Current Management). It is also recognized that the proposed increase in grazing fees may be greater than some permittees are willing to pay. However, it is not known whether these permittees would go out of business, find alternative sources of forage, or adjust their herd sizes.

There are 4,500 institutions that qualify as agricultural banks. Loans they have made to agricultural operators total in the tens of billions of dollars. Only a small part of their farm loans are to public land ranchers. There is no credible basis for concluding that substantial numbers of ranchers would be forced out of business by the Preferred Alternative. Data suggest that even in periods of extreme financial stress exits from ranching do not reach devastating levels (Stam and others 1991). The normal rate, about 25 exits per year per thousand operations, goes up to an average of 49 per thousand during periods of financial stress. This raise several interesting points. First, many exits from livestock production occur in normal years. Thus, attributing all future failures of public land ranches to the Preferred Alternative would be misleading. Second, most operators survive periods of increased financial stress. Clearly then, even during periods of increased stress, most ranchers remain viable. Thus, it is incorrect to conclude that many ranches would be forced out of business by financial stresses associated with the

Preferred Alternative, with devastating effects on their lenders. See Lending Institutions, Response 1.; and Livestock Operations/Livestock Industry, Response 1.

## General Economics

1. ***Comment:*** *Raising the grazing fee would not result in increased revenues to the federal treasury. So many small ranchers would go out of business due to the higher fees that the federal government would actually take in less revenue. The impact analysis should discuss the effects on revenues collected by the federal treasury.*

   **Response:** The analysis of impacts to grazing fee receipts assumed that the amount of forage demanded would remain constant at $3.96/AUM (see draft EIS page 4-17). The amount of public forage demanded would decrease at the higher fee level for some operations, but over the long run this forage capacity is likely to be acquired by other operations. Thus, with the same quantity of forage demanded at the higher fee level, revenues to the federal treasury would increase.

2. ***Comment:*** *If the U.S. Government raises the federal grazing fee substantially or if it regulates livestock operators off the public lands, then the supply of U.S. beef may decrease to the point that more red meat would need to be imported. How would we know whether the imported beef is of acceptable quality and safe to eat? How would this affect consumer prices, the export of U.S. beef to other countries, and the balance of payments deficit? In California and New Mexico, beef exports rank in the top five in bringing in earnings.*

   **Response:** Under the No Grazing Alternative (the most extreme scenario for the permittee) the impact on red meat prices was estimated to be slight (see draft EIS page 4-120). Under the Preferred Alternative, the long-term decrease in AUMs is estimated to be about three percent greater than under continuation of Current Management. This level of AUM reduction is not expected to affect red meat prices.

3. ***Comment:*** *In our view, the added recreation visitor days resulting from the improvement in environmental health that would accompany Rangeland Reform '94 (and the related growth in hunting, fishing, tourism and water-based recreation) would completely offset the minimal loss of employment in ranching. These increased visitor days would also totally offset any projected loss of personal income. Because of the potential benefits of increased recreation and tourism, we want you to remove livestock from all water sources as soon as possible and to implement a no net loss of wildlife habitat policy on the public lands.*

   **Response:** As explained in the draft EIS, increased recreation is to some degree expected to mitigate adverse impacts to income and employment of reduced cattle and sheep production. Where and to what degree this would occur is unknown. There is no reason to believe that such mitigation would necessarily occur everywhere that employment and income decrease as a result of reduced cattle and sheep production. See Riparian Health/Condition, Response 13.

4. ***Comment:*** *We anticipate that the Proposed Action would result in an annual effect on the economy of $100 million or more. Thus, we request that a Regulatory Impact Analysis be conducted under Executive Order 12291.*

   **Response:** Executive Order 12291 was revoked on September 30, 1993, and was replaced by Executive Order 12866. The analysis presented in the draft EIS meets the requirements of this new executive order. In addition, the agencies also met the requirements of the Regulatory Flexibility Act (5 U.S.C. 605 *et seq.*) by preparing an initial Small Entity Flexibility Assessment. Notice of Availability of this assessment was provided in the Notice of Proposed Rulemaking (*Federal Register*, Vol. 59, No. 58, dated March 25, 1994).

5. ***Comment:*** *The economic analysis fails to account for the substantial economic benefits attributable to improved ecosystem and wildlife conditions that would result from reductions in current grazing levels. In addition, much more consideration needs to be given to the economic benefits derived from recreational uses of the range.*

**Response:** The economic analysis for all alternatives does acknowledge that environmental resources, such as watersheds, air and water quality, visual amenities, fish and wildlife habitat, ecosystem health, biodiversity, and resource sustainability, have significant nonmarket values and should be considered when establishing public policy for rangeland management (see draft EIS, page 4-13). It also pointed out that these economic values are not easily identified, that is, quantified. Nevertheless, benefits from improved environmental conditions should still be considered, even though these improvements may not be quantified in economic terms. The environmental analysis in the draft EIS provides the basis for this consideration.

We agree that recreation is a significant use of the public lands and believe that the level of analysis in the EIS is sufficient for the programmatic nature of the Rangeland Reform '94 proposal.

## Social

1. ***Comment:*** *The EIS needs to acknowledge that there are likely to be severe social and cultural impacts on permittees unable to pay higher fees and maintain a viable ranching operation. Job loss is experienced as a threatening event and can result in personal illness, impaired emotional functioning, diminished self-esteem, and substance abuse. Economic stress harms families and can result in emotional conflict, physical violence, abandonment of the elderly, and adjustment problems for teenagers. Financial stress or loss of family businesses, such as farms and ranches, makes all family members subject to the trauma usually associated with job losses otherwise restricted to one member of the family. In this case, you are forcing a culture and a way of life to be changed without any justification.*

   **Response:** Impacts to farm populations offered by Judith and William Heffernan (Heffernan and Heffernan 1985) wre donsidered in the draft EIS. The draft EIS does acknowledge the potential for adverse impacts to some individuals who are unable to maintain viable ranching operations. These impacts were investigated during the preparation of the draft EIS and are discussed on page 4-14.

2. ***Comment:*** *Not only would Rangeland Reform '94 have devastating effects on the ranching industry, it would have a detrimental effect on the communities of the West in general. The Farmers Home Administration just released data that shows that if the Rangeland Reform '94 plan is put into effect, 51 percent of the ranchers that have operating loans with the agency would be forced out of business. The economic stress due to lost jobs would impose severe impacts on ranchers and their families, burdening our service budgets for health care, unemployment, and social services.*

   **Response:** The draft EIS acknowledges the potential for adverse effects to some communities in the West. Reports on the effects to farm communities during economic difficulties (Albrecht, Murdock, and Hamm, 1988; Albercht and dothers, 1988) were considered in the draft EIS. These effects were investigated during the preparation of the draft EIS and are discussed on pages 4-14 and 4-15 and in the specific impact section for each alternative. The economic effects to ranchers and communities are discussed in Local Communities, Response 1. For a discussion of the Farmers Home Administration data, see Lending Institutions, Response 3.

3. ***Comment:*** *On page 4-14, lines 41-51, the sentence beginning "Groups such as . . ." through the end of the paragraph conveys an arrogant impact on this reader. What significance do these statements have beyond an obvious disregard for some hardworking Americans?*

   **Response:** This is an important discussion about the way these groups identify with the type of work they do and how difficult it would be for them to change their work. It is not meant to trivialize these groups but to emphasize their unique ties to their work.

4. ***Comment:*** *This EIS deliberately ignores capital investments made by permittees and treats the livestock operators as though they are simply "playing cowboy." The EIS point blank says that it expects members of ranching families to seek*

*supplemental employment off the ranch unit to be able to continue the ranching lifestyle. This idea supports my contention that the preparers of this document are ignorant of the industry, biased against it, and arrogant. Ranching is a business, not merely a way of life.*

**Response:** The draft EIS does not say that ranchers should seek supplemental off ranch employment to continue ranching. It does say that ranchers may respond to losses in income in a variety of ways, one of which may be to choose to work off the ranch.

5. ***Comment:*** *Page 3-76, Ranchers. The statement by Jobes (1986) seems a poor selection to be included here, "ranchers err because they participate in the myth," etc. I cannot think of a single profession that does not have some stereotype or myth that has become associated with it such as realtors, teachers, lawyers, politicians, garbage collectors, etc. This statement plays to urban dwellers who may think of a stockgrower as a proud, dumb hick with manure on his/her boots. The statement is an unnecessary rebuttal to the previous paragraph.*

   **Response:** Our analysis is not meant to be critical of ranchers; it is meant to identify the stage for some of the stress and problems that might be experienced by the ranching community due, in part, to disparities between expectations and reality.

6. ***Comment:*** *Decisions on whether to increase grazing fees should be based on a balanced evaluation in which analysts prepare realistic estimates of: (1) the probability that family businesses would fail as a result of grazing fee increases and/or reductions in allotments; (2) the probability that family members would suffer physical illness or emotional stress; (3) the costs of intervening to prevent these adverse social impacts; (4) the costs of mitigating these impacts when they occur, including losses in human life and productivity; and (5) the revenue losses to state and local government that depend on these businesses for revenue. Methods exist for making all of these estimates.*

   **Response:** The draft EIS discussed economic impacts of each alternative at both the macro and micro level. Impacts on ranch income and operation were also discussed for operations at three differing herd sizes and two levels of dependency. Potential social impacts to ranch employees and their families are also discussed in the draft EIS. See Local Communities, Response 1.; Social, Response 30.; and Process, Response 10.

7. ***Comment:*** *The draft EIS improperly injects speculation and opinion into the description of the beliefs of farm operators. Page 3-65, paragraph 1, sentence 3 ("The growing importance...."). This statement is purely speculative and self-serving. It is improper for the government to make such speculative conclusions in an EIS about the "beliefs" of farm operators. A writer with a different point of view could similarly speculate that most farm operators would prefer to see agricultural programs and policies strengthened in order to maintain and increase their household income from on-the-farm activities. This statement should be stricken.*

   **Response:** The sentence referring to farm operators' beliefs has been changed to say, "The growing importance of off-farm income to farm households implies that, for most farm operator households, public policies that strengthen the rural non-agricultural economy are more important to maintaining household income than are agricultural commodity programs and policies."

8. ***Comment:*** *The EIS talks of ranch families and permittees and lightly talks of employees. Have you really looked into the social conditions and economic conditions of the employees?*

   **Response:** The economics section discusses the number of employees who would be adversely affected westwide. In the social section, the effects described at the individual rancher and community level apply to ranch employees as well as ranch owners.

9. ***Comment:*** *Draft EIS, page 4-122: "Most permittees would adjust ranch operations to remain in business." I oppose this statement. Most of the ranchers would be forced out of*

*business. There would not be enough to make a living.*

**Response:** While this is a common concern, the analysis in the draft EIS does not support this conclusion. See Local Communities, Response 1.

10. ***Comment:*** *Under Social Conditions, the draft EIS refers to three categories for its "public interest groups." Ranchers are segregated from "recreationists" and "people concerned about the environment." This sends the wrong message about the intent and character of the rancher, like "he is not a person of fun, his own person, or concerned about the environment". I request a better image be given of the rancher/permittee, that of one who is concerned and cares about the environment through his productive years of caretaking and stewarding the land, that he is capable of working with other groups to further mutual causes, and that he enjoys the beauty of nature even more so than the average citizen, that he has worked with the land, not against it!*

    **Response:** In the EIS, people are grouped into ranchers, recreationists, and environmentalists to make it easier to discuss social impacts. Of course, groupings like these greatly simplify the members' actual values and attitudes. In addition, there is extensive crossover among the groups. Ranchers engage in recreation and are concerned about the environment. Recreationists are concerned about ranching and preservation of open space. The preparers of the EIS summarized the limited literature on the values of ranchers. See pages 3-75 to 3-77 of the draft EIS.

11. ***Comment:*** *Have any studies shown exactly what effects Rangeland Reform '94 would have on small farming and ranching communities basically dependent on the ranching industry?*

    **Response:** Local Communities, Response 1 discusses the potential for economic effects to communities. The Social impact analysis also looks at the potential effects to small ranching communities (see Chapter 4 of the draft EIS).

12. ***Comment:*** *The analysis of grazing fee and regulatory burdens should include the cost and losses to society, our already overburdened budgets, and reduced county tax revenues.*

    **Response:** The social impact assessment examines the effects of the proposals on different groups in society such as ranchers and their communities, recreationists, and environmentalists. Effects on county revenues are addressed in the Local Communities, Response 1. The budget analysis is outside the scope of the EIS; see Process, Response 8.

13. ***Comment:*** *Although the proposed fee increase would double the current fee, your analysis claims that this fee would not significantly affect the stability of the dependent western livestock industry. It also states that those who do not have off ranch income may have to sell their ranches or find part-time jobs. How can it be said that having to give up a way of life is insignificant? For most of the ranchers that I know, that is the only life they have ever had. Are they expected to just give up and start over? A lot of our ranchers are probably 50 plus. If these people lose their farms or ranches because of this increase that they cannot cope with, these people have nowhere to go. People 50 years old or 55 years old, believe me, there is not an employment market out there for them. In addition, please explain how you determined that the fee increase would have little or no effect on local communities without conducting an EIS for each and every county to back your claims.*

    **Response:** The stability of the western livestock industry is addressed in Local Communities. Page 4-44 of the draft EIS discusses the potential difficulties ranchers may face when changing employment.

14. ***Comment:*** *When the United States sends delegations to foreign countries to write management plans for their economic development and environmental protection, a major goal is to preserve the cultural traditions and diversity found in those regions. Nothing is mentioned in Rangeland Reform '94 about preserving the traditions and diversity tied to the grazing culture of our 17 western states. This programmatic EIS covers the*

*entire U.S. and does not adequately address effects of proposed changes on local custom and culture and adverse environmental/social impacts to graziers.*

**Response:** Public rangelands are important resources, particularly for the people of the western United States. Livestock grazing has been an integral part of the western landscape and lifestyle since the late 1800s. The livestock industry historically has played a major role in the economy of the West. BLM and the Forest Service are challenged with providing a stable resource base and a reasonable return for grazing livestock on federal lands, while recognizing the growing social and economic importance of other resources to local communities. Rangeland Reform '94 would not ultimately be successful if it causes unnecessary or unacceptable impacts on these communities."

The social impacts to ranchers and ranching communities are analyzed in the draft EIS.

15. ***Comment:*** *Affected Environment, Social, National Attitudes: Results quoted in this section are from a very small fraction of the Nation at large and are therefore flawed.*

    **Response:** Data for the national study of attitudes toward rangeland management (Steel and Brunson 1993) were gathered by contacting 2,000 randomly selected households by telephone. The survey design and implementation followed the procedures outlined by Don Dillman in *Mail and Telephone Surveys: The Total Design Method* (New York: John Wiley, 1978). The response rate for the national sample was 68 percent, and the authors wrote that many of those who refused to respond to the survey said they had no opinions about rangelands or rangeland management. Therefore, while the survey results may emphasize the views of those people most concerned about rangeland policy, the survey methods followed well-accepted procedures.

16. ***Comment:*** *Permits could be revoked for any reason. If federal land grazing permits are not leased, then the school trust lands would not be leased for grazing either. If that were to happen, every public school in the West would suffer.*

    **Response:** This is incorrect. While the reasons permits could be cancelled would be broadened, permits would still be cancelled only under limited circumstances. If a permit were cancelled due to violations by the permittee, others may then apply for the permit. In cases where permits were cancelled for land management reasons, some state lands might remain unleased for grazing.

17. ***Comment:*** *The federal government and its agencies have an obligation to "community stability," which is defined as a combination of custom, culture, and economic preservation. We have enclosed a copy of a list of the citations that protect stability as defined in the Forest Service use book, BLM handbook, Council of Environmental Quality (CEQ) regulations, Wild and Scenic Rivers Act, and Endangered Species Act.*

    **Response:** Public rangelands are important resources, particularly for the people of the western United States. Livestock grazing has been an integral part of the western landscape and lifestyle since the late 1800s. The livestock industry historically has played a major role in the economy of the West. BLM and the Forest Service are challenged with providing a stable resource base and a reasonable return for grazing livestock on federal lands, while recognizing the growing social and economic importance of other resources to local communities. Rangeland Reform '94 would not ultimately be successful if it causes unnecessary or unacceptable impacts on these communities."

    The Council on Environmental Quality (CEQ) which developed the NEPA regulations requires a discussion of possible conflicts between an agency's proposed action and the objectives of approved federal, regional, state, local, Indian tribe land use plans, as well as any actions the agency would take to lessen such conflicts. CEQ does not require conformance with such plans, as the commenter seems to imply. We acknowledge that there may be some conflicts between some aspects of the BLM-Forest Service Pre-

ferred Alternative and some local, non-BLM, non-Forest Service land use plans in the West, and some county plans. Rangeland Reform '94, however, is a national policy-level document. It is not feasible or a reasonable expenditure of public funds to conduct site-specific comparisons between Rangeland Reform '94 management or fee actions and the hundreds or thousands of nonagency plans throughout the West.

The citations from the BLM "handbook," Forest Service "use book," the Wild and Scenic Rivers Act, and the Endangered Species Act do not appear to apply to the proposals in this EIS. The BLM and Forest Service citations refer to agencies' respective planning regulations, not to EISs in general. Rangeland Reform '94 is not a land use plan, although implementing some aspects of BLM's proposals, particularly developing regional or state standards and guidelines, would require plan conformance reviews. In such cases, BLM would apply its planning regulations. With respect to the other two sets of citations, Rangeland Reform '94 does not propose listing any wildlife species as threatened or endangered or designating any critical habitat or wild or scenic rivers. Conformance to procedural requirements for such designations is therefore outside the scope of this EIS.

18. ***Comment:*** *Page 29 of the Executive Summary, first paragraph, Social Conditions: "The cities have many residents that are concerned about the environment and use the public rangelands for recreational purposes." Do these recreational pursuits include offroad vehicles and hunting or are you referring only to those special interest groups that enjoy hiking? You could have been more specific here. The statement is misleading.*

**Response:** The term recreational pursuits includes all types of activities such as hiking, hunting, and off-road vehicle use.

