

# RANGELAND REFORM '94

*Draft Environmental Impact Statement  
Executive Summary*

PREPARED BY  
THE DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
IN COOPERATION WITH  
THE DEPARTMENT OF AGRICULTURE  
FOREST SERVICE

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THE SECRETARY OF THE INTERIOR  
WASHINGTON

Dear Reader:

The executive summary of the *Rangeland Reform '94* Draft Environmental Impact Statement (EIS) is provided for your review. This document summarizes the impacts of five management alternatives and seven alternative fee formulas analyzed in the Draft EIS, including a summary of impacts. I would appreciate receiving your comments on any inaccuracies or discrepancies you might find in this document; your views regarding the adequacy of the analysis; and your recommendations on any new impacts, alternatives, or mitigation measures that should be addressed.

The intent of *Rangeland Reform '94* is to

- make the Forest Service and the Bureau of Land Management's rangeland management programs more compatible with ecosystem management,
- to accelerate restoration and improvement of the public rangelands,
- to obtain for the public a fair and reasonable payment for the grazing of livestock on public lands, and
- to streamline administrative functions and improve consistency between the agencies.

Since July 1993 we have received more than 12,000 cards and letters. I have met with numerous groups and individuals. The alternatives and impacts presented in the Draft EIS and summarized here are the result of careful analysis of these views and ideas. At this point, no single alternative will be completely satisfactory to most readers. I would therefore appreciate suggestions for modifying the proposal. You might find some ideas in one of the other alternatives. These types of suggestions will be extremely useful for the Secretary of Agriculture and myself as we move forward towards a final decision on how best to manage the public's rangelands.

I would appreciate any views you might have for the final *Rangeland Reform '94* decisions and I look forward to hearing from you.

A handwritten signature in black ink, appearing to read "Bruce Babbitt". The signature is fluid and cursive, with a large initial "B".







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

# ***Executive Summary Rangeland Reform '94 Draft Environmental Impact Statement***

Prepared by 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 are also 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 Draft Environmental Impact Statement (draft EIS) is a national-level, programmatic EIS. It 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 detail: Current Management (No Action), BLM-Forest Service Proposed Action, Livestock Production, Environmental Enhancement, and No Grazing. Seven grazing fee formula alternatives are also analyzed: Current Public Rangeland Improvement Act (PRIA) (No Action), Modified PRIA, BLM-Forest Service Proposed Action, Regional Fees, Federal Forage Fee, PRIA with Surcharges, and Competitive Bidding.

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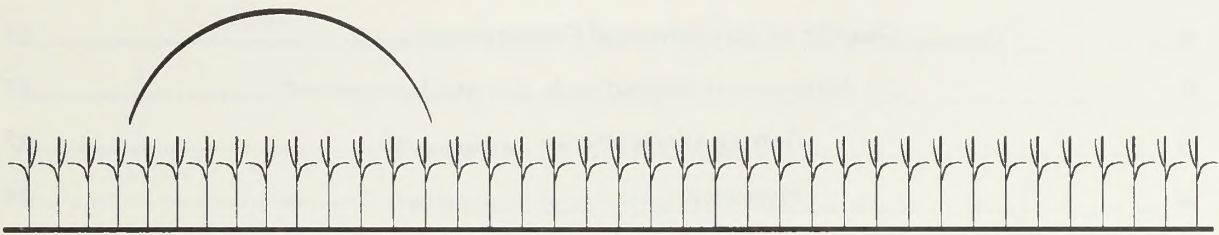
4. Comments on the draft EIS must be received no later than: 90 days after the EIS notice of availability is published in the *Federal Register*. Comments should be sent to:

Rangeland Reform '94 EIS  
Bureau of Land Management  
P.O. Box 66300  
Washington, D.C. 20035-6300

Comments on the draft EIS should be as specific as possible and address the adequacy of the EIS or the merits of the alternatives discussed, or both.

**To obtain a copy of the draft EIS:  
Contact your closest BLM Resource Area office or Forest Service Forest office.**





# EXECUTIVE SUMMARY

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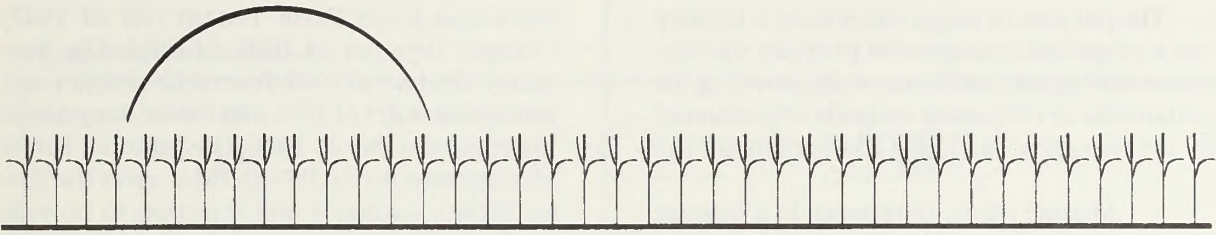
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# EXECUTIVE SUMMARY

## Chapter 1: Purpose and Need

### *Introduction*

*Rangeland Reform '94 is a proposal for managing 270 million acres of federal rangeland administered by the Bureau of Land Management (BLM) and the Forest Service. The proposal was developed cooperatively by the U.S. Department of the Interior and the U.S. Department of Agriculture.*

*Rangelands help shape the character of the American West. They provide habitat for wildlife and natural resources for the economic and spiritual well-being of people and communities. They are relied upon for traditional uses such as livestock grazing and for meeting the growing demands for recreation and tourism.*

*The condition of rangelands has been debated for at least the past decade. The Secretaries of the Interior and Agriculture recognize that management changes since the 1930s have brought improvements. But there is still much progress to be made.*

*Rangeland ecosystems are not functioning properly in many areas of the West. Riparian areas are widely depleted and some upland areas produce far below their potential. Soils are becoming less fertile.*

*Rangeland Reform '94 is a call to take a broader view of how public resources are used and managed. It asks to restore the health of the land, not just for its own sake, but because the prosperity and quality of life of the West depend on it.*



The purpose of rangeland reform is to carry out a rangeland management program that improves ecological conditions, while providing for sustainable development on lands administered by the two agencies. These goals are to:

- Manage public rangelands in a manner that is compatible with principles of ecosystem management.
- Accelerate the restoration and improvement of public rangelands.
- Streamline BLM and Forest Service grazing administration and reduce administrative costs.
- Establish a fair and equitable grazing fee.

It is equally important that these reforms occur in a manner that is sensitive to the needs of local communities dependent upon livestock grazing of public lands. Rangeland Reform would not ultimately be successful if it causes unnecessary or unacceptable impacts on these communities.

Rangeland Reform '94 would meet these needs through policy and regulation changes in three key areas:

1. Development of BLM standards and guidelines for rangeland ecosystems.
2. Changes in BLM and Forest Service grazing administration regulations.
3. Changes in the grazing fee formula.

BLM's main authority to manage public rangelands is established by the Federal Land Policy and Management Act of 1976 (FLPMA), the Taylor Grazing Act (TGA) of 1934, and the Public Rangelands Improvement Act of 1978 (PRIA). Through this authority, BLM is responsible for managing resources on public lands in a manner that maintains or improves them.

The Forest Service's primary authority for managing National Forest System land is established by 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, Federal Land Policy and Management Act of 1976, and Public Rangelands Improvement Act of 1978. The National Forest Management Act of 1976 (NFMA) 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.

## *Administrative Actions*

The proposed changes in rangeland policies and regulations are being evaluated and implemented through related administrative actions. One action is preparation of the Rangeland Reform '94 Draft Environmental Impact Statement (EIS). The other actions are preparation of separate BLM and Forest Service rulemakings. ("Rulemaking" is the process for developing or changing federal regulations.)

The Rangeland Reform '94 EIS presents an analysis of the reform proposal and several alternatives, a broad, national-level analysis that will serve as a basis for later regional or site-specific analyses that may be needed to implement the selected rangeland management program.

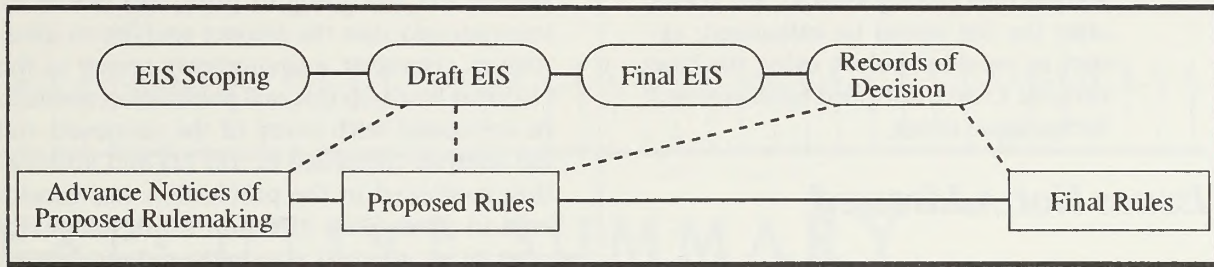
After a 90-day comment period on the draft EIS, the BLM and Forest Service will publish a final EIS that incorporates comments and refines the environmental analysis. After the EIS is published, the Secretaries of the Interior and Agriculture will issue separate records of decision. The records of decision and rulemakings are separate because the agencies operate under different regulatory authorities.

The rulemaking process began in August 1993 when the agencies published the Rangeland Reform '94 proposal as Advance Notices of Proposed Rulemaking. This process will continue through publication of proposed rules and final rules. The proposed rules are being issued for comment at the same time as the draft EIS. The final rules will be published after the Secretaries review comments on the proposed rules and draft EIS, and issue the final EIS and records of decision. See Figure S-1.





Figure S-1: The Administrative Process



## Scoping and Use of Public Comments

An extensive public participation process was conducted to help define the issues and alternatives to be addressed in the draft EIS. The Secretary of the Interior, with the cooperation of the Department of Agriculture, held five Grazing Town Hall meetings in the West during the spring of 1993. Thousands attended. The agencies then conducted a scoping period between July 13 and October 20, 1993, on the draft EIS and solicited comments on the Advance Notices of Proposed Rulemaking. Comments were received from more than 8,000 persons and organizations.

The public comments substantially influenced the draft EIS. Three of the five rangeland management alternatives were developed in response to issues and comments raised during scoping. Four of the seven grazing fee alternatives were derived from public comments.

The rangeland management alternatives are:

- (1) Current Management
- (2) BLM-Forest Service Proposed Action
- (3) Livestock Production
- (4) Environmental Enhancement
- (5) No Grazing

The fee alternatives are:

- (1) Current Fee Formula
- (2) Modified Public Rangelands Improvement Act (PRIA) formula

- (3) BLM-Forest Service Proposed Action
- (4) Regional Fees
- (5) Federal Forage Fee
- (6) PRIA with Surcharges
- (7) Competitive Bidding

The EIS analyzes the impacts of these alternatives, including an analysis of each management alternative combined with a high, moderate, and low fee option.

As a result of public comment, the Proposed Action in the draft EIS has been modified from the initial reform proposal released in August 1993, as follows:

- BLM standards and guidelines for rangeland ecosystems would be developed at the state or regional level with public involvement. They must meet published national requirements and be developed within 18 months of the Secretary's record of decision. If regional standards and guidelines are not in place after 18 months, fallback standards and guidelines would take effect.
- Multiple resource advisory councils would be established at the local level and provide a mechanism for meaningful, issue-specific public involvement including the development of state or regional standards and guidelines.
- The Proposed Action would establish 1996 as the base year for the forage value index. The forage value index would not be used to annually adjust the fee in response to market conditions until



the year 1997. This proposed rule would establish the 1995 grazing fee at \$2.75, and the 1996 grazing fee at \$3.50. Thereafter the fee would be calculated, except as provided below, using the base value of \$3.96 multiplied by the revised forage value index.

## ***Issues Not Addressed***

Most of the issues raised during scoping are incorporated in alternatives or addressed as impacts in the EIS. But, several issues are not addressed because they are beyond the scope of the document or did not meet the basic purposes of rangeland reform.

The following are examples of issues not addressed in the EIS:

- Broaden the scope of the document to include state agencies, the U.S. Fish and Wildlife Service, and other federal agencies.
- Overhaul the wild horse and burro program and include it in the EIS.
- Have states and counties manage federal rangelands.

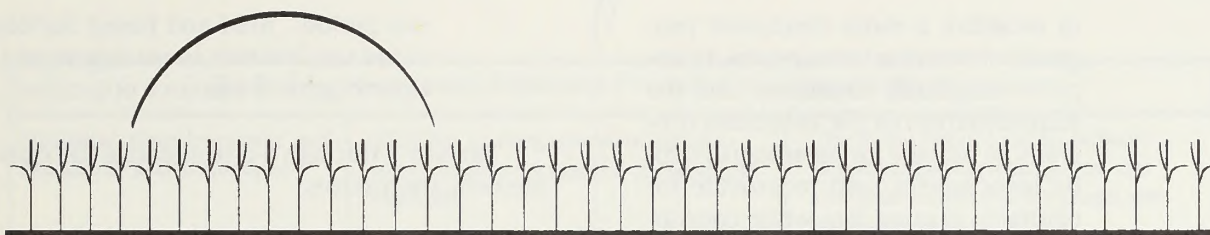
The National Research Council published a report in January 1994 entitled *Rangeland Health, New Methods to Classify, Inventory and Monitor*

*Rangelands* (National Research Council, 1994). This document was released as the Rangeland Reform EIS was going to print, too late to be incorporated into the impact analysis or alternatives. However, a preliminary review of the National Research Council publication seems to be consistent with many of the proposals and the analysis contained in this EIS and information contained in the publication was considered in developing direction for development of state or regional standards and guidelines. The BLM and Forest Service intend to thoroughly review this recent report and consider the information it contains during the preparation of the Final EIS. Public comment on the information in the report is invited.

## ***Analysis Area***

BLM management policies described in the EIS would apply to all the rangelands it manages. These rangelands occur in 15 western states. Forest Service management policies would apply to all national forests and grasslands.

The grazing fee policies described in the EIS would apply to the 17 western states where BLM and the Forest Service manage rangelands. They would not apply to the eastern states because BLM does not manage rangelands there and the fee is determined by fair market value or competitive bid on national forests and grasslands.



