In this Draft Environmental Impact Statement (DEIS) the Bureau of Land Management (BLM) considers the effects of a proposed rulemaking to amend the regulations governing livestock grazing on public land. The BLM, and all Federal agencies, are required by the National Environmental Policy Act (NEPA) to prepare an EIS if a proposed action has effects that are expected to be significant and that are not fully covered in an existing EIS.

1.1.1 Laws Governing the BLM Grazing Program

1. The Taylor Grazing Act (TGA) of 1934
2. The Federal Land Policy and Management Act (FLPMA) of 1976
3. The Public Rangelands Improvement Act (PRIA) of 1978

These laws, among other things, mandate managing resources on public land in a way that maintains or improves its condition. The TGA directs that occupation and use of the range must be regulated to preserve the land and its resources from destruction or unnecessary injury, and to provide for the orderly use, improvement, and development of the range. FLPMA also provides authority and direction for multiple use and sustained yield of public land. PRIA established a national policy to improve the condition of public rangelands, required a national inventory and consistent federal management policies, and provided funds for range improvement projects.
The BLM administers its grazing program under 43 CFR 4100 of the Code of Federal Regulations (CFR). The regulations carry out the laws enacted by Congress. The grazing regulations have been amended numerous times over the years in big and small ways. The most recent large-scale change in the regulations came in 1995 in an effort known as Rangeland Reform.

Rangeland Reform '94, which was proposed in partnership with U.S. Department of Agriculture and the Forest Service, resulted in changes to BLM's grazing regulations in 1995. The broad purpose of Rangeland Reform was to improve ecological conditions while allowing for sustainable development.

One of the two most important changes of Rangeland Reform was to create Resource Advisory Councils (RACs) to allow for meaningful public participation in and advice to BLM resource management programs. The RACs replaced the BLM grazing advisory boards and district advisory councils, and were set up to represent diverse interests and employ consensus decision-making. The other important change was to create Standards and Guidelines for Grazing Administration in order to have measurable criteria to ensure the health of rangeland. These guidelines are based on fundamental measures of rangeland health such as water quality and plant communities. Once they are established for a geographical area, with the help of the appropriate RAC, significant progress toward achieving them must be achieved or management practices have to be changed by the next grazing season. Other changes from Rangeland Reform were:

- Penalties for certain prohibited acts including violations of laws protecting wildlife, archeological sites, and water quality were added.
- BLM would be able to reach nonmonetary settlements when unauthorized use is clearly unintentional, incidental, causes no resource damage, and where no substantial forage is consumed.
- Conservation use could be authorized for extended periods to meet resource condition objectives of existing land use plans and to comply with standards and guidelines. This enables permittees to rest an area for as long as 10 years for no fee while preserving their ability to resume grazing in the future.
- Water rights were made consistent with Forest Service practice and BLM policy before the early 1980s. New water rights for livestock grazing are to be acquired in the name of the United States to the extent allowed by State law.
- Title to new and permanent grazing-related improvements would be held by the United States. Permittee contributions toward improvement are to be recorded for future reimbursement should they cease to hold their permit or lease.
- BLM Range Improvement Funds would be distributed to be consistent with Forest Service policy and would apply to a wider range of activities to maintain and improve rangeland health. Under this provision, grazing fee receipts can be used to plan, design, build, and monitor the effectiveness of range improvement projects.
- Automatic suspension of appealed BLM grazing decisions was changed to conform with Department of the Interior regulations governing other BLM program decisions.
The BLM further administers the grazing program through internal policy guidance in its manuals and handbooks.

### 1.1.3 Land Use Plans

BLM's 162 land use plans provide the basis for every action and approved use that takes place on land the agency manages, and are created with the help of interested groups from the public and government. Every BLM Field Office must have one and grazing is an element in each.

Land Use Plans are designed to set goals for land use and future conditions that BLM and others believe are desirable. They also identify land for retention, disposal, or acquisition, and establish management direction for land that may come under BLM jurisdiction in the future.

FLPMA mandates land use plans and that the public must be involved to create them, and NEPA states that a "systematic and interdisciplinary" approach must be used to manage the environment.

In formulating land use plans, BLM follows the principles of multiple use and sustained yield, identifies and manages areas of critical environmental concern, considers effects on local economies, and relies on inventories of land and resources. It also considers present and potential public land uses, identifies scarce values and considers ways to increase their abundance, weighs the long-term versus the short-term benefits to the public, complies with applicable pollution laws, and coordinates with other governmental entities and tribes.

BLM uses a process to create or update land use plans which is fully integrated with the NEPA process and Council on Environmental Quality guidelines. The first major steps are to identify the issues with the help of the public, develop guidelines and decide what will be considered, and produce a report for the public. BLM then assembles inventory data, analyzes the characteristics and condition of the land and resources, and identifies and analyzes the effects of a range of reasonable action alternatives. From these alternatives, BLM identifies a preferred alternative and submits a Notice of Availability (NOA) of a Draft Plan–Draft Environmental Impact Statement, which the public has 90 days to review. Once the 90-day period ends, BLM analyzes and considers public comment and releases a NOA of Proposed Plan–Final EIS.

There then is a 30-day protest period and a concurrent 60-day Governor's review. Once any protests are resolved, BLM issues a NOA for the Record of Decision–Final Plan and implements plan decisions, and monitors the plan.

### 1.1.4 Overview of the Livestock Grazing Program
All allowed uses on BLM lands, such as grazing, are described in land use plans. Currently, these plans provide that about 160 million acres in the West are suitable for livestock grazing. The instrument that authorizes grazing use is called a grazing permit or lease. A BLM grazing permit or lease authorizes a permittee (or lessee) to graze livestock on one or more grazing administrative units called allotments. Permittees or lessees can be individual citizens or business entities such as corporations, associations and partnerships. Allotments range in size from small (1,000 acres or less) to vast (more than a million acres).

The Taylor Grazing Act in 1934, mandates the government to determine, for the western public lands, how much forage is available for livestock grazing, who should get the grazing permits, and how grazing is to occur. Congress said that preference to a permit should be given to nearby landowners engaged in the livestock business, settlers, those who owned water or water rights and other stockowners as necessary to permit the proper use of the owned land or water. Once this system was established, Congress intended that the grazing privilege was to be safeguarded as long as it comported with sound land management practices. This means that when a permit expires, provided grazing continues to be an appropriate use of the land, permittees who comply with their permits and other applicable rules and regulations should receive first priority for renewal of those permits.

The government developed a system to keep records regarding who has priority for grazing privileges on public land. Whoever owns or controls private property in land or water (known as base property) near the public grazing land in question has priority or "preference" and is granted the permitted grazing use. This system also allows for preference to be transferred from one property to another, or from one person to another.

The amount of forage that a permittee may graze on an allotment each year is called "active use" and the lessee or permittee is obligated to graze livestock at this level. When the owner or lessee of a base property applies for grazing use, they are issued a permit that specifies which allotment(s) are to be used, the number of livestock to be allowed, when they can graze, and other management terms and conditions. Often, there is an "Allotment Management Plan" (AMP) that describes in detail how grazing is to occur on a specific allotment, and these plans become part of the grazing permit or lease.

Sometimes operators do not wish to graze all of the active use allowed by their permits or leases. When this happens, BLM can temporarily authorize another operator to make that use through a nonrenewable permit or it can approve the nonuse to help conserve resources. In a good growth year, forage is temporarily available on the range that exceeds the amount of permitted use obligated to a permittee. When this happens, BLM may temporarily authorize grazing use that exceeds the established level of permitted use.

BLM allows operators to graze livestock owned by another entity on their permitted allotments. When this happens, they must submit a livestock control agreement to BLM and pay an extra fee.
BLM can cancel a permit or lease and the preference for the permitted use that was attached to the base property for grazing rules violations or when the base property owner fails to apply for the permitted use. This happens in few cases but when it does, BLM may award the forage to a new applicant.

Permits can also be issued through implementation of the Standards and Guidelines (S&G) process in which data (i.e., vegetation, watershed, wildlife, and others) are collected and a BLM interdisciplinary team analyzes them. The team also considers any other resource and land use plan issues and then determines if an allotment has met the standards for rangeland health.

If the standards aren't met, the BLM has until the next grazing season to ensure the allotment is significantly progressing toward meeting them. Whether an allotment does or does not meet a standard for rangeland health, the grazing permit is processed through an environmental assessment.

Another tool for maintaining or improving land conditions is to install rangeland improvement projects, such as water pipelines, reservoirs, or fences. Although permittees, the BLM, or conservation organizations can contribute funding or labor for these projects, title is held by the United States.

A permittee may request to not graze the land in any grazing year or season. Nonuse may be appropriate when the range is depleted, for restoring rangeland, for lack of forage or water, for resting the range, or for removing livestock. In the fiscal year ending in October 2002, there were 18,142 grazing permits or leases held on BLM land. Of 12.7 million Animal Unit Months (AUMs) within these authorizations, 7.9 million AUMs were in use and 4.8 million AUMs were in nonuse.

1.2 The Purpose and Need for the Proposed Action

1.2.1 General Purpose and Need

The present regulations are being amended to comply with court decisions, provide greater flexibility to managers and permittees, improve administrative procedures and business practices, promote community-based conservation and citizen-based stewardship of public land, and to provide for practical mechanisms to protect the rangeland.

The BLM is committed to making changes to reflect the Secretary of the Interior's "4 C's" philosophy of "consultation, cooperation, and communication all in the service of conservation" and to provide for economically viable ranching operations and rangeland health.

The regulatory changes are narrow in scope, make no changes in grazing fees or the standards and guidelines for assessing the health of the land, and otherwise leave the vast majority of the 1995 Rangeland Reform effort in place. These changes that are proposed are driven by specific issues and concerns that have come to BLM's attention.
With these proposed changes, BLM and the interested public can obtain better information about observed trends in the vegetative communities of the West. BLM can clarify some of the administrative processes so they are not a barrier to meaningful understanding about the issues. We hope to sharpen our focus on the issues that are truly in need of attention as we seek to conserve the rural landscapes of the West.

1.2.2 General Purpose and Need by Topic

Here we discuss the following major issues that drive the proposed rulemaking and this EIS, and the present problem or need that BLM intends to address. As stated before, these issues came to the fore as areas where the BLM could:

· Increase greater flexibility for managers and permittees
· Improve administrative procedures and business practices
· Promote community-based conservation and citizen-based stewardship of public land
· Comply with court decisions

The major areas of focus are:

(a) Social, Economic, and Cultural Considerations
(b) Implementation of Changes in Grazing Use
(c) Range Improvement Ownership
(d) Cooperation with State, Local, and County Established Grazing Boards
(e) Review and Comment on Biological Assessments
(f) Temporary Nonuse
(g) Noxious Plants
(h) Basis for Rangeland Health Determinations
(i) Timeframe for Taking Action to Meet Rangeland Health Standards
(j) Conservation Use
(k) Grazing Preference
(l) Interested Public
1.2.2.1 Social, Economic, and Cultural Considerations

NEPA and the NEPA regulations require that all Federal agencies use qualified people from the various scientific and social disciplines to perform analysis, such as Environmental Assessments, under this law. In addition to assessing effects on various environmental elements such as air and water quality, the law and NEPA regulations require the BLM to assess effects on economic, social, and cultural environments. No specific reference to these elements exists in the present BLM grazing regulations. As a result, current BLM practice is to always consider these elements, but not necessarily address them in the NEPA document if there is no effect on them. The question remains whether BLM should conform its grazing regulations to NEPA requirements by including language concerning the analysis of economic, social, and cultural effects, thereby enhancing consistency and clarity. Many grazing operators feel that these factors are not adequately considered by BLM and that they should always be part of the written analysis in NEPA documents.

1.2.2.2 Implementation of Changes in Grazing Use

When BLM implements changes in a permittee's active use, this is sometimes done within a timeframe that causes a sudden adverse economic effect, reduces the ability to make operation adjustments, or does not allow enough time for a herd to be rebuilt. Prior to the 1995 Rangeland Reform changes, there was a 5-year phase-in period in the regulations for the implementation of such changes.

1.2.2.3 Range Improvement Ownership

The regulations that went into effect in 1995 said that title to new range improvements belongs to the Federal government, even if a grazing user builds them. This was meant to conform with the common law concept that title to improvements should go to the landowner, which in this case is the Federal government. This change was meant to conform to the practice of the Forest Service and to BLM's own practice before changes took place in the early 1980s. However,
many grazing operators have said that having range improvements jointly owned by the Federal
government and the operator contributes to healthy range conditions and allows them to more
easily obtain loans for their operations. They also say that joint ownership would offer
incentive for operators to construct improvements, and that the current situation leaves them
with little incentive to invest in improvements if they can't claim the value of their contribution
when they sell their base ranch.

1.2.2.4 Cooperation with State, Local, and County Established Grazing Boards

The current grazing regulations provide that the BLM will cooperate with other agencies and
units of government that have responsibilities for grazing on public lands, and specifically
states that the BLM will "cooperate with State, county, and Federal agencies in the
administration of laws and regulations relating to livestock, livestock diseases, sanitation, and
noxious weeds including (a) State cattle and sheep sanitary or brand boards........and (b) County
or other local weed control districts......"

Most western States have State, county or locally established grazing advisory boards that
provide guidance on range improvements on public lands. Section 401 (b)(1) of FLPMA states
that a portion of the grazing fees collected are set aside for range betterment. After BLM
consults with the local user representatives, which generally usually include the grazing
boards, half the fee amount is to be used in the area where the fees were collected for range
rehabilitation, protection, and improvements.

Grazing interests and State and local governments have raised concerns that the grazing
advisory boards have not been used effectively by the BLM and are underutilized as a tool for
gathering local input for BLM decisions on range improvements and allotment management
planning.

1.2.2.5 Review and Comment on Biological Assessments

When Biological Assessments are included within the body of information that is used to
support changes in grazing permits, we will make these assessments available for comment and
review by the affected permittees and lessees, the interested public and State agency staff. (Re-
check with Ken for reasons for this change)

1.2.2.6 Temporary Nonuse

Before the 1995 Rangeland Reform changes a permittee could choose to hold an allotment in
nonuse of grazing for personal or business reasons for the entire length of the permit if need be.
Under those regulatory changes, a permittee could hold an allotment in nonuse for the entire
length of the permit under the newly created Conservation Use Permit. Therefore, in order to
provide for temporary nonuse when a permittee did not want a Conservation Use Permit, the
1995 regulations provided for the BLM the authority to authorize a maximum of 3 years of no
grazing of an allotment for conservation or other purposes. However, since Conservation Use
Permits were declared illegal by the 10th Circuit, thus eliminating that avenue for continued nonuse after three years, permittees must now begin grazing operations after three years regardless of the health of the land. Many conservation and restoration actions require more time to accomplish their objectives. Therefore, there is a need for a mechanism to allow for more time to ensure the health of rangelands.

1.2.2.7 Noxious Plants

Under current regulations, there is no provision to penalize the knowing or willful spreading of noxious plants on public land.

1.2.2.8 Basis for Rangeland Health Determinations

The current regulations do not explain how the BLM decides that existing grazing management practices or levels of grazing use on public land are significant factors in failing to achieve the rangeland health standards and conform with the guidelines for grazing administration.

1.2.2.9 Timeframe for Taking Action to Meet Rangeland Health Standards

The BLM has environmental standards for ensuring the health of rangeland within geographic regions at least the size of a State. The agency engages in monitoring and evaluation to make certain that these standards and the guidelines, which grazing operators are to follow to meet them, are resulting in a healthy range. If BLM determines that operators' grazing practices within a region are significant factors resulting in range standards not being met or that guidelines are not being conformed to, it must, under the current regulations, ensure that appropriate action is taken before the start of the next grazing season. This time frame has proven to be too short in many instances, especially given that NEPA and other environmental laws must be satisfied.

1.2.2.10 Conservation Use

The 1994 Rangeland Reform regulations authorized that the BLM could issue "Conservation Use Permits" to groups or individuals for the purpose of not grazing livestock on their allotment. The issue was challenged in court, with the result that the Tenth Circuit Court of Appeals held that the Taylor Grazing Act stipulated that the primary purpose of issuing a grazing permit is to permit grazing and that BLM could not issue permits exclusively for conservation purposes. This decision was not appealed to the Supreme Court and thus is the final judicial determination on this issue. Therefore, the current regulations do not conform with the court's finding.

1.2.2.11 Grazing Preference

In the current regulations, grazing preference has been defined since 1995 as a priority position against others for the purpose of receiving a grazing permit or lease. This priority is attached to base property owned or controlled by the permittee or lessee. The livestock industry feels that this definition should be changed because the Taylor Grazing Act intended the term to specify a
preference level of Federal AUMs of livestock forage to ranchers who have qualified for grazing permits and leases.

1.2.2.12 Interested Public

The current regulations define “interested public” as an individual, group, or, organization that has: (a) submitted a written request to the BLM to be provided an opportunity to be involved in the decision-making process for the management of livestock grazing on a specific allotment, or (b) has submitted comments to BLM regarding the management of livestock grazing on a specific allotment. This definition has resulted in BLM staff being overburdened with a “interested public” workload that interferes with their ability to manage grazing day-to-day. In some cases, this has caused scarce BLM staff resources to primarily manage and process interested public requests for participation, such as organizing and updating mailing lists, and taking care of logistics for group “field tours” rather than on everyday grazing management matters such as monitoring resource conditions.

1.2.2.13 Water Rights

The present regulation on water rights for livestock grazing is unnecessary, somewhat ambiguous, and does not allow as much flexibility as possible. In 1995, the BLM added a provision to the regulations that stated that such rights would be sought solely in the name of the United States under State water law. This was added because BLM wanted to: (1) clarify its policy, and (2) make its policy consistent with that of the Forest Service. BLM explained in the 1995 rulemaking that seeking water rights under State law had been its policy since 1981, and it would not be creating any new Federal reserved water rights or affecting valid existing rights.

The present regulation is unnecessary for the following reasons:

- Exception for Federal reserved water rights for Public Water Reserves, livestock watering rights are not Federal rights. They are State-based rights that require the United States, like any other entity, to comply with State substantive and procedural requirements to obtain them.
- It is somewhat ambiguous because it states that grazing water rights will be sought solely by the United States, but while BLM has done this, it has also obtained joint rights with permittee. It has also obtained water rights in other ways. The 1995 rulemaking acknowledged these other ways of obtaining water rights, but the regulation itself appears to limit BLM to obtaining rights in the name of the United States only.
- It is not needed because BLM can obtain state-based water rights under State law without it. Depending on the requirements of the State where the land is located, BLM can obtain water rights for livestock watering purposes in a number of ways. (Bill Brookes needs to review this in light of the Nevada legislation)

1.2.2.14 Satisfactory Performance
BLM must determine whether applicants who apply for a new grazing permit or lease have a satisfactory record of past performance. BLM may find that operators have an unsatisfactory record by, among other ways, recognizing that an operator has had a Federal grazing permit or lease or a State grazing permit or lease cancelled for a violation. The cancellation must have taken place in the 36 months immediately before the operator applies for a Federal permit or lease for land within the same grazing allotment where the cancellation applied. Determinations of unsatisfactory performance in cases such as these are complicated by the wording of the current regulations. This is because the wording is too broad and this has resulted in BLM offices coming to different conclusions as to which actions ought to be considered violations, especially that some offices have identified certain actions not related to grazing activities to be violations.