19. ***Comment:*** *"Ranching is a way of life for many respondents." This appears to be a main issue as it repeats for all alternatives. Should this be a consideration? Making military hardware and mining anthracite coal in northeast Pennsylvania were ways of life for generations too. The need for both stopped. Is it an obligation of the U.S. Treasury to maintain military production and anthracite mining to protect a way of life? The final EIS should discuss the national importance of maintaining the "ranching way of life" and its total impact on the U.S. Treasury (taxpayer).*

**Response:** The National Environmental Policy Act requires BLM and the Forest Service to assess the effects of their activities on the quality of the human environment and to avoid or minimize any possible adverse effects of agency actions upon the quality of the human environment (CEQ, 40 CFR Part 1500). The social analysis was completed in compliance with this law. Discussing the national importance of maintaining the "ranching way of life" and its total impact on the U.S. Treasury is beyond the scope of this document; see Process, Response 8.

20. ***Comment:*** *"Unprofitable ranches would be further stressed by reductions in federal forage and higher grazing fees." (4-104) "Job losses at all fee levels would be insignificant at the westwide level." (4-107) "Losses in family income would result in declines in the economic well-being of some permittees and their families." (4-106) "Personal characteristics of self sufficiency, independence, hard work . . . deeply shaken for many permittees." (4-107) All of these quotes are probably correct, but do they justify federal subsidies? The EIS should develop these quotes in context of the national economy.*

**Response:** See Social, Response 19. Justification of federal subsidies is beyond the scope of this EIS; see Process, Response 8.

21. ***Comment:*** *Page 30. The statement "Emerging concerns regarding other noncommodity values, etc." is unclear and subjective. What are "emerging concerns"? Whose are they? Are not past and present management practices and uses, in compliance with the multiple use concept, set out in the laws authorizing BLM and Forest Service to manage public grazing lands?*

**Response:** Emerging concerns are more fully described on page 3-80 of the draft EIS. This information is based on a report produced by George Stankey and Roger Clark of the Consor-

tium for the Social Values of Natural Resources and supported by Oregon State University and the Forest Service Pacific Northwest Research Station. For the response concerning past and present management practices being in compliance with the multiple use concept, see Process, Response 10.

22. ***Comment:*** *What is the "national study of attitudes" quoted in paragraph 2 on page 30. Who conducted it? How were the questions phrased? How were the respondents selected? How big was the sample? What were the sampling confidence limits? Who sponsored the study? The results and broad general statements in this paragraph are unsupported, and their inclusion in this draft EIS is highly suspect. They should not be included in this draft.*

    **Response:** The survey in question is more fully described on pages 3-80 and 3-81 of the draft EIS. Data for the national study of attitudes toward rangeland management (Steel and Brunson 1993) were gathered by telephoning 2,000 randomly selected households. The survey design and implementation followed the procedures outlined by Don Dillman in *Mail and Telephone Surveys: The Total Design Method* (New York: John Wiley 1978). The study was sponsored by the Utah Agricultural Experiment Station, Utah State University, with additional support from the Sustainable Forestry Program at Oregon State University, the Consortium for the Social Values of Natural Resources, and Washington State University-Vancouver. The study was published in the journal *Rangelands* in April 1994 under the title "National Public Attitudes toward federal rangeland management." The response rate for the national sample was 68 percent, and the authors wrote that many of those who refused to respond to the survey said they had no opinions about rangelands or rangeland management. Therefore, while the survey results may emphasize the views of those people most concerned about rangeland policy, the survey methods followed well-accepted procedures.

23. ***Comment:*** *The Department of the Interior, in cooperation with the Department of Agriculture, should reinforce its consideration of the tradition, traditional belief, and culture of the Native American. Preserving and protecting the cultural resources on the public lands should be a priority within Rangeland Reform '94. In addition, federal laws must be further reviewed to generate an effort to preserve and protect the traditional territory of Native Americans in this country.*

    **Response:** As discussed on pages 3-53 through 3-55 and page 5-2 of the draft EIS, BLM and the Forest Service recognize the importance of cultural resources and Native American lifeway values and have procedures in place to ensure proper consultation, coordination, and mitigation through the National Historic Preservation Act of 1966 (NHPA), the American Indian Religious Freedom Act of 1978, and the Archeological Resources Protection Act of 1979 (ARPA). Before authorizing surface disturbances at the regional or local level, BLM and the Forest Service would identify cultural properties eligible for inclusion in the National Register of Historic Places, consider the effects of the proposed undertakings through the consultation process in Section 106 of the NHPA, and evaluate procedures and conduct proper coordination to protect the religious freedom of Native Americans. In addition, BLM's development of state or regional standards and guidelines and continued implementation of Forest Service forest plan standards and guidelines would require more NEPA compliance at a regional or local level. Cultural resources and Native American issues would be addressed in those local or regional NEPA processes.

    The issue of preserving and protecting traditional territory of Native Americans is beyond the scope of the Rangeland Reform '94 EIS. The intent of this initiative is described on page 6 of the Executive Summary and pages 1-2 and 1-3 of the draft EIS. The recommendation posed in this comment would appear to require legislative action.

24. ***Comment:*** *While BLM proposes to increase the recognition and acknowledges the importance of spiritual practices of Native Americans, it continues to undermine the fragile economies of tribes and others living in remote areas of the West. It does so by rationalizing that the demise of west-*

*ern agriculture is due to reticent entrepreneurs and investors rather than to deliberate policies of politically powerful urban environmentalists. It appears that the Department of the Interior has accepted the policies of the minority without considering the severe impact on local economies. In fact, only 40 percent of the public responding to a recent survey on rangeland management told the Secretary of the Interior that protection of local economies should not be a priority of the Department of the Interior. In this regard, the Tribe is concerned that the Department of the Interior has failed to uphold its trust obligation to the Ute Mountain Ute Indian Tribe.*

**Response:** BLM recognizes its trust responsibility to Indian Tribes and the importance of the survival of local communities. Public rangelands are important resources, particularly for the people of the western United States. Livestock grazing has been an integral part of the western landscape and lifestyle since the late 1800s. The livestock industry historically has played a major role in the economy of the West. BLM and the Forest Service are challenged with providing a stable resource base and a reasonable return for grazing livestock on federal lands, while recognizing the growing social and economic importance of other resources to local communities. Rangeland Reform '94 would not ultimately be successful if it causes unnecessary or unacceptable impacts on these communities."

The economic analysis in Chapter 4 in the draft EIS describes impacts to different sized operations at different dependency levels. The analysis also states that the magnitude of the impacts would depend on each operation's particular circumstances, including dependency level, financial condition, and flexibility in finding and purchasing alternative forage sources. Marginal operations with high dependency levels could be adversely affected. Counties and municipalities with many marginal, highly dependent livestock operations could also experience adverse impacts. See also Local Communities, Response 1.

Rangeland Reform '94 is a policy-level document. Effects to specific areas or groups from implementing standards and guidelines would be addressed in later planning phases; see Process, Response 10. In addition, monitoring would be initiated as the fee is phased in; monitoring can be developed to study the effects of the fee increases on specific groups.

25. ***Comment:*** *Under the Department's Proposed Action, the rich get richer and the poor get poorer. Thus, cattle grazing income is projected to decline, and at the same time, "the social well-being of recreationists and environmentalists would improve." Sadly, this equation would result in additional suffering and despair on the part of rural westerners, including, of course, Indian tribes to whom the Secretary of the Interior owes a unique trust obligation. This fiduciary duty includes the encouragement of economic self-sufficiency and self-determination. An important economic development of this and many other tribes and their individual tribal members is the operation of cattle enterprises.*

    **Response:** See preceding Response.

26. ***Comment:*** *It is my understanding that the BLM and the Bureau of Indian Affairs were to conduct a study from 1942 through 1955 to determine individual/family based occupancy rights of the Navajo Indians in this area; however, it was never completed. Therefore, the proposed grazing fee increases should not be imposed upon members of the Navajo Tribe for use of public lands until the study is completed. See* U.S. v. Tsosie, *849 F. Supp. 768 (DNM 1994) and* U.S. v. Dan, *470 U.S. 39 (1985).*

    *Many Navajo people living in this area depend on livestock grazing for a subsistence livelihood. Where I live, the people are the poorest of the poor in the United States. An increase in grazing fees would adversely affect them. Adding to their devastation as the proposed reform would do, is, of course, contradictory to one of the stated goals of Rangeland Reform '94. In fact, many people may be subjected to starvation like the people of Africa where the United States Government is currently sending millions of dollars worth of aid. The BLM should be more logical or at least sensitive to the needs of the Navajo people and should complete said study [an individual/family based occupancy study] before*

*imposing the increase in grazing fees. A better or more respectful approach in handling the proposed range reform is the government-to-government route mandated by President Clinton's Memorandum dated April 29, 1994.*

**Response:** The Navajo Occupancy Issue was resolved in 1992 with the completion of Phase 1&2 of the Navajo Land Exchange. These formally public lands became Indian Trust Lands administered by the Bureau of Indian Affairs. Grazing fees by the federal government do not apply to these lands.

27. ***Comment:*** *The Navajo Nation government leases lands including federal lands, and many individual members of the Navajo Nation pay grazing fees on lands including federal lands in the so-called "Checkerboard Area" of Navajoland. Much of the "Checkerboard Area" is within the boundaries of Executive Order 709, which the Navajo Nation is currently contending in the U.S. Courts, extended the boundaries of the Navajo Reservation to enclose many of the sectors of public land that have been used for years by Navajo Indians for grazing of livestock. So, in addition to receiving isolated comments from individual departments of the Navajo Nation government, Rangeland Reform '94 should be handled formally between the federal government and the Navajo Nation government. BLM's requirement should be a duly enacted resolution of the Navajo Nation Council to show that the Navajo government has considered this matter and voted, either pro or con, on the issue of Rangeland Reform '94.*

**Response:** Even though this issue is pending in U.S. Courts, grazing fees are appropriate for public lands. Executive Order 709 (Pueblo Bonito Navajo Reservation Boundary Extension) was revoked by subsequent Executive Orders . It is appropriate that Rangeland Reform 94 as it applies to Navajo Grazing Issues be handled as a government to government issue.

28. ***Comment:*** *The draft EIS fails to conform to the Environmental Justice Executive Order that requires BLM and the Forest Service to assess and avoid greater impacts of regulatory changes on minorities. The draft EIS erroneously assumes that the public land rancher is white and male. National census data reveal that a significant proportion of public land ranches are owned by racial and ethnic minorities as well as women. The draft EIS does not assess the impacts of Rangeland Reform '94 on women-owned or minority-owned businesses. In fact, the draft EIS does not even acknowledge that ranches are owned by women or minorities, a fact that is evident from even a cursory analysis of the national agricultural census data. (Obermiller, 1987 Census of Agriculture Minorities in Ranching Analysis, August 11, 1994)*

*Census data show that Rangeland Reform '94 would have disparate and significant impacts on minorities and women. The draft EIS does not identify the social relationships in rural communities, the number of people affected, or the number of minorities affected. The draft EIS does not identify women-owned or minority businesses affected. This situation ignores the fact that <u>many</u> women and ethnic and racial minorities own public land ranches and would be affected by Rangeland Reform '94.*

*Minority group ownership and/or management of western beef cattle operations is concentrated in two states: California and New Mexico. Elsewhere, female participation is relatively high in Oregon, Montana, Colorado, and Washington; Hispanic participation is high in Colorado; and other minorities are relatively abundant in Arizona, Colorado, Montana, and South Dakota. These ranch owners probably have less access to financial markets and would be more immediately affected by Rangeland Reform '94. Nevertheless, the draft EIS and the regulatory analyses are completely silent on this significant impact.*

**Response:** Executive Order 12898 was issued on February 11, 1994. Guidance for carrying out this order is still being developed by BLM.

In addition to the information described in Chapter 3 of the draft EIS, Affected Environment, the following new language has been added to page 3-75: "Overall in the 11 western states, 8.3 percent of the beef cattle operations are female owned or managed. California has the highest number and proportion of female owned

or managed operations. Nearly 7 percent of the beef cattle operations in the 11 western states are minority owned or operated. New Mexico has, by far, the largest number and proportion of these operations. Arizona, California, and Colorado also have high numbers and proportions of minority owned or operated beef cattle operations." This addition responds to the concern raised by this comment.

The economic analysis in Chapter 4 of the draft EIS describes impacts to different sized operations at different dependency levels. It also states that the magnitude of the impacts would depend on each operation's particular circumstances including dependency level, financial condition, flexibility in finding and purchasing alternative forage sources, etc. Marginal operations with high dependency levels could be adversely affected. Also see Local Communities, Response 1.

Monitoring will be initiated as the fee is phased in; monitoring can be developed to study the effects of the fee increases on specific groups.

29. ***Comment:*** *Page 2-55, Social Conditions: The No Grazing alternative indicates that most people in the West and across the county "might" feel that this alternative is too restrictive. The surveys/polls that were conducted to determine what most people might feel need to be identified.*

**Response:** This information is based on the surveys described in Chapter 3 of the draft EIS, pages 3-80 and 3-81. The citations for these surveys are located under Steel and Brunson 1993 and Dalecki and Coughenour 1992.

30. ***Comment:*** *The draft EIS must acknowledge the important social impacts that would result if livestock grazing is significantly reduced. The draft EIS fails to perform any kind of social impact analysis. As a result, the draft EIS does not consider the sociological implications of Rangeland Reform '94. In contrast, sociologists have identified numerous significant social impacts including the decline of the small family ranch operations, the disproportionate impacts on women and minority-owned ranch operations, the impacts on rural communities, and the loss of social and economic diversity in the western states. Rangeland Reform '94 contradicts virtually every public policy stated by this Administration and would lead to a significant disaffection in the western United States, where agriculture plays an important role.*

*The findings reported in the draft EIS are as flawed methodologically as they are rhetorically, producing both incomplete and inaccurate portrayal of the women and men who come from widely disparate ethnic and cultural backgrounds to embody ranchfolk culture and rural communities. Valid cultural studies can only occur locally, not nationally. Any assessment of ranching customs and cultures which presumes to address such issues on a westwide scale, or even to assume parallels from one locale to another without valid and intensive cultural analysis is, from its inception, markedly flawed. Valid cultural studies can only occur locally, not nationally.*

*The draft EIS completely ignores the impacts of Rangeland Reform '94 on communities members' sense of stability and well-being. Surveys done by rural sociologists are revealing. When asked, "What would you do if you stop ranching?," "What else could you be happy doing?," "Where would you live?," most ranchers are unable to respond. While many ranch owners have substantial experience, they may lack the training or education to work in another field. A range science degree would not prepare someone to be a mine foreman or construction supervisor, even assuming that such work was available.*

**Response:** The social impact analysis in the draft EIS presents a general discussion of the impacts to permittees, three example communities, and other publics such as environmentalists and recreationists. Effects to rancher lifestyle, community stability, relationships among community members, and the perceptions of the affected groups and individuals are among the topics addressed. The reader needs to examine both the Impacts Common to All Alternatives and the alternative-specific analyses to fully understand the impacts being described. The methods used in this analysis are based on BLM's *Guide to Social Assessment* (1982). The

methods were adapted for the broader scope of this EIS.

Rangeland Reform '94 is a policy level document; the analysis was not designed to cover specific localities, although some specific sites were used as examples. Some issues described in the comment, such as the decline of small family ranch operations and the loss of social and economic diversity in the West, while acknowledged, are largely beyond the scope of the EIS; see Process, Response 8. The effects to minority and female owned ranch operations are discussed in Social, Response 28.

31. ***Comment:*** *The draft EIS summarized the opinions of ranchers and then a public opinion poll of nonwestern residents on Rangeland Reform '94. The draft EIS does not explain how the poll was developed, what questions were asked, nor what the actual responses were. Regardless, a summary of public opinion has no place in a social impact analysis. The objective is to assess the local and regional community impacts, not how the American public might answer in response to a carefully crafted question.*

**Response:** Discussions of attitudes do belong in social impact analysis. According to Stan Albrecht and James Thompson in "The Place of Attitudes and Perceptions in Social Impact Analysis" (*Society and Natural Resources*, Vol 1, 1988), "Socio-psychological variables, including attitudes, beliefs, values, and opinions, occupy a central place in emerging social impact assessment methodologies." See also Social, Response 30. For more information on the survey on public attitudes toward rangeland management, see Social, Response 22.

32. ***Comment:*** *First, the draft EIS conclusion, that "most western ranchers" do not have federal grazing permits and would not be affected by an increase in grazing fees, is suspect since the survey was based on Montana ranchers. The draft EIS states, on another page, that "average dependency of permittees on federal forage is highest in Arizona and lowest in Montana." (Emphasis added.) Accordingly, the draft EIS has taken the results of a survey from a state with the lowest dependency on grazing permits to make conclusions about the percentage of "western ranchers" who have federal grazing permits and about the effect on "most western ranchers" by an increase in grazing fees.*

*Needless to say, the conclusion that "most western ranchers" would not be affected by an increase in grazing fees is not supported by the survey relied on by the draft EIS. Nor can the draft EIS possibly consider adequately the impacts of the proposed action of the "social conditions" of the western states based on the survey of Montana ranchers and farmers. If the draft EIS intends to make such statements, it should base them on surveys that are more fairly representative of the "western ranchers."*

**Response:** The comment refers to a study by Saltiel referenced in the draft EIS. A key point of Saltiel's survey is that there are differences in how permittees and nonpermittees view the effects of grazing fee increases on their operations.

In addition, it is helpful to note that in the 11 western states, beef producers with federal permits make up 22 percent of all cattle producers. In the same area, sheep producers with federal permits make up 19 percent of all sheep producers.

## Water Rights

1. ***Comment:*** *Under the No Grazing and Environmental Enhancement alternatives, what happens to existing water rights no longer needed for livestock grazing? Could water lost to grazing use be available for other valid uses?*

**Response:** Water no longer used for livestock grazing could be made available for other valid uses on public land. If not needed for such existing uses, it would be available for reappropriation under state law.

2. ***Comment:*** *Water developments should be encouraged to improve distribution of livestock away from riparian areas.*

**Response:** The present management of riparian areas on public land is guided by BLM's Ripar-

ian Initiative for the 90s, which states (goal #2) that BLM would protect riparian-wetlands through proper land management and by avoiding negative impacts. The placement of water away from riparian areas was analyzed in the draft EIS. It is standard practice by the BLM and Forest Service to review proposed water developments and implement design criteria to avoid adverse effects to riparian areas.

3. ***Comment:*** *Unless the permittee can control use and management of the water resources on the allotment, livestock performance would suffer, reducing the permittee's repayment capacity and collateral value.*

   **Response:** A federal agency holding future water rights on a grazing allotment would not adversely affect livestock performance. This has always been Forest Service policy, and it has not affected livestock performance. Since existing water rights held by BLM permittees would not be affected, this would not reduce the permittee's repayment capacity and collateral value. On water development projects where the permittee has accepted maintenance responsibility, the permittee would be responsible to make sure that water is available to their livestock. The Forest Service would continue its existing water rights policy.