# EXECUTIVE SUMMARY

## Chapter 2: Description of Alternatives

*The draft EIS analyzes five rangeland management alternatives and seven fee alternatives. The management alternatives address nonfee aspects of the BLM and Forest Service rangeland management programs. For BLM these aspects include changes to policy regulations controlling the administration of the rangeland program and development of standards and guidelines. For the Forest Service these aspects include only changes in policy and regulations because the Forest Service already has an equivalent to standards and guidelines in their individual forest plans.*

### ***Management Alternatives***

*The five management alternatives analyzed in detail in the EIS are:*

- 1. Current Management - Would continue existing policies, management decisions, and prescriptions.*
- 2. BLM-Forest Service Proposed Action - Would change BLM and Forest Service rangeland policies and regulations, including development of national requirements and state or regional standards and guidelines for BLM, and changes in the grazing fee formula for both agencies. Multiple resource advisory councils for BLM would be established at the local level. The intent of the Proposed Action is*



to establish a more consistent program between the two agencies, to improve rangeland conditions and the administration of the rangeland program, to provide for meaningful public involvement, and to provide for equitable grazing fees while contributing to the sustainability of federal rangelands.

3. *Livestock Production* - Would allow permittees to continue grazing their livestock at current permitted levels. Permittees would be given increased control of rangeland management. BLM standards and guidelines would be developed at the regional level by grazing advisory boards.
4. *Environmental Enhancement* - Would limit livestock grazing to areas in proper functioning condition and permanently exclude grazing from areas determined to be unsuitable. These areas include: designated and recommended wilderness areas, critical habitat for threatened and endangered species (as determined by the Fish and Wildlife Service), and developed recreation sites.
5. *No Grazing* - Would eliminate grazing on public lands over a 3-year phase-

out period. BLM and Forest Service could use livestock to manage vegetation to achieve resource objectives.

Tables S-1 through S-5 summarize the management alternatives.

## *Fee Alternatives*

Seven fee alternatives are detailed in the EIS:

1. PRIA (No Action)
2. Modified PRIA
3. BLM-Forest Service Proposal
4. Regional Fees
5. Federal Forage Fee
6. PRIA with Surcharges
7. Competitive Bidding

In Chapter 4 of the EIS, each management alternative 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. Table S-6 summarizes the fee alternatives.





**Table S-1: Management Alternative 1 - Current Management (No Action)**

<b>National Requirements and Standards and Guidelines</b>	BLM has no comprehensive national requirements or rangeland management standards.	The Forest Service has set national rangeland management policy and establishes standards and guidelines within forest plans.
<b>Leasing</b>	BLM requires permittees to own or control both livestock and base property and assesses no surcharge.	The Forest Service does not allow leasing of livestock or base property.
<b>Foreign Corporations</b>	BLM requires that a permittee be a U.S. citizen or a group or association authorized to conduct business in the state in which the grazing use is sought, all members of which are U.S. citizens, or a corporation licensed to conduct business in the state in which grazing use is sought.	The Forest Service requires that a permittee be a U.S. citizen or a corporation at least 80 percent owned by U.S. citizens.
<b>Disqualification</b>	Neither agency allows a permittee or applicant to be disqualified from applying for or holding another permit because of conduct or performance.	
<b>Prohibited Acts</b>	BLM defines prohibited acts to include violations of the following two specific environmental laws: The Bald Eagle Protection Act and the Endangered Species Act.	The Forest Service can cancel grazing permits when a permittee is convicted of violating federal or state environmental laws.
<b>Grant Policy</b>	BLM gives priority to existing BLM permittees when authorizing grazing permits. BLM does not consider past compliance with permit terms as a criterion.	The Forest Service has some criteria for granting grazing privileges, but livestock permittee performance is not a prime consideration.
<b>Permit Tenure</b>	Both agencies usually issue permits for 10 years.	
<b>Unauthorized Use</b>	BLM has no policy to differentiate incidental use that causes no resource damage from willful trespass. All unauthorized use is regarded formally as trespass. Three different fees are assessed for willful trespass depending on the circumstances.	The Forest Service has discretion to exempt small unintentional use from formal procedures and fines.
<b>Nonuse</b>	BLM managers can approve annual nonuse for conservation or personal business reasons.	The Forest Service may authorize up to 3 years of nonuse on an annual basis for personal convenience or up to the permit term for resource protection.
<b>Suspended Nonuse</b>	BLM grazing permits can contain both active and suspended nonuse animal unit months.	The Forest Service does not recognize suspended nonuse on its grazing permits.

*continued...*





**Table S-1 (concluded): Management Alternative 1 - Current Management (No Action)**

<b>Water Rights</b>	Both agencies recognize the key role of the states in water rights issues. Since the 1980s, BLM policy has been not to apply for water rights for grazing purposes (this policy was not universally applied). Generally, both agencies apply for rangeland improvement water rights under state law and protest private applications for water rights on lands they administer, although in some cases BLM does not. Where permittees and BLM complete water developments under cooperative agreements, BLM sometimes files as co-owner of the water rights. Where permittees finance the entire water development on BLM-administered land, they may file for sole ownership of the water right. The Forest Service files for sole ownership of the water right where permitted by state law whenever livestock water is developed on National Forest System lands.	
<b>Range Improvement Ownership</b>	BLM permittees who totally fund authorized range improvements retain title. BLM retains ownership of authorized range improvements completed under cooperative agreements.	The Federal Government owns all permanent improvements on Forest Service-administered land.
<b>Range Betterment Fund Distribution</b>	Half of receipts returned to BLM are dispersed to the district of origin, and under current policy the other half are allocated by the Secretary of the Interior.	Under Forest Service regulations, half of receipts are distributed to the forest of origin with regional foresters able to assign half to any forest within their region.
<b>Range Betterment Fund Use</b>	BLM uses Range Betterment Funds for building range improvements.	The Forest Service uses Range Betterment Funds for on the ground project planning and building rangeland improvements.
<b>Appeals</b>	BLM decisions are automatically stayed upon appeal unless emergency regulations are invoked.	The Forest Service does not allow decisions under appeal to automatically be stayed.
<b>Grazing Advisory Boards</b>	BLM has grazing advisory boards.	The Forest Service does not have grazing advisory boards.
<b>Service Charge/ Transaction Fee</b>	BLM has a \$10 service charge for processing paperwork.	The Forest Service may charge a \$35 fee only if a permittee wants to split a billing period.
<b>Rangeland Ecosystems</b>	Neither BLM nor the Forest Service has regulations specifically addressing the management of rangeland ecosystems.	





**Table S-2: Management Alternative 2 - BLM - Forest Service Proposed Action**

<b>National Requirements and Standards and Guidelines</b>	The proposed action would establish national requirements for managing rangeland ecosystems on BLM lands. State or regional standards and guidelines would meet these national requirements and would be developed within 18 months of the Secretary's record of decision. If they are not put in place after 18 months, fallback standards and guidelines would take effect.	The Forest Service would continue to formulate standards and guidelines for rangeland management while it prepares national forest land and resource management plans.
<b>Leasing</b>	BLM would allow base property and pasture leases. A 20 percent surcharge would be applied to base property leases, a 50 percent surcharge would be applied to pasture leases and a 70 percent surcharge would be applied if both are involved. Sons and daughters of permittees and lessees would be exempted from surcharges.	The Forest Service would not allow leasing.
<b>Foreign Corporations</b>	BLM and Forest Service permittees would have to be either U.S. citizens or a group or association authorized to conduct business in the state in which the grazing use is sought, all members of which are U.S. citizens, or a corporation licensed to conduct business in the state in which grazing use is sought.	
<b>Disqualification</b>	BLM and the Forest Service would not issue new or additional grazing permits or leases to applicants whose federal grazing permits have been canceled during the prior 3 years due to violations of the terms and conditions of the permit, or to applicants who have had state grazing permits or leases canceled during the prior 3 years due to violations of the terms and conditions of the permit or lease for lands within the grazing allotment for which the federal permit or lease is sought.	
<b>Prohibited Acts</b>	BLM and Forest Service permits could be canceled or suspended for violation of federal or state laws or regulations concerning pest or animal damage control, or conservation or protection of natural or cultural resources or environmental quality if public lands are involved or affected. No action would be taken unless the permittee or lessee has been convicted or otherwise determined to be in violation and no further appeals are outstanding.	
<b>Grant Policy</b>	Both agencies could issue grazing permits for new or unallocated forage to operators who have proven their ability to improve or maintain the condition of rangeland ecosystems.	
<b>Permit Tenure</b>	Both agencies would continue to generally issue permits for 10-year periods.	
<b>Unauthorized Use</b>	Both agencies would exempt small, unintentional trespass from formal procedures and fines and apply one of three different fees for willful trespass, depending on the circumstances and seriousness of the trespass.	
<b>Nonuse</b>	Both agencies could authorize conservation use for extended periods when needed to meet resource management objectives. Conservation use for resource management could be granted for up to the full 10 years of the permit. Nonuse for personal reasons could be granted for up to 3 years.	

*continued...*





**Table S-2 (concluded): Management Alternative 2 - Proposed Action**

<b>Suspended Nonuse</b>	BLM grazing permits would contain both active and suspended nonuse AUMs.	The Forest Service would not authorize suspended nonuse.
<b>Water Rights</b>	<p>The Proposed Action provides consistent direction for the BLM regarding water rights on public lands for livestock grazing purposes. It is intended to generally make BLM's policy consistent with Forest Service practice, and with BLM policy prior to being changed in the early 1980s.</p> <p>Under the Proposed Action, any new rights to water on public lands to be used for livestock watering on those lands will be acquired, perfected, maintained, and administered under state law, and in the name of the United States unless state law prohibits it.</p> <p>The proposal does not create any new federal reserved water rights. Any right or claim to water on public lands for livestock watering on public land by or on behalf of the United States remains subject to the provisions of 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, it does not change existing BLM policy on water rights for non-livestock-related uses, such as irrigation, municipal or industrial uses.</p>	
<b>Range Improvement Ownership</b>	Subject to valid existing rights, BLM and the Forest Service would hold title to all future permanent range improvements. Valid existing rights to range improvements and compensation therefor under the Federal Land Policy and Management Act would not be affected. A permittee's or lessee's contribution toward new permanent range improvements would be documented for proper credit.	
<b>Range Betterment Fund Distribution</b>	BLM policy would become consistent with current Forest Service policy. Twenty-five percent of BLM grazing receipts collected would be returned to the district of origin and the remaining 25 percent would be distributed at the state director's discretion.	
<b>Range Betterment Fund Use</b>	For both agencies Range Betterment Funds would be used for range improvements and for a wider range of activities needed to maintain and improve ecosystem health including, monitoring, planning, engineering, environmental assessments, and construction.	
<b>Appeals</b>	Parties affected by grazing administration decisions are allowed 30 days in which to file an appeal and a request to stay implementation of the decision. BLM and Forest Service would review requests to stay rangeland management decisions within 45 days. Unless granted, a petition for stay could provide a maximum 75-day period before final decisions are in place.	
<b>Grazing Advisory Boards</b>	BLM grazing advisory boards would be replaced by multiple resource advisory councils consisting of a diverse group representing a wide array of perspectives within communities to advise the BLM on restoring and maintaining proper functioning condition of public rangelands.	
<b>Service Charge/ Transaction Fee</b>	BLM and Forest Service transaction fees would be consistent.	
<b>Rangeland Ecosystems</b>	Both agencies would emphasize and implement policies to manage rangeland resources using an ecosystem approach.	





**Table S-3: Management Alternative 3 - Livestock Production**

<b>National Requirements and Standards and Guidelines</b>	BLM would have standards and guidelines developed regionally by permittees and grazing advisory boards.	The Forest Service would continue to develop local standards and guidelines within forest plans.
<b>Leasing</b>	BLM and the Forest Service would allow base property and pasture management leases without a surcharge.	
<b>Foreign Corporations</b>	BLM and the Forest Service would prohibit foreign corporations from holding federal grazing permits.	
<b>Disqualification</b>	The local grazing advisory boards would determine permittee qualifications for both agencies.	
<b>Prohibited Acts</b>	BLM would define prohibited acts to include violations of only two specific statutes, the Bald Eagle Protection Act and the Endangered Species Act.	The Forest Service would cancel grazing permits when a permittee is convicted of violating federal or state environmental laws.
<b>Grant Policy</b>	Both agencies would issue grazing permits for new or unallocated forage to operators who have proven their ability to improve or maintain the condition of rangeland ecosystems.	
<b>Permit Tenure</b>	For both agencies, permit tenure lengths would be 10 years minimum and 20 years for good stewardship.	
<b>Unauthorized Use</b>	Small, unintentional trespass would be exempt from formal procedures and fines for both agencies. One fee would be charged for willful or repeated willful unauthorized use.	
<b>Nonuse</b>	BLM and Forest Service could authorize up to 5 years of nonuse for permittee personal convenience and year-to-year nonuse for resource protection.	
<b>Suspended Nonuse</b>	BLM grazing permits could contain both active and suspended nonuse animal unit months.	The Forest Service would not recognize suspended nonuse.
<b>Water Rights</b>	BLM and the Forest Service would allow grazing permittees to file for water rights on public land for stock watering developments.	
<b>Range Improvement Ownership</b>	BLM and the Forest Service would hold title to range improvements. Permittees would hold financial interest to improvements in proportion to their contributions.	
<b>Range Betterment Fund Distribution</b>	Fifty percent of all grazing fees collected would be returned to the forest or BLM district of origin.	
<b>Range Betterment Fund Use</b>	BLM would use range betterment funds solely for building range improvements.	The Forest Service would use Range Betterment Funds for planning and building rangeland improvements.
<b>Appeals</b>	BLM decisions would be automatically stayed upon appeal, unless emergency regulations are invoked.	The Forest Service would not allow a decision under appeal to automatically be stayed.
<b>Grazing Advisory Boards</b>	Both agencies would have grazing advisory boards with expanded roles in public involvement, planning, decisionmaking, monitoring, and setting resource management objectives.	

*continued...*



**Table S-3 (concluded): Management Alternative 3 - Livestock Production**

<b>Service Charge/ Transaction Fee</b>	BLM and the Forest Service would eliminate all service charges and transaction fees.
<b>Rangeland Ecosystems</b>	Goals and objectives for rangeland ecosystems would be set through consultation with grazing advisory boards.