1.2.2.15 Temporary Changes Within Terms and Conditions of Permit or Lease

The current regulations state that changes within the terms and conditions of the permit or lease may be granted by the BLM and that applications for such use filed after billing notices are subject to a service charge.

1.2.2.16 Service Charges

Regulations allow BLM to assess a service fee for processing each crossing permit, transfer of grazing preference, and cancellation and replacement of a grazing fee billing. Under FLPMA, these service charges should reflect BLM's processing costs and should be adjusted periodically as costs change. A $10 service fee currently is assessed for each of the above actions. This fee does not cover BLM's costs to provide these services.

1.2.2.17 Prohibited Acts

Regulatory changes from 1978 through the 1995 Rangeland Reform regulatory amendments established several prohibited acts that are part of the current regulations. Currently, there are certain acts, such as a violation of the clean water laws related to one's grazing operation, for which a grazing permittee can be cited both by BLM under the grazing regulations and the agency having primary jurisdiction over federal water pollution laws. This system of a layering of violations is considered by many grazing operators to be unfair and not helpful to enhanced enforcement of clean water laws. A BLM citation under these circumstances also carries the possibility that the grazing operator could lose his or her lease. Also, the current regulations provide no way to penalize permittees who knowingly spread invasive species of vegetation on public land. The BLM believes that its current discretionary application of this prohibited acts provision has not significantly improved the overall administration of the rangelands or the grazing program. Instead it has confused matters and increased potential for inconsistent application of the prohibited acts and the grazing regulation penalty provisions.

1.2.2.18 Grazing Use Pending Resolution of Appeals
Under current regulations, all BLM grazing decisions are implemented after the appeal period expires unless the Office of Hearings and Appeal or the Interior Board of Land Appeals stays the decision in response to a petition for a stay. The current regulations allow a petition for a stay to be filed by a permittee, lessee, or interested member of the public.

1.2.2.19 Biological Assessments (Blake Decision)

BLM must provide the permittee, the pertinent State, and the interested public an opportunity to review and comment on reports that are used to support decisions to make changes in grazing use. Such reports include biological assessments. Current regulations do not specifically address this review of biological assessments, which are prepared to comply with the Endangered Species Act, and this has resulted in uneven application of the review opportunity by BLM field offices. Additionally, according to the Blake Decision of the Interior Board of Land Appeals, biological assessments are considered proposed decisions subject to protest and appeal. This decision adds a significant workload to BLM staff to process protests and appeals, and causes further delay in processing changes in grazing use.

1.3 Scoping

1.3.1 Summary of Scoping

BLM published an Advance Notice of Proposed Rulemaking (ANPR) and Notice of Intent (NOI) to Prepare an EIS in the Federal Register on March 3, 2003. These notices requested public comment to assist BLM in the scoping process for both these documents. The comment period for both ended on May 2, 2003.

In the Notice of Intent to prepare the EIS, BLM stated that it was considering changes that would encourage partnerships in public land stewardship and establish new options for BLM and rangeland users in the administration and management of public land. It asked for comments on topics under consideration that were related to both the EIS and proposed rule. Copies of these two publications can be found in the appendix of this EIS.

BLM held four public meetings in March 2003 in Albuquerque, New Mexico; Reno, Nevada; Billings, Montana; and Washington, D.C., to take comments and suggestions for the proposed rule and the draft EIS.

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<tr>
<th>Approximate Attendance</th>
<th>Number of Speakers from the Public</th>
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<tr>
<td>Reno, Nevada</td>
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<td>Billings, Montana</td>
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<tr>
<td>Albuquerque, New Mexico</td>
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<td>Washington, D.C.</td>
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In addition to the above topics, public scoping identified the following areas of concern:

- Determination of what constitutes **satisfactory past grazing user performance** to obtain a new grazing permit or lease
- Who has **standing to appeal** a BLM grazing decision, and whether BLM decisions **adverse to a grazing applicant should automatically be suspended** during the time the appeal is being considered by the Department of the Interior.
- How long **temporary nonuse** should be granted
- Whether a **grazing permit or lease should be protected from expiring** before it can be renewed.
- How long BLM should have to make changes when **standards and guidelines for rangeland health are not being met**
- How much certain **service charges** should be

### 1.3.2 Results of Scoping

We received [8,139 comments as of June 17] on the ANPR and the NOI. Most of the comments were form letters opposing any changes to legislation passed in 1995. However, we received about 35 letters containing substantive comments from special interest organizations and State and Federal agencies.

In many cases, the comments submitted by interest groups echoed comments of other like-minded organizations. Their supporters also provided duplicate or similar comments.

Groups and individuals who opposed most or all of BLM’s proposals criticized BLM for initiating the proposed rulemaking “only in response to the desires of public lands ranching permittees who feel aggrieved by the Range Reform regulations BLM (adopted) in 1995.”

(Molly’s comments: A full text of comment letter and transcripts of the public meetings should also be available to the public...the most efficient method being on the internet. The complete summary of comments should also be available, probably as a separate document rather than as an appendix to the EIS.) (Once we decide how all this will be handled, we can explain that here.)

### 1.4 Rulemaking and EIS Process and Schedule

BLM usually drafts a proposed rule to respond to new legislation, a policy decision, or a court order. Federal rulemakings are governed by the Administrative Procedures Act which, among other things, gives the public, with some exceptions, the right to participate in the rulemaking process by commenting on proposed rules. When the BLM publishes a proposed rulemaking in the Federal Register, it sets a period of time (30 to 120 days) for the receipt of comments from the public. This period may be extended for good reason. All comments are considered by BLM and changes can be made to the final rulemaking based on comments received. The final rulemaking is also published in the Federal Register with the effective date of usually 30 days from the publication date. The rulemaking is then incorporated into the Code of Federal Regulations in the next yearly edition.
When a proposed action, including a proposed policy or legislative recommendation, is projected to have a significant effect on the quality of the human environment, an environmental impact statement must be prepared. An EIS is intended to provide decision makers and the public with a complete and objective evaluation of significant environmental effects, both beneficial and adverse, resulting from a proposed action and all reasonable alternatives. An EIS is a major vehicle for fulfilling the substantive environmental goals set forth in NEPA.

The EIS process includes:

- Providing for a public scoping period
- Conducting the analysis and preparing the draft EIS
- Issuing the draft EIS
- Analyzing the comments and preparing the final EIS
- Issuing the final EIS
- Reaching and recording the decision.

The purpose of scoping, among other things, involves the public and affected agencies early in the process and helps identify significant issues to be analyzed as well as alternatives and potential effects to be addressed.

(Insert graphic on EIS and Rulemaking process)

### 1.5 Relation to Other Policies, Programs, and Plans

The primary related element to this EIS is the Sustaining Working Landscapes (SWL) policy effort. This initiative recognizes that ranching has played a key role in the history and development of the American West, and it remains important to the livelihood of many families, to the social and cultural identity of the West, and to the economic vitality of Western rural communities. Rangeland also provides open space and wildlife habitat in the rapidly growing West.

The SWL consists of two components: one dealing with changes that would require revision of current grazing regulations, the other looking at new approaches that could be implemented within existing rules. This document is a part of the former.
As for the nonregulatory policy component, on March 25, 2003, the BLM announced the initiation of a public process to gather input on actions the BLM could take to achieve the goals of the Sustaining Working Landscapes initiative. The idea was to begin identifying means for improving the long-term health and productivity of the public lands through innovative partnerships with permittees and lessees within the current regulatory framework.

Twenty three public workshops were held in the west and one was held in Washington, D.C. At those workshops we introduced several concepts for consideration, including: Conservation Partnerships, Reserve Common Allotments, Voluntary Allotment Restructuring, Conservation Easements, and Endangered Species Mitigation. The public raised many valuable comments and legitimate concerns. As a result of the workshops as well as a national meeting of BLM Resource Advisory Council representatives held in Washington, D.C. in April, it was decided that we would benefit from more involvement and advice from our established advisory councils throughout the west before moving forward with this initiative.

Furthermore, we decided to not try to develop policy guidance – even in draft form – at this time. Rather BLM has reviewed the comments from the workshops and attempted to provide responses to many of the questions raised on some of the policy concepts we had identified.

(This will have to be updated before going to press. Not sure where we stand at the moment.)

The major changes, which can be made without regulatory revisions, are the following:

(1) Forming Conservation Partnerships with Grazing Permittees and Lessees.

Authorized under FLPMA, Conservation Partnerships allow permittees and lessees, to voluntarily enter into contracts or agreements with BLM to achieve upland recovery, riparian–wetland restoration, enhanced or improved water quality and quantity, improved wildlife or fisheries habitat, and listed species recovery. In return, conservation partnerships would allow permittees and lessees to seek grants to pay for labor and materials invested in conservation practices or provide increased management flexibility within agreed upon parameters.

(2) Voluntary Allotment Restructuring by Permittees to Improve Range Conditions.

Voluntary allotment restructuring involves merging two or more allotments in which one or more of the permittees or lessees agrees to temporarily not graze their livestock. The other permittees or lessees would then be allowed to graze their herds over the entire area, resulting in lighter grazing use. The goal is to improve range conditions while supporting permittee economic viability.

(3) Establishment of NonRegulatory Policy for Reserve Common Allotments.

Reserve Common Allotments would be managed as reserve forage areas to restore and recover rangeland. BLM would allow RCAs to be used by permittees and lessees who are engaged in rangeland restoration and recovery activities that require them to rest their customary allotments.
By temporarily shifting their livestock to RCAs, permittees and lessees would be able to rest their allotments while still meeting their economic needs.

(4) Promoting Conservation Easements to Protect Grazing Lands from Development.

Conservation easements are land-use restrictions that landowners voluntarily place on property to advance conservation goals. In many areas of the west, land ownership patterns are intermingled among State, private, Federal and other entities. In some areas, small parcels of public land managed by the BLM are completely surrounded by larger parcels of private land, which leads to an unmanageable situation. Often these small parcels of public land are identified in agency land use plans for disposal. Under this concept, prior to disposal, BLM would place a conservation easement on the small parcel. In exchange for the value of the small parcel with the conservation easement, the owner of the adjacent private land would place a similar conservation easement on their surrounding private land. The results would be larger blocks of land that would preserve the conservation values in accordance with the covenants of the conservation easement.

(5) Encouraging Creative Ways to Achieve Endangered Species Act Objectives.

The above elements all provide options to mitigate affects to listed species resulting from livestock grazing. For example, Conservation Partnerships could be used to restore rangelands, which benefit listed species. RCAs are intended to be grazed intermittently, but not to a point inconsistent to their long-term conservation objective. Restructured allotments incorporate forage reserves for grazing. Conservation easements automatically include mitigating factors for some listed species. Mitigation banks could also be an option under these concepts. They would permanently preserve or create listed species habitat, and then use that habitat as a source of mitigation credits to be sold to other land users to mitigate land development effects on listed species as required by the Endangered Species Act.

The needs that these policies are intended to rectify are the following:

(1) The BLM needs a simple way for permittees to enter into agreements to restore rangelands without halting grazing activity, (2) there should be more ways for those outside the ranching industry to partner with ranchers to meet range recovery and restoration goals on land units larger than a single allotment, more incentives are needed for livestock operators to participate in forage recovery efforts, (3) because it is difficult for operations to be economically viable while also pursuing rangeland recovery and restoration, (4) building on open space threatens the ability of the BLM to properly manage public lands and undermines sustainable livestock operations, and (5) there should be more ways to resolve conflicts that arise when listed species under the Endangered Species Act conflict with livestock use, while both satisfying environmental objectives of conservation groups and economic needs of livestock operators.

Other efforts related to this proposed EIS are:

Healthy Forest Initiative
The Healthy Forests Initiative is a regulatory and legislative initiative that aims to reduce unnecessary regulatory obstacles and allow for more effective and timely forest health actions. It will speed forest and woodland thinning as well as rangeland treatments. The Initiative will also shorten the time for appeals of forest health decisions, expedite Endangered Species Act consultations, and streamline environmental assessments. These measures will help protect grazing lands from devastating wildfires caused by excessive forest fuel buildup.

The objective is to reduce unnecessary red tape and the endless delays that have often brought fuels treatment projects to a standstill.

The new procedures preserve the principle of partnerships with local communities and interests. Most fuels treatment projects carried out under the Healthy Forests Initiative will use a collaborative process that includes all stakeholders and partners at the local level.

National Fire Plan

The Department of the Interior and the Forest Service are collaborating on the implementation of the National Fire Plan. The agencies have installed tracking and reporting mechanisms to provide accountability as accomplishments are made in firefighting, rehabilitation and restoration, hazardous fuels reduction, community assistance and research.

The National Fire Plan is a long-term investment that will help protect communities, natural resources, and the lives of firefighters and the public. It is a long-term commitment based on cooperation and communication among federal agencies, States, local governments, tribes and interested publics.

Like the Healthy Forests Initiative, an integral element of the National Fire Plan is to reduce excess forest fuels, which contribute to catastrophic fires and can harm adjoining grazing land.

Vegetation EIS

The BLM is preparing a national programmatic EIS to update and replace four existing EISs for 13 western States, and to analyze vegetative treatments in four other western States and Alaska. Under the proposed action, up to six million acres would be treated annually using such methods as prescribed fire, herbicides and biological control agents, and mechanical and manual extraction.

As part of the EIS, the BLM will also evaluate the potential risks to humans, fish, and wildlife from several new herbicides that were not evaluated in earlier EISs, but that it would like to use. The BLM will also develop protocols as part of the EIS that will allow it to evaluate risks from chemicals that may be developed in the future.

The vegetation EIS will analyze restoration activities prescribed fire, understory thinning, forest health treatments, or other activities related to restoring fire-adapted ecosystems.
1.6 Format of this Environmental Impact Statement

This EIS is set out in five chapters, plus appendixes, as follows:

- **Chapter I, Purpose and Need** outlines, in basic fashion, the purpose and need for the EIS, the background of the grazing program and relevant recent events, a description of public scoping, a discussion of primary issues, a description of the proposed action and the alternative, effects that were analyzed, issues that were not addressed, and a description of the EIS process.

- **Chapter II, Description of the Proposed Action and Alternatives** describes the proposed action and the alternatives.

- **Chapter III, Affected Environment** describes the environment that is affected by the issues and actions discussed in this EIS. The environment is described both generally and by specific elements, such as air quality and economics.

- **Chapter IV, Environmental Consequences** describes the effect of the proposed action and the alternative on the affected environment cumulatively and by individual element. It also discusses assumptions and analysis guidelines that were used to make these findings.

- **Chapter V, Consultation and Coordination** describes consultation that was done during the preparation of the EIS and public participation, and lists the preparers of the document.

- **The Appendixes** contain detailed methodologies used and other further documentation regarding EIS issues.

CHAPTER 2. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Chapter 2 contains detailed descriptions of the grazing regulation alternatives. These alternatives provide an array of options that respond to both the purpose of and need for regulatory changes and the issues and concerns raised in scoping as discussed in Chapter 1. The alternatives include: Alternative 1—No Change in Regulations, which is also known as the “No Action” Alternative (Section 2.1); Alternative 2—the Proposed Action, which presents the BLM’s proposed amendments to the regulations (Section 2.2); and Alternative 3—the Modified Action Alternative, which is similar to the proposed action with some modifications (Section 2.3). The regulatory alternatives address 19 key elements as follows:

- Social, Economic and Cultural Considerations in the Decision-Making Process
- Implementation of Changes in Grazing Use
- Range Improvement Ownership
- Cooperation with State, Local, and County Established Grazing Boards
- Review and Comment on Biological Assessments
- Temporary Nonuse
- Introduction or Spread of Noxious Plants
Alternatives considered but not analyzed in detail are presented in Section 2.4. These alternatives include some proposals that were initially considered by the BLM as well as recommendations from the public. The rationale for not considering these alternatives is discussed.

A comparison of all alternatives by key elements is presented in Section 2.5, Table 2.5, of this Chapter. In Section 2.6, Table 2.6, a summary comparison of effects across the alternatives is presented.

See Appendix A for a highlighted strike-and-replace version of the proposed regulations and Appendix B for a side-by-side comparison of the text of the existing and proposed regulations.

In addition to the key elements identified above, there are some additional text clarifications and minor modifications. These latter changes are shown in the strike-and-replace and side-by-side versions of the proposed rule.

2.1 ALTERNATIVE 1: NO CHANGE IN REGULATIONS (NO ACTION)

The regulations that direct BLM in administering their rangeland management program are found in 43 Code of Federal Regulations (CFR) 4100. The objectives of these regulations are to:

1. Promote healthy sustainable rangeland ecosystems;
2. Accelerate restoration and improvement of public rangelands to properly functioning conditions;
3. Promote the orderly use, improvement, and development of the public lands;
4. Establish efficient and effective administration of grazing of public rangelands; and
5. Provide for the sustainability of the western livestock industry and communities that are dependent on productive, healthy public rangelands.

Under the “No Action” alternative there would be no change in the regulations and BLM would continue to operate in accordance with existing regulations and policies. The following are the key elements of the present regulations that are addressed in this Proposed Rule–Draft EIS.
2.1.1 Social, Economic, and Cultural Considerations in the Decision-Making Process

The existing grazing regulations do not contain language specifically addressing the need for compliance with the National Environmental Policy Act (NEPA) of 1969 (Public Law 91-90; 42 U.S.C. 4321 et seq.) nor do they explicitly require the BLM to document consideration of social, economic or cultural issues in the making decisions on changes in grazing use.

However, all grazing decisions are subject to compliance with NEPA. NEPA compliance requires the BLM to use a systematic interdisciplinary approach which ensures the integrated use of natural and social sciences and the design arts in planning and decision-making affecting the human environment. Environmental analyses prepared under NEPA are required to address the effects of proposed actions and alternatives considered. Effects are defined under NEPA to include ecological, aesthetic, historic, cultural, economic, social, or health effects, whether direct, indirect, or cumulative (40 CFR 1508.8).

2.1.2 Implementation of Changes in Grazing Use

As indicated in the present grazing regulations, at §4110.3-3, after all consultation requirements are fulfilled, reductions in grazing use must be implemented through a documented agreement or by decision of the authorized officer. Such decisions must be issued as proposed decisions subject to the provisions of §4160.1, except where immediate protection of resources or imminent likelihood of significant resource damage necessitates full force and effect grazing use closures or modifications. There are no further regulatory requirements on how decisions to reduce use are implemented.

2.1.3 Range Improvement Ownership

Range improvement projects are categorized as either “structural” or “nonstructural”. Structural range improvements may be either “permanent” or “temporary”. Examples of permanent structural range improvements include fences, wells, pipelines, guzzlers, and gabions. Examples of temporary structural range improvements include dip tanks, loading chutes, or portable water troughs. Nonstructural range improvements include vegetation treatments (spraying, vegetative seeding, chaining, and others). Either a “Cooperative Range Improvement Agreement” or a “Range Improvement Permit” is used to authorize construction of range improvement projects on lands administered by the BLM (§4120.3-1).

“Cooperative Range Improvement Agreements” are used when the BLM and the livestock permittee or lessee cooperatively cost share the labor, equipment, or materials to build the project (§4120.3-2(a)). In such instances, the “Cooperative Range Improvement Agreement” outlines the costs contributed by each party and responsibilities for building and maintaining the improvement. Under the present regulations, title is held in the name of the United States to all permanent range improvements such as fences, wells, and pipelines authorized under “Cooperative Range Improvement Agreements” after August 21, 1995 (§4120.3-2(b)). All new
permanent water developments such as spring developments, wells, reservoirs, stock tanks, and pipelines are required to be authorized under a “Cooperative Range Improvement Agreement.”