## Public Participation

1. ***Comment:*** *The relevance of the Experimental Stewardship Program to resource advisory councils needs to be assessed.*

   **Response:** The Public Rangelands Improvement Act (Public Law 95-514) authorizes the Secretaries to develop an experimental stewardship program to improve the rangelands. The Experimental Stewardship Program in Challis, Idaho; Dillon, Montana; and Modoc/Washoe, California/Nevada would continue under the current structure. These programs were developed to evaluate innovative techniques using collaborative resource management. Many of the proposals for resource advisory councils came from Experimental Stewardship and Coordinated Resource Management programs. These programs were the pathfinders for many new ideas in resource management and would continue to be part of the public participation process.

2. ***Comment:*** *Better avenues exist for voicing the opinions and concerns of the public. Multiple resource advisory councils are therefore not needed.*

   **Response:** FLPMA authorizes the establishment of advisory councils to advise the Secretary of the Department of the Interior. These councils are representative of the various major citizens' interests in a particular area. Additionally, the Federal Advisory Committee Act requires that Federal agencies obtain advice and input through such open and diverse committees. An advisory committee provides a measure of involving a broad and diverse public in gathering advice on public land management issues. In addition to advisory councils, the BLM would use public meetings, one-on-one sessions, written communications, and workshops.

3. ***Comment:*** *Explain how multiple resource advisory councils would address the monitoring of rangeland health/conditions.*

   **Response:** Resource advisory councils would provide advice on rangeland management issues to BLM. In that capacity, they would be expected to help identify concepts and techniques to improve management of rangelands. They would provide advice that would help BLM refine methods, accomplish monitoring tasks, evaluate results, and meet landscape management goals.

4. ***Comment:*** *Many comments were received regarding the composition of multiple resource advisory councils. Some suggested that these councils should be larger or smaller than the proposed 15 members. Some were concerned that local community or livestock industry interests would dominate the councils. Others felt that the industry would have a minor or perhaps negligible role on the councils. Yet others wanted to ensure that specific public land user groups would be included or excluded in most or all instances. Some commenters were concerned about the potential for direct economic conflicts for certain types of members. Finally, some*

*suggested that members should or should not be affiliated with existing organizations with a known interest or policies regarding public land management.*

**Response:** The advisory council component of the proposed rule was developed to be consistent with the Federal Land Policy and Management Act and the Federal Advisory Committee Act, and to achieve a broad and balanced membership composition that would include representation from interested parties representing diverse perspectives. The Federal Land Policy and Management Act requires councils to be comprised of 10 to 15 members. The proposed membership structure is designed to assure that no single interest group or person would dominate another group or person on the council. The overall intent is to achieve an effective resource advisory council with a fair distribution of representation that includes the perspectives reflective of the general public. The need to avoid a conflict of interest applies to all members, and no member may vote on issues on which she or he has a conflict of interest.

5. ***Comment:*** *A number of comments suggested that the nomination process for membership on the multiple resource advisory councils should be changed. Suggestions included the following: all members should be elected to their positions; all or some members should be appointed by the governor of the involved state(s); all or some members should be appointed by local elected representatives; consideration should be limited to local citizens selected by local citizenry; the public should be included in the nomination process; and the nomination process is too subjective.*

   **Response:** The foundation of the Preferred Alternative for advisory councils is a public call for nominations. In making appointments, the Secretary would consider nominations made by the governors and nominations received from the public call for nominations. The nomination process is designed to find qualified and interested persons, in a manner that would not hinder individuals from coming forward to show their desire to serve. All of the nominations would be forwarded to the Secretary of the Department of the Interior for consideration. The nominations received would be considered along with those recommended by the governors. The nominees cannot be elected to a council under the Federal Land Policy and Management Act and the Federal Advisory Committee Act; they must be appointed by the Secretary of the Department of the Interior. Regardless of how a nominee is identified, the Secretary would have the responsibility to make the final selection.

6. ***Comment:*** *The geographic areas being proposed for multiple resource advisory councils are too small to ensure an appropriate diversity and balance of public land interests.*

   **Response:** The Preferred Alternative allows flexibility on area of jurisdiction. The agency recognizes that the area of jurisdiction of the resource advisory council (RAC) would depend on the landscapes, area ecology, community, and administrative requirements. Although districts are administratively determined, they have been the primary unit of focus for environmental impact statements. One question that must be decided is whether to manage for large environments that more resemble the functionality of an ecosystem, or to divide the system into smaller, more understandable management units, like a district. It is expected that the RACs would not be static and that they would probably evolve to more of an ecosystem entity as they mature.

7. ***Comment:*** *Multiple Use Advisory Councils (MRACs), and/or its subcommittees (technical review teams and rangeland resource teams) should only be undertaken on a trial, temporary, and/or experimental basis.*

   **Response:** The BLM has had experience in the use of advisory groups and this proposal builds on that experience. The proposed councils and their component parts would be implemented based upon the specific resource and public needs. The chartering of the councils would reflect these needs and would determine how each council would operate and provide recommendations on resource issues. The agency is committed to the success of the resource advisory councils (RACs) which must be reauthorized every two years and any subcom-

mittees. These committees must be reauthorized every two years. Therefore, the effectiveness of the council would be periodically assessed and modifications would be made to ensure the council's effectiveness at assisting in proper management of the rangelands.

8. ***Comment:*** *The establishment of the standards and guidelines by the advisory councils would be too much for them to handle, so there should be standards and guideline boards established to effectively deal with this matter. The MRACs should address other resources and surrounding issues besides grazing.*

   **Response:** Communication with the agency and among resource advisory councils (RACs) is an important element of the proposal that is intended to provide a mechanism for ensuring that the standards and guidelines will reflect the continuum of resources and their uses across jurisdictional boundaries. Although their development would not be easy, the agency would benefit from RAC involvement. The public in general will also have an opportunity to participate in the development of standard and guidelines. Active public involvement with the development of standards and guidelines would result in greater acceptance and support for those standards and guidelines. As a result it is expected that rangelands would improve faster.

9. ***Comment:*** *Public rangeland users requested that interested parties not have input to decisions regarding grazing permits and leases. Others stated that input from the general public should be halted at some point in the permitting process.*

   **Response:** Many administrative, management, permitting, monitoring, compliance, and legal processes and actions are involved with livestock grazing on public land. Some procedures would not be open for public input, such as actions that were within conditions of permits, transferring preference, approving applicant qualifications, and assigning nonuse. The public would have the opportunity to participate in planning and management aspects of all public land uses. This involvement would be likely to affect grazing leases and permits. Members of the public could appeal certain rangeland management decisions. BLM and the Forest Service believe that public input and involvement would help ensure good land management decisions. Public input, however, would not replace the agencies' decisionmaking authority and responsibility.

## Appeals

1. ***Comment:*** *Several commenters took issue with the BLM appeal process under the Preferred Alternative, particularly immediate implementation provisions.*

   **Response:** The proposed rule brings BLM grazing regulations in line with departmental appeals policy under Title 43 of the Code of Federal Regulations, Part 4, Subpart B. Any person whose interest is adversely affected by a decision of the authorized officer would have full appeal rights. The appellant could also file a petition for stay of the decision while final determinations on appeal are being considered. Except in situations where immediate action is need for resource protection, no decisions would be effective until after the 30-day appeal period. If a petition for stay is filed along with the appeal, the decision would be temporarily stayed for up to 45 more days while the Office of Hearings and Appeals makes a determination on the petition. If a stay is granted, it would suspend the effect of the decision until final disposition of the appeal.

2. ***Comment:*** *The review process should have a period of 90 days. The agency should have a time limit on appeals resolution.*

   **Response:** The appeal process in the Preferred Alternative keeps the timeframe of 30 days to appeal a final decision. The proposal adds an additional provision for petitioning a stay within the same 30 days, which allows the review of the petition for a stay to extend for 45 days from the end of the appeal period. Normally, under current provisions (which are not affected by the Preferred Alternative) a final grazing decision would be preceded by a proposed decision that has a protest period of 15 days. Consequently, a typical decision could take at least 90 days before a decision is implemented, even if no stay of the appeal were to be granted.

The timeframe to issue a decision on an appeal would not be limited. The appeal review and the following decision would be comprehensive and complete. Setting a period by which a decision must be made on an appeal could cause decisions to be rendered without proper investigation and counsel.

3. *Comment: The present process of the implementation and appeal of decisions should remain the same, since the resources have not been harmed by the present process and the appellant's rights are not violated.*

   **Response:** The Preferred Alternative provides that management decisions can be carried out in a timely fashion without removing the appeal process. Decisions issued for improvement of the resources would become effective within up to 75 days from issuance. The rangeland can begin to improve without delay. Under the Preferred Alternative, the appellant must now file a petition for a stay, rather than have an automatic stay upon filing an appeal. The requirement to petition for a stay would eliminate frivolous appeals from delaying decision implementation. Such delays often last several years. If the petitioner can show relative harm by the decision, a stay could be granted, which would stop the action until the appeal has been heard and a decision rendered by the administrative law judge.

## Permits and Leases

1. *Comment: Some level of concern was expressed about the BLM redefining the term "grazing preference" and replacing it with "permitted use".*

   **Response:** Grazing preference was redefined to conform more closely with the language in Section 3 of the Taylor Grazing Act. Grazing preference is now defined as the grazing privileges that are assigned to particular base property. The proposed rule establishes that permitted use is the amount of forage in an allotment allocated for livestock grazing under the guidance of a land use plan. Permitted use is granted to holders of grazing preference.

2. *Comment: Various comments were received on suspended use: The continuation of suspended nonuse is a burden to BLM. Suspended nonuse is important to ranch value. The term should be better defined. Suspended nonuse should be eliminated.*

   **Response:** The concept of suspended nonuse has been retained, even though the term "suspended nonuse" has been replaced with the term "suspended use." The present suspended use would continue to be recognized and have a priority for additional grazing use within the allotment. Suspended use provides an important accounting of past grazing use for the ranching community and is an insignificant administrative workload to the agency; therefore, continuing its use is more beneficial than eliminating its use.

3. *Comment: Longer term permits would improve stewardship. Shorter tenure would make it easier to remove poor management and make it clearer that the permit is a privilege and not a right.*

   **Response:** The Taylor Grazing Act and Federal Land Policy and Management Act provide for term permits/leases for a period of generally not more than 10 years with shorter periods allowed to meet specific management needs. Although shorter permit tenure was considered at the time of scoping of the EIS, the agencies determined that except in limited situations reduced tenure would not contribute to the goals of improved rangeland health, and therefore, was not included in the proposed rule.

4. *Comment: A number of comments were submitted on the availability and allocation of additional forage; temporary permits should not be converted to grazing preference, additional forage allocation should be based on the permittee's/lessee's contribution, and permittees and lessees must have met incentive and improvement guidelines for additional permitted use after other agency's approval.*

   **Response:** Where additional forage is temporarily available, it may be apportioned on a nonrenewable basis and would not be converted to permanent status. Often, prior to granting an increase permitted use, temporary nonrenewable

grazing is authorized in order to assess the impacts of increased levels of grazing use. If BLM evaluation of monitoring data reveals that increased grazing use is compatible with land use plan objectives, the temporary nonrenewable animal unit months (AUMs) may be converted to renewable permitted use.

Additional forage available for livestock grazing on a sustained yield basis is first apportioned to permittees or lessees on an allotment in satisfaction of any suspended permitted use. The second priority for additional forage is to permittees or lessees in proportion to their stewardship efforts which resulted in increased forage production.

The Forest Service would not issue temporary permits with the intention of "converting" them to term permits at some future time. However, if unused forage was identified in an allotment, an outcome of a rangeland project decision process could be a decision to increase permitted use. The authorized officer would determine which entity would be authorized this use. Normally, this would be allocated to the permittee(s) currently holding a term permit in that allotment.

5. ***Comment:*** *Permit disqualification provisions drew several comments which included that permit denial would have an adverse impact on ranch financing, the disqualification provision would encourage better stewardship, and other users should also be disqualified from using the public lands for their violations.*

**Response:** One of the primary objectives of the disqualification provisions is to encourage good stewardship and general compliance with applicable rules and regulations. Administrative processes, like those that affect the term permit or lease, could have an impact on particular ranch financing. The factor was included as a component in the economic analysis in the draft EIS. If an applicant or affiliate is not in substantial compliance with an existing federal grazing permit or lease for which renewal is sought, it could negatively impact their ability to obtain financing in that the noncompliance might affect the certainty of the renewal.

Although violation of regulations related to grazing use of the public lands may result in cancellation or suspension of grazing privileges and subsequent disqualification, these types of sanctions are not applicable to other users of the public lands.

## Lease and Pasturing Agreements

1. ***Comment:*** *We received many comments both supportive and critical of the BLM's proposed base property lease surcharge and the pasturing agreement surcharge. Surcharges on third party leases on BLM-administered lands were of major concern for many commenters. Generally speaking, the comments cover the following areas: Since the fee represents fair market value, there is no need to have a surcharge; The permittee is entitled to profit from subleasing; A surcharge should not be assessed on base property lease; There should be a 50 percent surcharge on both arrangements; The authorized officer has too much discretion in subleasing; Livestock associations would be susceptible to surcharges; The Forest Service and BLM should have the same rules; The surcharge amount is punitive; and Subleasing should be illegal so others can have a shot at a permit.*

**Response:** The Preferred Alternative for grazing represents a fair return to the government, and is not fair market value. The Preferred Alternative in the final EIS takes into account the practical needs of Western ranching practices, recognizing subleasing's importance as an operational tool and an avenue for entering the business. Private party leases of the base property tied to a federal permit or lease would be allowed without a surcharge, but may not be issued for a period of less than three years. A pasturing agreement without leasing the base property would continue to be subject to a surcharge based upon a new calculation. The surcharge for such a pasturing agreement would be a percentage of the difference between the state private land lease rate (as reported by the National Agricultural Statistical Service) and the federal grazing fee. These comments are considered in the draft EIS. Changes were made in the Preferred Alternative based on public comment, see Chapter 2.

2. *Comment: Subleasing should not be allowed.*

   **Response:** The Forest Service does not allow permits to be leased; the permittee must own all permitted livestock and the designated base property in order to retain permitted grazing privileges.

   The BLM has and would continue to allow third party leases involving BLM grazing permits and leases. This practice is long- standing, and provides benefits to both the rancher and the agency. The practice allows permittees and lessees advanced in age or in poor health to retain the integrity of the ranching unit until it can be transferred to their families. The practice provides a practical method for new individuals to enter the business in an incremental manner that otherwise may not be possible. Most of the western states allow subleasing for the same reasons. By allowing the practice, the BLM encounters fewer permittee and lessee turnovers, lessening workload and improving long term stability of the rangelands.

## Authorizing Use

1. *Comment: A short rest to recover the range would be better than a reduction until desired conditions are met.*

   **Response:** The permittee could apply to the agencies for temporary nonuse, nonuse for resource protection or conservation use to vitalize the range until desired conditions are met. Alternately, the removal of livestock for a season or period of a season is a tool that can be applied by modifying or suspending a permit through a decision or agreement. The absence of livestock or reduced stocking can accelerate the improvement of rangelands. The amount, duration, and timing of livestock reduction would be determined by the authorized officer according to the specific needs of the site-specific resources.

2. *Comment: Increases in permitted use should be granted when warranted. Monitoring data should be used to adjust use. Five years of monitoring data should be used. BLM has too much authority to change terms and conditions of permits when grazing use is not meeting the land use plan.*

   **Response:** The BLM authorized officer would use information supported by monitoring, field observations, ecological site inventory, or other acceptable data. The period of monitoring should depend upon the kinds of resources and the management objectives established and not on a set requirement for monitoring for five years. The assessment of management success and the need to modify grazing is a dynamic process that must be based upon the needs of each site. Consequently, the agency manager would have to use discretion in determining when and where modifications of permitted use are suitable. As provided in the Preferred Alternative, the authorized officer would take prompt action to change grazing practices that cause resource deterioration.

3. *Comment: Sheep conversion should be changed to 7 sheep per animal unit, and the conversion of a sheep to cattle permit should require a 30 percent reduction.*

   **Response:** In the *Federal Register Notice* published on August 4, 1994, which extended the comment period, BLM requested comments on the 7:1 sheep to cattle conversion for billing purposes. After a review of public comments and the paper by the K.M. Havstad (1994), Agricultural Research Service, *Animal Unit Equivalents: An Examination of the Sheep to Cattle Ratio for Stocking Rangelands*, the data indicates that the present 5:1 sheep to cattle conversion ratio would continue to facilitate efficient permit administration until more comprehensive and conclusive data are available to base more accurate livestock conversion ratios. Therefore, no increases or reductions would be appropriate due to a different conversion ratio at this time.

4. *Comment: Free use should be only for scientific purposes.*

   **Response:** Free use is infrequently authorized. However, there are circumstances such as grazing as a means of weed control, where free use for other than scientific purposes is justified.

Free use may also be authorized by the BLM for residents adjacent to the public lands who depend upon these public lands to support their livestock to work or produce products that they or their family use directly and exclusively. This form of free use is extremely rare and results in negligible environmental effects. The Forest Service regulations provide that the authorized officer may issue temporary permits free of charge where the primary objective is managing vegetation, and not for providing forage.

The Preferred Alternative specifically provides that the authorized officer may authorize grazing free use for the control of noxious weeds, as well as when grazing is for scientific purposes. It is recognized that when grazing is being used strictly as a tool for resource manipulation or scientific studies that the objective of the grazing is not for the consumption of forage, but for other purposes that provide benefits to public rangelands. This type of free use can be an extremely valuable tool for the protection and rehabilitation of rangeland resources.

5. ***Comment:*** *The Forest Service does not have a widespread unauthorized use problem, so why is it changing its unauthorized use procedures and penalties (draft EIS, page 4-40)?*

**Response:** Unauthorized use related to grazing permits does occur on National Forest System lands. Even though this problem is not widespread, in localized areas the problem needs to be addressed. Additionally, a minority of permittees are repeat offenders. The Forest Service believes that increased penalties for willful offenses will deter unauthorized use. Additionally, this change makes Forest Service procedures more consistent with the procedures of BLM.