**Table S-4: Management Alternative 4 - Environmental Enhancement**

<b>National Requirements and Standards and Guidelines</b>	Regional standards and guidelines would be established for BLM lands in addition to national standards and guidelines.	Detailed policy would be formulated for the Forest Service to complement standards and guidelines now included in Forest Service land and resource management plans.
<b>Leasing</b>	Neither BLM nor the Forest Service would allow leasing.	
<b>Foreign Corporations</b>	BLM and Forest Service permittees would have to be either U.S. citizens or businesses licensed in the U.S.	
<b>Disqualification</b>	Both BLM and the Forest Service would prohibit permittees from holding grazing permits for up to 3 years if they have had any federal grazing permits canceled for violating federal grazing regulations.	
<b>Prohibited Acts</b>	BLM and Forest Service permits could be canceled for violation of federal or state resource protection laws.	
<b>Grant Policy</b>	Forage could not be allocated above current preference or permitted numbers, even after desired conditions are reached.	
<b>Permit Tenure</b>	Ten-year term grazing permits would be issued only to permittees who have records of substantial compliance with terms of permits.	
<b>Unauthorized Use</b>	Both agencies would exempt small, unintentional trespass from formal procedures and fines and would assess three different fees for willful trespass, depending on circumstances.	
<b>Nonuse</b>	BLM and the Forest Service would automatically approve nonuse for up to 10 years.	
<b>Suspended Nonuse</b>	Suspended nonuse would be eliminated from BLM grazing permits, making BLM and the Forest Service policy consistent.	
<b>Water Rights</b>	BLM would assert claims and rights to water developed on public lands for the benefit of public resources and uses. Existing rights held by other parties on public or other lands would not be affected. BLM and Forest Service water rights policies would be consistent.	
<b>Range Improvement Ownership</b>	BLM and the Forest Service would hold title to all future permanent range improvements.	
<b>Range Betterment Fund Distribution</b>	Consistent with current Forest Service policy, 25 percent of BLM grazing receipts would be returned to the district of origin and the remaining 25 percent would be returned to BLM state offices for discretionary disbursement.	The Forest Service would continue its current policy.
<b>Range Betterment Fund Use</b>	For both agencies, Range Betterment Funds would be used for a wider range of activities needed to maintain and improve ecosystem health, including monitoring, planning, environmental assessments, engineering, and construction. Range Betterment Funds would not be limited to livestock-related projects.	
<b>Appeals</b>	Both agencies would implement decisions automatically unless a stay of the decision is requested or granted.	
<b>Grazing Advisory Boards</b>	Grazing advisory boards would be eliminated. Joint BLM-Forest Service resource advisory councils would be established on an ecoregion basis.	



**Table S-4 (concluded): Management Alternative 4 - Environmental Enhancement**

<b>Suitability</b>	Livestock grazing would be limited to areas that data shows are in proper functioning condition. Livestock would also be excluded from areas determined to be sensitive or unsuitable for grazing. Grazing might be allowed on areas with formerly unacceptable rangeland health when conditions improve and proposed management would not cause conditions to deteriorate.
<b>Service Charge/ Transaction Fee</b>	Both BLM and the Forest Service would collect administrative service charges.
<b>Rangeland Ecosystems</b>	BLM and Forest Service regulations would emphasize managing all uses, including livestock grazing, to sustain ecosystem biodiversity.





**Table S-5: Management Alternative 5 - No Grazing**

<b>National Requirements and Standards and Guidelines</b>	Not needed. The Forest Service would continue to develop standards and guidelines in forest plans as needed.
<b>Leasing</b>	Would not apply.
<b>Foreign Corporations</b>	Would not apply.
<b>Disqualification</b>	Would not apply.
<b>Prohibited Acts</b>	Would not apply.
<b>Grant Policy</b>	Would not apply.
<b>Permit Tenure</b>	All permits issued for crossing or vegetation management would be temporary.
<b>Unauthorized Use</b>	Both agencies would enforce rules on unauthorized use of federal lands.
<b>Nonuse</b>	Would not apply.
<b>Suspended Nonuse</b>	Would not apply.
<b>Water Rights</b>	Would not apply. Water rights filings would follow existing state law.
<b>Range Improvement Ownership</b>	All range improvements would be owned by the Federal Government.
<b>Range Betterment Fund Distribution</b>	A Range Betterment Fund would not exist.
<b>Range Betterment Fund Use</b>	Would not apply.
<b>Appeals</b>	Appealed decisions would no longer be stayed automatically.
<b>Grazing Advisory Boards</b>	Would not be needed.
<b>Service Charge/ Transaction Fee</b>	A service charge would continue to be applied for trailing permits as specified in current regulations.
<b>Rangeland Ecosystems</b>	Where needed, livestock would be used to help reach or maintain vegetation objectives.



**Table S-6: Fee Alternatives**

<b>PRIA (No Action)</b>	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.
<b>Modified PRIA</b>	The Modified PRIA alternative would use the same base as PRIA, \$1.23, but would differ in using an index for <u>all</u> 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.
<b>BLM-Forest Service Proposal (Proposed Action)</b>	<p>The proposed action would adopt a fee formula using a base value (\$3.96) updated annually by a Forage Value Index. The \$3.96 base value represents a midrange between the results obtained through the use of two methods for estimating a fair base value. 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 would be limited to 25 percent of the amount charged the previous year to provide for a measure of stability that would facilitate business planning.</p> <p>This proposal would establish 1996 as the base year for the forage value index. The forage value index would not be used to annually adjust the fee in response to market conditions until the year 1997. This proposed rule 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 year 1997 would equal one; yielding a 1997 grazing fee of \$3.96. 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.</p> <p>Fee incentive criteria would be developed during the first 2 years of a 3-year fee phase-in period. The third year of the phase-in would not be implemented until the incentive criteria are developed. Instead a base value of \$3.50 would be substituted in 1997.</p>
<b>Regional Fees</b>	The regional fee alternative is the same as the proposed action 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). The regional base values would be annually updated using the FVI. The annual fee would not differ by more than 25 percent from the fee charged in the previous year.
<b>Federal Forage Fee Formula</b>	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.

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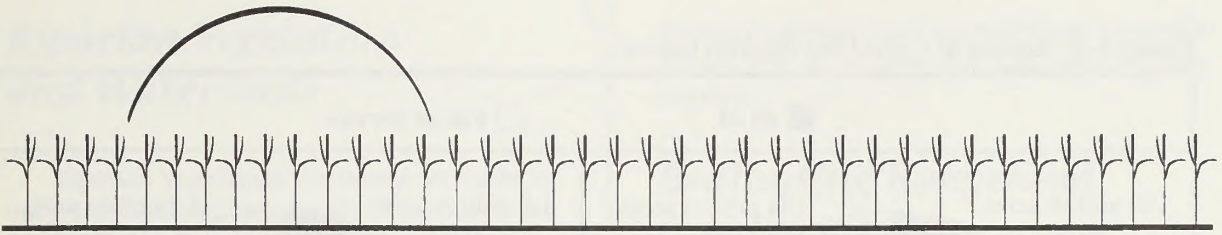


**Table S-6 (concluded): Fee Alternatives**

<b>PRIA with Surcharges</b>	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.
<b>Competitive Bidding System</b>	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.







# EXECUTIVE SUMMARY

## Chapter 3: Affected Environment

*Chapter 3 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 communities and riparian communities. Upland vegetation communities occur on dry sites and are by far the most widespread. Riparian vegetation communities occur in wet areas and are extremely limited, occupying only 1 percent of rangelands. Figure S-2 shows the amount of upland and riparian habitat managed by the Forest Service and BLM.*

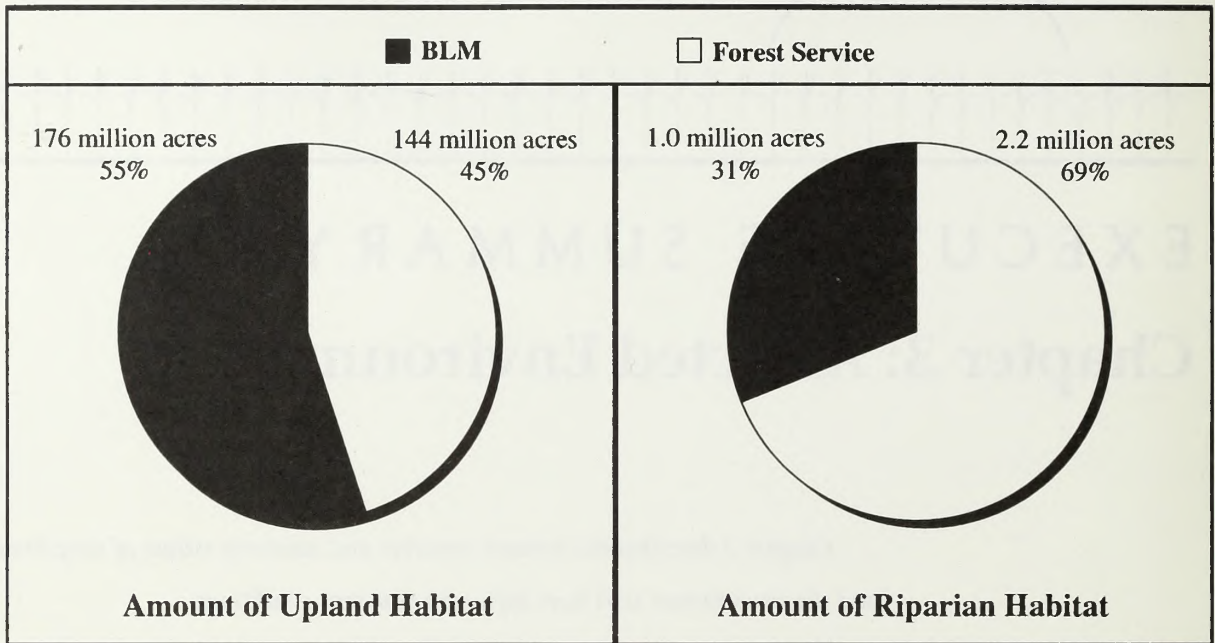
*Rangeland vegetation communities, like all plant communities, change over time due to environmental influences such as climate, fire, insects, and disease. However, since European settlement of the West, rangeland vegetation has been affected predominately by the introduction of livestock grazing and related changes in the occurrence of fire.*

*Livestock grazing began in the southwest in the 1600s and expanded as settlement progressed. By the late 1800s livestock were grazing throughout the West. During this period millions of cattle, sheep, and horses grazed rangeland vegetation that had never before been grazed as intensively. Adverse effects from grazing were apparent prior to the turn of the century.*





Figure S-2: Amount of Upland and Riparian Habitat



## Upland Vegetation and Watersheds

Livestock grazing reduced native grasses and palatable shrubs in upland communities. The overall amount of plants and plant litter covering the ground greatly decreased, exposing bare ground and heightening soil erosion. Since the mid 1930s, upland vegetation condition has shown improvement in many areas.

The reduction in grasses and plant litter disrupted the natural influence of fire on rangelands. Before settlement, fire was a common influence on upland communities. Fire destroys most brush species, but grasses and forbs increase after an area has burned. Frequent fire, caused both by lightning and started deliberately by Native Americans, helped to maintain a patchwork of shrub- and grass-dominated communities of upland vegetation.

With understory grasses and plant litter reduced by grazing, fires started and carried less easily. At the same time, land managers began to aggressively suppress fire. Fire was effectively curtailed on most rangelands except in the hot desert region of the Southwest where plants are

widely spaced and fire was never considered frequent.

Shrub-dominated areas expanded as the grasslands were depleted and fires decreased. For example, sagebrush and pinyon-juniper communities have become more dense and widespread. Plant communities palatable to livestock or maintained by fire, such as native bunchgrasses and quaking aspen, have diminished.

Upland vegetation communities have also been altered by an expansion of annual grasses. The depletion of native grasses created an opportunity for nonnative annual grasses to become established. These invading grasses crowd out native plants, have less value for livestock and wildlife, and burn more readily. The expansion of annual grasses is permanently changing large areas of rangeland vegetation.

Once altered, upland vegetation communities change or improve only gradually. Native grasses revegetate slowly, annual grasses cannot be removed once established, and disturbed or eroded soils require a long time to rebuild. When management improves, upland communities that receive more than 12 inches of annual precipitation have shown improvement within 20 years. Drier areas generally have not improved.



## *Riparian Vegetation and Watersheds*

Riparian vegetation communities make up only 1 percent of rangelands but provide far-reaching values and benefits. Healthy riparian communities stabilize and protect streambanks from erosion. They act like a giant sponge, helping to 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.

The amount and quality of riparian communities have been severely reduced since the settlement period. Although uplands have improved since rangeland management began in the 1930s, riparian areas have continued to decline and are considered to be in their worst condition in history.

Rangeland riparian communities have been influenced by many factors, including flood control and irrigation impoundments, but they have been most affected by livestock grazing. Livestock tend to spend a lot of time in riparian areas because of the lush vegetation, shade, and water. Livestock remove protective vegetation, trample streambanks, and defecate near streams, degrading water quality. Streambank erosion increases, stream channels widen or deepen, and streams lose their ability to absorb, retain, and steadily release water.

When a stream loses these important watershed characteristics, it is said to be nonfunctioning. Nonfunctioning riparian communities cannot provide important watershed values and lack 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 moisture, most riparian areas will respond relatively rapidly once disturbance factors are removed. Many riparian areas have improved and begun to function properly within 5 years of management changes. In some cases, restored

riparian habitats have reestablished perennial streamflow in streams that had become intermittent.

## *Evaluating Rangeland Conditions*

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 that do not tell whether overall ecological processes are working properly and meeting watershed and wildlife needs. To reflect this broader view, the agencies are adopting new methods of evaluating rangeland conditions.

The Forest Service has implemented a 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. Figures S-3 and S-4 show the present status of National Forest System lands using this system.

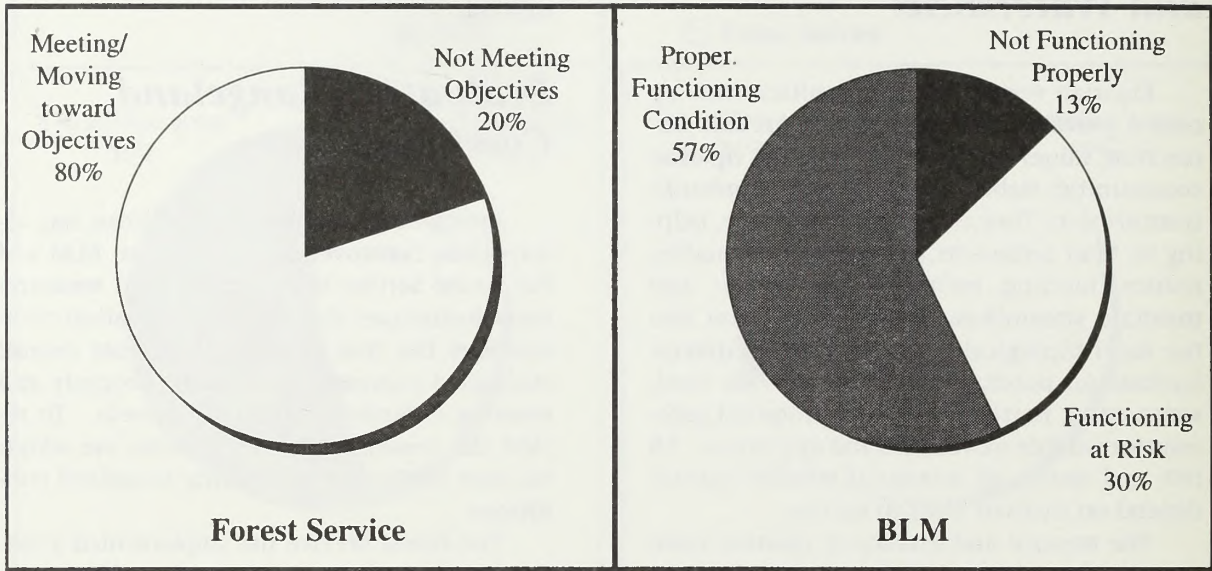
BLM is implementing a system based on whether rangeland conditions on a site can sustain natural plant communities and basic ecological functions. This system describes three categories of rangelands:

- **Proper Functioning:** when vegetation and ground cover maintain soil conditions that can sustain natural biotic communities.
- **Functioning but Susceptible to Degradation:** when the capabilities of proper functioning areas are threatened by livestock grazing activities.
- **Nonfunctioning:** when vegetation and ground cover are not maintaining soil conditions that can sustain natural biotic communities.