A “Range Improvement Permit” is used to authorize removable range improvements where all costs of the project are borne by the livestock permittee or lessee (§4120.3-3). Under the present regulations, permittees or lessees may hold title to temporary (removable) structural range improvements such as corrals, creep feeders, portable water troughs placed on public lands under permit (§4120.3-3(c)).

Permittees or lessees hold a financial interest in proportion to their contribution for permanent structural and nonstructural range improvements even though they do not hold title. If a grazing permit or lease is cancelled in order to devote the public lands to another public purpose, the permittee or lessee shall receive reasonable compensation from the United States for the adjusted value of their interest in the authorized improvement. Where a range improvement is authorized by a range improvement permit, the livestock operator may elect to salvage material owned by them and perform rehabilitation measures necessitated by that removal rather than be compensated for the adjusted value (§4120.3-6).

The present regulations state, at §4120.3-1(e), that a “Cooperative Range Improvement Agreement” or “Range Improvement Permit” does not convey to the permittee or cooperator any right, title, or interest in any lands or resources held by the United States. Furthermore, range improvement work performed by a cooperator or permittee on the public lands does not confer the exclusive right to use the improvement or the land affected by the range improvement work (§4120.3-2(d)).

2.1.4 Cooperation with State, Local, and County Established Grazing Boards

The present regulations include a provision (§4120.5-2) stating that, in managing the grazing program, the BLM will cooperate with involved agencies and governmental entities. Such cooperation is limited to those agencies and governmental units that have programs and responsibilities involving grazing on public lands. Such cooperation must be consistent with applicable laws of the United States. Cooperation is required with State, county, and Federal agencies in the administration of laws and regulations relating to livestock, livestock diseases, sanitation, and noxious weeds. Specific governmental agencies with which BLM must cooperate are cited in the regulations, including: State cattle and sheep sanitary or brand boards and County or other local weed control districts.

2.1.5 Review and Comment on Biological Assessments

Although the present regulations do not specifically mention biological assessments, they do require (in §4130.3-3) the BLM to provide affected permittees or lessees, States having lands or responsibility for managing resources within the affected area, and the interested public an opportunity to review, comment and give input during the preparation of reports that evaluate monitoring and other data that are used as a basis for making decisions to increase or decrease grazing use or to change the terms and conditions of a permit or lease. This would include
biological assessments. Thus under present regulations, BLM should be providing permittees, lessees, States, and the interested public with an opportunity to comment on and provide input to the preparation of biological assessments.

2.1.6 Temporary Nonuse

Under existing regulations at §4130.2(g), grazing permittees or lessees may submit an annual application for temporary nonuse for reasons including but not limited to financial conditions or annual fluctuations of livestock. Temporary nonuse is defined as the authorized withholding, on an annual basis, of all or a portion of permitted livestock use at the request of a permittee or lessee. Such use may be approved by BLM on an annual basis for no more than 3 consecutive years. Additional forage temporarily available as a result of authorized nonuse may be apportioned annually on a nonrenewable basis to qualified applicants (§4130.2(h); §4130.6-2).

2.1.7 Introduction or Spread of Noxious Plants

There are no provisions in the grazing regulations or elsewhere that specifically prohibit the introduction or spread of noxious plants. Although the BLM may include a term or condition in an authorization, for example, requiring the use of certified weed free hay (e.g., in a special recreation use permit for an equestrian event), there are no regulatory provisions for controlling and enforcing the introduction and spread of noxious plants.

2.1.8 Basis for Rangeland Health Determinations

Standards and guidelines for grazing management are developed by BLM State Directors in consultation with affected BLM resource advisory councils (§4180.2(b)). The standards and guidelines developed by State Directors must provide for conformance with the fundamentals of rangeland health set forth in 4180.1 of the grazing regulations. The fundamentals for rangeland health, as defined by BLM, include (1) watersheds that are in or are making significant progress toward proper functioning physical condition, (2) ecological processes that support or are making significant progress toward attaining healthy biotic populations and communities, (3) water quality that complies with State standards and achieves or is making significant progress toward achieving BLM management objectives and (4) habitats for Federal threatened and endangered species, Federal Proposed, Category 1 and 2 Federal candidate and other special status species that are maintained or restored or are making significant progress towards being maintained or restored (43 CFR 4180.1).

The BLM authorized officer is required to take appropriate action when a “determination” has been made that grazing management practices or levels of grazing use on public lands are significant factors in failing to achieve the standards and conform with the guidelines for grazing management (§4180.2(c)). There are no requirements under the present regulations on how those determinations are made.

2.1.9 Timeframe for Taking Action to Meet Rangeland Health Standards
If existing grazing management practices or levels of use are determined by the authorized officer to be significant causal factors in failing to achieve standards and conform with guideline for grazing administration, then the BLM must take appropriate action soon as possible but no later than the start of the next grazing year to initiate movement toward meeting the fundamentals (§4180.1(a) and §4180.2(c)).

This means that once the “determination” has been made, the BLM authorized officer must consult, cooperate and coordinate with the permittee or lessee, the State and the interested public on possible actions to achieve standards, must complete any NEPA analysis requirements and documentation, must comply with any other applicable laws and requirements (e.g., Section 7 consultation under the Endangered Species Act if the proposed action “may affect” a listed species), must issue a proposed and final decision subject to protest and appeal, and must implement the “appropriate action”—no later than the start of the next grazing year.

2.1.10 Conservation Use

The existing regulations define conservation use as an activity, excluding livestock grazing, on all or a portion of an allotment for purposes of (1) protecting the land and its resources from destruction or unnecessary injury; (2) improving rangeland conditions; or (3) enhancing resource values, uses, or functions (§4100.0-5). Provisions are included in the existing regulations for authorizing conservation use for as long as 10 years under certain conditions.

The provisions regarding conservation use were included in the 1995 grazing regulation amendments. These rules were challenged and in 1998 the 10th Circuit Court determined, and the Supreme Court upheld in 2000, that the Secretary did not have the authority to issue conservation use permits. Thus, though there are provisions in the present regulations, the BLM does not issue conservation use permits and no such permits are in place.

2.1.11 Definition of Grazing Preference, Permitted Use and Active Use

In the present regulations, grazing preference or preference is defined as a superior or priority position against others for the purpose of receiving a grazing permit or lease. This priority is attached to base property owned or controlled by the permittee or lessee (§4100.0-5).

Permitted use is defined as the forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease and is expressed in AUMS (§4100.0-5). Under present regulations, the term permitted use encompasses active use and suspended use.

Active use means present authorized use, including livestock grazing and conservation use. Because conservation use was determined to be illegal by the 10th Circuit Court (finding was upheld by the Supreme Court), active use encompasses only authorized livestock grazing use. Active use may constitute a portion, or all, of permitted use. Active use doesn’t include temporary nonuse or suspended use within all or portion of an allotment (§4100.0-5).
2.1.12 Definition and Role of the Interested Public

Under the present regulations, interested public is defined as an individual, groups or organization that has submitted a written request to the authorized officer to be provided an opportunity to be involved in the decision-making process for the management of livestock grazing on specific allotments or has submitted written comments to the authorized officer regarding the management of livestock grazing on a specific allotment (§4100.0-5).

Generally, under present regulations, whenever the BLM is required to consult, cooperate and coordinate with or seek review and comment from affected permittees or lessees or the State having lands or responsible for managing resources within the area, they are also required to do so with the interested public.

The following summarizes those instances where the BLM is required, under the present regulations, to consult, cooperate and coordinate with the interested public:

- Designating and adjusting allotment boundaries (§4110.2-4).
- Apportioning additional forage (§4110.3-1(c)).
- Reducing permitted use (§4110.3-3(a)).
- Emergency closures or modifications (§4110.3-3(b)).
- Development or modification of allotment management plan (§4120.2(a)).
- Planning of the range developments or improvement programs—Consult only (§4120.3-8(c)).
- Issuing or renewing grazing permit or lease (§4130.2(b)).
- Modifying a permit or lease (§4130.3-3)
- Issuing temporary nonrenewable grazing permits (§4130.6-2).

Under the present regulations, the BLM is also required to provide the interested public an opportunity to review and comment and give input during the preparation of reports that evaluate monitoring and other data used as a basis for making decisions to increase or decrease grazing use or to change terms and conditions of a permit or lease (§4130.3-3).

In addition, under the present regulations, the BLM is required to send copies of proposed and final decisions to the interested public (§4160.1(a) and §4160.3(b)).

2.1.13 Water Rights

Under the present regulations (§4120.3-9), any right acquired on or after August 21, 1995 to use water on public land for the purpose of livestock watering on public land shall be acquired, perfected, maintained and administered under the substantive and procedural laws of the State within which such land is located. To the extent allowed by the law of the State within which the land is located, any such water right shall be acquired, perfected, maintained, and administered in the name of the United States.
The BLM recognizes the key role of the States in grazing-related water rights issues. Generally, BLM applies for water rights under State law and protests private applications for water rights on lands administered by BLM. Where a water-related range improvement project is authorized under a Cooperative Range Improvement Agreement, BLM files as co-owner of the water rights, where allowed by State law. The BLM would apply for either sole or joint ownership of the water right for water-related range improvement projects authorized and constructed under a Range Improvement Permit.

2.1.13 Satisfactory Performance of Permittee or Lessee

Present regulations identify requirements for satisfactory performance which must be met by an applicants for renewal of existing or issuance of new permits and leases (§4110.1(b)).

For a renewal, an applicant must be in substantial compliance with the terms and conditions of the existing permit or lease and with the rules and regulations applicable to the permit or lease in order to be deemed to have a satisfactory record of performance. The authorized officer may take into account circumstances beyond the control of the applicant seeking renewal of a permit or lease in making determinations of satisfactory performance (§4110.1(b)(1)).

For a new permit or lease, an applicant shall be deemed not to have a record of satisfactory performance when: they have had any Federal grazing permit or leased cancelled for violations of the permit or lease within 36 months of their application; they have had any State grazing permit or lease, for lands within the grazing allotment for which they are applying, cancelled for violations within 36 months of their application; or they are barred from holding a Federal grazing permit or lease by order of a court (§4110.1(b)(2)).

2.1.15 Changes in Grazing Use Within Terms and Conditions of Permit or Lease

Under the present regulations, changes in grazing use within the terms and conditions of the permit or lease may be granted by the authorized officer (4130.4). The regulations identify the following applications for changes covered by this section: to activate forage in temporary nonuse or conservation use; to place forage in temporary nonuse or conservation use; to use forage that is temporarily available on designated ephemeral or annual ranges.

There are no regulatory provisions that define what is meant by “within the terms and conditions of the permit or lease.”

2.1.16 Service Charges

Regulations allow the BLM to assess a service fee for each crossing permit, transfer of grazing preference, application for solely nonuse and replacement or supplemental billing notice, except for actions initiated by the BLM (§4130.8-3). Pursuant to the Federal Policy Management and Policy Management Act of 1976 (43 U.S.C. 1734[a]), the service charge should reflect the processing costs and will be adjusted periodically as the processing costs change. The existing
26 regulations do not specify service charge. A $10 service charge is presently assessed for each action described above.

2.1.17 Prohibited Acts

Violation of any provision of the grazing regulations by a livestock permittee or lessee could lead to one of several civil actions on the part of the BLM. The BLM may (1) withhold issuance of a grazing permit or lease, (2) suspend grazing use authorized under a grazing permit or lease, in whole or in part, or (3) cancel a grazing permit or lease and preference in whole or in part (§4170.1). Some actions could also be subject to the penal provisions under the Taylor Grazing Act or the penal provisions under the Federal Land Policy and Management Act (§4170.2).

In Subpart 4140, the present regulations have several provisions dealing with the consequences of violations of certain specified prohibited acts. Some of the prohibited acts apply only to grazing permittees or lessees whereas others apply to anyone who violates those acts while on public lands administered by the BLM.

There are basically three different categories of "prohibited acts" in the present regulations.

The first category is set forth in §4140.1(a) and basically states that permittees and lessees that perform the prohibited acts listed under this section may be subject to civil penalties (e.g., cancellation of permit). Six prohibited acts are identified in this section including: violations of terms and conditions of permits or leases; failing to make substantial grazing use as authorized for 2 consecutive years; placing supplemental feed on public lands without authorization; failing to comply with terms, conditions and stipulation of cooperative range improvement agreements or range improvement permits; refusing to install, maintain, modify, or remove range improvements when so directed by the BLM; and unauthorized leasing or subleasing. This first category of prohibited acts is a major vehicle used by BLM to address grazing violations and to take direct action against permittees or lessees who are violating their permit.

A second category of prohibited acts are set forth in §4140.1(b). Any person (not just a permittee or lessee) who violates the eleven prohibited acts in this section will be subject to civil and criminal penalties. The prohibited acts identified in this section include: allowing livestock or other privately owned or controlled animals to graze on or be driven across public lands without a permit or lease and an annual grazing authorization or in violation of any authorization; installing, using, maintaining, modifying, or removing range improvements without authorization; cutting, burning, spraying, destroying, or removing vegetation without authorization; damaging or removing U.S. Property without authorization; molesting, harassing, injuring, poisoning, or causing death of livestock authorized to graze on these lands and removing authorized livestock without the owner’s consent; littering; interfering with lawful uses or users including obstructing free transit through or over public lands by force, threat, intimidation, signs, barrier or locked gates; knowingly and willfully making a false statement or representation in base property certifications, grazing applications, range improvement permit applications, cooperative range improvement agreements, actual use reports or amendments thereto; failing to pay any fee required by the authorized officer pursuant to the part, or making
payment of grazing use of public lands with insufficiently funded checks on a repeated and  
willful basis; failing to reclaim and repair any lands, property, or resources when required by the  
authorized officer; and failing to reclose any gate or other entry during periods of livestock use.  
The prohibited acts listed in this section provide some of the most important tools BLM uses for  
enforcement actions on BLM public lands.  

The third category of prohibited acts is identified in §4140.1[c]. Under this provision, the BLM  
may take civil action against a grazing permittee or lessee that violates these prohibited acts if  
the following four conditions are met: (1) public land is involved or affected; (2) the violation is  
related to grazing use authorized by a BLM-issued permit or lease; (3) the permittee or lessee  
has been convicted or otherwise found to be in violation of any of these laws or regulations by a  
court or by final determination of any agency charged with the administration of these laws; and  
(4) No further appeals are outstanding. For this category of prohibited acts, unlike the first two  
categories, the primary responsibility for enforcement rests with another Federal or State agency,  
not the BLM. Prohibited acts in this category include:  

(1) Violation of Federal or State laws or regulations pertaining to the placement of  
poisonous bait or hazardous devices designed for the destruction of wildlife; application  
or storage of pesticides, herbicides, or other hazardous materials; alternation or  
destruction of natural stream courses without authorization; pollution of water sources;  
illegal take, destruction, or harassment, or aiding and abetting in the illegal take,  
destruction or harassment of fish and wildlife resources; and illegal removal or  
destruction of archeological or cultural resources;  
(2) Violation of the Bald Eagle Protection Act, Endangered Species Act, or the regulations  
concerning the protection and management of wild horses and burros;  
(3) Violation of State livestock laws or regulations relating to the branding of livestock;  
breed, grade, and number of bulls; health and sanitation requirements; and violating  
State, county, or local laws regarding the stray of livestock to areas that have been  
formally closed to open range grazing.  

2.1.18 Grazing Use Pending Resolution of Appeals When Decision Has Been Stayed  
The BLM’s administrative remedies regulations are set forth in Subpart 4160 and describe in  
detail the procedures issuing and protesting proposed decisions (§4160.1 and §4160.2) and  
issuing appealing final decisions (§4160.3 and §4160.4). Procedures for requesting a stay of a  
final decision and allowable grazing use if a final decision is stayed is identified in §4160.3.  

When the Office of Hearing and Appeals stays a final decision regarding an application for  
grazing authorization, an applicant who was granted grazing use in the preceding year may  
continue a that level of authorized grazing use during the time the decision is stayed. This  
provision does not apply if the grazing use in the preceding year was authorized on a temporary  
nonrenewable basis. Where the applicant had no authorized grazing use during the previous  
year, or the application is for designated ephemeral or annual rangeland grazing use, the grazing  
use under the stay shall be consistent with the final decision pending a final determination on the  
appeal (§4160.3(d)).
When the Office of Hearing and Appeals stays a final decision to change the authorized grazing use, the grazing use authorized to the permittee or lessee during the time that the decision stayed shall not exceed the permittee’s or lessee’s authorized use in the last year during which any use was authorized (§4160.3(e)).

2.1.19 Treatment of Biological Assessments in the Grazing Decision-Making Process (Blake Decision)

The present regulations do not specifically address biological assessments. However, as previously indicated, the general requirement for BLM to provide an opportunity for review and comment and giving input on reports that evaluate monitoring and other data that are used as a basis for making decisions to increase or decrease grazing use or to change the terms and conditions of a permit or lease also applies to the preparation of biological assessments.

In practice, the BLM is now required to treat biological assessments as decisions subject to protest and appeal. In the 2002 Blake et al. v. Bureau of Land Management decision (156 IBLS 280 (2002)), the IBLA affirmed its ruling in a 1998 opinion that a biological assessment prepared under section 7 of the Endangered Species Act (ESA) for a proposed action to permit grazing must be treated as a BLM decision subject to the protest and appeal. Thus based on this IBLA ruling, biological assessments are defined as decisions under present regulations.

2.2 ALTERNATIVE 2: PROPOSED ACTION

Alternative 2 is the BLM’s Proposed Action which responds to the purpose and need described in Chapter 1 by changing certain elements of the agency’s present grazing regulations. The proposed changes are described below by element. In addition to the key elements, there are several nonsubstantive or editorial changes that would be made under this alternative. Nonsubstantive or editorial changes are shown in the strike and replace copy of the proposed regulations in Appendix A.

2.2.1 Social, Economic, and Cultural Considerations in the Decision-Making Process

The Proposed Action would add a provision in §4110.3 that would require BLM to document consideration of any effects of proposed changes in grazing use on relevant social, economic and cultural factors. Such documentation would be incorporated in the appropriate NEPA document.

2.2.2 Implementation of Changes in Grazing Use

The proposed regulation would modify how BLM would implement changes in active use. This modification to §4110.3-3 would provide that changes in active use of more than 10% would be phased in over a 5-year period unless the affected permittee or lessee agrees to a shorter period or the changes must be made before 5 years have passed to comply with applicable law. When possible, the 5-year phase in period for changes in active use would provide time for gradual operational adjustments by grazing permittees or lessees to lessen sudden adverse economic effect that may arise from a reduction, or to allow time to build their herd in the event of an
increase. This 5-year phase in period is similar to that as specified by the regulations in effect in 1994.