## Conservation Use

1. ***Comment:*** *As Holistic Management implies, too much "rest" (over-rest) is a cause for declining rangeland. Ten years of nonuse may lead to more severe range fires, more noxious weeds, loss of county tax dollars, etc. The draft EIS does not clearly explain the allowance for long-term nonuse and the concept could be subverted and have long term economic consequences.*

**Response:** We disagree. This was analyzed in the draft EIS on pages 2-15 and 4-40. Neither conservation use nor nonuse for resource protection have to be for 10 years. Since conservation use or nonuse for resource protection would be approved only where it is consistent with resource condition objectives of the land use plan, it is not expected that conservation use would be approved on a continuing basis nor would it be approved to continue when adverse impacts are detected. Once resource condition goals were met, the area would not be eligible for conservation use. Long-term economic consequences of conservation use authorizations are not expected to be significant.

2. ***Comment:*** *The impact of nonuse was not addressed in the draft EIS.*

**Response:** Nonuse for personal convenience, nonuse for resource protection, and conservation use mainly affect the agencies' administrative efficiencies. Temporary nonuse has been authorized on an annual basis, and the Preferred Alternative would allow this practice to continue with the expectation that the level of nonuse would remain approximately the same. Nonuse for personal convenience is not designed as a resource tool, but as a tool to help permittees/lessees manage their operations, and it consequently has little overall effect on the environment. Nonuse for resource protection (a Forest Service term) and conservation use (a BLM term) are designed to expedite improvement or protection of the environment, and not to replace proper management.

## Forest Service Planning

1. ***Comment:*** *There is a conflict between the public involvement requirements of the Federal Land Policy and Management Act (FLPMA), the National Forest Management Act (NFMA), and the National Environmental Policy Act (NEPA). Section 402(d) of FLPMA specifically lists "lessees, permittees, landowners involved, district grazing advisory boards, and any State or States having lands within the area" as the parties with whom the Forest Service must work in "careful*

*and considered consultation, cooperation, and coordination" in the development of an allotment management plan (AMP). NFMA and NEPA require broad public participation in the development of plans for units of the National Forest System. FLPMA prevails over NFMA and NEPA in this case. AMPs should be prepared only with the input from the parties expressly identified in FLPMA and are exempt from any review or involvement by other members of the general public. The definition of AMP in the final rule should be changed to reflect this.*

**Response:** One of the fundamental rules of statutory interpretation is that when more than one statute applies to a specific matter, each statute must be interpreted so that it is given full effect if at all possible. Repeals or exemptions of a statute by implication are disfavored. The government's reasonable interpretation of its statutory authority is entitled to deference.

FLPMA, NFMA, and NEPA can be reconciled with regard to the development of AMPs. FLPMA requires that certain parties must be given an opportunity to participate in the preparation of an AMP. At the same time, it should be noted that FLPMA does not limit participation to only those listed parties. NFMA and NEPA require broad public involvement in the land management planning process for National Forest System units. The current Forest Service policy provides that AMPs are prepared with the "careful and considered consultation, cooperation, and coordination" of the parties listed in Section 402(d) of FLPMA and that those AMPs are also subject to the public participation and involvement requirements of NFMA and NEPA. This policy is fully consistent with the provisions of FLPMA, NFMA, and NEPA. This same policy will continue in force with rangeland project decisions. No changes to the proposed rule are necessary.

2. ***Comment:*** *The Forest Service is treating livestock grazing differently from other ongoing uses, such as campgrounds and facilities, hiking trails, utility rights-of-way, dams and municipal water reservoirs, and existing roads. Virtually none of these other ongoing forest activities have any, let alone adequate, NEPA documentation. Human use of the National Forests often has greater site-specific impacts than livestock grazing. The proposal to single out grazing as the only continuing use of the forests for such scrutiny is arbitrary and capricious and not supported by judicial precedent under NEPA policy.*

   **Response:** Forest Service NEPA policy and procedures have established proposed actions that may be excluded from documentation in an EIS or environmental assessment (EA). These categories include repair and maintenance of administrative sites; repair and maintenance of roads, trails, and landline boundaries; and repair and maintenance of recreation sites and facilities. Authorization of livestock grazing is not comparable to ongoing maintenance of constructed facilities such as trails, campgrounds, utility corridors, dams, reservoirs, or roads. Authorization of all continuing and new permitted activities on National Forest System lands follow Forest Service NEPA policy and procedures.

3. ***Comment:*** *The proposed rules will change the management direction of the Forest Service from "authorized multiple use" under the Multiple Use-Sustained Yield Act (MUSYA) to an "allowed use" in managing rangeland ecosystems. The Forest Service is ignoring specific direction in the Bankhead-Jones Farm Tenant Act (BJFTA) as well as MUSYA and the National Forest Management Act (NFMA) to maintain livestock grazing as a viable use of federal land. Small ranching businesses were established on the basis of National Forest commitments to maintain the stability of the livestock industry, and the family businesses upon which it was founded. Grazing permits have been purchased as part of the base property. Without them, family ranchers will not own sustainable operations.*

   **Response:** "'Multiple use' means management of all the various renewable surface resources of the National Forests so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less

than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output" (MUSYA, Sec.4).

A significant part of the Forest Service Preferred Alternative is to plan for rangeland activities and to regulate grazing use within an ecosystem management framework. This embodies the intent of Congress to coordinate management of the various resources without impairment of the productivity of the land. Livestock grazing can be authorized where it is the most judicious use of the land, can be coordinated with other uses, and authorized without impairment to the productivity of the land. The Forest Service does not interpret the BJFTA, MUSYA, and NFMA as providing specific direction to maintain livestock grazing on National Forest System lands. However, the Forest Service would fully intend to maintain livestock grazing as a viable use of National Forest System lands in compliance with all governing laws. In addition to the laws mentioned above, these include the Organic Administration Act of 1897, the Granger-Thye Act of 1950, the Wilderness Act of 1964, the National Environmental Policy Act of 1970, the Wild Horse and Burro Act of 1971, the Forest and Rangeland Renewable Resources Planning Act of 1974, the Federal Land Policy and Management Act of 1976, and the Public Rangelands Improvement Act of 1978.

Federal laws and the courts have consistently held that issuance of a grazing permit does not create any right, title, interest, or estate in the public lands or resources. Recognition of permit value by federal land management agencies would allow permittees to retain the capitalized value of a public resource in their hands, a resource that has never been conveyed by the public to the permittees. See the draft EIS, page 3-70, for a more detailed discussion of permit value.

4. ***Comment:*** *The Forest Service should do an economic analysis for each range improvement project.*

   **Response:** It is Forest Service policy to do an economic analysis of proposed rangeland projects according to the Range Project Effectiveness Handbook (FSH 2209.11). This would continue under the Preferred Alternative.

5. ***Comment:*** *The Forest Service should allow permittees to contract rangeland planning for their allotments subject to Forest Service concurrence with the results.*

   **Response:** The Forest Service does and would continue to allow permittees to contract rangeland planning according to Forest Service standards. Rangeland planning would refocus from a single-allotment approach to groups of similar allotments or a watershed approach. Contracting would allow groups of permittees to pool their resources to contract rangeland planning, potentially reducing individual permittee costs.

6. ***Comment:*** *Currently, the Forest Service has not been able to complete allotment management plans (AMPs) and the disclosure of environmental effects complying with the National Environmental Policy Act (NEPA) for most of its allotments. There is great concern about the ability of the Forest Service to accomplish rangeland project decisions in the future in a timely fashion. Many grazing permits will expire in the next few years and there is concern about the Forest Service's ability to issue new permits. The Proposed Action creates more uncertainty with permit tenure, further eroding financial stability and destroying opportunities to secure financial support from lending institutions.*

   **Response:** The Forest Services' intent under the Preferred Alternative is to conduct environmental analysis on a landscape or watershed scale, typically including more than one allotment. One advantage of this approach is efficiency of scale, enabling the Forest Service to complete planning on more allotments at a time. The Forest Service recognizes that this task would not be easy. The Forest Service would complete rangeland project

decisions over a reasonable time period following the schedule for completing these decisions.

7. ***Comment:*** *Some commenters believe that the intent to put forest plan standards and guidelines in grazing permits is good but that many forest plan standards and guidelines are inadequate or vague. Other commenters stated that forest plan standards and guidelines are too rigid and do not allow for site specific variations. Others felt that the permit must contain language on penalties for violating the standards and guidelines.*

   **Response:** Site-specific management requirements that conformed to forest plan standards and guidelines would be developed through the NEPA process by interdisciplinary teams with permittee and other public involvement. These requirements would be documented in rangeland project decisions. The management requirements from RPDs would become terms and conditions of the grazing permit. An authorized officer could cancel, suspend, or modify a permit, in whole or in part, if a permittee failed to comply with the conditions of the permit. The type and severity of the penalty would depend on the circumstances surrounding the permit noncompliance. The forest plan could be amended pursuant to NEPA if forest plan standards and guidelines are inadequate, vague, or too restrictive,

8. ***Comment:*** *The proposed action should describe a two-phase planning process. The first phase would require the Forest Service, with help from outside parties as needed, to gather the appropriate technical data needed to develop the rangeland project decision. Once such information is available, the land management agency, the permittee, the landowner and the state having land within the allotment would develop a proposed action. As required by the Public Rangelands Improvement Act (PRIA), Section 8, this preferred alternative should be developed in "careful and considered consultation, cooperation and coordination."*

   *Once the proposed action is developed, the second phase would be compliance with the National Environmental Policy Act (NEPA) with full public participation. When the NEPA process is completed, the agency would make its final management decision. The decision should include specific management requirements. On very large allotments the permittee should be required to live on or adjacent to the allotment or at the least a herder should be available.*

   *The allotment management plan (AMP) is a vehicle for considering the allotment as a whole. Range management decisions happen at the AMP level. Do not eliminate the AMP if the proposed action has no other vehicle for public consideration of the allotment other than individual range projects. Do not eliminate the AMP because it should be used to evaluate progress toward achieving goals and objectives.*

   **Response:** The Forest Service develops a proposed action based on the management direction in the forest plan and input from interested parties. Examples of proposed actions for rangeland management include rangeland improvements, authorization of livestock grazing, and maintenance or modification of specific plant communities or other resource conditions. During development of a proposed action, the Forest Service consults with affected permittees; landowners; county, state and other federal agencies; and others who may have knowledge of the area important to the action being proposed. The permittee has the opportunity to participate during development of the proposed action, satisfying the requirements of PRIA and the Federal Land Policy and Management Act (FLPMA).

   The environmental, economic, and social effects of a proposed action and alternatives developed during public scoping are evaluated and disclosed through the NEPA process. The authorized officer then issues a NEPA decision. The NEPA decision includes specific management and monitoring requirements. The Forest Service has no authority to require permittees to live on or adjacent to an allotment. The NEPA decision is being termed the rangeland project decision (RPD) under the new regulations. The difference between the current Forest Service procedures and the new procedures is that the management requirements in the RPD would be incorporated directly as terms and conditions of the grazing permit. Under the current procedures the Forest

Service puts the management requirements from the NEPA decision into an AMP and then makes the AMP a part of the permit. The revised procedures would streamline the process by eliminating an intermediary step of developing an AMP. Even though AMPs would be phased out, the permittee and other interested publics would be consulted during the rangeland project decision process.

9. ***Comment:*** *Rangeland project decisions and authorized grazing would replace allotment management plans, which means that if National Environmental Policy Act (NEPA) decisions are such that no grazing is to be allowed on watersheds, then an existing grazing permit would be cancelled without due process. This is a hidden agenda to remove productive grazing land without scientific evidence or an independent appeals process.*

**Response:** Rangeland project decisions would not replace allotment management plans (AMPs). Currently (1) a proposed action is developed in consultation with interested and affected parties, (2) a NEPA analysis is conducted on that proposed action and alternatives, (3) a decision is made whether and in what manner grazing is to occur, (4) an AMP is developed from the NEPA decision, and (5) the AMP is made a condition of the permit.

The Preferred Alternative would eliminate the fourth step above of developing an AMP. Instead, site-specific management requirements from the rangeland project decision would be incorporated directly into the grazing permit as terms and conditions. The NEPA decision would be the rangeland project decision. Under these procedures as under the previous procedures, if the rangeland project decision was to change grazing practices or adjust the level of livestock grazing, then the grazing permit would be modified accordingly.

There is no hidden agenda to eliminate livestock from National Forest System lands. Livestock grazing would continue to be adjusted as needed according to the findings of the environmental analysis (NEPA), which would be conducted by professional resource managers with full public and permittee participation.

A rangeland project (NEPA) decision would be appealable under CFR 215. A decision to modify the conditions of a grazing permit would be appealable under CFR 251.

10. ***Comment:*** *The private stewardship of ranchers has succeeded, according to the Forest Service, in creating the following situation: "The condition of public rangeland is better today than it has been at any other time this century." The trend of improvement, directly attributable to ranchers' private investment in water and range improvements as well as to developments in the science of range management, demonstrates that cattle can be a priority which coexists with and benefits a second priority, the protection of the resource of biological diversity within ecosystems.*

**Response:** Rangelands have improved since the early 20th century, when overgrazing had resulted in extremely degraded environmental conditions. Improved grazing practices by ranchers have been a large part of the reason for this improvement since the 1930s. While many of the uplands within the National Forest System are generally meeting or moving toward forest plan goals and objectives, some are still in unsatisfactory condition. While improvement is being made in the management of riparian areas, many of these areas are still in a downward trend and not meeting or moving toward forest plan goals and objectives. The use of National Forest System lands must provide for sustainable ecosystems. Livestock use may be permitted where it is consistent with forest plans and provides for the sustainable use of national forest resources. Livestock use would be modified where it does not allow the sustainable use of the resources. Decisions on the appropriateness of livestock grazing would be made in a site-specific analysis with full public participation.

11. ***Comment:*** *The government should be looking for ways to promote productive use of renewable resources in the face of the growing national debt. Using grass through livestock grazing puts to use what would otherwise go to waste. The*

*centuries-long history of bison and cattle as members of the ecosystem clearly demonstrates that grazing is a sustainable and suitable use of a renewable resource. Ensuring continued economically viable grazing on western federal lands should be a priority.*

**Response:** In ecosystems that developed with large ungulates, grazing use can stimulate some natural processes. Livestock grazing, however, does not often mimic natural large ungulate use patterns of moving, herding, and leaving heavily impacted areas. Management practices that halt yearlong grazing on the same piece of ground would help to mimic natural ungulate activities. The benefits of grazing and grazing disturbance in some ecosystems are discussed in several places in the draft EIS, particularly under the impacts of the No Grazing alternative. The benefit of large ungulate impact in certain cases is discussed on pages 3-22, 4-109, 4-110, 4-112, and 4-113 of the draft EIS, for example. In ecosystems that developed without large ungulates, grazing use does not take the place of a natural process. The draft EIS describes ecosystems that would respond slowly to removal of livestock and considers grazing and grazing disturbance processes in the analysis of effects to vegetation under each alternative.

12. ***Comment:*** *The public should be involved in developing forest plan management direction and establishing site-specific objectives and desired future conditions within ecosystems or landscape areas. Texas courts ruled that a new, site-specific NEPA process is not required for specific management programs called for in the forest plan. Therefore, technical implementation, such as AMPs, do not need public involvement. Implementing grazing use is best left to the on-the-ground line officer and user in coordination to meet the conditions prescribed by the public. The Forest Service should continue to develop and update AMPs for individual allotments to meet the needs of the local area and ranchers.*

**Response:** The Forest Service has a tiered planning process for all activities on national forests and grasslands which includes public involvement. Forest plans are developed as required by the National Forest Management Act (NFMA) as programmatic documents that allow activities and programs to occur within specified parameters, called standards and guidelines. Rarely are forest plans site-specific when disclosing environmental effects of any allowed activity. If environmental impacts are disclosed at the site-specific level in a forest plan, then further analysis under the National Environmental Policy Act (NEPA) would not be required. But it is generally at the second tier where forest plan standards and guidelines are used as a framework to develop and analyze site-specific plans and impacts for projects and management activities as required by NEPA. In the case of rangeland projects, involvement of the permittee and other interested publics is important when developing a workable, environmentally sound project. Management decisions for rangeland use made at the site-specific level through NEPA would be the rangeland project decisions (RPDs) discussed in Chapter 2, Alternative 2 (Proposed Action) of the drat EIS. These decisions could be landscape-based and could encompass more than one grazing allotment. The Forest Service Preferred Alternative would include the incorporation of management requirements from RPDs as terms and conditions of grazing permits for individual allotments. Currently, NEPA decisions are made in conjunction with AMPs for individual grazing allotments. Then the AMP, as the implementing document, is incorporated as a condition of the grazing permit. The Forest Service proposal to eliminate AMP preparation as an unneeded step in the process would not eliminate or limit the permittee's involvement in developing a rangeland management strategy. Where an RPD or NEPA decision authorizes livestock grazing, the issuing of grazing permits for individual allotments would merely implement the decision and would not be subject to more NEPA analysis or public involvement. See response 11 in this section.

13. ***Comment:*** *Section 402 of the Federal Land Policy and Management Act (FLPMA) requires the Forest Service to prepare allotment management plans (AMP). The Forest Service does not have the legal authority to eliminate AMPs by regulation. The Forest Service proposal to eliminate allotment management plans (AMPs) is*

*inconsistent with the BLM and will add confusion.*

**Response:** Section 402(d) of FLPMA authorizes but does not require AMPs for managing livestock operations. On the basis of the agency's two-tiered planning and decisionmaking process, the Forest Service has decided that AMP preparation is unnecessary. AMPs appear to create a middle tier of planning and decisionmaking that does not conform to the two-tier planning and decision making process used in planning for all other forest resources. The Forest Service consults with the permittee and other interested parties as it develops a proposed management strategy. Under the Proposed Action, this management strategy would continue to be analyzed through a NEPA process in consultation with the permittee and other interested parties. The management requirements from the rangeland project decision would be incorporated as terms and conditions of the grazing permit. These procedures would be consistent with Section 402(e) of FLPMA. Eliminating the AMP preparation step would make the Forest Service's rangeland planning procedures consistent with planning for other resource uses in the Forest Service and would clarify when and where livestock grazing and livestock use decisions are made.

14. ***Comment:*** *Issuance of permits for less than 10 years is a violation of FLPMA.*

    **Response:** This is incorrect. FLPMA authorizes the issuance of grazing permits for less than 10 years if the land is pending disposal, the land will be devoted to a public purpose in less than ten years, or if issuing such a permit would be in the best interest of sound resource management. However, FLPMA also provides that the lack of details in an AMP or the absence of completed land use plans or court-ordered environmental statements can not be the sole basis for issuing a short term permit in the interest of sound resource management.