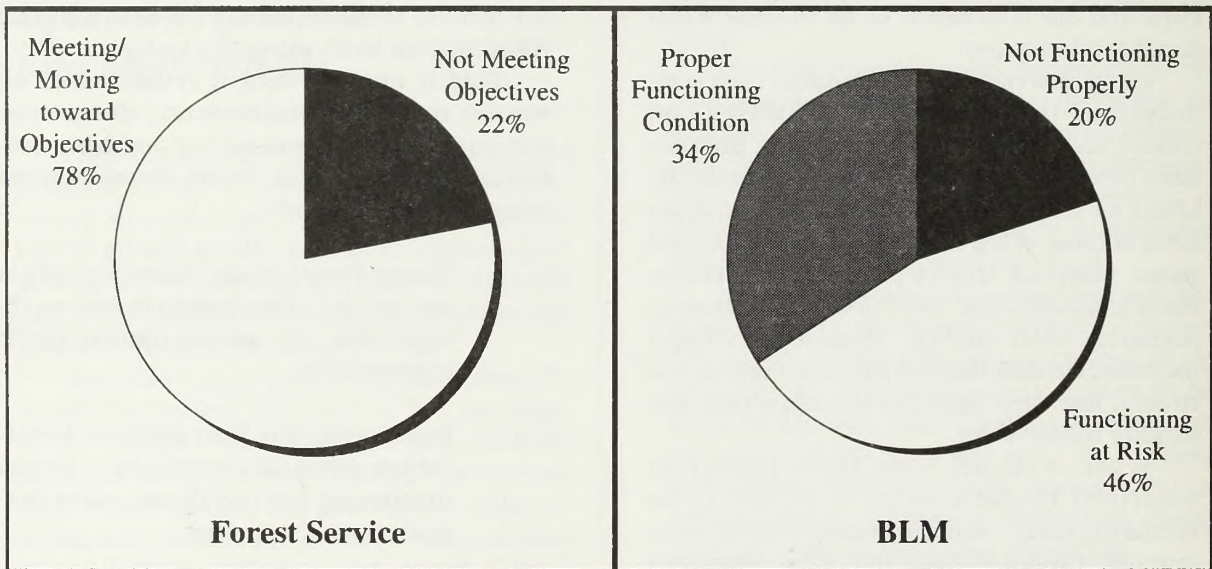
BLM has estimated the functioning condition of rangelands for purposes of analysis in the draft EIS. Figures S-3 and S-4 show the estimated present status of BLM lands using this system.



**Figure S-3: Present Condition of Upland Habitat**



**Figure S-4: Present Condition of Riparian Habitat**



### ***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 vegetation communities and watersheds.

The changes in rangeland vegetation communities since the settlement period have generally favored wildlife species that use brush-dominated upland communities. Examples are species such as mule deer, black-tailed jack rabbits, and javelina. Populations of most big game species are abundant and stable.

But, many wildlife species associated with native grassland and riparian communities have declined. More than 100 species that use rangelands are listed as federally threatened or en-

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dangered species, including the desert tortoise, Utah prairie dog, bald eagle, and Lahonton cutthroat trout. Many other wildlife species are considered in serious decline and have been given sensitive and 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 because of poor habitat conditions.

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

## *Biodiversity*

Resource managers believe that the broad decline in wildlife and plant species, occurring throughout the world, cannot be reversed by managing for individual species. Species are declining because vegetation communities are degraded and natural processes are disrupted. To help species in decline, the health of the underlying resources must be restored. An approach for restoring these resources is managing for biodiversity.

Biodiversity refers to the total amount and variety of plants and animals in an area. The area can be a local site, a watershed, a region, or even larger area. An area that is biologically diverse functions at its highest potential and provides the most stable and productive habitat for plants, wildlife, and people. A primary goal of BLM and Forest Service management is to maintain and enhance biodiversity on the lands they administer.

Managing for biodiversity entails identifying natural processes that do not function properly and changing the responsible actions. The purpose of management is to slow and reverse undesirable ecological processes. For example, in riparian communities management might change livestock grazing to enable vegetation to shade and protect streams, so streams could deposit sediment, repair eroded banks, and restore watershed functions. Wildlife and fisher-

ies habitat would then improve and species could stabilize or recover.

## *Wild Horses and Burros*

Approximately 46,000 wild horses and 8,000 burros inhabit public rangelands, protected and managed in accordance with the Wild and Free Roaming Horse and Burro Act of 1971. A major objective of the act is to maintain horse and burro populations at levels that are in balance with natural resources. Horses and burros use the same forage as livestock and often directly compete with livestock and wildlife for food and water. Horses also concentrate in and damage riparian areas, particularly during drought. BLM routinely gathers and removes excess animals to maintain suitable populations.

## *Recreation and Wilderness*

Public lands are used for a variety of recreation activities and use is increasing rapidly. Recorded recreation use on BLM lands exceeded 74 million visitors during 1992. Recreation management is focused on nearly 5,000 developed and 24,000 undeveloped recreation areas and sites. Most of these recreation sites are accessible to livestock.

BLM administers 1.7 million acres of designated wilderness and has recommended that 9.7 million more acres be designated by Congress. The Forest Service manages about 29 million acres of wilderness. Under the 1964 Wilderness Act grazing is not precluded in designated wilderness and presently occurs in many areas. Some areas are not grazed due to the natural lack of forage or inaccessible terrain.

## *Cultural Resources*

Cultural resources on public rangelands include prehistoric sites dating from about 15,000 years ago and historic sites dating from the beginning of European influence in the 1500s. Cultural resources are divided into cultural properties and traditional lifeway values. A cultural property is a specific location of past human activity, identifiable through field inventory or oral evidence. Rock art, effigy figures, stage coach stops, or abandoned settlements are



examples. A traditional lifeway value is important for maintaining a group's traditional system of religious belief or cultural practice. Examples are Native American use areas for plant collection, vision quests, or other spiritual practices.

Only about 6 percent of BLM administered lands and 12 percent of Forest Service administered lands have been inventoried for cultural resources. About 200,000 sites are considered eligible for designation under the National Historic Preservation Act of 1966. Of these, 1,207 sites totaling 2.8 million acres have been designated as nationally significant cultural resource areas.

The National Historic Preservation Act does not strictly prohibit activities from affecting cultural resources, but protecting cultural resources has become an integral part of BLM and Forest Service management practices.

## *Economic Conditions*

The description of economic conditions addresses the 16 western states where grazing is allowed on federal land: Washington, Oregon, California, Arizona, New Mexico, Colorado, Wyoming, Montana, Idaho, Nevada, Utah, North Dakota, South Dakota, Nebraska, Kansas and Oklahoma. Texas is not included due to the small amount of livestock grazing on federal lands. At times, 11 western states (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming) are referred to because these states have the highest concentration of federal rangeland.

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, communications, utilities, and mining.

As with employment, income in the agriculture sector has declined relative to the rest of the economy. In the 16 western states, income increased by \$350 billion from 1982 to 1990. Although income in the agriculture industry grew between 1982 and 1985, by 1990 the in-

come level had fallen back to its 1982 level. All industries except agriculture grew in income over this period.

The following are some reasons for the above trends.

- Economic conditions made farming less attractive to entrepreneurs and investors.
- Farm incomes declined due to lower output prices and higher costs.
- Land prices, which rose significantly in the 1970s, declined in the 1980s.

Nationally, about 38 percent of the land used for raising cattle is leased. In western states, a substantial amount of federal land is leased, but nearly 70 percent of cattle raisers own all the land they operate.

Beef cattle producers with federal permits make up about 3 percent of the 907,000 producers in the 48 contiguous states. In the 11 western states, 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 producers.

The importance of federal rangelands varies by the type of animal grazed. In the 16 and 11 western states permitted use makes up about 12 and 25 percent respectively of forage consumed by beef cattle. BLM-administered land makes up about 5 percent of the overall annual feed requirements for sheep operations, and the Forest Service administered lands make up about 6 percent.

The importance of federal rangelands to livestock production can also 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.

Livestock operations with federal permits are on average larger than operations without federal permits. Data from the 1990 Farm Costs and Returns Survey (FCRS), which contains ranch survey information on 6,678 permittees and 49,658 nonpermittees, shows that permit-



tees on the average have more than twice as many cows as nonpermittees, 221 cows versus 93 cows. In addition, permittees average almost nine times as many sheep as nonpermittees, 112 sheep versus 13 sheep.

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

Nonpermittees purchased 10 times more feeder cattle than did permittees. This greater involvement in purchased feeder cattle by nonpermittees would by itself increase per cow costs. But on a per hundred weight basis, permittees costs were \$10 per hundred weight lower than nonpermittee costs, and receipts per hundred weight were slightly higher for permittees.

Permittees spent more per cow for breeding stock, fences, and hired labor than nonpermittees. Nonpermittees spent more per cow overall for capital items, machinery, buildings, equipment, feed, pasture rental, purchased stock cattle, and other variable and fixed cash costs.

## Permit Value

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. The real estate market recognizes the difference in value between the two types of ranching operations in purchases and sales of such property. The difference in value reflects the benefits associated with the federal grazing permit. A long line of court cases has held that ranch owners with grazing permits cannot recover from the United States for losses in ranch value due to modifications of their grazing permit. A contrary result would place the government in the awkward position of being required to compensate ranch owners for privileges that were conferred by the government in the first place. In essence, recognition of permit value would allow permittees to retain the capitalized value of a public resource in their own hands, a resource which has never been conveyed by the public to the permittees.

In theory, the value of a permit at least partially reflects the capitalized difference between the grazing fee and the competitive market rate that could be charged for federal forage. Raising the grazing fee to a competitive market rate could eliminate the "value" of the permit. Altering the permit, such as the length of permit or the number of AUMs authorized, might also have this effect.

## Social Conditions

Many rural areas are experiencing a significant increase in population after decades of stability or decline. Other rural areas continue to lose population due in part to the outmigration of young people who leave for advanced education, military service, and employment. The West also has major cities that have experienced significant growth over the last few decades. These cities have many residents that are concerned about the environment and use the public rangelands for recreational pursuits.

The movement of people and jobs into rural areas began in the 1970s and is expected to continue into the 21st century. In scenic areas, ranches are being sold for recreation uses or subdivided for homes. Western rural areas are moving from a long-term economic dependence on agriculture or mining to recreation and tourism. These trends may cause rural natives to feel that they have lost control of their community.

A survey conducted by Saltiel (1991) provides information on the attitudes of 1,084 Montana farmers and ranchers toward grazing fees. Sixty-seven of the respondents opposed raising grazing fees, and 85 percent said increased grazing fees would harm them. But 56 percent of the ranchers without federal permits favored raising grazing fees. Nearly two-thirds of ranchers without federal permits said that a fee increase would not affect them, while 10 percent said that a fee increase would benefit them. A key point of Saltiel's survey is that most western ranchers do not have federal grazing permits and would not be affected by an increase in grazing fees.

According to data gathered in 1991 from 3,853 ranchers in 11 western states, the average rancher is 55 years old and has worked on the same ranch for more than 31 years. The average



ranching family had ranched in the same state for 68 years.

These long-time ranchers perceive themselves as personifying traits such as fair play, honesty, and independence. They take great pride in being independent but neighborly when the need arises. Most ranchers face increasingly stressful social situations as they try to balance their traditional lifestyles with changing communities.

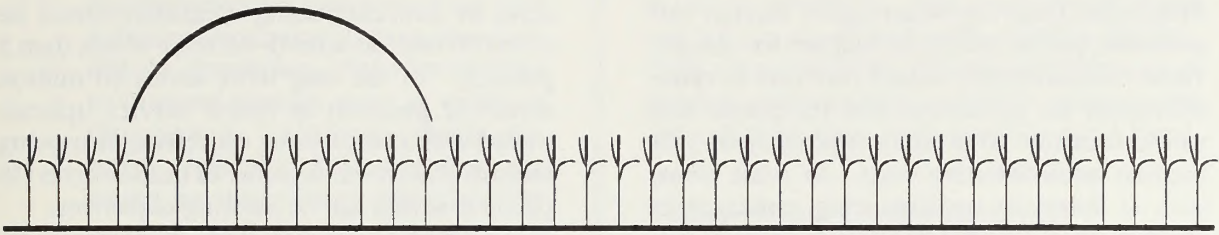
In the past, natural resource management on public lands emphasized commodities. Emerging concerns regarding other non-commodity values have forced a reevaluation of resource management practices. In a 1993 national study of attitudes about rangeland management, two-thirds of the respondents said ranchers should pay more to graze livestock on federal lands. At least three-fourths of the respondents said wildlife should be better protected. About two-fifths said the economic vitality of local communities should be given priority in

decisionmaking about federal rangelands; a similar proportion disagreed.

According to public scoping for this EIS, groups and individuals with environmental concerns believe the current grazing fee system does not account for all costs to public resources, undervalues the grazing privilege, and tends to encourage overemphasis of grazing at the expense of other federal land uses.

Many recreationists want stricter policies on lands that are fragile and damaged. Recreationists who want cattle removed from federal rangeland believe cattle are destructive, their byproducts are disturbing, and fees should cover the damage to federal land. Some recreationists, however, are concerned about ranchers selling to outside interests. Many recreationists depend on ranchers opening their land to recreation and are concerned that new interests will close their land. Others believe ranching can be compatible with other uses, so long as livestock are properly managed.





# EXECUTIVE SUMMARY

## Chapter 4: Environmental Consequences

*Figures S-5 through S-11 at the end of the Executive Summary compare forage, vegetation, and industry income impacts across all alternatives.*

### ***Management Alternative 1: Current Management***

*The continuation of Current Management would cause the following changes in livestock use and environmental conditions.*

#### **Grazing Administration**

##### **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. Contributing factors include stocking rate adjustments resulting from monitoring studies that indicate continuing resource damage and a declining economic feasibility of livestock grazing. Changes in forage authorization would also result from implementation of recovery plans for listed threatened and endangered species.*

*BLM and Forest Service grazing regulations would continue to be inconsistent in the following areas: leasing, prohibited acts, advisory boards, suspended nonuse, unauthorized use, affected interests, appeals process, grant policy, Range*



Betterment Fund use, water rights, foreign corporations, permit size limits, and service charges. These inconsistencies would continue to cause confusion for permittees and the public and would continue to produce inefficiencies that increase administrative costs. In some areas, such as delays in implementing management changes caused by BLM's appeals process, current regulations would continue to be contributing factors for declining environmental conditions.