2.2.3 Range Improvement Ownership

The proposed action would require that title to all new permanent, structural grazing-related range improvements authorized under a Cooperative Range Improvement Agreement and constructed on public lands, or made to the vegetation resource on the public lands, except temporary or removable improvements, would be held jointly between the cooperator(s) and the United States in proportion to their initial contribution to on-the-ground project development and construction costs (§4120.3-2(b)). Such structural improvements include wells, pipelines, or fences constructed on BLM managed public lands. This would return the provision on how title for improvements constructed under Cooperative Range Improvement Agreements was shared before the 1995 change in regulations. Granting title to a structural improvement on public lands does not grant title to the underlying lands themselves. Cooperative Range Improvement Agreements will continue to include provisions that protect the interests of the United States in its lands and resources. The ownership of existing range improvements would not be affected.

Permittees would continue to own temporary structures such as dip tanks, loading chutes, or portable water troughs placed on public lands under a Range Improvement Permit.

2.2.3 Cooperation with State, Local, County Established Grazing Boards

BLM is proposing to amend §4120.5-2 by adding State, local, and county-established grazing boards to those groups we would routinely cooperate with in administering laws and regulations relating to livestock, livestock diseases, sanitation, and noxious weed eradication and control. In most States there are State, county, or locally established grazing advisory boards whose function is to provide guidance on range improvements on public lands.

2.2.5 Review and Comment on Biological Assessments

Under the proposed regulations at §4130.3-3, specific language is added stating that when a Biological Assessment, or other report prepared under the Endangered Species Act (ESA) is used to support decisions that modify grazing use, BLM must provide an opportunity to the affected permittee or lessee, the State, and the interested public to review and comment on the biological assessment while it is being prepared. Biological assessments are part of the informal consultation process that federal agencies undertake with the Fish and Wildlife Service to help determine if an action they propose, such as modifying a grazing permit or lease, is “likely to adversely affect” a listed or proposed species under the ESA. The informal consultation process provides the best opportunity for developing a proposed action that has no effect or “is not likely to adversely affect” a listed or proposed species.

2.2.6 Temporary Nonuse
BLM proposes to move provisions addressing approval of “temporary nonuse” from §4130.2 to §4130.4 and amend them to allow BLM to have the discretion to approve applications to temporarily not use all or part the grazing use authorized by a permit or lease on a year-to-year basis when the nonuse is warranted by rangeland conditions or the personal or business needs of the permittee or lessee. Events such as drought, fire or less than average forage growth typically result in “rangeland conditions” that will prompt the need for temporary nonuse of all or part of the grazing use allowed by the permit or lease. When the BLM and operator agree that rangeland conditions are such that less grazing use would be appropriate, BLM encourages operators, if they have not done so already, to apply for nonuse for “conservation and protection of rangeland resources.” This is the simplest way to temporarily reduce use to respond to rangeland condition needs. In some cases, approval of an application for temporary nonuse precludes the need for BLM to issue a decision to temporarily suspend use under §4110.3-3(b), although BLM retains the discretion to do this. “Personal and business needs” of the grazing operator are actions operators take in the course of managing their business, such as livestock sale, that result in temporary herd size reductions.

2.2.7 Introduction or Spread of Noxious Plants

BLM proposes to include a definition for noxious plants, aggressive nonnative plants that have become a significant environmental factor throughout the West, in the grazing regulations at §4100.0-5. BLM would define noxious plants as invasive and noxious weeds that infest large areas or cause economic and ecological damage to an area. The term noxious weed has legal ramifications in some States that maintain official lists of weeds they consider to be noxious or invasive.

BLM also proposes to add a provision making knowing and willful introduction of noxious plants onto BLM-managed public lands a prohibited act subject to civil or criminal penalties (4140.1(b)). BLM would give a citizen who unwittingly introduces such noxious weeds ample opportunity to remove the weed source to avoid a penalty. BLM would focus on educating the public about the effects of introducing noxious weeds and our authority to prohibit the knowing and willful introduction of such hazardous species. This provision would complement and support Executive Order 13112, Invasive Species, which clarifies that BLM must strive to prevent the introduction of invasive species of plants and animals.

2.2.8 Basis for Rangeland Health Determinations

Under the new regulations in §4180.2, determinations that existing grazing management practices or levels of grazing use are significant factors in failing to achieve standards and conform with guidelines would be based on the results of standards assessment and monitoring data. This would provide a minimum standard for the basis for rangeland health determinations.

2.2.9 Timeframe for Taking Action to Meet Rangeland Health Standards
To allow sufficient time to complete all consultation and other legally mandated requirements, the Proposed Action would require the BLM to formulate, propose, and analyze appropriate actions to address the failure to meet the rangeland health standards or to conform to the guidelines for grazing management no later than 24 months after the determination. The conclusion of this process would be documented by either execution of an applicable and relevant documented agreement or issuance of an applicable final decision. Following execution of an agreement or when all administrative appeals of the final decision have been resolved, the BLM would be required to take appropriate action to change the livestock management as soon as practicable but not later than the start of the next grazing year (§4180.2(c)).

BLM has certain specific requirements for consultation, cooperation and coordination prior to issuing any proposed decisions related to changes in active use, modifications of grazing permits and leases, changing of allotment boundaries, preparation and modification of allotment management plans and resource activity plans, and issuance of nonrenewable grazing permits and leases. Furthermore, as part of the planning and decision-making process, the BLM is required to comply with applicable laws and regulations, including but not limited to the NEPA, the Endangered Species Act (ESA), and the Archeological Resources Protection Act (ARPA). After a determination has been made that livestock grazing or levels of use are responsible for failure to achieve rangeland health standards, the BLM must comply with the above analysis and consultation requirements mandated by these laws and regulations prior to implementing any decision. Under the proposed modification, the BLM will have 24 months to complete the analysis and consultation requirements and arriving at a proposed decision.

2.2.10 Conservation Use

Under the Proposed Action, all references to and provisions on “conservation use” would be deleted from the regulations. This would bring the regulations into conformance with the 1995 10th Circuit Court decision (Public Lands Council v. Babbitt, 929 F.Supp. 1436 (D. Wyo. 1996), rev'd in part and aff'd in part, 167 F.3d 1287 (10th Cir. 1995), aff'd, 529 U.S. 728 (2000)).

2.2.11 Definition of Grazing Preference, Permitted Use, and Active Use

BLM is proposing to define “grazing preference” or “preference” as “the total number of animal unit months on public lands apportioned and attached to base property owned or controlled by a permittee, lessee, or an applicant for a permit or lease. Grazing preference includes active use and use held in suspension. Grazing preference holders have a superior or priority position against others for the purpose of receiving a grazing permit or lease.” This definition is similar to how the term was defined when it first was defined in the grazing regulations in 1978, and to how it was defined before 1995. The concept of grazing preference as it would be defined in this rulemaking includes two elements: (1) a livestock forage allocation on public lands; and (2) that priority for receipt of that allocation is attached base property. Ownership or control of base property gives the owner control or preference for receipt of a grazing permit or lease authorizing grazing use to the extent of the active preference as well as priority for receipt of forage that may later be determined to be available for livestock grazing, to the extent of the suspension.
Under the proposed regulations, BLM would also remove the term “permitted use” from the definitions (4100.0-5) and generally replace this term wherever it occurs in the regulations with either “grazing preference” or “preference,” or “active use” depending on the regulatory context. The definition of “active use” would also be modified to mean that portion of the grazing preference that is available for livestock grazing use based on rangeland carrying capacity and resource conditions in an allotment under a permit or lease, and that is not in suspension (4100.0-5). This change would remove the term “conservation use” and “livestock use” and make it clear that “active use” refers to a forage amount that it is based on the carrying capacity of, and resource conditions in, an allotment and that it does not refer to forage that had been allocated at some point in the past but has since been determined to be no longer present and which now is held in suspension.

Although the connection between land use plans and grazing preference would not be stated in the definition of “grazing preference” as it is being proposed, the regulatory text would reflect the relation between “active use” and land use plans at §§ 4110.2-2, 4110.3(a)(3), 4110.3-1 and between grazing permits and leases and land use plans at §4130.2.

The forage amount available on public lands that is available for livestock grazing use would continue to fluctuate because of changed resource conditions or changed administrative or management circumstances. It is well settled that livestock forage allocations made before enactment of the Federal Land Policy and Management Act of 1976 may be adjusted based on BLM land use planning decisions, or the need to change grazing use to meet objectives specified in land use plans (see, for example, Public Lands Council v. Babbitt, 529 U.S. 728 (2000)).

2.2.12 Definition and Role of the Interested Public

BLM proposes amending the present definition of “interested public” to mean an individual, group, or organization that has submitted a written request to BLM to be given an opportunity to be involved in BLM decision-making process for the management of livestock grazing on public lands and who as followed up on that request by commenting on or otherwise participating in the decision-making process as to the management of a specific allotment, or, who has submitted written comments to the authorized officer regarding the management of livestock grazing on specific allotment, as part of the process leading to a BLM decision on the management of livestock grazing on the allotment.

This proposed rulemaking would remove the requirement that BLM consult with the interested public before:

(1) Designating and adjusting allotment boundaries;
(2) Changing active use;
(3) Issuing emergency closures or modifications:
(4) Issuing or renewing a grazing permit or lease;
(5) Modifying a grazing permit or lease; and
(6) Issuing temporary nonrenewable grazing permits.
Generally, the above actions involve the day-to-day operational aspects of the grazing program. All of these actions are also covered by NEPA and all NEPA documents are made available for public review. In addition, these changes would not remove BLM’s discretion to consult at its option.

BLM would retain the interested public requirements for the following BLM actions:

1. Apportioning additional forage on BLM managed lands;
2. Developing or modifying an allotment management plan or grazing activity plan;
3. Planning of the range development or improvement program (with the exception of State programs);
4. Reviewing and commenting on grazing management evaluation reports; and
5. Providing copies of proposed grazing decisions. The interested public would still have standing to protest (with the exception of States.)

This change would require consultation with the interested public where such input would be of the greatest value, such as when planning vegetation management objectives in an allotment management plan, or by providing input to reports evaluating range conditions, while allowing BLM and the grazing operator the discretion to determine and implement the most appropriate on-the-ground management actions to achieve the objectives or respond to the conditions.

### 2.2.13 Water Rights

BLM proposes to amend this section by removing the reference date in the first sentence and the second sentence in total. This would remove the requirement that the United States must acquire livestock water rights to the maximum extent allowed by the laws of the States where the rights would be acquired. This would provide BLM greater flexibility in negotiating with grazing operators the arrangements and terms of construction and use of livestock watering facilities.

### 2.2.14 Satisfactory Performance of Permittee or Lessee

BLM would move provisions regarding what constitutes “satisfactory performance” of an applicant for a permit or lease from § 4110.1 to 4130.1-1(b) to better organize the regulations. The section addressing what constitutes satisfactory performance for applicants for new permits and leases would be revised.

The present rule provides that applicants for renewal of permits and leases would be deemed to have a satisfactory record of performance if they have substantially complied with the terms and conditions of the expiring permit or lease and other rules applicable to the permit or lease, while applicants for new permits or leases would be deemed to not have a satisfactory record if they have had a Federal or State lease cancelled within the previous 36 months, or have been legally barred from holding a grazing permit or lease. The existing sentence construction does not limit the circumstances under which BLM will consider an applicant for a new permit or lease to not have a satisfactory record of performance.
The proposed rules would change the sentence construction for applicants for new permits or leases to reflect what would be required for an applicant for a new permit or lease to have a satisfactory record of performance. Basically the regulations would state that BLM will deem applicants for new permits or leases to have a record of satisfactory performance when the applicant or affiliate has not had any Federal grazing permit or lease cancelled for violations of the permit or lease within the 36 months immediately preceding the date of the application; or the applicant or affiliate has not had any State grazing permit or lease, for lands within the grazing allotment for which a Federal permit or lease is sought, canceled for violation of the permit or lease within 36 months of the date of the application; or the applicant or affiliate is not barred from holding a Federal grazing permit or lease by order of a court of competent jurisdiction. The changes proposed would confine the scope of the criteria that BLM would consider when determining whether an applicant for a new permit has a satisfactory record of performance to that stated in the regulations.

2.2.15 Changes in Grazing Use Within Terms and Conditions of Permit or Lease

BLM is proposing to amend section §4130.4 to indicate what we mean by the phrase “within the terms and conditions of the permit or lease.” BLM proposes that when we refer to “temporary changes within the terms and conditions of the permit or lease,” we mean changes to the number of livestock and period of use that may be granted in any one grazing year in response to annual variations in growing conditions that arise from normal year-to-year fluctuations in temperature and the timing and amounts of precipitation.

BLM proposes that we would allow such changes if they:

1) do not result in removing more forage than the “active use” specified by the permit or lease;

2) provide that grazing use begins no earlier than 14 days before the grazing begin date specified by the permit or lease, and

3) provide that grazing use ends no later than 14 days after the grazing end date specified by the permit or lease.

Livestock periods-of-use established by the grazing permits are based on the anticipated average dates that the range is “ready” to be grazed. “Range readiness” is the stage of plant growth at which grazing may begin without doing permanent damage to vegetation or soil. The point where the range is “ready” for grazing use can and does vary from year to year around a long-term average date of readiness. BLM believes that a 14-day flexibility period on either side of the grazing begin and end dates specified by the permit or lease is a reasonable way to allow for minor adjustments in grazing use in response to these variations.

BLM would consider applications for changes in grazing use “within the terms and conditions of the permit or lease” on a case-by-case basis. If BLM approves the change, no formal action other than the issuance and payment of a relevant grazing fee billing would be required. The change would not constitute a formal permit or lease modification. In other words, a temporary change that was allowed in one year to respond to the conditions of that year would not be carried forward to the next year. An application for grazing use that falls outside of this
flexibility would be not be considered “within the terms and conditions” of the authorizing permit or lease.

2.2.16 Service Charges

Under the Proposed Action, the service charge for processing various actions would more closely reflect the processing costs. The following service charges would be assessed for the following actions, except when initiated by the BLM:

- Issuing a crossing permit—$75
- Transfer of grazing preference—$145
- Cancellation and replacement of a grazing fee billing—$50

2.2.17 Prohibited Acts

As indicated in the discussion of the No Action Alternative, there are three categories of prohibited acts. Under the proposed change, several prohibited acts would be deleted from the third category of prohibited acts set forth in §4140.1(c). This provision states that if a permittee or lessee violates these acts in situations where public lands are involved or affected, the violation is related to grazing use authorized by a BLM permit or lease, and the violator is convicted or otherwise found to be in violation of the act by a court or final determination of an agency, then BLM could take civil action against the permittee or lessee, i.e., withhold issuance, suspend, or cancel a permit or lease or other authorized use.

The violation of Federal or State laws or regulations pertaining to the following acts would be deleted from §4140.1(c):

- Placement of poisonous bait or hazardous devices designed for the destruction of wildlife;
- Application or storage of pesticides, herbicides, or other hazardous materials;
- Alteration or destruction of natural stream courses without authorization;
- Pollution of water sources;
- Illegal take, destruction or harassment, or aiding and abetting in the illegal take, destruction or harassment of fish and wildlife resources; and
- Illegal removal or destruction of archeological or cultural resources.

BLM is proposing to retain the provisions that allow us to withhold, suspend or cancel all or part of a grazing permit if the lessee or permittee is convicted of violating any of the following:

- The Endangered Species Act (16 U.S.C. 1531 et seq.),
- The Bald Eagle Protection Act (16 U.S.C. 668 et seq.), and
- The regulations under the Wild Horse and Burro Act 43 CFR 4700,
- State livestock laws or regulations.

Both the Endangered Species Act and the Bald Eagle Protection Act provide specifically that if they are violated by a federal grazing permit or lease holder, the agency that issued the permit or lease may suspend or cancel it.

2.2.18 Grazing Use Pending Resolution of Appeals When Decision Has Been Stayed
Although the present regulations address what actions would be taken by the BLM when a stay is granted on an appeal of a decision to modify or renew a permit or lease, they do not address actions that would be taken when a stay is granted on an appeal of a decision on a permit or lease application submitted in conjunction with a preference transfer. The Proposed Action in §4160.4 provides that if a stay is granted by the Office of Hearing and Appeals on: (1) an appeal of a modification to a permit or lease; (2) an appeal of a permit or lease offered in conjunction with a preference transfer, or (3) an appeal of a renewal of a permit or lease, the BLM would offer the permittee or lessee a new permit or lease that contains the same terms and conditions as the immediately preceding or expiring permit or lease. Upon resolution of the appeal, the BLM would replace the above referenced permit or lease with one that conforms with the final resolution of the appeal.

In addition, there are some clarifications in Subpart 4160 that are of some importance to understanding how the appeals process will work under the proposed regulations. Many of the procedural requirements set forth in existing §4160.4 are restatements of the requirements found in §4.470 et seq for appealing grazing decisions. Recent modifications in OHA rules resulted in clarifications of the process and definitions used by OHA in their proceedings. Rather than reiterate these changes in §4160.4, the Proposed Action would delete requirements that are already set forth in §4.470 and instead would indicate that those who wish to appeal or seek a stay of a BLM grazing decision would follow the requirements set forth in §4.470.

The following is a summary of some of the relevant changes in the OHA rules:

- Defines who may appeal a decision as “a party to a case who has been adversely affected by a final decision”.
- A “party to a case” is defined as one who:
  - Has taken action that is the subject of the decision on appeal
  - Is the object of that decision; or,
  - Has otherwise participated in the process leading to the decision under appeal, by commenting on an environmental document, or by filing a protest to a proposed decision.
- States that a party to a case may raise an appeal only on those issues raised in their prior participation, as referenced above.
- The party would be considered “adversely affected” by the authorized officer’s decision when the party has a “legally cognizable interest”, and the decision on appeal has caused, or will cause, injury to that interest.

### 2.2.19 Treatment of Biological Assessments in the Grazing Decision-Making Process (Blake Decision)

The Proposed Action also stipulates in §4160.1(d) that a biological assessment prepared in accordance with Section 7 of the Endangered Species Act is not a proposed decision for purposes of protest or appeal. This would address issues related to the 2002 IBLA Blake decision (Blake et a. v. Bureau of Land Management, 156 IBLS 280 (2002)) wherein a biological assessment was found to be a decision and thus subject to the protest and appeals
provisions. Clearly stating in the proposed regulations that biological assessments are not proposed or final decisions would eliminate the confusion created by this ruling.

2.3 ALTERNATIVE 3: MODIFIED ACTION

Alternative 3 is essentially the same as Alternative 2 (Proposed Action) with modifications to three key elements. Modifications involve the following elements: Implementation of Grazing Decisions, Temporary Nonuse; and the Basis for Rangeland Health Determinations.

2.3.1 Implementation of Grazing Decisions

Same as proposed action, except that the 5-year phase in of changes in use would be discretionary rather than mandatory. In other words, changes in active use in excess of 10% may not have to be implemented over a 5-year period. The BLM authorized officer may at his or her discretion determine that a shorter or no phase-in period is warranted. If, for example, a special status species is being affected by grazing management or levels of use, the BLM may decide to immediately implement a reduction in use, following all required consultations and allowing for protest and appeal of the decision, to avoid a potential listing of the species under the Endangered Species Act.

2.3.2 Temporary Nonuse

Under this proposal, permittees or lessees could submit and BLM could approve applications for nonuse for no more than five consecutive years. All other provisions related to the authorization of temporary nonuse would be the same as for the Proposed Action.

2.3.3 Basis for Rangeland Health Determinations

Same as proposed action except that BLM would not be required to use both assessments and monitoring as basis for determinations i.e., rangeland health determinations could be based on either standards assessments, monitoring data or both. This would allow the manager greater flexibility and discretion in determining priorities for monitoring.