15. ***Comment:*** *The Proposed Action in the Draft EIS is to issue temporary grazing permits pending completion of rangeland project decisions. This is a violation of FLPMA.*

    **Response:** The Preferred Alternative would require the issuance of grazing permits for a term of up to 10 years pending completion of rangeland project decisions.

16. ***Comment:*** *The proposed Forest Service action for grazing permit reissuance appears to increase the bureaucratic process substantially. If the agency is going to go to the trouble of preparing NEPA documents for reissuance of grazing permits for 1-3 years, they should do whatever is required to complete NEPA analysis so that the permit can be reissued for a full 10-year term.*

    **Response:** An environmental analysis pursuant to NEPA is needed to authorize livestock grazing for a grazing permit of any length term. If the Forest Service determined through the environmental analysis that the resources within an allotment were not meeting or moving toward forest plan goals and objectives due to livestock grazing, the authorized officer could decide to issue a permit for less than 10 years if it would be in the best interest of sound resource management.

17. ***Comment:*** *AMPs should be replaced with watershed-based project decisions. The Forest Service and BLM should first do joint watershed studies, then coordinate project decisions that lead to meeting state water quality standards.*

    **Response**: The Preferred Alternative would result in a phasing-out (but not immediate elimination) of AMPs. AMPs that are current (including appropriate disclosure of environmental effects) would remain valid. Environmental analysis (upon which rangeland project decisions would be based) would be done at an appropriate landscape scale decided upon by the authorized officer. A watershed-level scale could be one (among others) chosen to meet the analyses needs or objectives. The Preferred Alternative would not preclude the authorized officer from coordinating efforts with the BLM throughout the rangeland project decision process.

# APPENDIX F
# Threatened, Endangered, and Proposed Species List

This appendix presents the federally designated endangered, threatened, and proposed species. Information is based on the most current published status when the draft EIS went to press: 50 CFR 17.11 and 17.12, Endangered & Threatened Wildlife and Plants, August 23, 1993. Changes since publication of the draft EIS are included as of September 29, 1994. The status of any species may have changed before publication of the final EIS, including the addition of new species. Current status should always be confirmed with a local Fish and Wildlife Service office. Plant species are alphabetized by scientific name to preserve the generic relationships for species lacking known common names.

Species on the following list occur on public or Forest Service lands on or near areas that are grazed by livestock. Many of the species listed may be affected by livestock grazing either adversely or beneficially, either directly or indirectly, and some may not be affected at all. Some of the species may occur in ungrazed areas.

The symbols used in this table are as follows:

E = Endangered Species. Any species which is in danger of extinction throughout all or a significant portion of its range.

T = 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.

ECH & TCH = Endangered (E) or threatened (T) species for which a critical habitat (CH) has been designated. The term "critical habitat" is defined as the specific areas within the geographical range occupied by the species on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection; and specific areas outside the geographical rangeland occupied by the species that are essential for the conservation of the species.

PE=Proposed endangered.

PT=Proposed threatened.

PCH=Proposed critical habitat.

| Common Name | Scientific Name | Status |
|---|---|---|
| **Mammals** | | |
| Bat, Mexican Long-nosed | Leptonycteris nivalis | E |
| Bat, Lesser Long-nosed (Sanborn's) | Leptonycteris yerbabuenae | E |
| Bear, Grizzly or Brown | Ursus arctos horribilis | T |
| Caribou, Woodland | Rangifer tarandus caribou | E |

| Common Name | Scientific Name | Status |
|---|---|---|
| Deer, Columbian White-tail | Odocoileus virginianus leucurus | E |
| Ferret, Black-footed | Mustela nigripes | E |
| Jaguarundi | Felis yagouaroundi tolteca | E |
| Rat, Giant Kangaroo | Dipodomys ingens | E |
| Rat, Stephen's Kangaroo | Dipodomys stephensi | E |
| Rat, Tipton Kangaroo | Dipodomys nitratoides | E |
| Fox, San Joaquin Kit | Vulpes macrotis mutica | E |
| Beaver, Point Arena Mountain | Aplodontia rufa | E |
| Ocelot | Felis pardalis | E |
| Prairie Dog, Utah | Cynomys parvidens | T |
| Pronghorn, Sonoran | Antilocapra americana sonoriensis | E |
| Squirrel, Mount Graham Red | Tamiasciurus hudsonicus grahamensis | E |
| Vole, Hualapai Mexican | Microtus mexicanus hualpaiensis | E |
| Wolf, Gray | Canis lupus | E |
| **Birds** | | |
| Condor, California | Gymnogyps californianus | ECH |
| Crane, Whooping | Grus americana | ECH |
| Curlew, Eskimo | Numenius borealis | E |
| Eagle, Bald | Haliaeetus leucocephalus | T (E in SW) |
| Falcon, American Peregrine | Falco peregrinus anatum | E |
| Falcon, Northern Aplomado | Falco femoralis septentrionalis | E |
| Flycatcher, Southwestern Willow | Empidonax trailii extimus | PE,PCH |
| Gnatcatcher, California | Polioptila californica californica | T |
| Goose, Aleutian Canada | Branta canadesis leucopareia | T |
| Murrelet, Marbled | Brachyramphus marmoratus marmoratus | T |
| Owl, Mexican Spotted | Strix occidentalis lucida | T |
| Owl, Northern Spotted | Strix occidentalis courina | T |
| Parrot, Thick-billed | Rhynchopsitta pachyrhyncha | E |

| Common Name | Scientific Name | Status |
|---|---|---|
| Pelican, Brown | Pelecanus occidentalis | E |
| Plover, Piping | Charadrius melodus | E(T in WEST) |
| Plover, Western Snowy | Charadrius alexandrinus nivosus | T |
| Rail, Yuma Clapper | Rallus longirostris yumanensis | E |
| Tern, California Least | Sterna antillarum browni | E |
| Tern, Least | Sterna antillarum | E |
| Vireo, Least Bell's | Vireo bellii pusillus | E |
| **Fishes** | | |
| Chub, Bonytail | Gila elegans | ECH |
| Chub, Borax Lake | Gila boraxobius | E |
| Chub, Chihuahua | Gila nigrescens | T |
| Chub, Humpback | Gila cypha | ECH |
| Chub, Hutton Tui | Gila bicolor ssp. | T |
| Chub, Owens tui | Gila bicolor snyderi | E |
| Chub, Pahranagat Roundtail | Gila robusta jordani | E |
| Chub, Sonora | Gila ditaenia | TCH |
| Chub, Virgin River | Gila robusta semidnuda | E |
| Dace, Ash Meadows Speckled | Rhinichthys osculus nevadensis | ECH |
| Dace, Clover Valley Speckled | Rhinichthys osculus oligoporus | E |
| Dace, Desert | Eremicmhthys acros | TCH |
| Dace, Foskett Speckled | Rhinichthys osculus | T |
| Dace, Moapa | Moapa coriacea | E |
| Gambusia, Pecos | Gambusia nobilis | E |
| Minnow, Loach | Tiaroga cobitis | TCH |
| Poolfish (Killifish), Pahrump | Empetrichthys latos | E |
| Pupfish, Ash Meadows Amargosa | Cyprinodon nevadensis mionectes | ECH |
| Pupfish, Desert | Cyprinodon macularius | ECH |
| Pupfish, Devil's Hole | Cyprinodon diabolis | E |

| Common Name | Scientific Name | Status |
|---|---|---|
| Pupfish, Owens | Cyprinodon radiosus | E |
| Pupfish, Warm Springs | Cyprinodon nevadensis pectoralis | E |
| Salmon, Sacramento Winter-run Chinook | Oncorhynchus tshawytscha | ECH |
| Salmon, Snake River Sockeye | Oncorhynchus nerka | ECH |
| Salmon, Snake River Fall Chinook | Oncorhynchus tschawytscha | ECH |
| Salmon, Snake River Spring/Summer Chinook | Oncorhynchus tschawytscha | ECH |
| Shiner, Beautiful | Cyprinella (Notropis) formosa | TCH |
| Shiner, Pecos Bluntnose | Notropis simus pecosensis | TCH |
| Spikedace | Meda fulgida | TCH |
| Spinedace, Big Spring | Lepidomeda mollispinis pratensis | TCH |
| Spinedace, Little Colorado River | Lepidomeda vittata | T |
| Spinedace, White River | Lepidomeda albivallis | ECH |
| Spinedace, Virgin | Lepidomeda m. mollispinis | PT |
| Springfish, Hiko White River | Crenichthys baileyi grandis | ECH |
| Springfish, Railroad Valley | Crenichthys nevadae | TCH |
| Springfish, White River | Crenichthys baileyi baileyi | ECH |
| Squawfish, Colorado River | Ptychocheilus lucius | XN[1],ECH |
| Stickleback, Unarmored Threespine | Gasterosteus aculeatus williamsoni | E |
| Sturgeon, Pallid | Scaphirhynchus albus | E |
| Sucker, June | Chasmistes liorus | ECH |
| Sucker, Lost River | Deltistes luxatus | E |
| Sucker, Klamath Largescale | Catastomus snyderi | E |
| Sucker, Modoc | Catastomus microps | ECH |
| Sucker, Razorback | Xyrauchen texanus | ECH |
| Sucker, Shortnose | Chasmistes brevirostris | ECH |
| Sucker, Warner | Catostomus warnerensis | T |
| Topminnow, Gila (incl. Yaqui) | Poeciliopsis occidentalis | E |

| Common Name | Scientific Name | Status |
|---|---|---|
| Trout, Apache | Oncorhynchus (= Salmo) apache | T |
| Trout, Gila | Oncorhynchus (= Salmo) gilae | E |
| Trout, Greenback Cutthroat | Oncorhynchus clarki stomias | T |
| Trout, Lahontan Cutthroat | Oncorhynchus clarki henshawi | T |
| Trout, Little Kern Golden | Oncorhynchus aguabonita whitei | TCH |
| Trout, Paiute Cutthroat | Oncorhynchus clarki seleniris | T |
| Trout, Umpqua River Cutthroat | Oncorhynchus clarki | PE |
| Woundfin | Plagopterus argentissimus | E,XN1 |
| **Reptiles and Amphibians** | | |
| Frog, California Red Legged | Rana aurora draytonii | PE |
| Lizard, Blunt-nosed Leopard | Gambelia silus | E |
| Rattlesnake, New Mexican Ridge-nosed | Crotalus willardi obscurus | TCH |
| Salamander, Sonoran Tiger | Ambystoma tigrinum stebbinsi | PE |
| Toad, Wyoming | Bufo hemiophrys baxteri | E |
| Tortoise, Desert (Mojave) | Gopherus agassizii | TCH |
| **Insects** | | |
| Beetle, American Burying (=Giant Carrion Beetle) | Nicrophorus americanus | E |
| Beetle, Valley Elderberry Long-horn | Desmocerus californicus dimorphus | TCH |
| Butterfly, Laguna Mountain Skipper | Pyrgus ravalis lagunae | PE |
| Butterfly, Oregon Silverspot | Speyeria zerene hippolyta | TCH |
| Butterfly, Quino Checkerspot | Euphilotes editha quino | PE |
| Butterfly, Smith's Blue | Euphilotes enoptes smithi | E |
| Moth, Kern Primrose Sphinx | Euproserpinus euterpe | T |
| Naucorid, Ash Meadows | Ambrysus amargosus | TCH |
| **Crustaceans and Mollusks** | | |
| Crayfish, Shasta | Pacifastacus fortis | E |
| Isopod, Socorro | Thermosphaeroma thermophilus | E |
| Shrimp, Longhorn Fairy | Branchinecta longiartenna | PE |

| Common Name | Scientific Name | Status |
|---|---|---|
| Shrimp, San Diego Fairy | Branchinecta sandiegoensis | PE |
| Shrimp, Vernal Pool Fairy | Branchinecta lynchi | PE |
| Springsnail, Bruneau Hot | Pyrgulopsis bruneauensis | E |
| **Plants** | | |
| Agave, Arizona | Agave arizonica | E |
| Blue-star, Kearney's | Amsonia kearneyana | E |
| Bear-poppy, Dwarf | Arctomecon humilis | E |
| Manzanita, Morro | Arctostaphylos morroensis | PE |
| Prickly-poppy, Sacramento | Argemone pleiacantha ssp. pinnatisecta | E |
| Milkweed, Welsh's | Asclepias welshii | TCH |
| Milk-vetch, Applegate's | Astragalus applegatei | E |
| Milk-vetch, Braunton's | Astragalus brauntonii | PE |
| Milk-vetch, Sentry | Astragalus cremnophylax var. cremnophylax | E |
| Milk-vetch, Mancos | Astragalus humillimus | E |
| Milk-vetch, Sodaville | Astragalus lentiginosus ssp. sesquimetralis | PT |
| Milk-vetch, Heliotrope | Astragalus montii | TCH |
| Milk-vetch, Osterhout | Astragalus osterhoutii | E |
| Milk-vetch, Ash Meadows | Astragalus phoenix | TCH |
| Encinitas Baccharis | Baccharis vanessae | PE |
| Stebbins Morning Glory | Calystegia stebbinsii | PE |
| Camissonia, Atwood's | Camissonia atwoodii | T |
| Primrose, San Benito Evening | Camissonia benitensis | T |
| Clover, Fleshy Owl's | Castilleja campestris ssp. succulenta | PT |
| Golden Paintbrush | Castilleja Levisecta | PT |
| Jewelflower, California | Caulanthus californicus | E |
| Pine Hill Ceanothus | Ceanothus roderickii | PE |
| Centaury, Spring-loving | Centaurium namophilum var. namophilum | TCH |

| Common Name | Scientific Name | Status |
|---|---|---|
| Spurge, Hoover's | Chamaesyce hooverii | PT |
| Thistle, Chorro Creek Bog | Cirsium fontinale obispoense | PE |
| Thistle, Sacramento Mountains | Cirsium vinaceum | T |
| Cactus, Cochise Pincushion | Coryphantha robbinsorum | T |
| Cactus, Pima Pineapple | Coryphantha scheeri var. robustispina | E |
| Cactus, Sneed Pincushion | Coryphantha sneedi var. sneedii | E |
| Cactus, Lee Pincushion | Coryphantha sneedii var. leei | T |
| Cycladenia, Jones | Cycladenia humilis var. jonesii | T |
| Biscuit Root, Higgin's | Cymopterus higginsii | T |
| Cuyamaca Lake Dowingia | Dowingia concolor var. brevior | PE |
| Dudley, Verity's | Dudleya verityi | PT |
| Cactus, Nichol's Turk's Head | Echinocactus horizonthalonius var. nicholii | E |
| Cactus, Kuenzler Hedgehog | Echinocereus fendleri var. kuenzleri | E |
| Cactus, Lloyd's Hedgehog | Echinocereus lloydii | E |
| Cactus, Arizona Hedgehog | Echinocereus triglochidiatus var. arizonicus | E |
| Cactus, Spineless Hedgehog | Echinocereus triglochidiatus var. inermis | E |
| Sunray, Ash Meadows | Enceliopsis nudicaulis var. corrugata | TCH |
| Mallow, Kern | Eremalche kernensis | E |
| Wooly-star, Hoover's | Eriastrum hooveri | T |
| Daisy, Maguire | Erigeron maguirei var. maguirei | E |
| Fleabane, Rhizome | Erigeron rhizomatus | T |
| Wild-buckwheat, Gypsum | Eriogonum gypsophilum | TCH |
| Buckwheat, Steamboat | Eriogonum ovalifolium var. williamsiae | E |
| Buckwheat, Clay-loving | Eriogonum pelinophilum | ECH |
| Flannelbush, Pine Hill | Fremontodendron californicum ssp. decumbens | PE |
| Bedstraw, El Dorado | Galium californicum ssp. sierrae | PE |

| Common Name | Scientific Name | Status |
|---|---|---|
| Cress, Toad-flax | Glaucocarpum suffrutescens | E |
| Gumplant, Ash Meadows | Grindelia fraxinopratensis | TCH |
| Pennyroyal, McKittrick | Hedeoma apiculatum | T |
| Pennyroyal, Todsen's | Hedeoma todsenii | ECH |
| Howellia, Water | Howellia aquatilis | T |
| Ipomopsis, Holy Ghost | Ipomopsis sancti-spiritis | E |
| Ivesia, Ash Meadows | Ivesia kingii var. eremica | TCH |
| Wooly-threads, San Joaquin Valley | Lembertia congdonii | E |
| Bladderpod, Dudley Bluffs | Lesquerella congesta | T |
| Bladderpod, Kodachrome | Lesquerella tumulosa | E |
| Huachuca Water Umbel | Lilaeopsis schaffneriana ssp. recurva | PE |
| Parish's Meadowfoam | Limnanthes gracilis ssp. parishii | PT |
| Lomatium, Bradshaw's | Lomatium bradshawii | E |
| Blazingstar, Ash Meadows | Mentzelia leucophylla | TCH |
| Four-o'clock, Macfarlane's | Mirabilis macfarlanei | E |
| Bakersfield Cactus | Opuntia treleasei | E |
| Grass, California Orcutt | Orcuttia inaequalis | E |
| Cactus, Brady Pincushion | Pediocactus bradyi | E |
| Cactus, San Rafael | Pediocactus despainii | E |
| Cactus, Knowlton | Pediocactus knowltonii | E |
| Cactus, Peebles Navaho | Pediocactus peeblesianus var. peeblesianus | E |
| Cactus, Siler Pincushion | Pediocactus sileri | T |
| Cactus, Winkler | Pediocactus winkleri | PE |
| Beardtongue, Penland | Penstemon penlandii | E |
| Lyon's Pentachaeta | Pentachaeta lyonii | PE |
| Phacelia, Clay | Phacelia argillacea | E |
| Phacelia, North Park | Phacelia formosula | E |
| Twinpod, Dudley Bluffs | Physaria obcordata | T |

| Common Name | Scientific Name | Status |
|---|---|---|
| Orchid, Western Prairie Fringed | Platanthera praeclara | T |
| Primrose, Maguire | Primula maguirei | T |
| Cactus, Mesa Verde | Sclerocactus mesae - verdae | T |
| Cactus, Wright Fishhook | Sclerocactus wrightiae | E |
| Groundsel, San Francisco Peaks | Senecio franciscanus | T |
| Butterweed, Layne's | Senecio layneae | PT |
| Checker-mallow, Nelson's | Sidalcea nelsoniana | T |
| Lady's-tresses, Canelo Hill | Spiranthes delitescens | PE |
| Lady's-tresses, Ute | Spiranthes divuialis | T |
| Wirelettuce, Malheur | Stephanomeria malheurensis | ECH |
| Townsendia, Last Chance | Townsendia aprica | T |
| Pseudobahia, Tulare | Pseudobahia peirsoni | PE |
| Cliffrose, Arizona | Purshia subintegra | E |
| Buttercup, Sharp Autumn | Ranunculus acriformis var. aestivalis | E |
| Reed-mustard, Barneby | Schoenocrambe barnebyi | E |
| Cactus, Unita Basin Hookless | Sclerocactus glaucus | T |

[1] Experimental nonessential in Gila River drainage of Arizona.