### Availability and Use of Range Betterment Funds

Current BLM interpretation of Range Betterment Funds does not allow spending funds for tasks such as project planning, environmental assessments, and range improvement monitoring, even though they may be directly associated with on-the-ground improvements. Requiring such costs to be paid with program administration funds reduces the capabilities of those other resource programs. Restricting the use of Range Betterment Funds to a narrow interpretation of what is associated with on-the-ground projects would, however, ensure funding for construction of range improvement projects, but not necessarily their efficient functioning.

Under Current Management the grazing fee would not change and grazing fee receipts would decline by 20 percent over the long term. The corresponding decrease in Range Betterment Funds would limit the building of range improvement projects, decrease reconstruction of existing projects, and slow implementation of allotment management plans. Resource conditions could deteriorate at an accelerated rate, and livestock grazing could need to be reduced more than currently projected.

## Vegetation

### Upland Conditions

In the long term (20 years), it is estimated that about 117 million BLM upland acres would be in proper functioning condition (an increase of 30 percent). Another 22 million upland acres would be functioning but susceptible to degradation (a decrease of 55 percent), and upland

acres in nonfunctioning condition would be about 20 million acres (a decrease of less than 5 percent). In the long term, about 60 million acres (82 percent) of Forest Service uplands would either be meeting objectives or moving towards objectives. Another 13 million acres (18 percent) would not be meeting objectives.

### Riparian Conditions

In the long term, about 33 percent of BLM riparian areas would be functioning properly (a decrease of 3 percent from 1993), 45 percent would be functioning but susceptible to degradation (a decrease of less than 1 percent from 1993), and 21 percent would be nonfunctioning (an increase of 7 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 4 percent from 1993). About 25 percent would not be meeting objectives (an increase of 14 percent from 1993).

The following factors would contribute to these projected vegetation changes:

- Uplands would improve over the long term because the historical management emphasis and the use of Range Betterment Funds have favored pasture configurations and rangeland developments intended to benefit upland vegetation.
- Uplands would gradually improve because, once depleted, arid lands change very slowly. Upland areas that receive more than 12 inches of annual precipitation would be most likely to improve. Uplands that receive less precipitation would not change significantly. Areas dominated by thick stands of woody vegetation, such as juniper, are unlikely to change without mechanical treatment or fire.
- Riparian conditions would decline mainly because of the tendency for livestock to congregate in and overgraze low-elevation riparian areas. Local management plans are inconsistent and vary in effectiveness. Local improvements would be made but would not reverse the broad, long-term decline in riparian resources.



- Existing administrative procedures tend to hinder improvements in riparian conditions. Permittees often view changes to improve riparian areas as costly or disruptive to traditional grazing patterns. Appealed BLM decisions are stayed by the existing administrative process, and needed management changes are substantially delayed.

## Watershed

Watershed and water quality conditions would remain static or decline slightly over the long term. Accelerated erosion and runoff from uplands would decrease, but streambank trampling by livestock 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 but susceptible to degradation.

## Wildlife

Improvements in upland vegetation would benefit upland-dependent wildlife. Big game species would remain generally stable. Local populations would be affected primarily by habitat changes caused by fire, and by climatic conditions. However, the decline in riparian conditions 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 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 over the long term.

## Special Status Species

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 riparian areas continue to decline, more species dependent on these areas would become listed.

## Wild Horses and Burros

Improvements in upland vegetation would benefit wild horses and burros. Herds, however, would continue to be harmed by administrative procedures that favor livestock benefits over other uses, such as spending Rangeland Betterment Funds to build livestock fences within herd management areas.

## Recreation, Wilderness, and Cultural Resources

Recreation values would continue to be degraded by livestock grazing and by declines in water quality and riparian habitat conditions. Livestock trampling and fecal matter reduce aesthetics and environmental quality at developed and undeveloped recreation sites. Declining riparian conditions reduce wildlife viewing opportunities, make streams less floatable and fishable, and degrade a variety of recreation experiences.

Continued declines in riparian conditions and concentrations of livestock in riparian areas would lessen naturalness, solitude, and other values of designated wilderness and wilderness study areas.

Cultural resources are often associated with riparian areas and would continue to be harmed by livestock trampling and accelerated erosion in nonfunctioning riparian habitats. Overgrazing also reduces native food-source plants important to Native Americans.

## Economic Conditions

Allocated forage would decline on average by 5 percent over 5 years and by 20 percent over 20 years. These declines are based on trends over the past 10 years, which are projected to continue. Contributing factors include stocking rate adjustments resulting from monitoring studies that indicate continuing resource damage and a declining economic feasibility of live-



stock grazing. Changes in forage authorization would also result from implementation of recovery plans for listed threatened and endangered species.

Employment and income impacts would be minor in the agriculture sector in particular and compared to the westwide economy as a whole. The economic 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. Continued growth in employment and income in other sectors would tend to offset the relatively small employment and income reductions from declines in livestock AUMs.

Population growth and demographic changes in the West and in many western rural communities would continue to transform rural economies. Population growth in many rural communities, while contributing to economic growth and diversification, would continue to diminish the relative importance of agriculture in those communities.

## Social Conditions

Permittees would have time to adjust to the projected long-term decline in forage. Income would decline if fee levels increase unless offset by increases in livestock prices and off-ranch income. Losses in ranch income would result in declines in the economic well-being of some permittees and their families. Lifestyle changes could include families decreasing their spending, diversifying operations to make them less dependent upon ranching, sending family members to work off the ranch to bring in more income. Most permittees would try to adjust their operations rather than sell their ranches because they value the ranching lifestyle.

Because permittees and other county residents would have time to adjust to the long-term declines in federal forage, and because Current Management represents no change from current policy, the social environments of many communities would not be affected.

Generally, the social well-being of recreationists and environmentalists would decline under Current Management because of the projected long-term decline in riparian and wildlife habitat and recreation opportunities.

## Management Alternative 2: BLM - Forest Service Proposed Action

Implementing the Proposed Action would cause the following changes in livestock use and environmental conditions.

### Grazing Administration

#### Livestock Use Levels

After 20 years, authorized livestock forage would be 3 percent less than under current management. Contributing factors include stocking rate adjustments resulting from monitoring studies that indicate continuing resource damage and a declining economic feasibility of livestock grazing. Changes in forage authorization would also result from implementation of BLM state or regional standards and guidelines and recovery plans for listed threatened and endangered species. Livestock forage authorized by the Forest Service would be the same as under current management

The Proposed Action would also have the following effects:

- BLM and Forest Service grazing regulations would become consistent in most areas. Agency regulations would remain different in leasing, suspended nonuse, incentive fee criteria, and advisory groups. Overall, grazing administration would become less confusing to the public and would increase in efficiency. Permittees with both Forest Service and BLM permits would be subject to more consistent grazing policies. Contiguous Forest Service and BLM permittees could be managed with increased consistency.
- Regulation changes to exempt small, unintentional trespass from formal procedures and establish a 3-year minimum requirement for base property leases would decrease BLM administrative workloads and costs.



- BLM's workload would increase initially during the development of state or regional standards and guidelines.
- Multiple resource advisory councils would provide more balanced input to BLM's rangeland management decisionmaking process than the current Grazing Advisory Boards. Continued open public involvement in the Forest Service decision process would not exclude anyone.
- The changes would allow both agencies to implement ecosystem management practices more consistently.

## Availability and Use of Rangeland Betterment Funds

The Rangeland Betterment Funds available would depend on the grazing fee formula selected for implementation. Funds available would decline by 21 percent if the grazing fee remains constant, and would increase by 82 percent if the BLM-Forest Service proposed grazing fee formula is adopted.

As under the Current Management alternative, a decrease in Range Betterment Funds would limit construction of range improvement projects, decrease maintenance of existing projects, and slow implementation of allotment management plans. Resource conditions could deteriorate at an accelerated rate and livestock grazing may need to be reduced more than currently projected. An increase in Rangeland Betterment Funds would enhance the agencies' abilities to plan, and invest in range improvement projects to achieve resource objectives.

## Vegetation

### Upland Conditions

In the long term, BLM upland acres in proper functioning condition would be about 138 million acres, an increase of 55 percent (as compared to a 30 percent increase under Current Management). Upland acres functioning but susceptible to degradation would be about 6 million acres, a decrease of almost 90 percent (a 55 percent decrease is expected under Current Man-

agement). Upland acres in nonfunctioning condition would be about 15 million acres, a decrease of 30 percent (less than 5 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 2 percent). Another 13 million acres (18 percent) would not be meeting objectives (a decrease of 9 percent).

### Riparian Conditions

In the long term, about 43 percent of BLM riparian areas would be properly functioning (an increase of 27 percent from 1993). In contrast, under Current Management proper functioning riparian areas would decrease by 3 percent. About 41 percent would be functioning but susceptible to degradation (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 7 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 7 percent from 1993). About 16 percent would not be meeting objectives (a decrease of 26 percent from 1993).

The following factors would contribute to these projected vegetation changes:

- BLM national requirements would require management changes by the next grazing season in upland and riparian areas that are in nonfunctioning condition.
- Riparian areas respond quickly to changes in grazing management. Implementing standards and guidelines would immediately benefit inventoried riparian areas in nonfunctioning condition.
- Ending the automatic stay of appealed BLM decisions (making the rule consistent with that applied to most BLM appeals) would allow most decisions to take effect within 75 days and enable BLM to more rapidly make management



changes needed to achieve resource objectives.

- Resource conditions would benefit greatly from certain administrative changes, such as providing for conservation use, allocating 50 percent of BLM Range Betterment Funds to priority areas, and allowing the use of Range Betterment Funds for planning and monitoring the effectiveness of range improvement projects.

## Watershed

The Proposed Action would substantially improve upland watershed conditions over the long term. Reduced forage consumed by livestock would increase plant cover and water infiltration, resulting in less runoff and erosion. Riparian watershed conditions would benefit moderately from improved management and reduced livestock use. Water quality, ground water recharge, and increased streamflow would improve or increase on the 20 percent of the inventoried nonfunctional riparian areas projected to improve.

## Wildlife

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 antelope 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, brood-rearing, and thermal cover for most wildlife. Big game, nongame, upland birds, waterfowl, raptors, and anadromous and resident fisheries would benefit over the long term. BLM control of future water rights on public lands and ownership of future permanent range improvement projects would also increase management opportunities for wildlife.

## Special Status Species

Over the long term, the Proposed Action would improve the vegetation communities fa-

vored 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.

## Wild Horses and Burros

Improvements in riparian and watershed conditions would improve the overall health of herd management areas over the long term. Multiple resource advisory councils would give the needs of wild horses and burros more balanced consideration in range improvement projects and other management issues. Management opportunities for wild horses and burros would also increase due to cooperative agreements for BLM control of future water developments, BLM asserting claims to water under state law on public lands for grazing purposes on such lands, and BLM ownership of future range improvement projects.

## Recreation, Wilderness, and Cultural Resources

Improved habitat conditions would benefit overall recreation experiences. Fishing, boating, swimming, and wildlife viewing would improve as water quality and riparian conditions recover. Objectionable conditions, such as the presence of fecal matter, increased insects, and streambank erosion, would moderately decline over the long term.

Projected habitat improvements would benefit the naturalness of wilderness and wilderness study areas. Yet continued livestock and range development projects could continue to lessen opportunities for solitude and primitive and unconfined recreation.

Revising BLM livestock grazing regulations to allow cancellation of permits for violations of the Archaeological Resources Protection Act and the Native American Graves Protection and Repatriation Act would give cultural resources added protection. Cultural resources would also benefit from the requirement to locate livestock management facilities outside riparian areas, where a high density of cultural resources tends to occur.



## Economic Conditions

Allocated forage would be 3 percent less than under current management after 20 years. These declines are based both on trends over the past 10 years, which are projected to continue, and on management actions specific to the Proposed Action, which would reduce allocated forage in the short term. For example, authorized forage under Current Management would decline by 15 percent in 5 years, and 18 percent in 20 years. In the long term, forage reduction under the Proposed Action and Current Management would be virtually the same.

Consequently, impacts on employment and income would be greater under the Proposed Action in the short term, but over the long term would be similar to continuation of Current Management. 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.

Local impacts might or might not exceed overall impacts. Location and intensity of impacts are difficult to estimate. Ranching operations with a large number of cows and a large dependency on federal forage would be affected the most.

Improvements in resource conditions under the Proposed Action 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.

Employment and income impacts would be minor relative to current conditions and trends in the westwide economy as a whole and in the agriculture sector in particular. The economic 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. Thus, continued growth in employment and income in other sectors would tend to overshadow the relatively small employment and income reductions from declines in livestock AUMs on public lands.

## Social Conditions

While the Proposed Action would move toward greater equity among fees, it would still result in a fee below the fees charged for grazing on state lands in most western states, and would fall well below private grazing land lease rates. The amount by which the fee would increase is similar to recent increases that have taken place at the state level; those increases have not led to noticeable shifts in the livestock industry or economic effects on communities in those states. This, when considered with the reasonableness of the proposed fee increase and the fact that more than 73 percent of BLM permittees and lessees would experience a fee increase of less than \$1,000 per year, offers evidence that the proposed change in the fee would generally not have a significant impact on the stability of the dependent western livestock industry and would not have a serious detrimental effect on most permittees and lessees.

Some permittees and lessees that are highly dependent on federal forage, do not have off-ranch income, and have heavy debt loads may be required to make some financial adjustments. These adjustments, in some circumstances, may include sale of the ranch; however, it is expected that such sales would occur in limited circumstances. Such sales, it should be noted, are occurring and will continue to take place under current conditions, as well.

The economic impact on western communities is expected to be localized and, in most areas, not significant because that portion of the local economy that depends upon the use of federal forage is relatively minor.

Changes in regulations might also require permittees to more intensively manage their operations. Ranchers are concerned about forage reductions that would result from implementing BLM standards and guidelines, the broadened representation on advisory boards and councils, and BLM ownership of all future permanent range improvements. However, multiple resource advisory councils would provide a forum for consensus building.

The Proposed Action, particularly at higher fee levels, would intensify feelings of mistrust and loss of personal control. However, multiple resource advisory councils would return some of the control back to public land users of all



types. Improved range conditions could also enhance the long term stability of the ranching industry.

Generally, the social well-being of recreationists and environmentalists would improve under the Proposed Action because of improved riparian and wildlife habitat. This alternative is consistent with the attitudes of increased numbers of people in the West and across the country who believe that rangeland management should emphasize the protection of rangeland resources.

Job losses at all fee levels would be insignificant on a westwide basis. Most of the projected decline in employment would be absorbed through retirements and people seeking other types of work in the normal course of their lives.