2.3 ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

Many substantive issues and recommendations were provided by the public during the scoping period. Public comments were fully considered and many of their recommendations are reflected in the proposed action or in the modified action alternative. Many other issues raised or recommendations made were considered but not analyzed in detail in this Draft EIS, because they are either beyond the scope of the document, did not meet the basic purposes of these
proposed changes to the regulations, or BLM decided they do not require regulatory action to implement, i.e. we could better address the issues through policy.

The following are alternatives we considered but have not analyzed in detail in this EIS:

- **Increasing grazing fees and restructuring grazing based on market demand** are not addressed because they are outside the scope of this proposed rule.

- **Reestablishing grazing advisory boards** to provide local advice and recommendations to BLM on grazing issues are not addressed because Grazing Advisory Boards were “sunset” on December 31, 1985, by FLPMA. This proposed rulemaking, however, would provide that BLM would cooperate with State and County established grazing boards in reviewing range improvements and allotment management plans on public lands. This review would supplement the counsel of Resource Advisory Councils that were established in 1995 to advise and recommend strategies for managing public lands under the multiple use mandate.

- **Changing management of wild horses and burros.** Any changes to The Wild Horse and Burro Act are outside the authority and scope of this proposed rule.

- **Changing Conversion Ratio for Sheep for Billing Purposes.** Counting seven sheep, rather than the present five, as the equivalent of one animal unit for the purposes of calculating grazing fee billings. Matters involving the grazing fee are outside the scope of this proposed rule.

- **Establishing “Reserve Common Allotments”**. In the ANPR, BLM considered proposing provisions to define, establish a regulatory framework, and otherwise support the creation of Reserve Common Allotments. BLM has decided not to proceed with developing Reserve Common Allotments at this time for several reasons. During BLM’s public scoping period many commenters expressed concern about adding special provisions for Reserve Common Allotments in the grazing regulations. Many commenters said they did not think such regulatory provisions were warranted or necessary. Ranching interests indicated they would rather have “normal” allotments while environmental interests questioned whether this would be the best use of the land. After considering the unenthusiastic reception to this concept BLM determined it was not in the public interest to proceed with this provision through regulations. BLM will continue to examine the concept of forage reserves through policy making processes.

- **Grazing Fee Surcharge.** The grazing fee surcharge was added by the 1995 regulations to address concerns raised by to the General Accounting Office and Office of the Inspector General regarding the potential for rancher “windfall profits” arising from BLM’s practice of allowing for the subleasing of public land grazing privileges. Some BLM grazing permittees enter pasturing agreements wherein they take temporary control of a third party's livestock and graze them under their permit or lease. The permittee pays the federal grazing fee and charges the third party an amount negotiated between them for the forage and care of the livestock. BLM assesses a fee surcharge in this circumstance that equals 35% of the difference between the present federal grazing fee and the private grazing land lease rate unless the livestock grazed under the permit are owned by children of permittees and lessees. BLM continues to believe that the surcharge is an equitable manner in which to address the issue of potential windfall profiteering by BLM permittee and lessees who
choose to enter into pasturing agreements. This issue is not addressed in the Draft EIS because grazing fees are outside the scope of this effort.

**Assigning Burden of Proof.** Several commenters recommended that BLM consider including a provision in the proposed rule requiring BLM to assume the burden of proof in an appeal before the Office of Hearings and Appeals. The Administrative Procedure Act (APA) at 5 U.S.C. 556(d) provides that “except as otherwise provided by statute, the proponent of a rule or order has the burden of proof.” The burden of proof has recently been clarified by the Supreme Court to mean the “burden of persuasion” which refers to “the notion that if evidence is evenly balanced, the party who bears the burden of persuasion must lose.” Previously the burden of proof had been confused with the burden of production which refers to a party’s obligation to come forward with evidence to support its claim. The burden of proving a fact remains where it started, but once the party with this burden establishes a prima facie case, the burden to produce evidence shifts. The burden of persuasion, on the other hand, does not shift except in the case of affirmative defenses.

**Monitoring.** Few commenters directly addressed the definition of “monitoring” although many of the comments we received pertained to procedural matters, that is, recommendations on how BLM should conduct monitoring. We received many comments from the livestock industry, and environmental and conservation groups asking BLM to increase monitoring efforts on public lands. BLM considered including new language regarding monitoring intending to provide explicit direction on the development of allotment-specific resource management objectives and short and long term monitoring programs in consultation with the permittee or lessee. The present regulations already allow BLM to develop resource management objectives and monitoring plans as part of its allotment management plans. BLM determined that establishing monitoring methodologies and working with permittees and lessees in collecting and interpreting data and developing monitoring reports are more appropriately handled through BLM’s policy guidance in Manuals and Handbooks.

**Requiring Applications for Permit or Lease Renewals.** The present regulations do not explicitly state whether or not a permittee or lessee must submit an application to BLM when their permit expires. We are especially interested in public comment on this question.

**Providing for Appeals to the State Director.** During the scoping period BLM received comments recommending we consider adding another opportunity for administrative remedy by allowing a protesting party to appeal a BLM field office decision to the BLM State Director. Such a provision would allow the BLM State Director to have authority to stay a decision pending further review. BLM determined it was not advisable to include this provision in the proposed rule. Such an authority would cause the appeals process to become too cumbersome and would result in more delays in the decision-making process.

**Redefining Affected Interest and Interested Public.** Some commenters urged BLM to remove the definition of interested public from the grazing regulations and incorporate the use of “affected interest” as it was defined in the regulations before 1995. Under such a change, BLM would consider an “affected interest” to be a party who has expressed an interest in management of a specific allotment and which BLM has determined to be an affected interest. This change would require that BLM focus its limited resources on
determining who is, and who is not, an affected interest. BLM desires that meaningful public involvement in developing grazing-related resource management objectives or actions not be unduly restricted or hindered by BLM processes and procedure. BLM’s experience with the interested public provisions of these regulations has found that there are interested public who express initial interest in management of a grazing allotment but do not maintain meaningful involvement in the process leading to creating allotment resource objectives and strategies to achieve those objectives. This proposed rule would modify the definition of interested public to provide that once a party becomes an interested public by expressing in writing an interest in management of an allotment, they maintain that status by their continued participation in the decisionmaking process for that allotment and would narrow the circumstances where BLM must involve the interested public before taking a management action. BLM believes that these changes will maintain meaningful public involvement while streamlining BLM processes leading to day-to-day on-the-ground grazing management decisions.

- **Providing for control of water developments authorized under a range improvement permit.** During the scoping period BLM received recommendations that the proposed regulations include provisions explicitly stating that the use of stock ponds, wells and pipelines authorized under a range improvement permit would be controlled by the permittee or lessee holding the permit. The present rule does not allow for water developments under a range improvement permit. Other commenters asked that BLM propose that the permittee or lessee could enter into an MOU with the BLM allowing the improvements to be used other than by livestock owned or controlled by the permit holder to use them.

- **Establishing criteria for full force and effect decisions.** Some commenters recommend that BLM develop criteria that would be necessary to obtain a stay of a BLM decision, placed in Full Force and Effect, from the Interior Board of Land Appeals. BLM disagrees that such criteria are necessarily relevant to the decision to issue a full force and effect decision to protect resources.

- **Modifying exchange of use agreements provisions.** BLM received comment requesting that BLM remove the requirement that private lands offered in exchange of use be located in the same allotment being permitted for grazing to allow for “trade-of-use” arrangements such as that described below. A possible need for a “trade-of-use” arrangement, for example, is illustrated by the situation where one permittee or lessee owns or controls unfenced intermingled private lands which are not within his allotment, but rather, within a second permittee’s allotment. Because the first permittee is not authorized to graze in the second permittee’s allotment, the first permittee cannot derive economic gain from the grazing use made on his private lands by the second permittee, absent action to proactively control use of his land such as through fencing or through sale of the land or assignment of the land lease to the second permittee. The commentor urged that BLM facilitate the “trade-of-use” between these permittee’s by collecting a grazing fee from the second permittee for grazing use of lands owned by the first permittee but located in the second permittee’s allotment, and by crediting the fees collected from the second permittee for these lands to the first permittee’s grazing fee billing. BLM does not agree that this type of arrangement is best handled through the regulation change suggested by the commentor, and invites comment on whether we should accommodate this type of
management situation by regulation change or leave the arrangements for compensation for
use of private lands to the owners of the private lands involved.

- **Nonwillful unauthorized livestock use.** BLM received comment urging that BLM
modify the regulations to allow BLM to have unfettered discretion to determine
circumstances that would warrant nonmonetary settlement of a nonwillful grazing trespass.
The present regulations identify the following four conditions—all of which must be
satisfied before BLM can approve a nonmonetary settlement for nonwillful unauthorized
livestock use:
  1. Evidence that unauthorized use occurred through no fault of the operator.
  2. The forage used was insignificant.
  3. Public lands have not been not been damaged.
  4. Nonmonetary settlement is in the best interest of the United States.
We believe this is a reasonable approach, and therefore BLM has decided not to change
this provision.

- **Eliminate Secretarial approval of amendments to regional standards for healthy
  rangelands.** BLM received comment urging that we revise the process for approving
standards for rangeland health to allow approval of revisions to the standards by BLM
State Directors, Resource Advisory Councils and other advisory boards established by
State or local governments. BLM believes that the requirement for Secretarial approval
of Standards developed by BLM State Directors ensures that the basic components of
rangeland health are reflected by the regionally developed standards and is not proposing
any changes to the applicable provisions of the regulations.

- **Locked gates.** Commenters were nearly unanimously opposed to the idea of BLM
allowing grazing operators to temporarily lock gates on public lands when necessary to
protect private property or livestock. This provision was not further considered.

- **Prohibited Acts.** BLM received a number of comments asking us to keep the present
regulatory provision that the conviction of a permittee of violations of the Archaeological
Resources Protection Act (ARPA) and the Clean Water Act (CWA), where such
violation was related to grazing use authorized by BLM, constitutes a prohibited act
subjecting the relevant grazing permit to penalty action. This punitive action would be
in addition to any penalties incurred as provided by the law itself. BLM will retain, in
these regulations, that a permittee’s conviction of violation of the Endangered Species
Act and the Bald Eagle Protection Act will subject the relevant permit to penalty action.
These acts specifically provide their violation may result in any federal permit or lease
held by the violator being cancelled. With respect to permittee or lessee violation of
other environmental laws, BLM believes that the penalties contained within these laws
are sufficiently punitive and that the “layering” of an additional penalty of suspension or
cancellation of the offender’s grazing permit or lease is not warranted.

- **Competitive bidding for assigning permits and leases.** Some commenters asked BLM
to develop a competitive bidding process to replace the present system for assigning
grazing permits and allocating grazing preference and the present grazing fee formula.
This recommendation would require legislative action, which is outside the scope of this
rulemaking.

- **Requiring posting a bond before filing an appeal.** BLM received comments asking us
to require a bond before a party filed an appeal. BLM considered the implications and
challenges to such a provision and has determined that this provision is not feasible. Therefore, it is not included in either the proposed rule or the EIS.

- **Fundamentals of Rangeland Health.** Some commenters recommended that BLM move the general requirements related to public land health standards and guidelines to BLM’s planning regulations at 43 CFR 1610. BLM did not consider the timing of such an action appropriate and therefore it is not included in either the proposed rule, or as an alternative in the EIS.
### 2.5 Comparison of the Alternatives

#### Improving Working Relations with Permittees and Lessees

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<tr>
<td>Social, Economic and Cultural Considerations</td>
<td>* No provisions specifically address NEPA documentation of social, economic and cultural considerations in the regulations regarding changes in permitted use.</td>
<td>* A new provision would be added stating that before changing permitted use, BLM would document compliance with NEPA. The documentation would include BLM's consideration of any effects of the proposed change on relevant social, economic and cultural factors.</td>
<td><em>Same as proposed action, except that the 5-year phase in of changes in use would be discretionary, i.e., change in active use in excess of 10% may be implemented over a 5-year period.</em></td>
</tr>
<tr>
<td>Phase-In of Changes in Use</td>
<td>* The present regulations do not address the timing of implementation of decisions to change grazing use.</td>
<td>* Changes in active use in excess of 10% would be implemented over a 5-year period unless: an agreement is reached with the permittee or lessee to implement the increase or decrease in less than 5 years agree; or the changes must be made before 5 years to comply with applicable law (e.g., Endangered Species Act).</td>
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<tr>
<td>Range Improvement Ownership</td>
<td>* Under the present regulations, the United States holds title to permanent range improvements such as fences, wells, and pipelines authorized after August 21, 1995.</td>
<td>* Title to permanent range improvements such as fences, wells, and pipelines authorized under a cooperative range improvement agreement would be shared among cooperators (e.g., permittees or lessees) in proportion to their initial contribution to on-the-ground project development and construction costs.</td>
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<td>Cooperation with State, county, and Federal agencies</td>
<td>* Under present regulations, it is provided that the BLM will cooperate with involved agencies and government entities.</td>
<td>* Under the proposed regulations, a requirement is added for the BLM to cooperate with State, local, and County established grazing boards in reviewing range improvements and allotment management plans on public lands.</td>
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<td>Elements</td>
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</table>
| Review and Comment on Biological Assessments | * Present rules do not specifically mention biological assessments, however the present regulations require that BLM, to the extent practicable, provide affected permittees or lessees, the State having lands or responsible for managing resources within the area, and the interested public an opportunity to review, comment and give input during the preparation of reports that evaluate monitoring and other data that are used as a basis for making decisions to increase or decrease grazing use, or to change the terms and conditions of a permit or lease. This provision has been interpreted to include biological assessments. | * Biological assessments prepared under the Endangered Species Act are specifically identified as reports that BLM is required to provide affected permittees or lessees, the State having lands or responsibility for managing resources within the area, and the interested public an opportunity to review, comment and give input during preparation. | }
# Protecting the Health of the Rangelands

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<tr>
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<tbody>
<tr>
<td>Temporary Nonuse</td>
<td>* Grazing permittees or lessees may submit and BLM may approve an annual application for temporary nonuse for no more than three (3) consecutive years. Reasons for temporary nonuse include but are not limited to financial conditions or annual fluctuations of livestock.</td>
<td>* Grazing permittees or lessees could submit and BLM could approve nonuse for no longer than one year at a time for resource reasons as well as for business or personal needs of the permittee or lessee (i.e., no limit on consecutive years of nonuse).</td>
<td>* Permittees or lessees could submit and could annually approve an application for nonuse for no more than five consecutive yrs.</td>
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<tr>
<td>Noxious Plants</td>
<td>* Present regulations do not address noxious plants.</td>
<td>* Under proposed regulations, any person who knowingly or willingly introduces or spreads a noxious plant to or on the public lands would be subject to civil and criminal penalties.</td>
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<tr>
<td>Basis for Rangeland Health Determinations</td>
<td>* The present regulations do not prescribe how the authorized officer determines that existing grazing management practices or levels of grazing use on public lands are significant factors in failing to achieve the rangeland health standards and conform with the guidelines for grazing administration.</td>
<td>Determinations that existing grazing management practices or levels of grazing use are significant factors in failing to achieve standards and conform with guidelines would be based on standards assessment and monitoring.</td>
<td>* Same as proposed action except that BLM would not be required to use both assessments and monitoring as basis for determinations, i.e., may be based on assessment or monitoring.</td>
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<tr>
<td>Timeframe for Meeting Rangeland Health Standards</td>
<td>* Under present regulations, the BLM is required to take appropriate action as soon as practicable but not later than the start of the next grazing year on determining that existing grazing management needs to be modified to ensure that the fundamentals of rangeland health conditions exist or progress is being made toward achieving rangeland health.</td>
<td>* The BLM would take appropriate action as soon as practicable but not later than the start of the next grazing year that follows BLM’s completion of relevant and applicable requirements of law, regulations and consultation requirements to ensure fundamentals of rangeland health conditions exist or progress is being made toward achieving rangeland health.</td>
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<td>* Upon determining that existing grazing practices or levels of use are significant factors in failing to achieve standards and guidelines for grazing administration, the authorized officer shall take appropriate action as soon as practicable but not later than the start of the next grazing year.</td>
<td>* Upon determining that existing grazing practices or levels of use are significant factors in failing to achieve standards and guidelines, the BLM would, in compliance with applicable laws and with the consultation requirements, formulate, propose and analyze appropriate action to address failure to meet standards or conform to guidelines no later than 24 months after determination. Upon execution of agreement or documented decision, the BLM would implement appropriate action(s) as soon as practicable but not later than start of next grazing year.</td>
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<tr>
<td><strong>Increasing Administrative Efficiency and Effectiveness</strong></td>
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<td><strong>Modified Alternative 3</strong></td>
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<tr>
<td>Conservation Use</td>
<td>* Conservation Use is defined in the regulations, is identified as component of permitted use, may be authorized for up to 10 years, and is addressed in other provisions.</td>
<td>* All references to and provisions on conservation use would be deleted.</td>
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<tr>
<td>Grazing Preference</td>
<td>In the present regulations, grazing preference or preference is defined as a superior or priority position against others for the purpose of receiving a grazing permit or lease. This priority is attached to base property owned or controlled by the permittee or lessee.</td>
<td>Grazing preference or preference would mean the total number of animal unit months on public lands apportioned and attached to base property owned or controlled by a permittee, lessee or an applicant for a permit or lease. Grazing preference would include active use and use held in suspension. Grazing preference holders would have a superior or priority position against others for the purpose of receiving a grazing permit or lease.</td>
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<td>In the present regulations, permitted use is defined as the forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease and is expressed in AUMS. The term permitted use encompasses authorized use including livestock use, suspended use and conservation use.</td>
<td>The term permitted use would be dropped from the regulations and basically replaced with the term grazing preference throughout the regulations.</td>
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<td>In the present regulations, active use means present authorized use, including livestock grazing and conservation use. Active use may constitute a portion, or all, of permitted use. Active use doesn’t include temporary nonuse or suspended use within all or portion of an allotment.</td>
<td>- Active use would be redefined to mean that portion of the present authorized use which is available for livestock grazing based on rangeland carrying capacity and resource conditions in an allotment under a permit or lease and is not in suspension.</td>
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<tr>
<td>Definition and Role of Interested Publics</td>
<td>* Under the present regulations, interested public is defined as an individual, groups or organization that has submitted a written request to the authorized officer to be provided an opportunity to be involved in the decision-making process for the management of livestock grazing on specific allotments or has submitted written comments to the authorized officer regarding the management of livestock grazing on a specific allotment.</td>
<td>* Interested public would be defined as an individual, group or organization that has: (1) Submitted a written request to BLM to be provided an opportunity to be involved in the process leading to a decision for management of livestock grazing and followed up on that request by commenting on or otherwise participating in the decision-making process on management of a specific allotment; or (2) Submitted written comments to the BLM regarding management of livestock grazing on a specific allotment, as part of the process leading to a BLM decision on the management of livestock grazing on the allotment.</td>
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<td>* The BLM is required to consult, cooperate and coordinate with or seek review and comment from the interested public on the following actions:</td>
<td>Requirements to consult, cooperate and coordinate with or seek review and comment from the interested public would be modified as follows:</td>
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<td>*Designating and adjusting allotment boundaries.</td>
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<td><em>Apportioning additional forage</em></td>
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<td><em>Reducing permitted use</em></td>
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<td><em>Emergency closures or modifications</em></td>
<td>• Removed</td>
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<td><em>Development or modification of grazing activity plan.</em></td>
<td>• Retained</td>
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<td><em>Planning of the range development or improvement program.</em></td>
<td>• Retained</td>
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<td><em>Renewing or issuing grazing permit or lease.</em></td>
<td>• Removed</td>
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<td><em>Modifying a permit or lease.</em></td>
<td>• Removed</td>
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<td><em>Reviewing or commenting on grazing evaluation reports.</em></td>
<td>• Removed</td>
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<td><em>Issuing temporary nonrenewable grazing permits.</em></td>
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<td><em>In addition, under the present regulations, the BLM is required to send copies of proposed and final decisions to the interested public.</em></td>
<td>* BLM would still be required to send copies of proposed and final decisions to the interested public.*</td>
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<tr>
<td>Water Rights</td>
<td>* Present regulations state that any right acquired on or after 8/21/95 to use water on public land for the purpose of livestock watering shall be acquired, perfected, maintained and administered under the substantive and procedural laws of the State within which land is located. To the extent allowed by State law, any such water right shall be acquired, perfected, maintained, and administered in the name of the United States.</td>
<td>* The second sentence of this provision—stating that, to the extent allowed by State law, any water right would be acquired, perfected, maintained, and administered in the name of the United States—would be dropped.</td>
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<tr>
<td>Satisfactory Performance</td>
<td>Present regulations identify requirements for satisfactory performance for renewal of permits and leases and for new permits or leases.</td>
<td>The provisions on satisfactory performance would be moved from the section on “mandatory qualifications” to the section on “filing applications”. Minor editorial changes would be made in the definition of “satisfactory performance” for new applicants—basically changing the definition from a negative (what “is not” satisfactory performance) to a positive (what “is” satisfactory performance).</td>
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<tr>
<td>Changes in grazing use within the terms and conditions of the permit or lease</td>
<td>The present regulations state that changes within the terms and conditions of the permit or lease may be granted by the authorized officer and that applications for such use filed after billing notices shall be subject to a service charge.</td>
<td>The proposed regulations would provide that BLM may authorize temporary changes in grazing within the terms and conditions of a permit or lease to respond to annual fluctuations in timing and amount of forage production; or to meet locally established range readiness criteria. The BLM would consult with the permittee or lessee on such changes. “Within terms and conditions” would be defined to mean temporary changes to livestock number, period of use, or both that would result in grazing use that results in forage removal that does not exceed the amount of active use specified in the permit or lease; and occurs either no earlier than 14 days before the begin date specified on the permit or lease, and no later than 14 days after the end date specified on the permit or lease.</td>
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<tr>
<td>Service Charges</td>
<td>* A service charge may be assessed for each crossing permit, transfer of grazing preference, application solely for nonuse and each replacement or supplemental billing notice except for actions initiated by the authorized officer. A specific fee is not identified in the present regulations, however the present fee for these actions is $10.</td>
<td>* Service charges would be specified as follows: <strong>Except where BLM initiates the action, BLM would assess a service charge as shown below:</strong> (1) Issuance of crossing permit: $75; (2) Transfer of grazing preference: $145; (3) Cancellation and replacement of grazing feel billing: $50</td>
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<tr>
<td>Prohibited Acts</td>
<td>* Permittees or lessees may be subject to civil penalties for violations of Federal or State laws or regulations pertaining to placement of poisonous bait or hazardous devices, destruction of wildlife; application or storage of pesticides, herbicides, or other hazardous materials; alteration or destruction of natural stream courses without authorization; pollution of water sources; illegal take, destruction, harassment, or aiding or abetting in illegal take, destruction or harassment of fish and wildlife resources; and illegal removal or destruction of arch. or cultural resources.</td>
<td>Provisions regarding prohibited acts related to violations of Federal or State laws or regulations as set forth in this section <em>would be deleted.</em></td>
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<tr>
<td>Grazing Use Allowed When a Stay is Granted</td>
<td>Under the present regulations, if a decision is stayed, the permittee or lessee will graze in accordance with the authorization issued the previous year. If the applicant had no authorized grazing use the previous year or the application is for ephemeral or annual grazing use, then grazing use will be consistent with the final decision pending resolution of the appeal.</td>
<td>The provisions <em>would be moved</em> and editorial changes would be made to clarify these requirements. In addition, a provision <em>would be added addressing the stay of a decision on a permit or lease offered to a preference transferee</em>. If a stay is granted on a decision to offer a permit or lease to a preference transferee, then the applicant would be offered a new permit or lease with the same terms and conditions of the previous permit or lease.</td>
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<tr>
<td>Biological Assessments – Application of Protest and Appeal Provisions</td>
<td>* Present regulations do not specifically address biological assessments prepared in compliance with the Endangered Species Act. However, in accordance with the IBLA Blake decision, biological assessments would be considered proposed decisions subject to protest</td>
<td>* In the proposed regulations a biological assessment prepared for ESA consultation or conference would not be a proposed decision for purposes of protest or appeal.</td>
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CHAPTER 3. AFFECTED ENVIRONMENT