# APPENDIX T

# BIOLOGICAL OPINION & CONFERENCE REPORT

# FISH AND WILDLIFE SERVICE
# NATIONAL MARINE FISHERIES SERVICE

Endangered Species Act - Section 7 Consultation

BIOLOGICAL OPINION and CONFERENCE REPORT

Agencies: U.S. Department of the Interior, Bureau of Land Management
U.S. Department of Agriculture, Forest Service

Activity: Rangeland Reform '94

Consultation Conducted By:

U.S. Department of Interior, U.S. Fish and Wildlife Service
and
U.S. Department of Commerce, National Marine Fisheries Service

Date Issued: **Nov 4 1994**

**DESCRIPTION OF PROPOSED ACTION**

Rangeland Reform '94 is a proposal of the U.S. Department of the Interior (USDI) and the Bureau of Land Management (BLM), in cooperation with the U.S. Department of Agriculture and the Forest Service to administer their National grazing programs. These agencies administer livestock grazing on approximately 270 million acres Federal rangelands. The proposal involves policy and regulatory changes in BLM and the Forest Service's rangeland management programs intended to improve ecological conditions while providing sustainable development on lands administered by the two agencies.

A major policy element of the reform package consists of National requirements and direction for developing State or regional standards and guidelines for livestock grazing on BLM-administered lands. A provision for fallback standards to take effect if regional standards and guidelines have not been developed within 18 months is also included in the reform package.

To meet the National requirements, BLM will develop State or regional standards and guidelines and complete a land use plan conformance test within 18 months. All such standards and guidelines will be subject to compliance with the National Environmental Policy Act (NEPA) and BLM's planning regulations and Endangered Species Act (ESA) requirements. Those State and regional standards and guidelines conforming to existing land use plans will be implemented immediately. Standards and guidelines not conforming to existing land use plans will require plan amendments, additional NEPA analysis, and ESA section 7

consultation/conferenceshould listed species be affected, proposed species be jeopardized, or proposed or designated critical habitats be adversely modified. If regional standards and guidelines have not been developed by the end of 18 months, the standards and guidelines contained in Rangeland Reform 1994 will serve as fall back standards and guidelines and will be implemented at the State level immediately subject to the plan conformance test, NEPA, and ESA compliance.

National Forest Land and Resource Management Plans have standards and guidelines for managing rangeland resources on Forest Service-administeredlands. The Forest Service will continue to develop standards and guidelines at the forest plan level. Compliance with section 7 of the ESA will be met at that level when appropriate. A significant element of the Forest Service's proposal is the elimination of allotment management plans. Management requirements from landscape-level rangeland project decisions will be incorporated into grazing permits.

BLM and the Forest Service also propose other administrative regulatory changes in their rangeland management programs. Regulatory changes are analyzed in the Rangeland Reform 1994 Environmental Impact Statement (EIS) document.

In addition, BLM and the Forest Service propose to change the formula for calculating fees for grazing on lands in the western States.

Rangeland Reform '94 is the preferred alternative of BLM and the Forest Service, and adoption of the policy will change many elements of the agencies' current rangeland policies, regulations, and management practices. The preferred alternative includes BLM National requirements and provides the basis for developing State, regional or local standards and guidelines for managing rangeland ecosystems administered by BLM. The proposed action will also establish more consistent BLM and Forest Service management programs to improve ecological conditions while maintaining opportunities for long-term sustainability.

BLM National Requirements and Standards and Guidelines

Under the proposed action, BLM will adopt and implement National requirements for public rangelands. State, regional or local standards and guidelines will assure that management actions are conducted in accordance with ecological principles. Standards and guidelines will maintain or achieve healthy rangeland ecosystems. Management actions that diminish ecosystem function and

health will be modified or eliminated, and actions promoting ecosystem function and health will be implemented and maintained.

BLM will meet National requirements and implement standards and guidelines through all available means. For example, some standards and guidelines will be implemented through design and contract specifications and through terms attached to permits, leases and other authorizations for the next use period. Failure to comply with such terms could result in a permit, lease, or other authorization being modified or canceled.

Areas may require total rest from use or disturbance until desired resource conditions are reached. Where an area is not progressing toward meeting desired conditions, BLM will act to correct the situation before the next use period. State, regional or local standards and guidelines will be developed to ensure that management actions are appropriate to the resources of the specific ecoregions. BLM will incorporate the State, regional, or local standards and guidelines into its resource management plans, which will be subject to NEPA and ESA compliance.

These standards and guidelines encompass a portion of a State, an entire State, or more than one State. Local standards and guidelines would not supersede National requirements or State or regional standards and guidelines. ESA compliance will be required at these levels.

BLM National Requirements for Grazing Administration

Rangeland-relatedplans and activities on public lands will conform to the following.

Permits and leases, and grazing related plans and activi ies on public lands, shall contribute to maintaining or achieving properly functioning ecosystems, including the following elements.

(1) Watersheds are in properly functioning physical condition, including their upland, riparian-wetland, and aquatic components. Soil and plant conditions support infiltration, soil moisture storage, and the release of water that are in balance with climate and landform and maintain or improve water quality, water quantity, and timing and duration of flow.

(2) Ecological processes, including the hydrologic cycle, nutrient cycle, and energy flow, function to maintain healthy biotic populations and communities.

(3) Water quality meets or exceeds State water quality standards.

(4) Habitats, including designated or proposed critical habitats, are restored, maintained, or enhanced for Federal threatened and endangered species, Federal proposed, Category 1 and 2 Federal candidate species, and other special status species.

(5) Management actions shall comply with the legal mandates under the Taylor Grazing Act, Federal Land Policy Management Act, Public Rangelands Improvement Act, ESA, Clean Water Act and other relevant authorities.

The authorized land management officer shall assure that all assessments are conducted and plans are prepared by interdisciplinary teams to ensure compliance with the National requirements and appropriate standards and guidelines.

When management practices do not meet the requirements of this section, the authorized officer shall take appropriate action before the start of the next grazing year.

BLM Standards and Guidelines for Grazing Administration

BLM State Directors, in coordination with the affected resource advisory councils (where established), will be responsible for identifying the geographical area for which standards and guidelines are developed. Standards and guidelines shall be developed for an entire State, or an area encompassing portions of more than one State. An exception to this would be made if a BLM State Director, in coordination with the resource advisory councils, determines that the characteristics of an area are unique, and the rangelands within the area could not be adequately protected using standards and guidelines developed on a broader geographical scale. These areas for which standards and guidelines are developed will be as large as possible, based on similar physical, biological, social and economic features. Specific consideration in delineating these areas shall be given to climate, geology, physiography, soils, hydrology, flora, fauna, social custom and human use.

The BLM State Director shall provide the opportunity to the public for involvement in the development of State or regional standards and guidelines.

The BLM State Director shall develop and amend State or regional standards and guidelines in consultation with the relevant BLM resource advisory councils, Indian tribes, and

other Federal land management agencies responsible for management of lands and resources within the region or area under consideration, and the interested public.

At a minimum, State or regional standards for healthy, properly functioning rangeland must address the following components:

(1) watershed function,

(2) water quality,

(3) nutrient cycling and energy flow,

(4) habitat quality for native plant and animal populations and communities, and

(5) habitat (including critical or proposed critical habitat) for endangered, threatened, proposed, Candidate 1 or 2 or special status species.

State or regional guidelines developed for grazing management and related activities, such as vegetative manipulation, road building and maintenance, fence construction and water developments, will meet the following requirements.

(1) Management actions will maintain or achieve adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soils.

(2) Management actions will maintain or promote sub-urface soil conditions that support permeability rates appropriate to climate and soils.

(3) Management actions will maintain, improve or restore riparian-wetland functions including energy dissipation, sediment capture, groundwater recharge, and streambank stability.

(4) Management actions will maintain or achieve stream channel morphology (e.g., gradient, width/depth ratio, channel roughness and sinuosity) and functions appropriate to climate and landform.

(5) Management actions will maintain, restore or enhance water quality to meet or exceed State water quality standards and wildlife management objectives.

(6) Management actions will maintain or achieve the appropriate kinds and amounts of soil organisms, plants and

animals to support the hydrologic cycle, nutrient cycle, and energy flow.

(7) Management actions will maintain or achieve the physical and biological conditions necessary to sustain native populations and communities.

(8) Management actions will emphasize native species in the support of ecological function.

(9) Management actions will incorporate the use of non-native species only in those situations where native species are not available in sufficient quantities, or are incapable of maintaining or achieving properly functioning conditions and biological health.

(10) Management actions will promote the opportunity for seedling establishment when climatic conditions and space allow.

(11) Management actions will restore, maintain and enhance habitats, including critical habitats, to assist in the recovery of federally listed threatened and endangered species.

(12) Management actions will restore, maintain, and enhance habitats (including proposed critical habitats) of Federal Proposed, Category 1 and 2 Federal candidate, and other special status species to promote their conservation.

In the event that State or regional standards and guidelines are not completed and approved within 18 months after the effective date of the rule, all grazing management actions must conform to the fallback standards provided in paragraph (1) below and the guidelines provided in paragraph (2) provided below.

(1) The following BLM fallback standards shall apply.

i. Upland soils shall exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform.

ii. Riparian-wetland areas are in properly functioning condition.

iii. Stream channel morphology (including but not limited to gradient, width/depth ratio, channel roughness and sinuosity) and functions are appropriate for landform and climate.

iv. Water quality meets or exceeds State water quality standards.

v. Healthy, productive and diverse populations of native species are maintained.

vi. Habitats, including critical or proposed critical habitats, for Federal endangered, threatened, proposed, category 1 and 2 candidate, and other special status species will be restored, maintained and enhanced.

(2) All grazing management will incorporate the guidelines listed below.

i. Management actions will maintain or achieve adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soil.

ii. Management actions will maintain or promote subsurface soil conditions that support permeability rates appropriate to climate and soils.

iii. Management actions will ensure sufficient vegetation to maintain, improve, or restore riparian-etland functions of sediment capture, energy dissipation, streambank stability and groundwater recharge.

iv. The authorized officer will relocate facilities away from riparian-wetland areas wherever they conflict with achieving or maintaining riparian-wetland function.

v. Management actions will maintain or achieve stream channel morphology (e.g., gradient, width/depth ratio, channel roughness and sinuosity) and functions appropriate to climate and landform.

vi. The development of springs and seeps or other projects affecting water and associated resources shall be designed to protect ecological processes and functions.

vii. Management actions will maintain or achieve the appropriate kinds and amounts of soil organisms, plants and animals to support the hydrologic cycle, nutrient cycling, and energy flow.

viii. Management actions will maintain or achieve the physical and biological conditions necessary to sustain native populations and communities.

ix. Management actions will emphasize native species in the support of ecological function.

x. Management actions will incorporate the use of non-native species only in those situations in which native species are not available in sufficient quantities, or are incapable of maintaining or achieving properly functioning conditions and biological health.

xi. Management actions will promote the opportunity for seedling establishment when climatic conditions and space allow.

xii. To the extent that grazing management affects habitat, including critical habitat, of Federal threatened and endangered species, management actions will restore and enhance habitat.

xiii. Management actions will restore and maintain habitat, including proposed critical habitat, of Federal Proposed, Category 1 and 2 Federal candidate, and other special status species to promote their conservation.

xiv. Management actions will maintain, restore or enhance water quality to meet or exceed State water quality standards or wildlife management objectives.

xv. The authorized officer will schedule periods of rest from disturbance or use during times of critical plant growth or regrowth. The timing and duration of rest periods shall be determined by the local authorized officer.

xvi. The authorized officer shall authorize continuous season-long use only when it has been demonstrated to be consistent with achieving healthy, properly functioning ecosystems.

xvii. The authorized officer shall authorize grazing on designated ephemeral (annual and perennial) rangeland only if reliable estimates of production have been made, an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and adverse effects on perennial species are avoided.

Standards that deviate to address local conditions may be implemented by the BLM State Director only with the approval of the Secretary.

No State, regional or local standards or guidelines developed by the BLM State Director pursuant to this section would be implemented prior to their approval by the Secretary.

8

Upon indication of non-compliance with the National requirements, standards or guidelines, assessments of ecological functions and process shall be conducted. If assessments establish that management actions are resulting in non-compliance, the authorized officer shall take appropriate action to modify the use, not later than the start of the next grazing year.

All existing or on-going grazing-related plans and actions will be reviewed for compliance with National requirements, standards and guidelines. The review shall be accomplished within three years after the effective date of the rule through the use of assessments for functioning condition and biological health. Criteria to prioritize shall be determined by the State Directors in consultation with resource advisory councils, Indian tribes, other agencies responsible for the land and resources of the area, and the interested public. If the assessments establish non-ompliance, the authorized officer shall take appropriate action not later than the start of the next grazing year. Deviation from the three year assessment period must be approved by the Secretary.

Rangeland Ecosystems

The preferred alternative will improve the current methods of making rangeland decisions to better integrate all of the biological, cultural, social, and economic factors needed to maintain or restore ecosystems. Both agencies will implement policies to manage rangeland resources using an ecosystem approach.

Management attention will shift from narrow, short-term resource-specific issues toward broader objectives aimed at restoring or maintaining desired landscape conditions, environmental health, social amenities, and sustained economic well-being, all products of properly functioning ecosystems. BLM will implement this approach in two ways: (1) through National requirements and State or regional standards and guidelines that will ensure that livestock will graze in a manner compatible with properly functioning ecosystems, and (2) through regulation changes that will reform the administration of the rangeland program to implement livestock management to speed restoration and improvement of western rangelands.

## STATUS OF THE SPECIES

This biological opinion uses general vegetation types and ecosystem types to determine general effects on listed and proposed species.

This biological opinion and conference report addresses federally listed and proposed species that may be affected by the proposed Rangeland Reform action. Therefore, since the list of species that are potentially affected by this action is dynamic, it is the intent of this consultation to include all federally listed and proposed species. As species change in status, the proposed action requires that all required conferences/consultationswill be conducted at the appropriate level. It is at this level that complete species lists be maintained and updated as appropriate.

Detailed status information on species that may be affected by Rangeland Reform is contained in proposed and final listing rules for each particular species. These rules are published in the Federal Register. A complete list of endangered and threatened wildlife and plants with reference to the aforementioned listing rules is also published in the Federal Register (50 CFR 17.11 and 17.12).

## ENVIRONMENTAL BASELINE

Since an environmental baseline without livestock grazing does not exist, the following discussion includes current conditions and, where possible, projections of conditions such as acreage in the long term (20 years) after implementation of a no grazing regime.

### Vegetation

Before European settlement, fire was the most common influence on the landscape in the intermountain West (Gruell 1983), and in most of the Southwest (Wright 1990). But in drier parts of the West, the significance of the effects of fire on vegetation is difficult to separate from the effects of drought (Wright 1990). Woody species have become dominant in areas where frequent fires used to control them. Successional changes on some land today did not likely happen before the 1600s, when frequent fires suppressed woody vegetation (Gruell 1983).

After Europeans settled the West, grazing and cultivation reduced fuels, and organized fire suppression began. Thus, the number and size of fires was drastically decreased (Gruell 1983; Swetnam 1990). Fire exclusion has most affected ecotones, where naturally occurring fires previously removed woody species.

Managing ecosystems requires knowledge of the effects of climate, especially drought, insects, disease, livestock grazing, browsing by wild ungulates, fire, elevation, latitude, slope, temperature inversions, and cold air

drainages (West and Van Pelt 1987). Knowledge of the frequency and consequences of natural disturbances is needed to understand what environmental pressures vegetation has adapted to, the kinds or amounts of vegetation a community can support, and the effects of treating the community.

A land manager chooses to encourage or retard plant succession to achieve the vegetation community that best meets multiple resource management objectives. In many arid and semiarid areas of the West, removing livestock grazing pressure alone does not dramatically or rapidly change vegetation. Present vegetation communities are a product of past human use and alteration of former disturbance regimes, but are subject to many demands and expectations.

Noxious plants are a major concern on most western rangelands. Most noxious plants take advantage of vegetation communities under stress or disturbed by fire or
heavy grazing and occupy the interspaces to get a foothold in the plant community. Opportunistic noxious plants include cheatgrass, medusahead, annual mustards, Russian thistle, Canada thistle, Scotch thistle, musk thistle, yellow toadflax, and halogeton. Other noxious plants can become established in pristine vegetation communities and over time dominate the site. Noxious plants include leafy spurge; Russian, spotted, and diffuse knapweed; and yellow starthistle. Noxious plants are common and usually increase in all ecosystems in the West. Once established, noxious plants spread rapidly, becoming increasingly difficult to control. Economic losses as a result of reductions in land productivity for livestock grazing and reductions in wildlife habitat are significant (BLM 1991a).

Disclimax is the term for a stable ecological community that has resulted from repeated or continuous disturbance by humans, domestic animals, or natural events. Disclimax communities differ completely from communities that previously occupied an area and have little chance of reverting to the original community. Cheatgrass and medusahead annual rangelands fit this category, as do sites dominated by dense sagebrush or juniper communities that have displaced perennial grasses. A disclimax community may diminish the biological diversity of a landscape. If it becomes too large, its State of disclimax can significantly change the objectives for managing all resources. For communities that are at risk of disclimax, BLM and Forest Service are forced to mechanically treat the vegetation, usually by seeding or chaining.

Upland

Upland vegetation on most western rangelands is heavily affected by the amount and timing of precipitation during the year. Properly managed upland areas in the 12-inch or more precipitation zone may significantly improve within 20 years. The higher precipitation zones improve more rapidly because:

- Soils are generally more fertile, deeper, and more productive in higher precipitation zones;

- Generally, the higher the precipitation the more production of vegetation through seedling establishment, sprouting, and growth;

- Soils are usually less fertile, shallow, and less productive in the lower precipitation zones;

- Seedlings do not as successfully become established in the lower precipitation areas as in the higher precipitation areas as a result of poor soils and competition for moisture with other plants;

- Areas that have low precipitation and poor soils have less vegetation than the higher precipitation areas. To survive in the drier zones plants need large spaces between them to spread their roots and capture moisture. Areas with higher precipitation have enough moisture and productive soils to allow plants to survive close to each other; and

- The ability of vegetation to respond to improved management is influenced significantly by soil productivity and the amount of moisture to induce growth. In the lower precipitation areas, vegetation struggles to produce seeds and grow.