### ***Management Alternative 3: Livestock Production***

Implementing the Livestock Production alternative would cause the following changes in livestock forage use and environmental conditions.

#### **Grazing Administration**

##### **Livestock Use Levels**

Based on current trends, forage grazed would decline by 4 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 5 years and 18 percent in 20 years under Current Management. After 20 years, livestock forage would be 4 percent greater under this alternative than under Current Management.

Changes in grazing regulations relating to standards and guidelines, nonuse, grazing advisory boards, range improvement ownership and water rights would allow BLM and the Forest Service to more efficiently administer their rangeland programs. The Livestock Production alternative would also have the following impacts:

- Authorizing grazing advisory boards to determine the validity of leases would lessen agency administrative workloads.
- Issuing 20-year permits to good stewards would reduce the administrative workload of reissuing permits.
- Allowing nonmonetary settlements for incidental unauthorized use would improve the efficiency of BLM employees.
- Tracking and maintaining records of suspended nonuse would continue to create administrative inefficiency.
- Requiring the Forest Service to work with grazing advisory boards in setting priorities for the use of Range Betterment Funds would add to the Forest Service workload.
- Transferring administrative roles to grazing advisory boards would save time and money for the agencies.

#### **Availability and Use of Range Betterment Funds**

Range Betterment Fund amounts would depend on the grazing fee formula selected for implementation. Due to the projected decline in livestock use, if the current grazing fee formula is retained, Range Betterment Funds would decline by 12 percent. A 12 percent decrease in Range Betterment Funds, coupled with rising costs for range improvements, would allow fewer range improvements in the future.

Under the BLM-Forest Service proposed grazing fee, or regional fees, Range Betterment Funds would increase by 102 percent or 202 percent, respectively. Such large increases in Range Betterment Funds would more than offset rising costs of range improvements.

The net result of higher funding levels over the long term would be a substantial increase in the agencies' abilities to implement, maintain and rebuild range improvements aimed at a relatively narrow range of resource management objectives.



## Vegetation

### Upland Conditions

In the long term, about 129 million BLM upland acres would be in proper functioning condition (an increase of 40 percent), 12.5 million upland acres would be functioning but susceptible to degradation (a decrease of 75 percent), and 17.5 million upland acres would be in nonfunctioning condition (a decrease of 15 percent). In the long term, about 60 million acres of Forest Service uplands would either be meeting objectives or moving towards objectives (an increase of 2 percent); another 13 million acres would not be meeting objectives (a decrease of 9 percent).

### Riparian Conditions

In the long term, about 32 percent of BLM riparian areas would be properly functioning (a decrease of 8 percent from 1993). Another 45 percent would become functioning but susceptible to degradation (a decrease of 2 percent from 1993). About 24 percent would be nonfunctioning (an increase of 18 percent from 1993). In the long term, about 70 percent of Forest Service riparian areas would either be meeting objectives or moving towards objectives (a decrease of 10 percent from 1993); another 30 percent would not be meeting objectives (an increase of 37 percent from 1993).

The following factors would contribute to these projected vegetation changes:

- Standards and guidelines developed regionally by grazing advisory boards would likely emphasize the needs of livestock permittees. These needs include upland watershed stability and quality livestock forage conditions. This emphasis would help improve upland vegetation, but, combined with sustained grazing levels, would contribute to riparian area decline.
- Many grazing advisory boards would not support difficult decisions to better manage livestock for riparian protection.

- Livestock congregating near water and continuing to graze at current levels would result in overuse of riparian areas.
- The Livestock Production alternative would consider the management of sustainable diversified ecosystems to be secondary to the socioeconomics of western livestock production.

## Watershed

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 continued grazing near riparian areas would more than offset this improvement. Continued grazing 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

The decline of riparian areas would contribute to the long-term decline in riparian-dependent wildlife. Big game species, such as antelope and mule deer, rely on riparian habitat for shade and cover. The overall decline in riparian vegetation condition 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 decline.

## Special Status Species

As riparian areas declined, 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.

## Wild Horses and Burros

Improved upland vegetation conditions would increase the amount of forage for wild



horses and burros. More range improvements, such as water projects, developed to increase livestock production would also benefit wild horses and burros. But spending Range Betterment Funds to build fences would constrain herd movements.

## Recreation, Wilderness, and Cultural Resources

Recreation experiences would decline more significantly under Livestock Production than under the Current Management because of increased range improvements, fencing and a decline in riparian conditions. More range improvements would lower the quality of user experiences. The expected increase in fencing would interfere with all types of travel. Declining riparian conditions would reduce wildlife viewing opportunities, make streams less floatable and fishable, and worsen a variety of recreation experiences.

In the long term, wilderness study areas not designated wilderness would be subject to loss of wilderness values by new range improvements.

Livestock trampling and the effects of erosion in nonfunctioning riparian habitats would harm cultural resource often associated with riparian areas. An increase in livestock management facilities and major revegetation projects under the Livestock Production alternative could disturb extensive areas, directly damaging cultural resources.

## Economic Conditions

Allocated forage would decline by 3 percent after 5 years and by 12 percent after 20 years. The Livestock Production alternative would result in the lowest decline in allocated forage of all alternatives because of the increased management emphasis on producing livestock forage.

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- 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 would lessen recreation opportunities, which could adversely affect recreation-related economic activity.

## Social Conditions

Losses in income under Livestock Production would be smaller than under Current Management. Permittees would have time to adjust to long-term declines in forage. At higher fee levels, losses would be higher than permittees are now experiencing.

Permittees would feel somewhat more in control over the management of their ranches under the Livestock Production alternative. However, demographic changes throughout the West would continue in a manner that could be threatening to the lifestyle values of some permittees. In some areas, recreationists and environmentalists might feel that more should be done to protect recreation, riparian, and wildlife resources.

Increasing numbers of people in the West and across the country believe that rangeland management should emphasize protecting resources rather than managing livestock. The Livestock Production alternative generally opposes these attitudes.

## *Management Alternative 4: Environmental Enhancement*

Implementation of the Environmental Enhancement alternative would cause the following changes in livestock forage use and environmental conditions.



## Grazing Administration

### Livestock Use Levels

In the short term, authorized livestock forage would decline from existing forage consumption by 53 percent on BLM public lands (as compared to 15 percent under Current Management) and by 45 percent on National Forest system lands. In the long term, authorized livestock forage would decline by 30 percent on BLM public lands (as compared to 18 percent under Current Management) and by 29 percent on Forest Service administered land. After 20 years, livestock forage would be 12 percent less than under Current Management. Contributing factors include stocking rate adjustments resulting from monitoring studies that indicate continuing resource damage and a declining economic feasibility of livestock grazing. Changes in forage authorization would also result from implementation of recovery plans for listed threatened and endangered species.

The projected decline reflects of the limits on grazing under the Environmental Enhancement alternative. This alternative would also have the impacts listed below:

- BLM and Forest Service regulations would be consistent.
- Changes in BLM grazing regulations and policies for lease and agreements, unauthorized use, full force and effect decisions, disqualification, resource advisory boards, range improvement ownership and permit size limits would improve BLM's efficiency. The Forest Service would improve its ability to deter unauthorized use and reduce the number of grazing permits issued. The changes would allow both agencies to implement ecosystem management practices.
- BLM's workload would increase initially as BLM develops and implements regional standards and guidelines.
- Measuring compliance to determine length of permit tenure would initially increase administrative duties, but ad-

ministrative work would level off over the long term as management improves.

- Resource advisory councils would provide more balanced input into the decision process for both agencies, resulting in more informed decisions.
- The opportunity for the public to petition to close areas to livestock grazing or to reopen closed areas would increase the workload for both agencies.
- The loss in ownership of range improvements would make some permittees less likely to contribute to future BLM range improvement projects. But, as the new policy becomes more accepted over time, permittee investment would rise again to the current level of the Forest Service.

### Availability and Use of Range Betterment Funds

Range Betterment Fund amounts would depend on the grazing fee formula selected for implementation. A decline in livestock use would decrease Range Betterment Funds if the current grazing fee formula is retained. A decrease in Range Betterment Funds, coupled with rising costs for range improvements, would allow fewer range improvements in the future. While some range improvements would no longer be needed, others would continue to be needed to meet livestock management and other resource objectives. A decline in funding would be somewhat offset by giving the agencies more flexibility to distribute funds to priority areas.

With the proposed grazing fee formula or regional fees, Range Betterment Funds would increase. Such increases would more than offset the rising costs of range improvements and would allow more range improvements to be built, maintained, and rebuilt.

### Vegetation

#### Upland Conditions

In the long term, about 151 million acres (95 percent) of BLM uplands would be in proper



functioning condition (an increase of about 65 percent); BLM upland acres would be functioning but no susceptible to degradation; and about 8 million upland acres (5 percent) would be in nonfunctioning condition (a decrease of about 60 percent). In the long term, about 69 million acres (95 percent) of Forest Service uplands would either be meeting objectives or moving towards objectives (an increase of 18 percent); another 3.8 million acres (5 percent) would not be meeting objectives (a decrease of 73 percent).

## Riparian Conditions

In the long term, about 59 percent of BLM riparian areas would be properly functioning (an increase of 71 percent from 1993). Another 32 percent would become functioning but susceptible to degradation (a decrease of 30 percent from 1993). About 9 percent would be nonfunctioning (an increase of 53 percent from 1993). In the long-term, 100 percent of Forest Service riparian areas would either be meeting objectives or moving towards objectives (an increase of 28 percent from 1993).

The following factors would contribute to these projected vegetation changes:

- Implementing standards and guidelines that would allow grazing only in areas in proper functioning condition and would remove livestock from critical or unsuitable areas.
- Riparian areas would improve faster rate uplands because of the greater productive potential of riparian areas.
- Ending the automatic stay of appealed BLM decisions would allow most decisions to take effect within 75 days and enable BLM to make management changes needed to achieve resource objectives.
- Fifty percent of the Range Betterment Funds would be allocated on the basis of ecosystem needs and would be used to improve or stabilize priority areas.

## Watershed

Watershed and water quality would improve significantly in the long term, partially from

grazing practices, but mainly from removing livestock from areas not in proper functioning condition. Erosion and runoff would not change in the short term because at least 3 years would be needed to inventory, classify and remove livestock from uplands deemed unsuitable for grazing. Improved riparian and upland conditions would complement each other. Pollutants from grazing practices would diminish as grazing is reduced.

## Wildlife

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. Resting riparian/aquatic habitats from grazing is the most compatible grazing strategy for fish habitat.

## Special Status Species

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.

## Wild Horses and Burros

Improvement of upland and riparian vegetation would improve habitat conditions for wild horses and burros. By filing for all water rights under state law for new grazing related water developments, BLM would maintain the water sources year round for a variety of multiple uses, including wild horses. The free-roaming nature of wild horses would be considered when determining the location and construction of livestock fences.

## Recreation, Wilderness, and Cultural Resources

The closing of developed recreation sites to livestock grazing would eliminate livestock impacts to facilities. By removing livestock and range improvement projects from many areas, scenic quality would improve. The increase in



wildlife would provide more opportunities for hunting, fishing, and observing wildlife. Improved riparian habitat would provide more floatable and fishable rivers and streams.

The naturalness, solitude, and other values of wilderness and BLM- and Forest Service-recommended wilderness would improve with the removal of livestock and improvements in riparian condition.

In the areas where livestock are removed, impacts to cultural and paleontological resources would be eliminated. The improvement of riparian resources to proper functioning condition would reduce the effects of erosion on cultural resources. Building fewer range improvements would reduce the potential for disturbances to cultural resources.

## Economic Conditions

Allocated forage would decline by 50 percent overall after 5 years and by 30 percent overall after 20 years. These declines are based both on trends over the past 10 years, which are projected to continue, and management actions expected to reduce allocated forage significantly in the short term.

The 5-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 under all the other alternatives except for No Grazing. Still, the impacts would be minor in the agriculture sector in particular and compared 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 in the long term would create positive economic impacts. 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.

Increases in Range Betterment Funds resulting from higher grazing fees under several fee alternatives might help mitigate losses to ranches by funding more improvements that benefit livestock.

Population growth and demographic changes in the West and in many western rural communities would continue to transform rural economies. Population growth in many rural communities, while contributing to economic growth and diversification, would continue to diminish the relative importance of agriculture in those communities.

## Social Conditions

Losses in ranch income would result in declines in the economic well-being of some permittees and their families. Lifestyle changes would include families decreasing their spending, diversifying operations to make them less dependent upon ranching, sending family members to work off the ranch to bring in more income, and selling ranches, either to other ranchers or to developers. Most permittees would try to adjust their operations to absorb the income losses rather than sell their ranches because they value their lifestyle. But under Environmental Enhancement, particularly at the higher fee levels, some ranches could no longer stay in business, although it is anticipated that the demand for available AUMs would continue.

Social impacts to permittees, ranching families, ranch employees, and related businesses would be far reaching and would have serious social consequences. For many residents of the ranching community, the Environmental Enhancement alternative, particularly at higher fee levels, would intensify feelings of mistrust and loss of personal control and threaten lifestyles. Some permittees would close off their base property and access they control to public land to exert some control over their lives.

For the typical small community, the Environmental Enhancement alternative at any fee level would accelerate ongoing population losses. The effects of the fee increases would be greatest in areas with a high average dependency on federal forage.

In most communities, residents believe that ranching is an important part of their community and lifestyle. Environmental Enhancement



would indirectly but significantly affect local businesses, particularly agricultural supply and retail stores. Residents would be highly concerned about the change in emphasis away from livestock management and would strongly resent any alternative that greatly reduced livestock grazing on public lands. In some places, this alternative might speed up the ongoing rural development trends where area ranches are purchased and subdivided. Immigrants, developers, and other ranchers might compete over buying the smaller ranches, raising prices. These high prices would make it difficult for the remaining ranchers to purchase much of the land for sale.

Some recreationists and many people and groups with environmental concerns would believe that the Environmental Enhancement alternative offers a proper balance between livestock grazing interests and protecting public natural resources.

## ***Management Alternative 5: No Grazing***

The No Grazing alternative would cause the following changes in livestock use and environmental conditions.

### **Grazing Administration**

#### **Livestock Use Levels**

No permanent livestock forage would be allocated. 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 livestock improvements, which would be expensive in the short term.

#### **Availability and Use of Range Betterment Funds**

Grazing receipts and Range Betterment Funds would fall to zero. The agencies would rely on appropriations to build or maintain such range improvements needed to meet management objectives. Enforcement costs associated

with unauthorized use supervision would likely rise.

## **Vegetation**

### **Upland Conditions**

In the long term, 151 million acres (95 percent) of BLM uplands would be in proper functioning condition (an increase of about 65 percent), no BLM acres would be functioning but susceptible to degradation, and about 8 million acres (5 percent) would be nonfunctioning (a decrease of about 60 percent). In the long term, 69 million acres of Forest Service uplands would either be meeting objectives or moving toward objectives (an increase of 18 percent), and 3.8 million acres would not be meeting objectives (a decrease of 73 percent).