3.1 GENERAL SETTING

3.2 PHYSIOGRAPHIC SETTING

The physiographic setting is classified according and directly derived from Dr. Robert G. Bailey's ecoregion division classifications and descriptions for the United States (Bailey 1995, 1997). Bailey delineated ecoregions utilizing a scale based on macroclimates. Through consideration of macroclimatic conditions, in combination with the plant formations produced by the macroclimates, Bailey subdivided the United States into ecoregions composed of three levels of detail.

The broadest level of detail is reflected within the domain level. The two domain levels within the affected environment in the United States are delineated primarily by the related climate, for example, the humid domain versus the dry domain. Within the two domain levels in the affected environment, Bailey further delineated 6 divisions. These divisions are classified according to the seasonality of precipitation or the degree of dryness and cold. Corresponding climate diagrams that assist in explaining the division description can be found in Bailey 1998a and 1998b.

The 6 divisions are divided further into 13 providences and 6 mountain providences. The providence level provides the greatest level of detail. The organization of providences is mainly concentrated on the uniformity of climate subtypes and corresponding plant formations. Mountain environments that further characterized providences through altitudinal zonation compromise the mountain providences.

3.2.1 Marine

Situated on the Pacific coast between latitudes 40° and 60° N is a zone that receives abundant rainfall from maritime polar air masses and has a rather narrow range of temperatures because it borders on the ocean.

Trewartha (1968) classifies the marine west coast climate as Do—temperate and rainy, with warm summers. The average temperature of the warmest month is below 72 ° F (22 ° C), but at least 4 months per year have an average temperature of 50° F (10° C). The average temperature during the coldest month of the year is above 32 ° F (0° C). Precipitation is abundant throughout the year, but is markedly reduced during summer. Although total rainfall is not great by tropical standards, the lower air temperatures here reduce evaporation and produce a very damp, humid...
climate with much cloud cover. Mild winters and relatively cool summers are typical. Coastal
mountain ranges influence precipitation markedly in these middle latitudes. The mountainous
coasts of British Columbia and Alaska annually receive 60 to 80 inches (1,530 to 2,040 mm) of
precipitation and more. Heavy precipitation greatly contributed to the development of fiords
along the coast: heavy snows during the glacial period fed vigorous valley glaciers that
descended to the sea, scouring deep troughs that reach at their lower ends below sea level.

Natural vegetation in the Marine Division is needleleaf forest. In the coastal ranges of the Pacific
Northwest, Douglas-fir, red cedar, and spruce grow to magnificent heights, forming some of the
densest of all coniferous forests with some of the world's largest trees.

Soils are strongly leached, acid Inceptisols and Ultisols. Due to the region's cool temperatures,
bacterial activity is slower than in the warm tropics, so vegetative matter is not consumed and
forms a heavy surface deposit. Organic acids from decomposing vegetation react with soil
compounds, removing such bases as calcium, sodium, and potassium.

3.2.2 Mediterranean

Situated on the Pacific coast between latitudes 30° and 45 ° N is a zone subject to alternate wet
and dry seasons, the transition zone between the dry west coast desert and the wet west coast.

Trewartha (1968) classifies the climate of these lands as Cs, signifying a temperate, rainy
climate with the dry, hot summers indicated by the symbols. The combination of wet winters
with dry summers is unique among climate types and produces a distinctive natural vegetation of
hardleaved evergreen trees and shrubs called sclerophyll forest. Various forms of sclerophyll
woodland and scrub are also typical. Trees and shrubs must withstand the severe summer
drought (2 to 4 rainless months) and severe evaporation.

Soils of this Mediterranean climate are not susceptible to simple classification. Alfisols and
Mollisols typical of semiarid climates are generally found.

3.2.3 Tropical–Subtropical Steppe

Tropical steppes border the tropical deserts on both the north and south, and in places on the east
as well. Locally, because of altitude, plateaus and high plains within what would otherwise be
desert have a semiarid steppe climate. Steppes on the poleward fringes of the tropical deserts
grade into the Mediterranean climate in many places. In the United States, they are cut off from
the Mediterranean climate by coastal mountains that allow tropical deserts to extend farther
north.

Trewartha (1968) classifies the climate of tropical–subtropical steppes as BSh, indicating a hot,
semiarid climate where potential evaporation exceeds precipitation, and where all months have
temperatures above 32 ° F.
Steppes typically are grasslands of short grasses and other herbs, and with locally developed shrub- and woodland. On the Colorado Plateau, for example, there is pinyon–juniper woodland. To the east, in Texas, the grasslands grade into savanna woodland or semideserts composed of xerophytic shrubs and trees, and the climate becomes semiarid–subtropical. Cactus plants are present in some places. These areas are able to support limited grazing, but are not generally moist enough for crop cultivation without irrigation. Soils are commonly Mollisols and Aridisols, containing some humus.

3.2.4 Tropical–Subtropical Desert

South of the Arizona–New Mexico mountains are the continental desert climates, which have not only extreme aridity, but also extremely high air and soil temperatures. Direct sun radiation is extremely strong, as is outgoing radiation at night, causing extreme variations between day and night temperatures and a rare nocturnal frost. Annual precipitation is less than 8 inches (200 mm), and less than 4 inches (100 mm) in extreme deserts. These areas have climates that Trewartha (1968) calls BWh.

The region is characterized by dry-desert vegetation, a class of xerophytic plants that are widely dispersed and provide negligible ground cover. In dry periods, visible vegetation is limited to small, hard-leaved or spiny shrubs, cacti, or hard grasses. Many species of small annuals may be present, but they appear only after the rare but heavy rains have saturated the soil.

In the Mojave–Sonoran Deserts (American Desert), plants are often so large that some places have a near-woodland appearance. Well known are the treelike saguaro cactus, the prickly pear cactus, the ocotillo, creosote bush, and smoke tree. But much of the desert of the Southwestern United States is in fact scrub, thorn scrub, savanna, or steppe grassland. Parts of this region have no visible plants; they are made up of shifting sand dunes or almost sterile salt flats.

A dominant pedogenic process is salinization, which produces areas of salt crust where only salt-loving (halophytic) plants can survive. Calcification is conspicuous on well-drained uplands, where encrustations and deposits of calcium carbonate (caliche) are common. Humus is lacking and soils are mostly Aridisols and dry Entisols.

3.2.5 Temperate Steppe

Temperate steppes are areas with a semiarid continental climatic regime in which, despite maximum summer rainfall, evaporation usually exceeds precipitation. Trewartha (1968) classifies the climate as BSk; the letter k signifies a cool climate with at least 1 month of average temperatures below 32°F (0°C). Winters are cold and dry, summers warm to hot. The vegetation is steppe, sometimes called shortgrass prairie, and semidesert. Typical steppe vegetation consists of numerous species of short grasses that usually grow in sparsely distributed bunches. Scattered shrubs and low trees sometimes grow in the steppe; all gradations of cover are present, from semidesert to woodland. Because ground cover is generally sparse, much soil is exposed. Many species of grasses and other herbs occur. Buffalo grass is typical of the American steppe; other typical plants are the sunflower and locoweed.
The semidesert cover is xerophytic shrub vegetation accompanied by a poorly developed herbaceous layer. Trees are generally absent. An example of semidesert cover is the sagebrush vegetation of the middle and southern Rocky Mountain region and the Colorado Plateau.

In this climatic regime, the dominant pedogenic process is calcification, with salinization on poorly drained sites. Soils contain a large excess of precipitated calcium carbonate and are very rich in bases. Mollisols are typical in steppe lands. The soils of the semidesert shrub are Aridisols with little organic content, pedogenic and (occasionally) clay horizons, and (in some places) accumulations of various salts. Humus content is small because the vegetation is so sparse.

3.2.6 Temperate Desert

Temperate deserts of continental regions have low rainfall and strong temperature contrasts between summer and winter. In the intermountain region of the western United States between the Pacific coast and Rocky Mountains, the temperate desert has characteristics of a sagebrush (Artemisia) semidesert, with a pronounced drought season and a short humid season. Most precipitation falls in winter, despite a peak in May. Aridity increases markedly in the rain shadow of the Pacific mountain ranges. Even at intermediate elevations, winters are long and cold, with temperatures falling below 32° F (0° C).

Under the Koppen–Trewartha system, this is true desert, BWk. The letter k signifies that at least 1 month has an average temperature below 32° F (0° C). These deserts differ from those at lower latitudes chiefly in their far greater annual temperature range and much lower winter temperatures. Unlike the dry climates of the tropics, dry climates in the middle latitudes receive part of their precipitation as snow.

Temperate desert climates support the sparse xerophytic shrub vegetation typical of semidesert. One example is the sagebrush vegetation of the Great Basin and northern Colorado Plateau. Recently, because of overgrazing and trampling by livestock, semidesert shrub vegetation seems to have invaded wide areas of the Western United States that were formerly steppe grasslands. Soils of the temperate desert are Aridisols low in humus and high in calcium carbonate. Poorly drained areas develop saline soils, and dry lake beds are covered with salt deposits.

3.3 DROUGHT

Drought is a normal, recurrent insidious hazard of nature. It is a temporary component of climate; it differs from aridity, which is restricted to ecosystems, where low rainfall is a permanent feature of climate. On the majority of rangelands managed by the BLM it is not a question of if drought will occur, but rather when it will occur and how long will it persists.

Drought may have a variety of definitions dependant upon the economic, social or environmental impacts. Drought originates from a deficiency of precipitation over an extended
period of time. Drought is defined by the Society for Range Management as "prolonged dry weather when precipitation is less than 75% of the average amount" (SRM 1989).

During drought the quantity of moisture drawn from storage by transpiration increases, exhausting soil moisture early in the growing season. This is reflected in lower water levels in shallow wells and in deep wells subject to recharge in the drought area. High temperatures aggravate the situation by increasing transpiration and evaporation requirements.

During drought, low soil moisture levels limit plant growth and thus cause reduced forage yields. Further, root growth is limited making range plants less able to extract scarce soil moisture. Litter, the dead ungrazed portion of the previous season’s plant growth, insulates rangeland soils and thus reduces evaporative water loss. When moisture is scarce rangelands with adequate litter reserves produce more forage than those with less litter. During drought grazing at normal stocking levels hasten litter breakdown, intensify drought effects and prolonging range recovery.

Grazing early, if growth has begun, during drought will further stress range plants and leave then with lower energy reserves. Over a series of drought or dry years, heavily grazed ranges will show a shift in plant species to weedy, shallow-rooted, less productive species.

The results of heavy use during drought include: (1) reduced gains due to increased energy expenditure while foraging, (2) poor body condition in cows by fall and greater wintering costs, (3) more open cows and late conception, which means fewer and smaller calves the subsequent year, (4) a lighter calf crop, and (5) disease problems like dust pneumonia.

The watershed goal should be to increase or maintain water infiltration into the soil, rather than overland flow. The best way to accomplish this goal is to maintain a healthy plant community and plant residues (litter) on the soil surface. Failure to maintain plant cover and soil litter, results in accelerated erosion. The long-term consequences of accelerated erosion are a reduction in soil depth, a decline in soil structure and a resultant decrease in infiltration rate and water storage capacity. Wind velocity and its potential to detach and transport dry soil, exponentially increases near the ground as vegetation's sheltering effect is reduced. Substantial nutrient loss is associated with wind erosion.

Maintenance of rangeland health during drought requires adjustment of stocking rates to provide forage reserve; monitoring utilization of preferred forage species to make sure that adequate leaf area is maintained to support a healthy root system and assure recovery from drought; maintaining adequate plant and litter cover to prevent soil erosion and maintain long-term site productivity; and, making stocking adjustments before onset of damage to forage plants and soils has occurred. If key species have been lost or severe erosion occurred, recovery may not be possible, even with major restoration efforts or drastic change(s) in grazing management.

3.4 GRAZING ADMINISTRATION

Excluding Alaska, the BLM administers 164 million acres in grazing allotments. Congressional authority and direction expressed through laws authorize or affect BLM grazing administration
on these allotments. These authorities primarily include the Taylor Grazing Act of June 30, 1934, as amended; Federal Land Policy and Management Act of 1976; and the Public Rangelands Improvement Act of 1978.

The Department of Interior Code of Federal Regulations (CFR), BLM manuals and manual handbooks, Instruction Memorandums, Information Bulletins and Interior Board of Land Appeal orders and decisions further guides the BLM's grazing administration program. The CFR are the regulations that the Department of Interior establishes to carry out the laws enacted by the legislative branch. The regulations that govern grazing administration (excluding Alaska) are contained within 43 CFR Part 4100 Grazing Administration—Exclusive of Alaska.

The grazing administration program includes the issuing of permits, leases and annual grazing licenses, inspections to verify that permittees and lessees are in compliance with the terms and conditions of their permits and federal regulations, preparing land use and activity plans, identifying and planning rangeland improvement projects, obtaining livestock management agreements, reviewing base property leases for compliance, and conducting vegetative monitoring studies.

### 3.4.1. Issuing, Modifying, or Renewing Permits or Leases

From 1999 through 2002, the BLM processed 13,098 grazing permits and leases under the Annual Appropriation Act. During the same time period, the BLM processed 10,026 permits. The processed permits reflect those permits issued, which may not be the same as permits expired. The discrepancy is reflected due to transfers of permits, rangeland health assessments or other actions that may result in a new permit being generated. The future projections indicate that the BLM will process 8015 permits in the next 5 years (2003–2007).

For each of the permits or leases issued, in which there was a change in management (i.e., grazing dates, species grazing, or season of use), the BLM analyzed the effects according to the NEPA process. The critical environmental elements are analyzed to document whether a consequence occurred or did not occur to the element. While NEPA guidelines contain the process for analysis, the grazing regulations contain no context to the NEPA requirements for permit or lease actions or specify any additional critical elements that must be analyzed prior to the issuance of a permit or lease.

### 3.4.2 Implementing Changes in Grazing Use

The BLM may decrease the permitted use of a permit or lease through the issuance of a suspension. This decrease may be suspended on a temporary basis or on a long term basis. A long term change of permitted use to suspended use is authorized when monitoring or field observations demonstrate that the grazing use is: (1) not consistent with Rangeland Health Standards; (2) causing unacceptable grazing utilization patterns; or (3) when use exceeds livestock carrying capacities.
The reduction of grazing use is implemented through the grazing decision process or a documented agreement with the permittee or lessee. Unless the reduction is needed for rangeland resource protection, the grazing decision is issued as a proposed decision and then becomes final through the decision process specified in 4160.1. If the reduction is required for resource protection the BLM may close the allotment and immediately issue a final decision. The final decision will usually specify the timing for the reduction. For example, the reduction is immediately in effect for the grazing season or the reduction is being implemented over a period of years.