Upland Vegetation Conditions and Trends

Proper functioning is a term describing the most basic condition needed to ensure ecological health and condition while allowing livestock grazing. BLM and the Forest Service are responsible for managing sustainable, healthy, productive ecosystems to meet North America's environmental, social, economic, aesthetic, and cultural needs. Sustainable ecosystems provide biodiversity, habitat for fish and wildlife, clean drinking water for communities, and healthy and productive Federal rangelands. The following estimates were provided in the draft Rangeland Reform EIS for purposes of NEPA analysis.

The watershed is one major landscape management unit having biological, social, economic, and other values. The measurable and manageable components of watersheds equate to elements of ecosystem function, including water cycle, energy balance, and biological diversity. Watersheds consist of interdependent aquatic, riparian, wetland, and upland components that, when functioning properly, capture, store, and safely release moisture; support biological diversity; and help meet social and economic needs.

Uplands are commonly the largest area of the watershed. Hence, the condition of uplands affects the overall health and functioning of rangeland ecosystems. The functioning condition of uplands is a result of the interaction of earth, soils, climates, water, biological activities, fire, and landforms. When uplands are properly functioning, their vegetation and ground cover maintain soil that can sustain natural biotic communities.

In uplands that are functioning but susceptible to degradation, livestock grazing or some other activity has threatened the soil's capability to sustain natural biotic communities. Furthermore, if uplands are not functioning properly, the vegetation and ground cover are not maintaining soil conditions that can sustain natural biotic communities (See Glossary in the draft Rangeland Reform EIS).

Monitoring is a key element of the allotment management plans. Livestock and wildlife use is monitored to ensure proper use of key forage species. Long term trend plots are established based on the needs identified in the allotment management plan.

Riparian, Wetland, and Aquatic Communities

Because of their productivity and other values, riparian communities are critically significant and have received continuous intensive use since before European settlement (Branson 1985). Riparian communities are the most severely altered ecosystems in the U.S. (Brinson et al., 1981). It is estimated that 70 to 90 percent of the natural riparian ecosystems have been lost because of human activities, and up to 80 percent of the remaining areas are in unsatisfactory condition and are dominated by human activities (Cooperrider et al., 1986).

Riparian communities make up approximately 1 percent of Federal land. The most biologically diverse habitats on Federal land are those associated with riparian communities. Undisturbed riparian communities provide abundant food, cover, and water for wildlife, and often

contain special ecological features or a combination of features that are not often found in uplands. Consequently, riparian communities are extremely productive and the most valued vegetation zone (Dealy et al., 1981; Thomas et al., 1979). The importance of riparian ecosystems can be attributed to biological and physical features, including the following (Brinson et al., 1981):

- Predominance of woody plant communities,
- Presence of surface water and abundant soil moisture,
- Closeness of diverse structural features (live and dead vegetation, water bodies, nonvegetated substrates), resulting in extensive edge and structurally heterogeneous wildlife habitats, and
- Distribution in long corridors that provide protective pathways for wildlife migrations and movements between habitats.

Healthy riparian and wetland areas provide values and benefits far exceeding the small percentage of Federal land they occupy. Benefits of proper functioning riparian communities include the following (BLM 1991b):

- improved water quality,
- filtration of sediments,
- streambank stability,
- moderated streamflow (reduced flooding),
- retention of water extending late season flow,
- restoration of perennial streamflow,
- recharge of groundwater,
- protection from accelerated erosion,
- maintenance of high water table,
- increased recreational opportunities,
- optimal habitat for fish and wildlife,
- increased biological diversity,
- increased forage for wildlife and livestock, and
- enhanced aesthetics.

Animals most affected by the quality of riparian habitat are fish and amphibians. The quality of fish habitat is directly correlated to the health of the riparian community (American Fisheries Society 1980). Riparian vegetation is critical for fish because overhanging vegetation provides escape cover, lowers summer water temperatures through shading, and reduces streambank erosion, which deposits silt in spawning and rearing areas. Healthy riparian systems purify water as it moves through the vegetation by removing sediment. Healthy riparian systems also act as sponges by retaining water in streambanks and aquifers (BLM 1989).

Riparian areas are also important to other vertebrate and invertebrate populations. Eighty-two percent of breeding birds in northern Colorado live in riparian areas, and 51 percent of all birds in the Southwest depend on these areas. Riparian areas attract a disproportionate number of migrating birds and may attract up to 10 times more kinds of birds in the spring and 14 times more birds in the fall than surrounding uplands.

Many other vertebrates also depend on riparian areas (Knopf et al., 1988). Riparian and wetland areas can be essential to many endangered, threatened, and proposed plants and animals, such as whooping cranes, bald eagles, merlins, and soft aster. Riparian and wetland habitats may be degraded when livestock and wildlife graze and drink in the area. Often the degradation increases when water and forage are plentiful.

Most riparian areas have declined in amount and quality since the West was settled. For example, the lower Colorado River historically had an estimated 5,000 acres of pure cottonwood stands along its banks. By the mid-1970s, only 500 acres remained. Riparian vegetation has been removed at nearly 3,000 acres per year (Ohmart and Anderson 1982). Riparian communities at low elevations have suffered the worst effects, whereas mountain riparian communities have hardly changed (Brinson et al., 1981). Major causes of damage include land clearing, irrigation and related water projects, and flooding underimpoundments. The overall assessment of western riparian communities is similar to the nationwide assessment: less than 20 percent of 120 million acres of potential riparian habitat exists (Brinson et al., 1981).

Within the scope of the Rangeland Reform EIS, two aspects of historical change in riparian vegetation are important.

- Past land use practices in livestock grazing, fire management, and timber harvest have significantly affected the status of riparian areas. Most riparian areas are in poor condition because of past management (Cooperrider et al., 1986). Excessive amounts of plant biomass have been removed from riparian areas by livestock grazing and timber harvesting for the past 100 years or more. The remaining riparian communities are often relict tree stands, unable to reproduce under existing management.

- In addition to damaging the riparian communities, past management has also degraded most of the associated upland vegetation areas, resulting in watersheds of unsatisfactory condition in addition to riparian areas

in poor condition (Brinson et al., 1981). The results are existing riparian areas that are only remnants of the potential natural plant community, with surrounding watersheds that are unstable and require significant changes in management before objectives of proper functioning riparian communities can be met.

If managed properly, grazing within riparian communities and along streams is compatible with other resources (Chaney et al., 1990; Grette 1990; May and Davis 1981; Platts 1990). The timing, numbers, and duration of livestock use are the key factors that must be set and monitored to assure proper livestock management in healthy and degraded riparian areas (Chaney et al., 1990). But livestock, especially cattle, will spend a disproportionate amount of time in riparian areas compared to uplands (GAO 1988; Clary and Webster 1989; Platts 1990).

Riparian Conditions and Trends

Riparian habitats cover about 3.2 million acres of Federal land in 11 western States. Though inventories of riparian communities are incomplete, a large amount of riparian habitat that has been evaluated is known to be in a nonfunctioning condition. Over the past decade, land management agencies have been concentrating restoration efforts on riparian areas, which respond quickly to management changes. As a result, riparian areas that were most obvious and visible to the public were inventoried and have generally received the most management attention. Many are recovering from past land use abuses. The following was provided in the draft Rangeland Reform EIS for purposes of NEPA analysis.

Estimated Current Condition of Riparian Areas in Acres

| | Current Estimate | Long Term Without |
|---|---|---|
| Grazing | | |
| BLM | | |
| Nonfunctioning | 205,000 | 65,600 |
| Functioning At Risk | 470,300 | 289,900 |
| Proper Functioning | 353,100 | 672,900 |

Not shown are the extensive riparian areas that have been degraded to the point that they are no longer recognized as having riparian or wetland values or potential. Other trends include:

- Riparian communities at higher elevations that receive greater precipitation are more extensive and generally in better condition, and

- Riparian resources at lower elevations, receiving less precipitation, and influenced extensively from upstream watersheds, are less extensive and generally more deteriorated. As the condition of riparian resources declines, accelerated erosion increases, incising stream channels. Water tables are lowered, resulting in historically wide floodplains being reduced to a narrow riparian community in the bottom of a wash (BLM 1993).

GAO (1988) reported that Federal lands managed by BLM and the Forest Service had degraded riparian communities, largely due to extensive overuse by livestock. Chaney et al. (1990) reported significant improvements in rangeland condition. Improved upland conditions do not necessarily mean improved riparian habitat. In fact, extensive field observations in the late 1980's suggest that riparian areas in most of the West were in the worst condition in history (Chaney et al., 1990). Platts (1990) stated that although uplands have recovered since 1935, the condition of riverine-riparian systems has continued to decline.

In the last few years, BLM and Forest Service have improved certain riparian communities (BLM 1992a). But most Federal riparian acreage is not getting this special treatment. Once a riparian community has been or is being degraded and its banks and channels are unstable, excessive use by livestock will not allow the area's vegetation to recover. Riparian areas degraded by livestock will continue to degrade through accelerated erosion until grazing management is changed. Riparian areas will not recover on a large scale without changes in policy, regulations, and management (Elmore and Beschta 1987).

Threatened, Endangered, and Proposed Species

This document considers the general state of threatened, endangered, or proposed species and proposed or designated critical habitat. Specific examples are given to demonstrate the current environmental conditions for threatened, endangered, or proposed species and proposed or designated critical habitat affected by livestock grazing.

The effects of livestock grazing on plant and animal communities depends on the nature of the affected plant or animal, grazing intensity, the seral history of the site, and long-term weather patterns (Milchunas et al., 1988). Current ecological conditions can be linked to many individual resource conditions that have caused endangerment to many species, groups of species, and sometimes everything within ecosystems. Also, management practices such as the use of fire, seeding of exotic plant

species, or the use of chemicals or pesticides, can harm threatened, endangered, or proposed species.

Many species and their habitats have been affected by livestock grazing. In some cases such grazing has contributed to, or caused, the extinction or endangerment of species. For example, in a 1992 report, the General Accounting Office (GAO 1991) cited several studies about the harm livestock grazing can cause certain wildlife species and their habitats. Concluding that current grazing practices degrade lands, the report discussed the tendency for livestock to transmit diseases to wildlife, destroy habitat, and change the composition of plant communities beyond what is practical for wildlife adaption. The report outlined the effects on several animals in the hot deserts, including the threatened Mojave desert tortoise, candidate bighorn sheep, endangered Sonoran pronghorn, and Mearn's quail.

Grazing directly and indirectly affects threatened, endangered, or proposed species. Direct grazing effects include livestock consumption of palatable threatened, endangered, or proposed plants and trampling threatened, endangered, or proposed species. Also, any actions related to grazing operations, such as road killing threatened, endangered, or proposed species or harming species by building water improvements, constitute a direct take. Direct effects to threatened, endangered, or proposed species are often readily distinguishable. The extent of direct takes of listed species is not well known since monitoring is inadequate.

Direct takings can result from, but are not limited to:

- periodic or long term forage and cover removal,
- vegetation trampling exceeding what occurred before the livestock were introduced,
- mechanical damage to soil from livestock using riparian areas or trailing along fencelines,
- browsing or grazing of threatened, endangered, or proposed plants,
- collapse of animal burrows, and
- trampling eggs of threatened, endangered, or proposed fish.

Livestock grazing may also indirectly affect threatened, endangered, or proposed species. Ecological decline from overgrazing is a gradual, long-term process. It is often hard to discern over time without exact measurement and tracking. Examples of indirect effects include altering

plant communities by removing palatable species, introducing exotic plants, and losing aquatic habitats that threatened, endangered, or proposed species depend on. Changes in plant communities as caused by grazing are serious harmful effects to the overall ecosystem, on which threatened, endangered, or proposed species depend. Overgrazing slowly causes a decline in the diversity and abundance of native plants. Shifts in the abundance of plant communities favor or harm particular species.

Indirect taking related to grazing includes, but is not limited to, the following:

- changes in stream channel characteristics and water quality as a result of using riparian areas,
- wholesale changes in plant community composition or structure resulting from the introduction of livestock,
- diminution of plant vigor at high utilization levels,
- spread of such exotic plants as cheatgrass, medusahead wildrye, spotted and other knapweeds,
- altered precipitation infiltration and evapotranspiration regimes due to soil compaction exposure, and
- accelerated soil erosion as a result of compaction, vegetation loss, or change in plant community composition.

A specific example of an indirect effect on threatened, endangered, or proposed species associated with livestock grazing is the increase of cowbird populations. Cowbirds place their eggs in the nests of other birds and let them raise their orphaned young. Unnaturally increased numbers of cowbirds can reduce the nesting success of threatened, endangered, or proposed bird species. These effects to ecosystems have caused many species to decline, which in some cases have been so severe that species have become endangered or threatened.

According to Nehlsen et al. (1991), Pacific salmon stocks are at risk in California, Oregon, Idaho, and Washington. Map 3-5 in the draft Rangeland Reform EIS shows the distribution of listed and at-risk salmon stocks in the Pacific Northwest. Much of the remaining suitable spawning habitat is on Federal lands. About 134 of the stocks at risk are found in National Forests, and 109 on BLM-dministered lands; both sets of land have degraded spawning and rearing habitats. About 77 percent of the stocks near public rangelands are at risk because of poor habitat conditions, at least in part, due to livestock grazing.

Degraded habitats and direct loss in the desert Southwest, as caused by livestock grazing, contribute to decreasing populations of desert tortoises. BLM is studying the effects livestock grazing has on desert tortoises, which could affect grazing practices on more than 6.5 million acres of desert tortoise habitats. Introduced exotic plants and fire regimes have also degraded or eliminated habitats.

The increase in wildlife and plants classified as endangered, threatened, or proposed is influencing National direction toward ecosystem management and Rangeland Reform. More than 200 threatened, endangered, or proposed plants and animals are known or suspected to grow on BLM or Forest Service administered lands, including 30 percent of all federally listed threatened and endangered plants. However, threatened, endangered, or proposed species are not the only species that require special management. For example, more than 50 million acres of BLM-administered lands in the lower 48 States have yet to be inventoried for threatened, endangered, or proposed plants (BLM 1992).

Some residual undesirable processes will likely remain for decades and even longer after livestock management is changed. Residual processes include long-term desertification resulting from the continued conversion, by wildfires, of shrubsteppe (sagebrush, desert shrub, and other vulnerable rangelands) to annual grasslands, fueled by cheatgrass and medusahead wildrye. By further reducing the total amount of shrubsteppe (or other) remaining habitat, this process would result in damage that in many cases could outweigh improvements in ecological condition. BLM and the Forest Service plan to slow or stop these processes while also implementing plans to protect and restore rangelands.

## EFFECTS OF THE ACTION

Effects described below assume full implementation of Range Reform '94 BLM National standards and guidelines, BLM proposed rules, and Forest Service proposed rules as described in the draft Rangeland Reform EIS.

Rangeland Reform '94 sets forth policy and regulations on a programmatic level. Later, BLM regional and State level of standard and guideline development will undergo NEPA evaluation with public involvement and section 7 (ESA) compliance procedures. Furthermore, in the event at BLM regional or State level standards and guidelines are not developed within 18 months, fallback standards and guidelines contained in Rangeland Reform '94 will be

implemented subject to compliance with NEPA and ESA.

Vegetation

Under the proposed action, 10,463,106 Animal Unit Months (AUMs) of forage will be available to livestock on public lands managed by BLM. Livestock using this forage will be meeting BLM National minimum standards and guidelines for threatened, endangered, and proposed species. This compares to 0 AUMs available under no grazing.

Upland

In the short term, BLM upland acres in proper functioning condition would slightly increase, upland acres functioning but susceptible to degradation would slightly decrease, and upland acres in nonfunctioning condition would decrease by about 5 percent from the present.

In the long term, 15 million acres of BLM public uplands would remain in nonfunctioning condition, 6 million would be functioning at risk, and 138 million acres would be properly functioning.

Favorable habitat changes in uplands would be slower in the southwest deserts than described above due to low rainfall and unfavorable soil characteristics in many areas such as much of the desert shrub vegetation type. Changes in availability of the existing vegetation resources (such as forage and herbaceous plant cover) would become evident, however, by the short-term.

BLM National fallback standards i, v, and vi and guidelines xii, xiii, and xvii would provide additional ephemeral forage over the existing situation to species such as the desert tortoise for its growth, maintenance, and reproductive processes.

Riparian/Wetland/Aquatic

In the long term, implementing National requirements and standards and guidelines under the proposed action would lead to improvements in riparian conditions that support threatened, endangered, or proposed species, maintain water quality, contribute to watershed function, and improve an area's ecological conditions. The height, width, and amount of vegetation would become more diverse. The canopy would become more closed. Streambanks would become more stable and native riparian vegetation communities would become reestablished, benefitting most riparian/wetland and aquatic threatened, endangered, and proposed species.

Improved management would result in an overall positive trend and steady improvement in the functioning condition of roughly 20 percent of riparian areas. Improvements would result from implementing National requirements and State or regional standards and guidelines or fallback standards and guidelines and ecosystem management, modifying livestock management practices, and allowing more public involvement in rangeland management.

In the long term, 164,000 acres of BLM public riparian lands would remain in nonfunctioning condition, 417,300 would be functioning at risk, and 447,100 acres would be properly functioning.

Improvement would not be dramatic in the short term, but the proposed action would result in significant long-term improvements and benefits to many other resources associated with high-quality riparian areas. Grazing changes would result in large-scale, long-term improvement in riparian resources and aquatic habitat. Riparian or aquatic-dependent threatened, endangered, and proposed species would respond positively.

Residual standing plant material in mountain meadows would rapidly increase, especially near perennial streams, seeps, and where the water table is within 3 feet of the soil surface. Increased plant material would mainly consist of grasses and sedges with some forbs. Fine organic litter on the soil between standing vegetation would also increase as would willow seedling establishment within the short term of implementation. In the long term, the density of willows would substantially increase, as would the vertical and horizontal closure of willow crowns, especially within about 4 feet of the ground.