### **Riparian Conditions**

In the long term, about 65 percent of BLM riparian areas would be properly functioning (an increase of 91 percent from 1993), 28 percent would be functioning but susceptible to degradation (a decrease of 38 percent from 1993), and 6 percent would be nonfunctioning (a decrease of 68 percent from 1993). 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).

Ecological conditions would improve the most under No Grazing. Removing livestock would improve plant vigor and reproduction, increase palatable grasses and forbs, increase plant litter, and reduce bare soil in most upland areas. However, removing livestock would reduce the long-term vigor of grass species in the plains grasslands, which evolved under heavy grazing by bison. Riparian areas would improve because they have high productive potential and respond rapidly to the removal of livestock. The amount, vigor, and diversity of vegetation would greatly increase. Historical riparian areas would be restored where a potential for recovery still exists.



## Watershed

Watershed and water quality conditions would improve to their maximum potential. 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 towards proper functioning condition.

## Wildlife

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.

## Special Status Species

The broad, accelerated improvement in ecological conditions would result in long-term trends toward the recovery of many listed and sensitive species.

## Wild Horses and Burros

Wild horses and burros would benefit from improvements in vegetation and the removal of developments that restrict herd movement and migration.

## Recreation, Wilderness, and Cultural Resources

Many recreation values and experiences would significantly improve, including scenic

quality, wildlife viewing, hunting, and fishing. Improved riparian areas would extend seasons and increase the number and quality of opportunities for water-based recreation. All recreation sites would be protected from grazing conflicts and impacts. Opportunities for unrestricted movement would increase as fences are removed.

Improved ecological conditions would benefit all wilderness values.

Impacts to cultural resources from development projects and livestock trampling would be eliminated. Historical properties associated with ranching would not be maintained and would be lost in the long term.

## Economic Conditions

The economic impacts would be greatest under the No Grazing alternative. Livestock grazing would be phased out on public lands over a 3-year period, thus reducing the forage for livestock grazing to zero.

No Grazing would affect about 8 percent of the beef cattle inventory in the 11 western states, and 2.4 percent of the beef cattle inventory in the 17 (including Texas) western states, 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 1 percent decrease in national cattle inventory could result in about a 1 percent increase in retail beef prices. But this price effect 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.



## Social Conditions

Losses in income would be greatest under the No Grazing alternative. These losses in ranch income would result in declines in the economic well-being of many permittees and their families. Lifestyle changes would include families decreasing their spending, diversifying operations to make them less dependent upon ranching, sending family members to work off the ranch to bring in more income, and selling ranches, either to other ranchers or to 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. But, under No Grazing, some operations would go out of business.

Owners of 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. There would be increased costs for federal land management agencies in controlling livestock trespass.

The social impacts to ranchers, ranching families, ranch employees and related businesses are far reaching and most severe under No Grazing. Many ranchers in their 50s and older would be seriously affected (the average age of ranch managers is 55). Generally as people get older, they have a harder time finding other suitable employment.

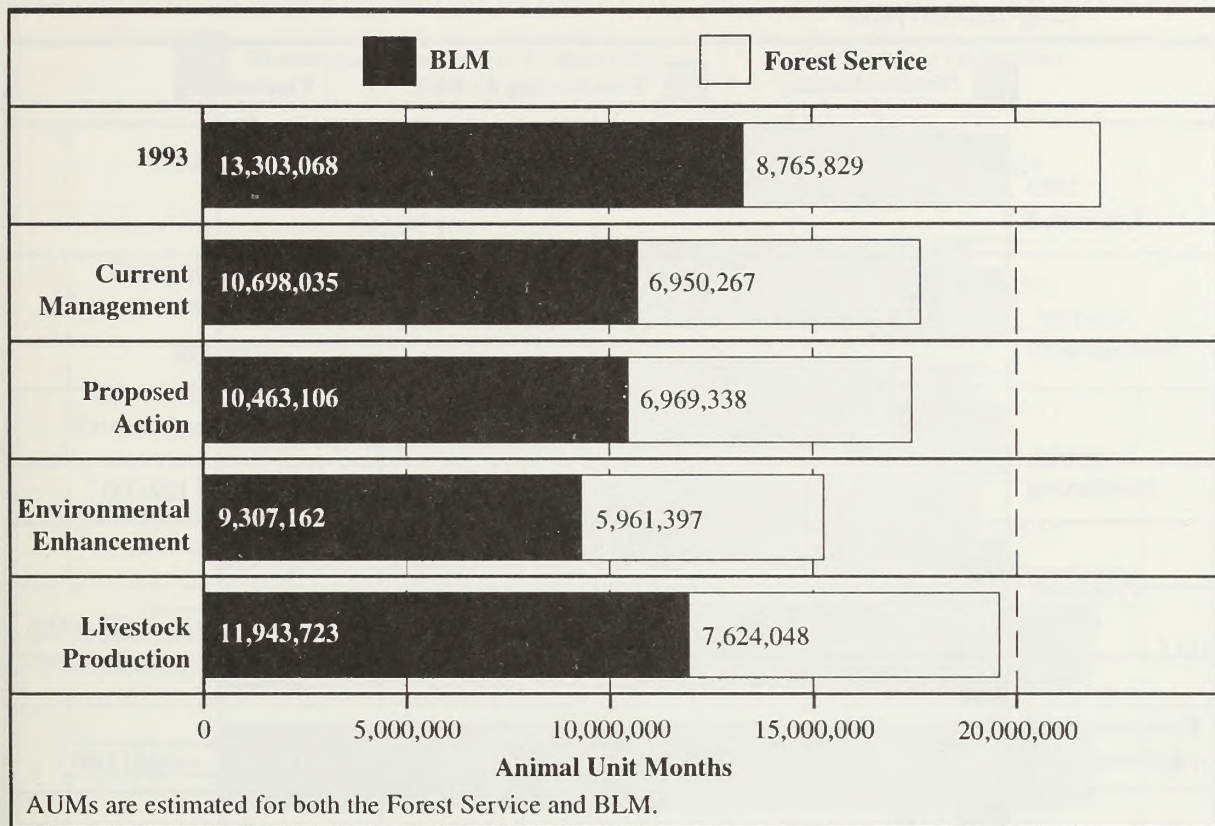
No Grazing would likely accelerate the current trend toward urbanization of some small rural communities because some ranchers would be forced to sell to outside interests.

Generally, the social well-being of recreationists and environmentalists would improve under No Grazing. This improvement would result from improved riparian and wildlife habitat and improved recreation opportunities. However, the unintended consequence of more subdivisions and real estate development could result in a reduction in environmental values.





**Figure S-5: Available Livestock Forage in Animal Unit Months - Alternative Comparison - Long Term**







**Figure S-6: Changes in Functioning Condition - BLM Uplands - Comparison of Alternatives - Long Term (20 years)**

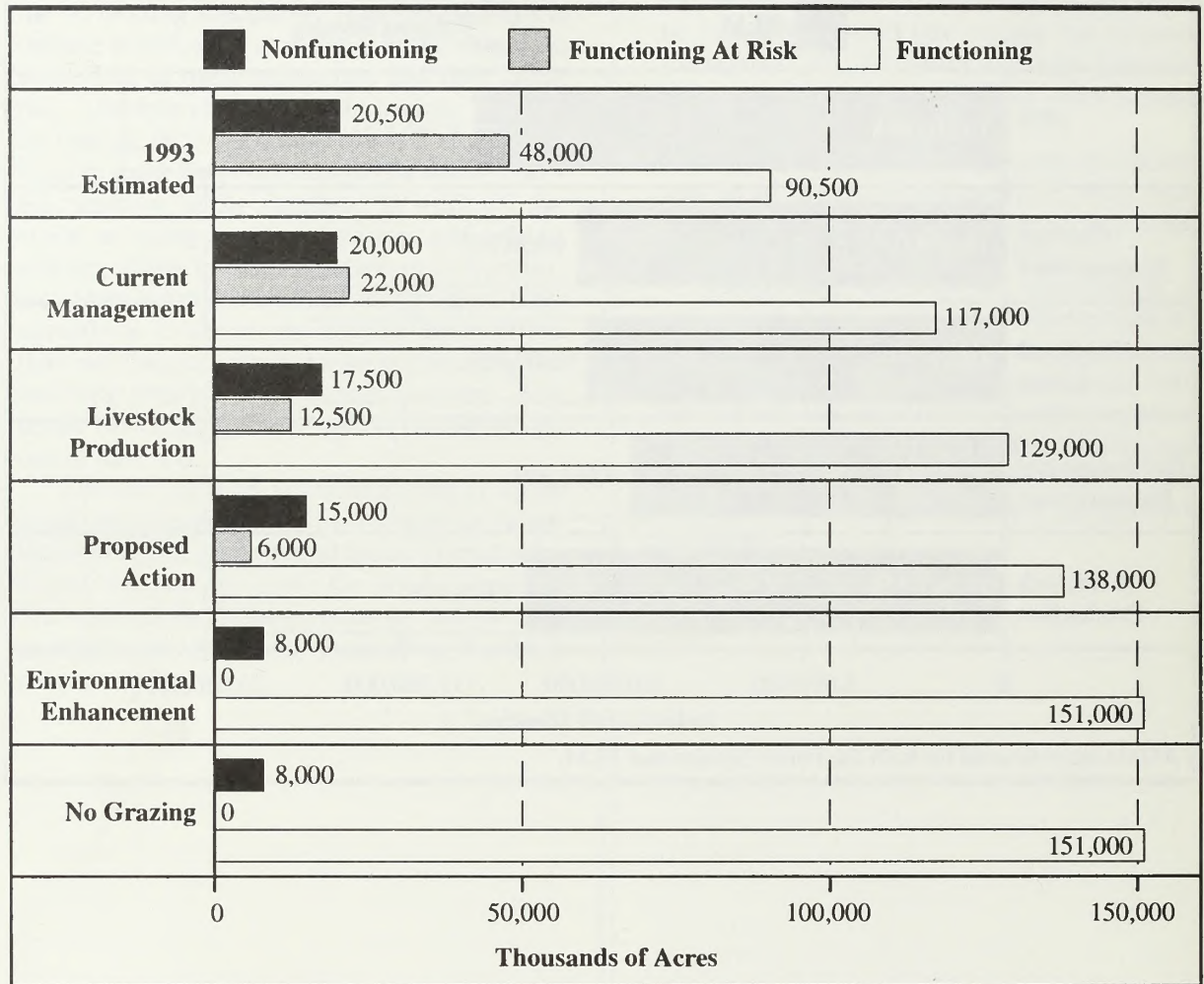
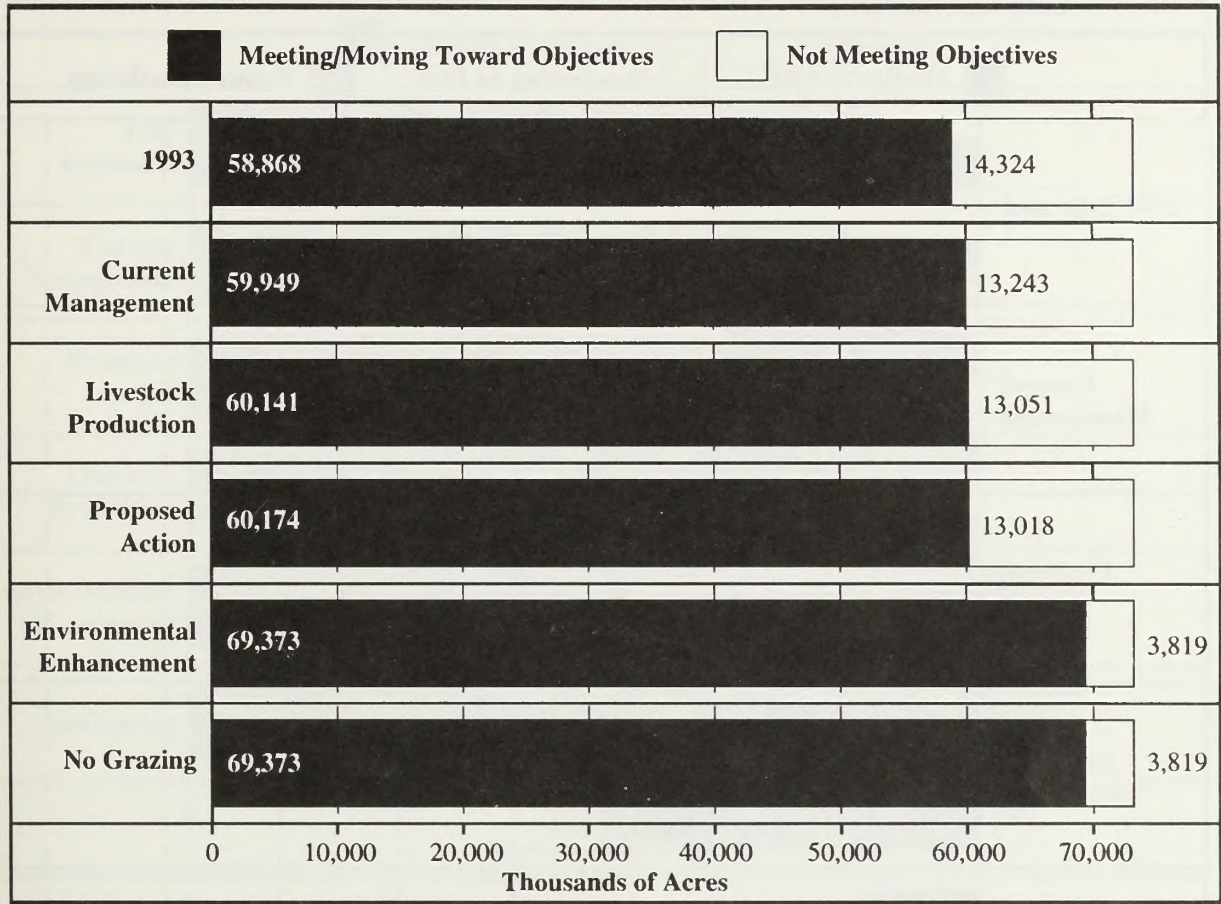