3.4.3 Range Improvements

The BLM cooperates in planning and in financial partnership with permittees or lessees and other entities, i.e. conservation organizations, in the construction of range improvement projects. Prior to 1982 and from 1995 to present, rangeland improvement projects were held in sole title to the US Government. From 1982 to 1994, rangeland improvement projects may be held in joint ownership. The joint ownership is usually in a case where the second party is contributing financially to a rangeland improvement project. From 1982 to 1994 the BLM developed 25,280 rangeland improvement projects which may or may not be held in the sole title of the US Government. From 1995 to 2002 the BLM developed 9,684 rangeland improvement projects which are held in sole title of the U.S. government (Table 3.4.3.1).

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The grazing administration program includes a definition for the involvement of interested publics in the decision making process. The regulations define interested publics as an individual, group, or organization that has submitted a written request to the authorized officer to be provided an opportunity to be involved in the decision-making process for the management of livestock grazing on a specific allotment or has submitted written comments to the authorized officer regarding the management of livestock grazing on a specific allotment. Within the present regulations the interested public may decline to participate in the preliminary decision making process (i.e. formulation of a proposed grazing decision), but at a later date may become involved in the final decision making process. In addition, the grazing regulations specify that the BLM will cooperate, within the applicable laws, with state, county, or federal agencies in regard to state cattle or sheep sanitary or brand boards and county or other local weed control districts.

The BLM is required to consult, cooperate, and coordinate or seek review from the interested publics on the following actions: (1.) Designating and adjusting allotment boundaries; (2) Apportioning additional forage; (3) Reducing permitted use; (4) Emergency closures or modifications; (5) Development or modification of grazing activity plan; (6) Planning of the range development or improvement program; (7) Renewing or issuing grazing permit or lease; (8) Modifying a permit or lease; (9) Reviewing or commenting on grazing evaluation reports; and (10) Issuing temporary nonrenewable grazing permits.

### 3.4.5 Authorizing Temporary Changes in Use

In Fiscal Year 2002, 18,142 grazing permits or leases were in existence. Grazing permits and leases are normally issued for 10-year terms, but may be issued for less i.e. rule of law, estate rules, and base property lease. For Fiscal Year 2002, the grazing permit system obligated 12.7 million Animal Unit Months (AUMs), with 7.9 million AUMs of authorized use and 4.8 million AUMs not used (Table 3.4.5.1).

#### Table 3.4.5.1 Estimated Authorized Use and Non Use

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<th>Nonuse</th>
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<td>1996</td>
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Temporary nonuse is typically utilized for permittee or lessee convenience (i.e. personal, financial, etc.) The permittee or lessee may apply for temporary nonuse for up to 3 years and the BLM has the discretion to accept or reject the application for nonuse. The BLM uses other methods, for example permittee or lessee mutual agreements, allotment closures, suspension through grazing decisions, etc., to address resource or vegetative concerns.

A permittee or lessee may apply for changes in permitted use that is maintained within the terms and conditions of the permit and the BLM may approve the application. The regulations contain no text to what is meant for “within the terms and conditions of the permit”. If the application is received after the billing notice has been issued the permittee or lessee would be subject to a service charge.

### 3.4.6 Prohibited Acts

The grazing regulations contain prohibited acts in which the authorized officer has the ability to withhold issuance, suspend or cancel a grazing permit or lease, free use permit or any other grazing authorization. These prohibited acts are classified under three sections within the grazing regulations.

In general, the first set of prohibited acts states that permittees and lessees which perform the prohibited acts listed under subsection 4140.1(a) may be subject to civil penalties (e.g., cancellation of permit). Included in the list of prohibited acts under section (a), for example, are: "violating special terms and condition incorporated in permits or leases"; "unauthorized leasing or subleasing"; "failing to comply with the terms, conditions, and stipulations of cooperative range improvement agreements or range improvement permits", etc. This first section of prohibited acts is a major vehicle used by BLM to address grazing violations or to take direct action against permittees or lessees who are violating their permit.

The second set of prohibited acts classified under 4140.1(b) applies to any persons (not just permittees or lessees) performing the prohibited acts included in this subsection. Anyone that violates these prohibited acts is subject to civil and criminal penalties. Included in this list are things like: "allowing livestock....to graze on [BLM-administered] lands...without a permit or lease"; "damaging or removing U.S. property without authorization"; "molesting, harassing, injuring, poisoning, or causing death of livestock authorized to graze on these lands and removing authorized livestock without the owner's consent"; "littering"; "interfering with lawful uses or users including obstructing free transit through or over public lands by force, threat, intimidation, signs, barrier or locked gates", etc.

The third set of prohibited acts is included within 4140.1(c). Performance by a permittee or lessee of any of these prohibited acts is subject to civil penalties. However, there is an important distinction between these prohibited acts and those identified in first two sets. Violations of these acts are subject to civil penalties if the following four conditions are met: (1) public land is involved or affected; (2) the violation is related to grazing use authorized by a BLM-issued
permit or lease; (3) the permittee or lessee has been convicted or otherwise found to be in violation of any of these laws or regulations by a court or by final determination of any agency charged with the administration of these laws; and (4) No further appeals are outstanding. The BLM has been unable to find an instance in which the BLM has utilized the third set of prohibited acts to take an adverse action against or penalize a BLM permittee or lessee.

3.4.7 Appeals

The grazing regulations contain prohibited acts in which the authorized officer has the ability to withhold issuance, suspend or cancel a grazing permit or lease, free use permit or any other grazing authorization. These prohibited acts are classified under three sections within the grazing regulations.

In general, the first set of prohibited acts states that permittees and lessees which perform the prohibited acts listed under subsection 4140.1(a) may be subject to civil penalties (e.g., cancellation of permit). Included in the list of prohibited acts under section (a), for example, are: "violating special terms and condition incorporated in permits or leases"; "unauthorized leasing or subleasing"; "failing to comply with the terms, conditions, and stipulations of cooperative range improvement agreements or range improvement permits", etc. This first section of prohibited acts is a major vehicle used by BLM to address grazing violations or to take direct action against permittees or lessees who are violating their permit.

The second set of prohibited acts classified under 4140.1(b) applies to any persons (not just permittees or lessees) performing the prohibited acts included in this subsection. Anyone that violates these prohibited acts is subject to civil and criminal penalties. Included in this list are things like: "allowing livestock...to graze on [BLM-administered] lands...without a permit or lease"; "damaging or removing U.S. property without authorization"; "molesting, harassing, injuring, poisoning, or causing death of livestock authorized to graze on these lands and removing authorized livestock without the owner's consent"; "littering"; "interfering with lawful uses or users including obstructing free transit through or over public lands by force, threat, intimidation, signs, barrier or locked gates", etc.

The third set of prohibited acts is included within 4140.1(c). Performance by a permittee or lessee of any of these prohibited acts is subject to civil penalties. However, there is an important distinction between these prohibited acts and those identified in first two sets. Violations of these acts are subject to civil penalties if the following four conditions are met: (1) public land is involved or affected; (2) the violation is related to grazing use authorized by a BLM-issued permit or lease; (3) the permittee or lessee has been convicted or otherwise found to be in violation of any of these laws or regulations by a court or by final determination of any agency charged with the administration of these laws; and (4) No further appeals are outstanding. The BLM has been unable to find an instance in which the BLM has utilized the third set of prohibited acts to take an adverse action against or penalize a BLM permittee or lessee.

3.4.8 Fundamentals of Rangeland Health
The grazing regulation changes in 1995 initiated the implementation for assessment of allotments for conformance to the standards for rangeland health. In general, these regulations specify that allotments must meet certain standards for rangeland health. The determination of whether an allotment meets or not meets the standards for rangeland health is formulated through an allotment assessment and if available historical monitoring data.

When an allotment does not meet one of the standards for rangeland health and livestock grazing is a factor for the standard not being met, the grazing regulations directs the authorized officer to ensure that some type of action (i.e. grazing plan, noxious weed treatment, etc.) to be implemented prior to the start of the next grazing season.

At the conclusion of fiscal year 2002, the BLM has assessed 7,437 allotments (58,711,307 acres) of BLM lands. The BLM concluded that 5,671 allotments (32,332,345 acres) met all the standards for rangeland health. The remaining 1,766 allotments (26,378,962 acres) did not meet one or more of the standards. Of the 1,766 allotments, livestock was the causal factor for 1,213 allotments not meeting standards. For the 1,213 allotments not meeting standards with livestock grazing being a causal factor, 1,047 allotments had appropriate action taken by the end of fiscal year 2002 to ensure the allotments are making significant progress towards meeting the standards.

3.5 VEGETATION

3.5.1 General

The dominant vegetation within the affected environment exists on a type of land that is referred to as rangeland. Rangeland is classified as an area where the natural vegetation is dominated by grasses, forbs, and shrubs and the land is managed as a natural ecosystem (SRM 1999). In addition to providing forage for livestock and wildlife, rangelands also provide clean air, high quality water, habitat for native plant species, open space, and recreational opportunities.

Over time, numerous terms have been used to describe rangeland condition. The term "health" gained acceptance when the National Research Council used the term in the title of their 1994 report, Rangeland Health—New Methods to Classify, Inventory, and Monitor Rangelands. Although this was not the first time "health" was used to describe rangeland condition, it was the first time the term was applied in a broad sense and made available for the general public in a book published for nontechnical audiences.

In an effort to provide a definition for rangeland health that multiple audiences could understand and accept, a working task force composed of research institutions, Federal agencies, and private organizations met in 1995 to develop standardized definitions for range management terms. The task force defined rangeland health as "the degree to which the integrity of the soil, vegetation, water, and air, as well as the ecological processes of the rangeland ecosystem, are balanced and sustained. Integrity is defined as maintenance of the structure and functional attributes characteristic of a locale, including normal variability (SRM 1999)."
Whereas the soil, vegetation, water, and air are visible components of rangeland health, several essential ecological processes are often overlooked as important factors that contribute to rangeland health. The ecological processes include the water cycle (the capture, storage, and redistribution of precipitation), energy flow (conversion of sunlight to plant and animal matter), and nutrient cycle (the cycle of nutrients through the physical and biotic components of the environment; Pellant 2000). Within normal variation, these ecological processes will enable a rangeland to support a specific plant community. 

If the ecological processes control the plant community, then management should concentrate on ecological processes to evaluate if rangeland is healthy, since ecological processes determine the composition of the plant community (Pellant 2000, Stringham 2003). Once one of the ecological processes has deteriorated past the point of self repair, the rangeland no longer meets the definition of a healthy rangeland. Managing to maintain stable ecological processes within the plant community contributes to overall rangeland health.

3.5.2 Upland

In the early 1900s, the rangeland management field was undergoing a formation of theories for the understanding of how vegetation responds to introduced activities, such as livestock grazing, and natural disturbances, such as fire. In 1916 Clements introduced the theory that rangeland has a single persistent state, "the climax" in the absence of grazing (Clements 1916). This theory is referred to as the Clementsian theory of range succession and became widely embraced within the ecological field.

The Clementsian theory provides a linear nature of vegetation succession. As described by Stoddard, Smith, and Box (1975) as "retrogression may be caused by drought, fire, or grazing. If this action is temporary, a succession leading back to climax follows." In other words, once a disturbance, i.e. grazing, was removed from an area, that area would return to the vegetative community that existed prior to the disturbance.

In 1949, Dyksterhuis utilized the principles of the Clementsian theory to classify the condition of rangeland. This rangeland condition classification and succession process relied on comparing the present vegetation of an area to the vegetation that was thought to be original to the site, referred to as the "climax vegetation" (Dyksterhuis 1949). Using the climax vegetation at the pristine condition, Dyksterhuis proposed classifying rangeland as excellent (climax vegetation), good, fair, or poor. A graphic of the classic range condition model is contained in Figure 3.5.2.1.

The Dyksterhuis range succession model was adopted worldwide to provide the framework for the management of rangelands. But overtime researchers and land managers recognized that the Clementsian theory and the Dyksterhuis range condition model did not adequately describe the ecological situation that exists in arid and semiarid rangelands. These arid and semiarid rangelands were not returning to the original vegetative community once a disturbance was removed from the system.
Westoby et al. (1989) introduced the state-and-transition model that provided the framework for modeling the vegetative changes occurring on arid and semiarid regions. The main departure from the Clementsian theory was that arid or semiarid rangelands may never return to the original vegetative community once a disturbance is removed. The framework they provided allowed for states, "an abstraction encompassing a certain amount of variation in space and time" and transitions "the movement between states".

Freidel (1991) added to the state-and-transition model by envisioning that once a threshold is crossed a new state is formed, and without intensive inputs, a return to the original state is not possible. Additional research and comments (Laycock 1991, Tauch et al. 1993, Iglesias and Kothmann 1997, Stringham 2003, and Bestelmeyer 2003) provided additional refinement and illustrated applications of the state-and-transition model.

A state-and-transition model for arid and semiarid rangeland contains state, transitions, and threshold definitions:

- State—A variety of vegetative communities that are a function of the soil complex and the vegetative community that inhabits the complex (Stringham et al. 2003).
- Transition—A change from the present stable state that is triggered by natural events, management actions, or both (Stringham et al. 2003). A transition can be:
  - Reversible if it occurs within the state and it is possible to return the existing vegetative community back to the original vegetative community without large inputs and is in managerial timeframe
  - Irreversible if the transition crosses a threshold where it is impossible to return to the original vegetative community without large inputs of energy.
- Threshold—A point in space and time at which a state is no longer able to maintain its present condition. Once this threshold is crossed a new state is formed and it is not possible to revert back to original state without significant inputs.

With the incorporation of the additional information, state-and-transition models were and are presently being refined to provide an accurate description of how upland vegetation responds to management activities or natural disturbances. Figure 3.5.2.2 illustrates how a state-and-transition model would be applied to upland vegetation.

Vegetation Types

The classification of vegetation types within the affected environment are displayed in Table 3.5.2.1. The map units in Figure 3.5.2.3 represent the subclass level of Table 3.5.2.1. These vegetation types were selected due to their consistency with the Federal Geographic Data Committee and the National Vegetation Classification Standard. The plant communities contained within the 14 vegetation types are listed in Table 3.5.2.3.
### Table 3.5.2.1. Vegetation classification noting the division, order, and subclass of vegetation.

<table>
<thead>
<tr>
<th>Division</th>
<th>Order</th>
<th>Class</th>
<th>Subclass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetated</td>
<td>Tree Dominated</td>
<td>Closed Canopy</td>
<td>Evergreen Forest</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Deciduous Forest</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mixed Evergreen–Deciduous Forest</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Open Tree Canopy</td>
<td>Evergreen Woodland</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Deciduous Woodland</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mixed Evergreen–Deciduous Woodland</td>
</tr>
<tr>
<td>Shrub Dominated</td>
<td>Shrubland</td>
<td>Evergreen Shrubland</td>
<td>Evergreen Dwarf–Shrubland</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Deciduous Dwarf–Shrubland</td>
</tr>
<tr>
<td>Herb Dominated</td>
<td>Herbaceous Vegetation</td>
<td>Perennial Graminoid</td>
<td>Annual Graminoid or Forb</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Perennial Forb</td>
</tr>
</tbody>
</table>

| Not included in National Vegetation Classification Standard | Riparian–Wetland |

### Table 3.5.2.2. Plant communities depicted within each of the 14 vegetation types.

<table>
<thead>
<tr>
<th>Vegetation State</th>
<th>Plant Communities within Vegetative State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecological Division</td>
<td>Biome</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Deciduous Forests</td>
<td>Aspen, Aspen–Conifer, Bur Oak, Cypress, Ash, Maple, Russian Olive</td>
</tr>
<tr>
<td>Mixed Evergreen–Deciduous Forest</td>
<td>Combinations of the Evergreen and Deciduous Forest Types</td>
</tr>
<tr>
<td>Evergreen Woodland</td>
<td>Subalpine Fir, Knobcone Pine, Limber Pine, Manrean Pine, California</td>
</tr>
<tr>
<td></td>
<td>Foothill Pine, Juniper, Pinyon Pine, Pinyon–Juniper, Chihuahua–Apache</td>
</tr>
<tr>
<td></td>
<td>Pine, Madrean Pinyon Juniper</td>
</tr>
<tr>
<td>Deciduous Forest</td>
<td>Oregon White Oak, California Oak, Mixed Oak, Mesquite</td>
</tr>
<tr>
<td>Mixed Evergreen–Deciduous Woodland</td>
<td>Oregon White Oak–Conifer, California Oak–Conifer</td>
</tr>
<tr>
<td>Evergreen Shrubland</td>
<td>Southern Rockies Oak–Mahogany Shrub, Southern Rockies Oak–Manzanita</td>
</tr>
<tr>
<td></td>
<td>Scrub, Bitterbrush, Interior Chaparral, California Chaparral,</td>
</tr>
<tr>
<td></td>
<td>Mountain Mohogany, Sagebrush, Sagebrush/Perennial Grass, Rabbitbrush,</td>
</tr>
<tr>
<td></td>
<td>Salt Desert Shrub, Blackbrush, Creosote–Bursage, Mojave Mixed Scrub,</td>
</tr>
<tr>
<td></td>
<td>Great Basin Mormon Tea, Joshua Tree, Great Basin Saltbush Scrub,</td>
</tr>
<tr>
<td></td>
<td>Mojave Creosotebush–Yucca, Shadscale–Mixed Grass–Mixed Scrub, Paloverde–Mixed Cacti–Scrub, Crucifixon Thorn Chihuahuan Creosotebush Scrub, Costal Dune Scrub, Costal Sage, Costal Scrub, Sandsage Shrubland</td>
</tr>
<tr>
<td>Deciduous Shrubland</td>
<td>Mesic Upland Shrub/Hardwoods, Warm Mesic Shrub, Greasewood, Hopsage,</td>
</tr>
<tr>
<td></td>
<td>Catclaw Acacia, Smoketree, Scotch Broom</td>
</tr>
<tr>
<td>Evergreen Dwarf Shrubland</td>
<td>No examples on BLM Lands</td>
</tr>
<tr>
<td>Deciduous Dwarf Shrubland</td>
<td>Alaska and not within the affected environment of this EIS</td>
</tr>
<tr>
<td>Perennial Graminoid</td>
<td>Introduced Wheatgrass (e.g. Crested Wheatgrass, Intermediate Wheatgrass), Meadow, Forest Meadow, Alpine/Subalpine Meadows, Great Basin Grassland California Native Perennial Grassland, Foothills Grassland, Shortgrass Prairie Midgrass Prairie, Tallgrass Prairie, Desert Grassland, Semidesert Tobosa Grass–Scrub, Semidesert Mixed Grass, Chihuahuan Grassland</td>
</tr>
<tr>
<td>Annual Graminoid or Forb</td>
<td>California Disturbed Grassland (the annual plant dominated Central Valley portion of California), Cheatgrass/Mustard, Medusahead, Red Brome, Japanese Brome Ventenata, Diffused Knapweed (annual or perennial), Yellow Starthistle</td>
</tr>
<tr>
<td>Perennial Forb</td>
<td>Spotted Knapweed, Russian Knapweed, Squarrose Knapweed, Rush Skeletonweed, Canada Thistle, Scotch Thistle (biennial), Whitetop (<em>Cardaria</em> spp.), Leafy Spurge, Mediterranean Sage, Purple Loosestrife, Dalmatian</td>
</tr>
<tr>
<td>Riparian–Wetland</td>
<td>Toadflax</td>
</tr>
<tr>
<td>------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Wet Graminoid, Wet Forb</td>
<td></td>
</tr>
</tbody>
</table>

*Evergreen Forests*

Evergreen forests are a tree dominated landscape. The canopy of the trees has overlapping crowns generally forming 60 to 100% of the vegetative cover. In the evergreen forests subclass the evergreen species contribute greater than 75% of the total tree cover.