Threatened, endangered, or proposed anadromous or coldwater fish: As livestock are removed, or their season of grazing use is changed to favor critical plant growth or regrowth, and minimize the possibility of streambank damage, riparian vegetation would quickly improve in the short term, leading to the steady long-term improvement of riparian conditions and fish habitats. This improvement would result from increased overhanging banks and stream cover, lowered water temperatures, increased instream structural diversity, improved water quality, reduced levels of sediment in the substrate, increased macroinvertebrate production, and moderated streamflows.

Effects of the BLM National fallback standards and guidelines would lead to moderate long-term trend toward restoration of some special status species and toward recovery of several listed species, with vegetation change,

additional cover, and/or additional forage availability. For threatened, endangered, and proposed plants, there would be less direct damage from trampling and a likely increase in recruitment. The trend would mirror predicted vegetation changes with an additional increase in cover and forage availability or access. The plant availability and access changes are related to the lesser use anticipated of herbaceous plant species. Present and future rangeland developments such as water and handling facilities would continue to exhibit trailing and compaction in an irregular zone around such facilities with rills and gullies present in some situations, except in riparian/wetland areas.

BLM Standards and Guidelines

The standards and guidelines on BLM-administered lands would decrease direct effects such as trampling and periodic cover and forage loss (access or availability). Standards and guidelines would result in trends toward plant community characteristics and ecosystem processes favorable to natural communities including those of many threatened, endangered, and proposed species as discussed below. National fallback standard vi and guidelines xii and xiii specify managing rangelands to restore, maintain, and enhance threatened and endangered species and other special status species, respectively.

(a) Uplands. BLM National fallback standards i, v, and vi and guidelines i, ii, vii, viii, ix, xi, xii, xiii, xv, xvi, and xvii would directly apply to uplands. Management practices would be implemented to assist recovery and prevent need for such listings. Grazing schedules would be implemented to include periods of rest for important times of plant growth. Grazing use would be adjusted in the short term when watershed functional requirements are not being met because of overuse. Continuous season-long grazing would only be used when consistent with meeting resource objectives. Terms and conditions of each permit would include seasons of use, numbers and kinds of livestock, deferment or rest strategies. Grazing would be authorized on ephemeral (including perennial-ephemeral) lands only if reliable estimates of production are made, and identified level of annual growth is established to remain onsite at the end of the season, and adverse effects on perennial species is avoided.

Such actions would result in vegetation characteristics that trend toward Potential Natural Plant Communities, which are favored by most upland-dependent threatened, endangered, or proposed species. The rate of change would likely be slow to moderate as vegetation change is slower in most low-rainfall uplands than those with greater

rainfall or riparian areas. These changes would mirror the change rates predicted in the upland vegetation section. With the vegetation change and increased forage availability or access and cover of herbaceous perennials, restoration and recovery of upland species would occur for those dependent on such habitat characteristics. Diversity of vegetation composition would increase, and diversity of structure of woody vegetation types would increase.

For example, the Western sage grouse, in the Sagebrush vegetation type, may increase with expected patchy increases in herbaceous perennials and a more diverse plant community leading to greater resilience to natural perturbations. The Sonoran Pronghorn in the desert shrub vegetation type could experience additional forage and herbaceous cover availability, though total upland vegetation cover and composition would change little. Such changes in availability may lead to increased use of public land by this species. In another example, the Santa Cruz beehive cactus and Pima pineapple cactus, occurring in the Southwestern Shrubsteppe, could experience less inadvertent damage due to trampling and more favorable seedbed microhabitat characteristics with increased herbaceous and litter cover. In the Plains grassland, the swift fox feeds primarily on ground squirrels which benefit from greater cover for forage and protection from avian predators. Further, the Apache northern goshawk and Mexican spotted owl could experience some increased nongame prey availability in the Coniferous/deciduous forest type where it occurs on public land. Continuation of some livestock grazing in these cases could still include some inadvertent effects to threatened, endangered or proposed species when changes under the proposed action are fully implemented; an increase over no grazing.

Conversely, the long-billed curlew could be adversely affected by too much herbaceous ground cover in the Sagebrush vegetation type for nesting purposes because it prefers flatter, more open areas with shorter ground cover. Patchiness of habitat due to soil type and other disturbances could provide some open spaces in many areas, but in some cases grazing treatments could be used as a tool to create sufficient nesting habitat. The ferruginous hawk is another example of a species that may not benefit from extensive increases in herbaceous cover in the Sagebrush or Plains Grassland. This species often feeds on ground squirrels or rabbits. More cover would conceal ferruginous hawk prey to some degree. Grazing management that provides patchiness would be more beneficial in this case. In another case, the Mountain Plover nests in open areas with short herbaceous cover. Grazing treatments may be necessary to ensure that sufficient amounts of this

habitat occur in certain areas. The historical relationship of bison, prairie dogs, and black-footed ferrets could be enhanced where cattle take the place of missing bison. Bison, heavily grazing in patches, produce some open areas suitable to prairie dogs. Networks of large, dense prairie dog colonies, are most suitable to black-footed ferrets. Continuation of livestock grazing in these cases would benefit threatened, endangered or proposed species more than no grazing.

(b) Riparian/Wetlands. BLM National fallback standards ii, iii, iv, v, and vi and guidelines iii, iv, v, vi, vii, viii, ix, xi, xii, xiii, xiv, xv, and xvi would directly apply to riparian/wetlands. In addition to the standards mentioned above, development of springs and seeps or other projects affecting water and associated resources would be designed to maintain or enhance those sites' ecological values. Riparian/wetland management objectives would be met where livestock management facilities are located in these habitats or actions such as relocation or removal of such facilities would be accomplished. Utilization or residual vegetation targets would be applied to: 1) maintain or improve herbaceous and woody species (where potential exists) to healthy and vigorous condition and attainment of different size-age classes; and 2) leave sufficient plant biomass and woody debris for adequate sediment filtering and dissipation of stream energy for bank protection.

Actions under these standards would lead to vegetation characteristics trending toward Potential Natural Plant Communities and physical characteristics trend toward Proper Functioning Condition. The rate of change would likely be moderate to high over the long term (approximately 20 percent over the existing situation, following predictions for riparian vegetation) as changes are implemented, since such well-watered habitats can respond relatively quickly to management change. These changes would promote restoration and recovery of riparian-ependent species in the long-term for those species dependent upon well-developed woody plant structure. For example, the southwestern willow flycatcher, common black-awk, yellow-billed cuckoo, bald eagle, and in some cases, Yuma clapper rail, could follow trends discussed above as more layers of woody riparian vegetation increase or herbaceous species increase in cover. These changes would slowly approach conditions of no grazing over a period of 20 or more years.

Those species more dependent upon lower-level vegetation would begin trends mentioned above in the short-term.

Species such as Lemon lily and Blumer's dock would fit the latter situation.

(c) Aquatic. BLM National fallback standards ii, iii, iv, and vi and guidelines iii, iv, v, vi, viii, xii, xiii, xiv, xv, and xvi would most directly apply to aquatic habitats of threatened, endangered, and proposed species. In addition to the discussions above, standard iv and guideline xiv would call for implementing grazing practices, such as Best Management Practices, in permit terms and conditions that would help maintain or restore water quality.

These changes would result in vegetation trends and physico-chemical characteristics trending toward State water quality standards promoting restoration and recovery of most aquatic threatened, endangered, or proposed species and their critical or proposed critical habitat. Change rates would follow those predicted for the associated riparian/wetland communities over the long term.

For example, Lahontan cutthroat trout (and other cutthroat trout subspecies), woundfin, Gila trout, Colorado roundtail chub, Gila topminnow, Pecos gambusia, Hygrotus narrow-ooted diving beetles, and others may increase due to increased microhabitat diversity and emergent herbaceous vegetation providing increased cover and forage outfall of invertebrates from increased vegetation layers. Big river fishes such as razorback suckers and bonytail chubs would experience little effect, as many other factors other than vegetation change mask or overwhelm any response to that of grazing management.

In anadromous fish habitats, winter-only grazing or various forms of full-season rest, moving range improvements, and other management changes which allow for vigorous growth and reproduction of native woody and herbaceous riparian species could rehabilitate degraded streams, providing structure, shading, streamflow stability, and less siltation to the benefit of listed or proposed species and their critical habitats.

Additionally, in ponds and other impoundments, increased upland cover and riparian vegetation would lead to less siltation of these waters. This effect would lead to longer effective life of each water, extending productivity over time for prey items used by bald eagles, ospreys, and some other threatened, endangered, or proposed species. At springs and seeps, special status species like many springsnails would increase in numbers following associated riparian growth, decreased siltation, and bankside stabilization.

Administrative Components

Grazing Fee:
BLM and the Forest Service would incorporate the AUM fee for forage discussed under the preferred alternative. Because the demand for forage would not change, no effect to threatened, endangered, or proposed species, critical or proposed critical habitat is expected.

Leasing:
BLM would levy a surcharge on management leases. This activity would cause no effect to threatened, endangered, and proposed species or critical or proposed critical habitat.

Foreign Corporations:
Forest Service policy would be changed to match that of BLM. There would be no effect to threatened, endangered, and proposed species or critical or proposed critical habitat.

Disqualification:
Applicants would be required to have a satisfactory performance record under Forest Service and BLM permits. No effect is expected to threatened, endangered, or proposed species or critical or proposed critical habitat.

Prohibited Acts:
Permittees would be subject to additional compliance with various laws and prohibited acts bearing on continued use of permits. No effect is expected to threatened, endangered, or proposed species or critical or proposed critical habitat.

Grant Policy:
BLM and the Forest Service would give first consideration to new or unallocated forage to operators that have proven their ability to improve or maintain rangeland ecosystems. No effect on threatened, endangered, or proposed species or critical or proposed critical habitat is expected.

Permit Tenure:
BLM and the Forest Service would issue ten-year permits to permittees with records of compliance. No effect is expected to threatened, endangered, and proposed species or critical or proposed critical habitat.

Unauthorized Use:
Incidental, unintentional, and nondamaging unauthorized use would be settled in a nonmonetary fashion by both BLM and the Forest Service. The Forest Service would adopt BLM's present graduated fees for unauthorized use. This change

would cause no effect to threatened, endangered, and proposed species or critical or proposed critical habitat.

Nonuse:
BLM would adopt regulations to allow conservation use for up to 10 years in conformance with land use plans. Nonuse requested solely for the convenience or economic benefit of a permittee could be approved for up to 3 years. This proposal would make both agencies more consistent. No effect is expected to threatened, endangered, or proposed species or critical or proposed critical habitat.

Suspended Use:
BLM would continue the provision for Suspended Use. No effect would occur to threatened, endangered, and proposed species or critical or proposed critical habitat.

Water Rights:
BLM would apply for water rights on new livestock water developments, possibly including joint filing. The Forest Service already applies for all livestock water rights on National Forests pursuant to State laws. No effect is expected to threatened, endangered, and proposed species or critical or proposed critical habitat.

Range Improvement Ownership:
New BLM permanent rangeland developments would be owned by the Federal government. The Forest Service owns all permanent range improvements on National Forests. No effect is expected to threatened, endangered, or proposed species or critical or proposed critical habitat.

Range Betterment Fund Distribution:
BLM State Directors would have the flexibility to distribute the Secretary of the Interior's half of Range Betterment Funds within their States. Forest Service Regional Foresters already have authority to distribute half of their receipts returned to the Forest Service within their Regions. BLM flexibility would allow for sending funds to places most in need of improvement. Because of this and additional funds from grazing receipts, trends toward increases in habitat characteristics in uplands and riparian/wetlands would occur where conflicts require on-the-ground treatments to alleviate threatened, endangered, and proposed species effects or promote restoration and recovery. Such results would respond to changes prescribed through State or regional standards and guidelines, however. No effect is expected to threatened, endangered, or proposed species or critical or proposed critical habitat.

Range Betterment Fund Use:
BLM and the Forest Service would use Range Betterment Funds to improve rangeland health rather than to benefit livestock grazing. Use would be for project planning, environmental inspections, and monitoring. No effect is expected to threatened, endangered, and proposed species or critical or proposed critical habitat.

Interested Publics:
BLM would expand opportunities for local level public involvement by developing resource advisory councils. No effect is expected to threatened, endangered, or proposed species or critical or proposed critical habitat.

Appeals:
BLM regulations would be changed to allow decisions to be effective without delay, even while the decision is under appeal, unless a stay is granted. Grazing decisions benefiting threatened, endangered, and proposed species could begin in the short term rather than only long term because of stays pending appeals. Because decisions would act to implement BLM standards and guidelines, no effect is expected from this component alone to threatened, endangered, or proposed species or critical or proposed critical habitat.

Grazing Advisory Boards:
BLM Grazing Advisory Boards would be eliminated and replaced with resource advisory councils. The Forest Service would continue to not have Grazing Advisory Boards. No effect is expected to threatened, endangered, or proposed species or critical or proposed critical habitat.

Service Charge/TransactionFee:
The Forest Service would establish the authority to collect such fees as BLM now does. No effect would occur to threatened, endangered, and proposed species or critical or proposed critical habitat.

Range Improvement Ownership:
Improvements needed for maintenance and restoration and recovery of threatened, endangered, and proposed species or critical or proposed critical habitat would be maintained.

Range Betterment Fund Use:
Localized areas depended upon by many species that continue trends away from ecosystem functionality despite lack of grazing would continue these trends, in some cases.

Rangeland Ecosystems:

BLM would continue implementing ecosystem management with the addition of the standards and guidelines. The Forest Service would add regulation language including the authority for managing rangelands based on landscape analysis of rangeland ecosystems. Ecosystems would trend toward sustainability of their natural processes over the long term, promoting an increased trend toward restoration and recovery of threatened, endangered, and proposed species at a slow to moderate rate following vegetation changes in upland and riparian areas.

The Forest Service proposed action for inclusion of rules to manage rangelands within an ecosystem management framework will increase the agency's ability to assess and implement threatened or endangered species recovery and conservation actions through landscape analysis and specific rangeland management. This action will benefit listed species in general and is not likely to adversely affect any listed or proposed species, or their critical or proposed critical habitat.

Comparison With No Grazing

Threatened, Endangered, and Proposed Species:
Vegetation that developed under large ungulate grazing, such as in the Plains and Mountain/Plateau grasslands may undergo a stagnation of natural ecosystem processes with a significant lessening of large ungulate grazing in the very long term. In such cases, some form of grazing use by a large ungulate may be a tool required to maintain these processes. Fewer threatened, endangered, and proposed species would likely have been federally listed through the long term due to the impact of livestock grazing, which is much less than the present trend. All Forest Service riparian would be meeting objectives and two-thirds of BLM riparian would be properly functioning.

The following administrative components of Range Reform '94 would not apply under No Grazing: Grazing Fee, BLM Standards and Guidelines, Leasing, Foreign Corporations, Disqualification, Prohibited Acts, Grant Policy, Permit Tenure, Unauthorized Use, Nonuse, Suspended Use, Permit Size, Water Rights, Range Betterment Fund Distribution, Interested Publics, Appeals, Grazing Advisory Boards, and Service Charge/Transaction Fee.

Rangeland Ecosystems:
No grazing would halt direct effects such as trampling and grazing except by wildlife and wild horses and burros. It would result in an accelerated move toward plant community characteristics and ecosystem processes preferred by riparian and aquatic species at a high rate. Change toward

habitat characteristics preferred by upland species would occur at a moderate rate. Species requiring low stubble heights of herbaceous plants would lose an undetermined quantity of habitat.

## CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the preferred alternative are not considered in this section because they require separate consultation pursuant to section 7 of ESA.

A myriad of activities occur on the non-federal lands, many of which are intermingled in complex ways with the Federal lands. Land uses include intense agriculture such as farming, dispersed agriculture such as ranching, industry, commercial development, residences, transportation and utility corridors, and urbanization. Federal involvement with projects in the seventeen contiguous western States is nearly as diverse as described above for non-federal activities. Land ownership patterns and projects are so interwoven on this scale that many affect the lands administered by the Forest Service and BLM. Analysis of the cumulative effects with Rangeland Reform on BLM and Forest Service lands is impractical at this scale, except to say that continued urban expansion, utility, and transportation networks will all follow present growth trends for the foreseeable future. This growth will transform the rural west and change demands upon resources for consumptive and non-consumptive resource uses. This change will have deleterious effects on many western threatened and endangered species as non-federal wildlands are converted to incompatible uses. Federal lands, including those covered in this analysis will become more important to the conservation of threatened and endangered species.

## CONCLUSION

After reviewing the Rangeland Reform 1994 preferred alternative, the environmental baseline for the action area, and the cumulative effects, it is the Services' biological opinion that the Rangeland Reform administrative initiative, as proposed, is not likely to jeopardize the continued existence of listed or proposed species, and is not likely to result in the destruction or adverse modification of designated or proposed critical habitat.

## INCIDENTAL TAKE STATEMENT

Land use planning by the action agencies is likely to adversely affect listed and proposed species. However, the proposed action, by itself, is one of many steps in the land use planning process by the action agencies. The likelihood of incidental take, and the identification of reasonable and prudent measures and terms and conditions to minimize such take, are addressed at many of these planning and implementation levels. These levels could include, but are not limited to, development and implementation of standards and guidelines, adoption and amendment of land use plans and land and resource management plans, and approval and carrying out of site specific projects. Any incidental take and measures to reduce such take cannot be effectively identified at the level of Rangeland Reform 1994 because of its generic nature and its national scope: the standards and guidelines are broad, general principles that do not identify specific or quantitative criteria, and whose effect cannot be measured upon particular regions or land units at this level. Rather, incidental take and reasonable and prudent measures may be identified adequately through subsequent actions subject to section 7 consultations.

## CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of ESA directs Federal agencies to utilize their authorities to further the purposes of ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

The Services recommend that grazing regimes should be implemented that are known to not adversely affect listed and proposed species. This concept of suitability of grazing practice is outlined in the Environmental Enhancement alternative of the draft Rangeland Reform Environmental Impact Statement.

In order for the Services to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Services request notification of the implementation of any conservation recommendations.

## REINITIATION OF CONSULTATION

This concludes formal consultation and conference on the actions outlined in BLM's request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (2) the agency action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in this opinion; (3) if a new species is listed or critical habitat designated, other than those addressed in this opinion/conference report, that may be affected by the identified action; or (4) if actions are initiated under Rangeland Reform without completion of section 7 consultation/conference, this consultation must be reinitiated immediately. In instances where an incidental take occurs, any operations causing such take must cease pending reinitiation.

This biological opinion and conference report framework does not absolve the action agency from following statutory and regulatory conference/consultation procedures at any implementation levels that may affect proposed or listed species or their proposed or designated critical habitats.

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