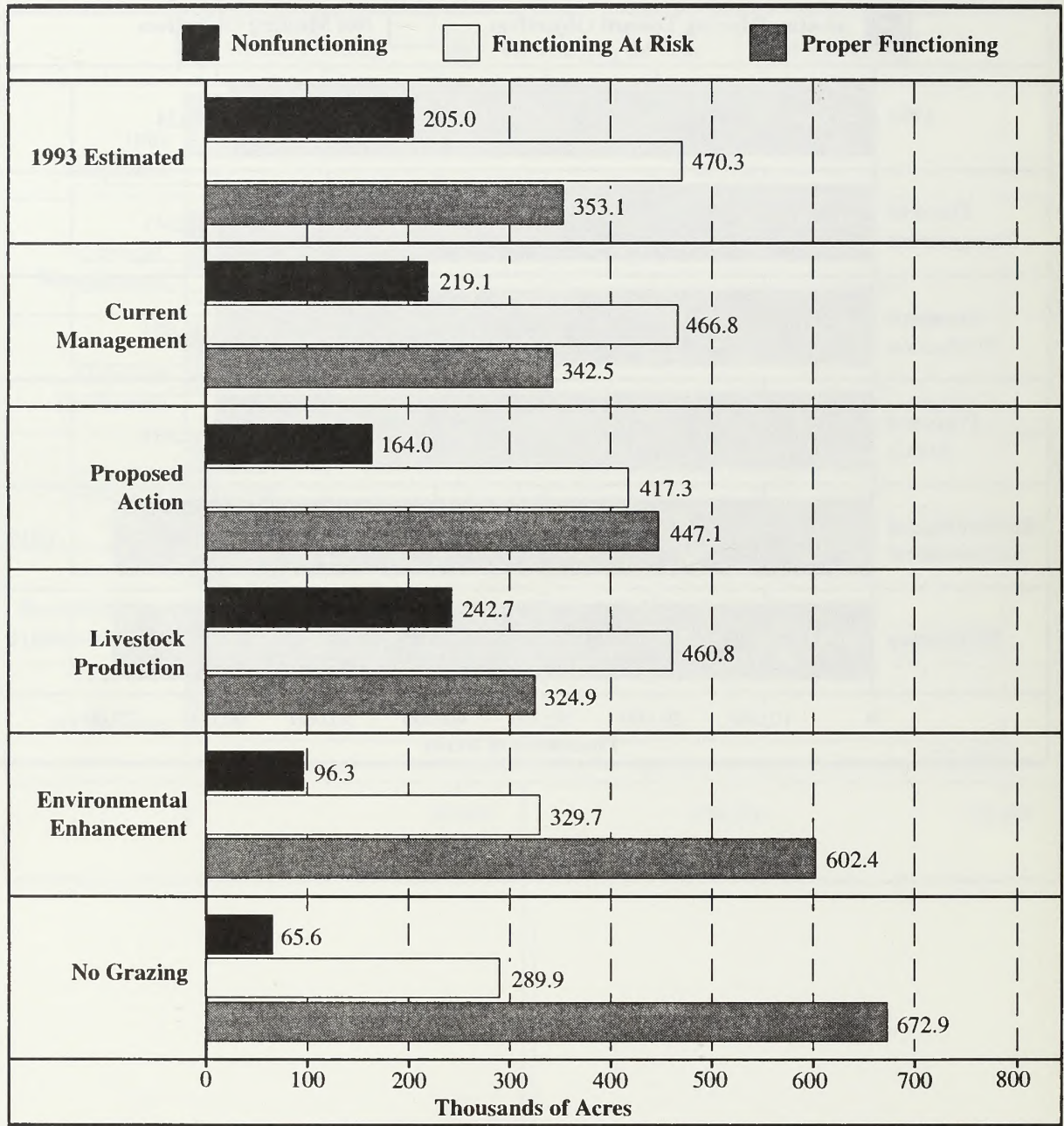
Figure S-7: Change in Status - Forest Service Uplands - Comparison of Alternatives - Long Term (20 years)







**Figure S-8: Changes in Functioning Condition - BLM Riparian - Comparison of Alternatives - Long Term (20 years)**





**Figure S-9: Change in Status - Forest Service Riparian - Comparison of Alternatives - Long Term**

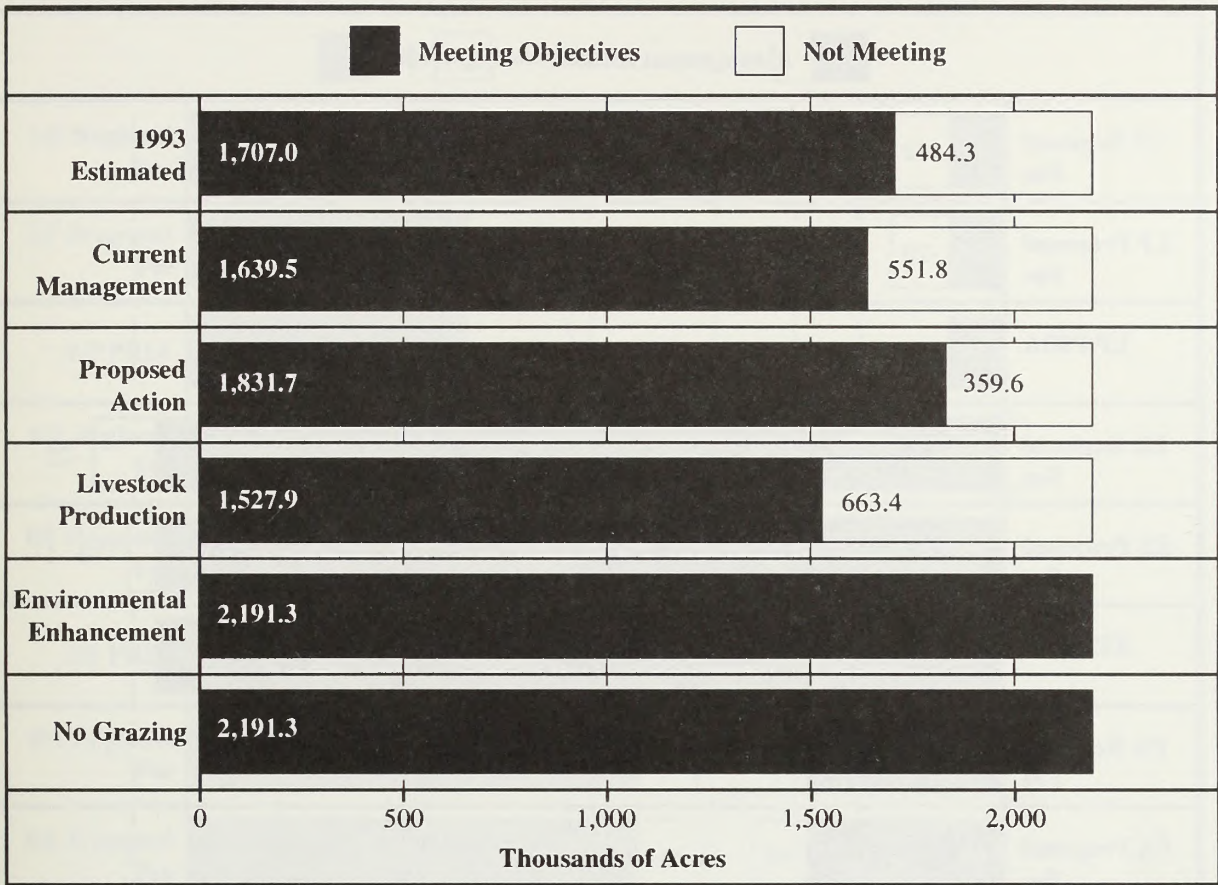
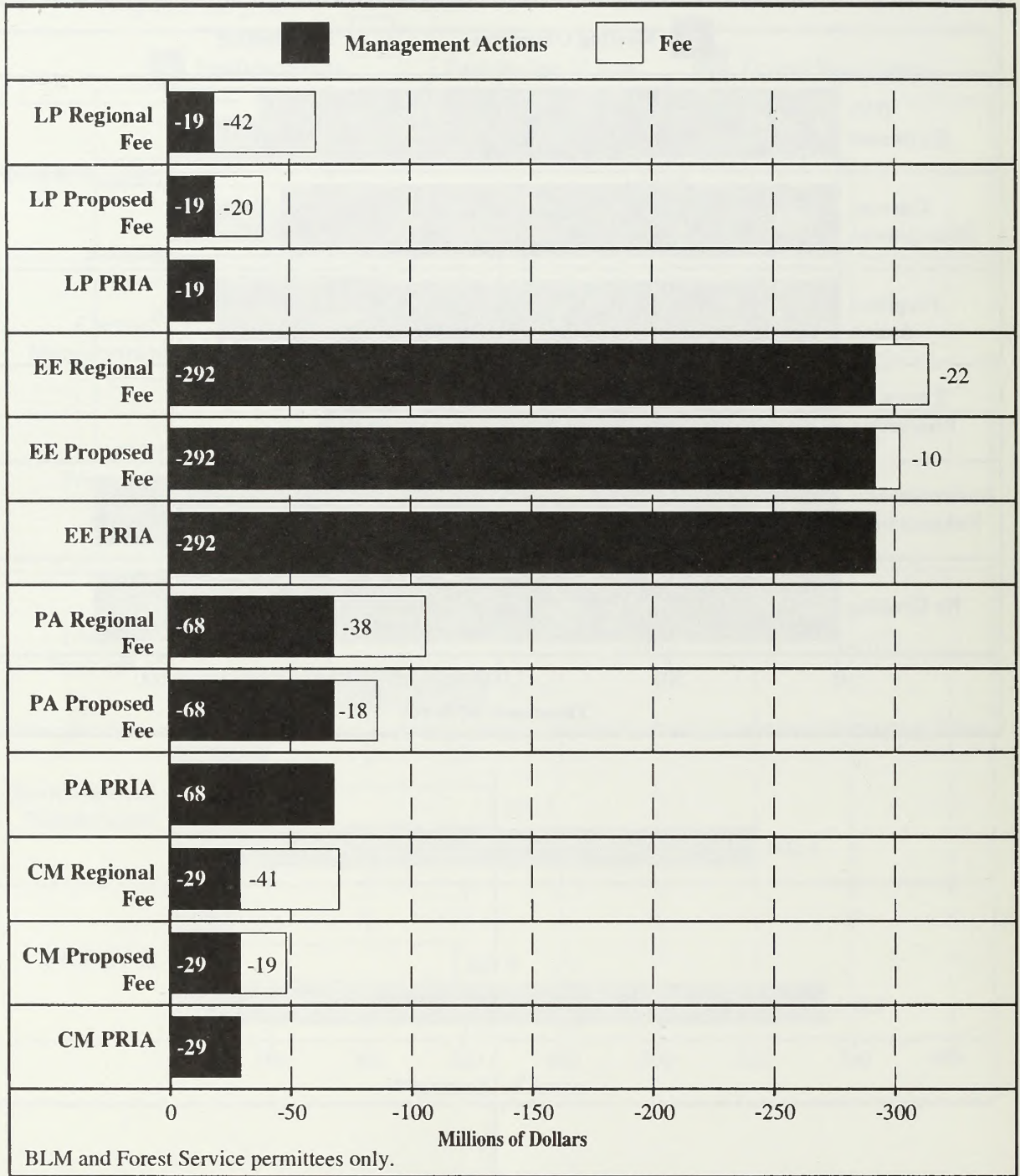




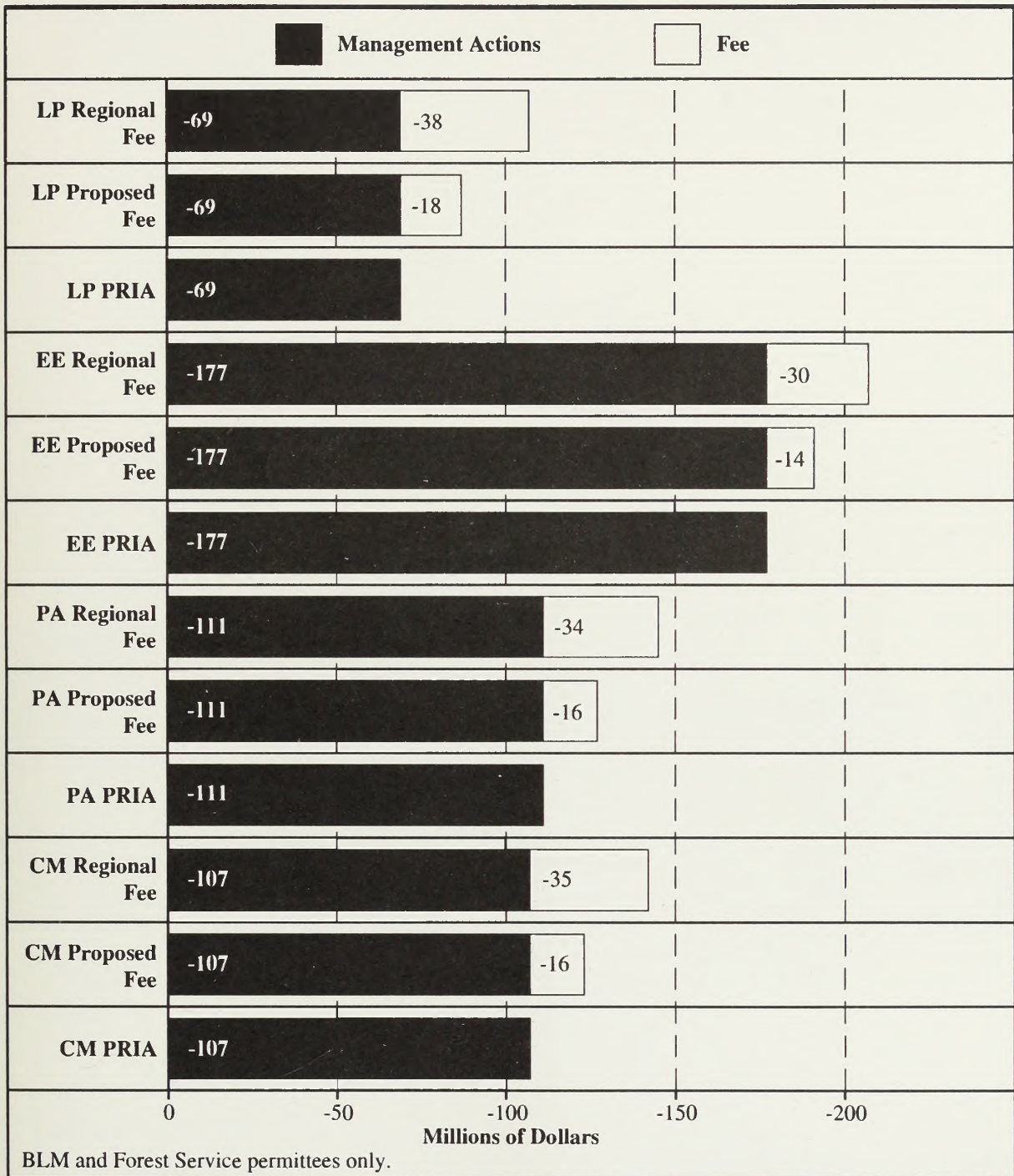


Figure S-10: Reductions in Livestock Industry Income - Comparison of Impacts - Short Term (5 years)





**Figure S-11: Reductions in Livestock Industry Income - Comparison of Impacts - Long Term (20 years)**



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