*Deciduous Forest*

Deciduous forests are a tree dominated landscape. The canopy of the trees has overlapping crowns generally forming 60 to 100% of the vegetative cover. In the deciduous forests subclass the deciduous species contribute greater than 75% of the total tree cover.

*Mixed Evergreen–Deciduous Forests*

Mixed evergreen–deciduous forests are a tree dominated landscape. The evergreen and deciduous species each generally contribute 25 to 75% of the total tree cover. This would include semideciduous, semievergreen, mixed evergreen–deciduous xeromorphic, and mixed needle-leaved evergreen–cold deciduous woody vegetation.

*Evergreen Woodland*

Evergreen woodland is a tree dominated landscape. The area is classified as open stands of trees with crowns not usually touching. The trees generally form 25 to 60% of the vegetative cover. There are instances when tree cover may be less than 25% in cases when the cover of each of the other life forms present (i.e. shrub, dwarf shrub, herb, nonvascular) is less than 25% and tree cover exceeds the cover of the other life forms. Evergreen species contribute greater than 75% of the total tree cover.

*Deciduous Woodland*

Deciduous woodland is a tree dominated landscape. The area is classified as open stands of trees with crowns not usually touching. The trees generally form 25 to 60% of the vegetative cover. There are instances when tree cover may be less than 25% in cases when the cover of each of the other life forms present (i.e. shrub, dwarf shrub, herb, nonvascular) is less than 25% and tree cover exceeds the cover of the other life forms. Deciduous species contribute greater than 75% of the total tree cover.

*Mixed Evergreen–Deciduous Woodland*

Mixed evergreen–deciduous woodland is a tree dominated landscape. The area is classified as open stands of trees with crowns not usually touching. The trees generally form 25 to 60% of
the vegetative cover. There are instances when tree cover may be less than 25% in cases when
the cover of each of the other life forms present (i.e., shrub, dwarf shrub, herb, nonvascular) is
less than 25% and tree cover exceeds the cover of the other life forms. Evergreen and
deciduous species contribute 25 to 75% of the total tree cover. This would include
semideciduous, semievergreen, mixed evergreen–deciduous xeromorphic and mixed needle-leaved evergreen–cold deciduous woody vegetation.

Evergreen Shrubland

Evergreen shrubland is a shrub dominated landscape. The shrubland classification has shrubs
greater than 0.5 meters tall with individuals or clumps not touching or overlapping. The shrub
component generally forms greater than 25% of the canopy cover. The tree cover is generally
less than 25%. Shrub cover may be less than 25% in cases where each of the other life forms
present is less than 25% and the shrub cover exceeds the other life forms. The evergreen shrub
species contribute greater than 75% of the total shrub cover.

Deciduous Shrubland

Deciduous shrubland is a shrub dominated landscape. The shrubland classification has shrubs
greater than 0.5 meters tall with individuals or clumps not touching to overlapping. The shrub
component generally forms greater than 25% of the canopy cover. The tree cover is generally
less than 25%. Shrub cover may be less than 25% in cases where each of the other life forms
present is less than 25% and the shrub cover exceeds the other life forms. The evergreen shrub
species contribute greater than 75% of the total shrub cover.

Evergreen Dwarf Shrubland

There are no examples of evergreen dwarf shrublands on BLM lands.

Deciduous Dwarf Shrubland

Vegetation types included within the deciduous shrubland subclass are located in Alaska and are
not within the affected environment.

Perennial Graminoid

A perennial graminoid area is dominated by at least 25% of the total vegetative cover formed of
perennial graminoids. Trees, shrubs, and dwarf-shrubs form less than 25% of the total
vegetative cover. Perennial graminoid cover may be less than 25% of the total vegetative cover, but it will still exceed the total vegetative cover of other life forms.

Annual Graminoid or Forb

An annual graminoid or forb area is dominated by at least 25% of the total vegetative cover
formed of annual graminoid or forb. Trees, shrubs, and dwarf-shrubs form less than 25% of the
total vegetative cover. Annual graminoid or forb cover may be less than 25% of the total vegetative cover, but it will still exceed the total vegetative cover of other life forms. Vegetation types included within the annual graminoid or forb subclass are

Perennial Forb

A perennial forb area is dominated by at least 25% of the total vegetative cover formed of perennial forb. Trees, shrubs, and dwarf-shrubs form less than 25% of the total vegetative cover. Perennial forb cover may be less than 25% of the total vegetative cover, but it will still exceed the total vegetative cover of other life forms. Vegetation types included within the perennial forb subclass are

Riparian–Wetland

Various definitions of riparian–wetlands exist in the publications. In general, the riparian–wetland subclass is highly influence by the presence of water in the form of flowing rivers, streams, or creeks or in the form of standing water as in reservoirs, bogs, and pits. Vegetation types within riparian–wetland areas would include wet graminoids and wet forbs.

Other

Other is largely classified as private farm lands and is not within the affected environment.

Condition and Trends

Upland vegetative conditions have been classified by using various methods throughout the years. The present methodology to classify upland conditions utilizes the early seral to potential natural community concept. Under this classification the typical management desire is to have the vegetative community as the potential natural community. Exceptions may exist where management desires a disturbance (i.e., an overgrazed site that would result in an early seral rating) for the management of disturbance related species. The vegetative condition rating from the 2002 National Rangeland Inventory is:

Potential Natural Community—6%
Late Seral—31%
Mid Seral—34%
Early Seral—12%
Unknown or Unclassified—17%

Monitoring and data collection that is used to determine upland conditions is also used to formulate the trend for the upland vegetation. Trend is classified as up, static, down or
undetermined. An "up" trend rating is correlated with the upland vegetation progressing toward
the potential natural community. A downward trend is correlated with the upland vegetation
moving away from the potential natural community. Static trend is classified as the vegetation
not moving away from or toward the potential natural community for the upland vegetative
communities. The national trend from the 2002 National Rangeland Inventory for vegetation is:

Up—21%
Static—51%
Down—12%
Undetermined—16%

3.5.3 Riparian

Riparian areas are a highly productive and unique wetland environment that is found adjacent to
rivers and streams. Riparian communities are often referred to as “ribbons of green” in the arid
western United States, since in many landscapes, the riparian areas along watercourses provide
the only visible green vegetation. Though estimates vary, it is generally agreed that riparian
ecosystems comprise less than 1% of the surface area in the 11 western States (Cooperrider et al.
1986; Ohmart 1996). Riparian communities in the western States are the most productive
habitats in North America (Johnson et al. 1977), and provide irreplaceable wildlife habitat for
breeding, wintering, and migration. An estimated 75% of the vertebrate species in Arizona and
New Mexico depend on riparian habitat for some portion of their life history (Johnson et al.
1977). Numerous classification systems have been developed for riparian communities, but the
system proposed by Dick-Peddie and Hubbard (1977) was used for BLM’s Range Reform 1994
EIS, and remains appropriate for this effort.

3.5.3.1 Riparian, Wetland, and Aquatic Communities

Riparian areas were greatly altered by early grazing practices before 1934, when the Taylor
Grazing Act established some control over livestock grazing practices on the public domain
(Leopold 1946). Nonetheless, numerous recent studies clearly document that livestock grazing
continues to degrade riparian habitats (Elmore and Kaufman 1994; Ohmart 1996; Belsky et al.
1999). Although many riparian systems respond quickly to improved management or livestock
exclusion, Clary et al. (1996) found that past grazing practices at their study site in eastern
Oregon had probably altered habitat conditions so drastically that a wide range of grazing
treatments (including no grazing) for a period of 7 years resulted in few differential responses by
plants or animals. Natural recovery of native riparian vegetation may be very slow, even with
reduction or elimination of cattle grazing due to deterioration of stream condition (downcutting,
widening), dominance of nonnative annuals within the riparian area, and loss of native seed
sources (Clary et al. 1996). The continuing decline in the condition of many western U.S.
riparian areas is partly attributable to the more than doubling of the number of cattle grazing western rangelands between 1940 and 1990 (Trimble and Mendel 1995).

Riparian areas combine the presence of water, increased vegetation, shade, and a favorable microclimate to create the most biologically diverse habitat found on BLM lands. Riparian areas are highly prized for their recreation, fish and wildlife, water supply, cultural, and historic values, as well as for their economic values related to livestock production, timber harvest, and mineral extraction (BLM 1998). In the semiarid West, healthy functioning riparian areas perform several critical functions:

- Improve water quality via filtering and sediment removal
- Stabilize streambanks
- Foster soil retention
- Dissipate stream energy during high flow events (reduced flood damage)
- Provide water, forage, and shade for wildlife and livestock
- Act as migration corridors for wildlife and birds
- Create opportunities for recreation (fishing, camping, picnicking, hiking)
- Maintain in-stream flows and restore perennial flow
- Maintain aquatic habitat for healthy fish populations
- Raise and maintain the water table
- Increase habitat diversity for wildlife and plants
- Enhance aesthetics

Livestock grazing causes numerous changes in plant communities. Removal of streamside vegetation can lead to channel downcutting or incision, which lowers the water table near the stream. As the water table drops, riparian plant species and their associated wildlife species are replaced by upland species (sagebrush and juniper), which can tolerate drier soils (Belsky et al. 1999). Removal of vegetation leads to increases in noxious weeds which invade the bare ground. Once established, these weed species crowd out native riparian species and lead to a decline in riparian functioning. Belsky et al. (1999) concluded that many riparian and their associated aquatic habitats have been converted into communities that are now dominated by habitat generalists and weedy species such as cheatgrass (*Bromus tectorum*), cowbirds (*Molothrus spp.*), smallmouth bass (*Micropterus dolomieu*), and by upland or common species such as sagebrush, juniper, and speckled dace (*Rhinichthys osculus*).

Livestock are adapted to mesic habitats, and spend a disproportionate amount of their time in riparian areas. Since riparian areas are among the biologically richest communities in the arid western United States, many of the adverse effects associated with grazing are magnified in riparian habitats (Fleischner 1994). Several studies have shown that damage to riparian habitat as a result of livestock grazing can be reduced by improving grazing methods, herding or fencing cattle away from streams, reducing livestock numbers, or increasing the period of rest from grazing (Armour et al. 1994; Elmore and Kauffman 1994). Studies have shown that improved livestock management allows damaged and denuded streambanks to revegetate and for erosion rates to decline (Elmore and Kauffman 1994). However, Elmore and Kauffman (1994) concluded that the most dramatic and rapid rates of ecosystem recovery are obtained by
livestock exclusion. The results of recent studies and literature reviews (Armour et al. 1994; Elmore and Kauffman 1994; Ohmart 1996; Belsky et al. 1999) only serve to validate Platts (1982) conclusion that livestock grazing is the major cause of impaired stream and riparian environments and reduced fish populations throughout the arid western United States.

3.5.3.2 Riparian Conditions and Trends

In 1993, BLM adopted the Process for Assessing Proper Functioning Condition (BLM 1993) as its standard methodology for determining the condition on riparian resources on public lands. The BLM has aggressively undertaken the task of conducting PFC assessments on its lands, resulting in a decrease of sites classified as Unknown from 55% in 1993 to only 4% in 2001. As a result of its commitment to the standardized PFC assessment technique, BLM has compiled several years of information on the status and trends of riparian conditions on lands under its management.

Riparian habitat on BLM lands in the lower 48 States include 34,137 miles adjacent to flowing water (lotic systems) and 328,660 acres of riparian habitat associated with standing water (lentic systems). As of October 2001, the condition of approximately 96% of lotic riparian areas on BLM lands in the lower 48 States had been assessed by using the Proper Functioning Condition (PFC) assessment technique (BLM 2002). Overall, 42% were classified as being in Proper Functioning Condition, 43% as Functioning-At-Risk (FAR), 11% as Non-Functional, and 4% as Unknown (see Figure 3.5.3.2.1; BLM 2002). Of the miles in the FAR category, 36% were in an upward trend, indicating that the condition is improving and no changes in management are immediately needed. In September 1990, BLM published its Riparian–Wetland Initiative for the 1990’s (BLM 1990). The Initiative set the goal of restoring or maintaining riparian–wetland areas so that 75% or more would be in PFC by 1997. Because only 42% of BLM’s lotic riparian areas were classified as PFC in 2001 indicates that BLM still has a long way to go before this goal is met.

As of October 2001, the condition of approximately 67% of lentic riparian areas on BLM lands in the lower 48 States had been assessed using the PFC assessment technique (BLM 2002). Overall, 51% were found to be in PFC, 15% in FAR, 2% in Non-Functional, and 32% were Unknown (BLM 2002; see Figure 3.5.3.2.2). Over the past 15–20 years, BLM has focused a great deal of its restoration efforts on riparian areas. Riparian areas typically respond quickly to management changes, and in some instances recovery has been dramatic. Many of the restoration efforts have been in highly visible areas, where the public has taken the lead in changing land management practices. Despite several highly publicized and visible successes, trends indicate that the overall improvement in the condition of riparian habitat on BLM lands is minimal. A comparison of lotic riparian conditions on BLM lands in the lower 48 States from 1998 to 2001 shows little improvement in overall condition of riparian areas (Table 3.5.3.2.1). While the percentage of miles in PFC has increased over the 4-year period, the percentage of miles classified as Non-Functional has also increased. The largest change from 1998 to 2001 is in the Unknown category, which dropped from 20% to 4%, demonstrating BLM’s commitment to actively evaluating the condition of its
riparian resources. A similar comparison of lentic riparian conditions on BLM lands in the lower 48 States from 1998 to 2001 shows slightly more improvement in overall condition of lentic riparian–wetland areas (Table 3.5.3.2.2). The percentage of acres in PFC has increased over the 4-year period, while the percentage of acres classified as Functioning-at-Risk and as Non-Functional have changed very little. Once again, for lentic areas the largest change from 1998 to 2001 is in the Unknown category, which dropped from 44% to 32%, demonstrating BLM’s commitment to actively evaluating the condition of its riparian resources.

Table 3.5.3.2.1
Comparison of Condition of Lotic Riparian Habitat on BLM Lands, 1998 vs. 2001

<table>
<thead>
<tr>
<th>Condition of Riparian Area</th>
<th>1998 Total Miles in Lower 48 States</th>
<th>2001 Total Miles in Lower 48 States</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Functioning Condition</td>
<td>13,230 36%</td>
<td>14,314 42%</td>
<td>+6%</td>
</tr>
<tr>
<td>Functioning-At-Risk</td>
<td>12,900 35%</td>
<td>14,657 43%</td>
<td>+8%</td>
</tr>
<tr>
<td>Non-Functional</td>
<td>3,251 9%</td>
<td>3,688 11%</td>
<td>+2%</td>
</tr>
<tr>
<td>Unknown</td>
<td>7,310 20%</td>
<td>1,478 4%</td>
<td>–16%</td>
</tr>
</tbody>
</table>

Table 3.5.3.2.2
Comparison of Lentic Riparian–Wetland Habitat on BLM Lands, 1998 vs. 2001

<table>
<thead>
<tr>
<th>Condition of Riparian Area</th>
<th>1998 Total Acres in Lower 48 States</th>
<th>2001 Total Acres in Lower 48 States</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Functioning Condition</td>
<td>147,923 41%</td>
<td>166,796 51%</td>
<td>+10%</td>
</tr>
<tr>
<td>Functioning-At-Risk</td>
<td>45,135 13%</td>
<td>48,320 15%</td>
<td>+2%</td>
</tr>
<tr>
<td>Non-Functional</td>
<td>7,557 2%</td>
<td>6,409 2%</td>
<td>0%</td>
</tr>
<tr>
<td>Unknown</td>
<td>166,819 44%</td>
<td>107,135 32%</td>
<td>–12%</td>
</tr>
</tbody>
</table>

3.6 FIRE AND FUELS

Recurring fires are often an essential part of the natural environment—as natural as the rain, snow, or wind (Hardy et al. 2001). Evidence of past fires can be found in charcoal layers of lakes, in fire scars on trees, and adaptations of many plants. Many ecosystems in North America are fire dependant (Heiselman 1978).

Before European settlement, fire was the most common influence on the landscape in the Intermountain West (Gruell 1983), and in most of the Southwest (Wright 1990). In the drier parts of the West, the significance of the effects of fire on vegetation is difficult to separate from the effects of drought (Wright 1990). Woody species have become dominant in areas where frequent fires used to control them. Successional changes on some land today probably did not happen before the 1600s, when frequent fires suppressed woody vegetation (Gruell 1983).
loss of species diversity and site degradation has occurred from human intervention in fire regimes. This has correlated into larger and more severe fires in the last few decades.

After Europeans settled the West, grazing and cultivation reduced fuels and organized fire suppression began. Thus the number and size of fires was drastically decreased (Gruell 1983; Swetnam 1990). Fire exclusion has had the greatest affect on ecotones, where naturally occurring fires previously removed woody species. Ferry and others (1995) concluded that altered fire regimes was the principal agent of change affecting the vegetative structure, composition, and biological diversity in five major plant communities totaling over 350 million acres in the United States. Leenhouts (1998) compared the estimated land area burned 200–400 years ago (preindustrial) to data in the contemporary contiguous United States. The result suggests that ten times more acreage burned annually in the preindustrial era than does in modern times. After accounting for loss of wildland area due to land use changes such as urbanization and agriculture, Leenhouts concluded that the remaining wildland is burned about 50% less than fire frequency under historical fire regimes.

For more than 50 years the fire policy of fire exclusion has had major effects on ecosystem health. The problems have been foreseen for some time. Sixty years ago Weaver (1943) reported that the “complete prevention of forest fires in the ponderosa pine region of California, Oregon, Washington, northern Idaho, and western Montana has certain undesirable ecological and silvicultural effects [and that]…conditions are already deplorable and are becoming increasingly serious over large areas.” Also, Cooper (1961) stated, “…fire has played a major role in shaping the world’s grassland and forests. Attempts to eliminate it have introduced problems fully as serious as those created by accidental conflagrations.” Recently concerns about the loss of biodiversity have surfaced as a result of the suppression of fire.

In 2000, the fire season was one of the worst on record and thus prompted then President Clinton to ask the Secretaries of Agriculture and Interior to prepare a report that recommends how best to respond to the year’s severe wildfires, reduce the effects of those fires on rural communities, and ensure sufficient firefighting resources in the future (USFS 2000). This report has shaped the role of fire management for the past few years. In August of 2001, the Federal Land Management Agencies published the Ten-Year Comprehensive Strategy, thus setting the stage for fire management practices for the next 10 years. In this document, one of the five key goals is to restore fire-adapted ecosystems. Four guiding principles and eight action items under this goal are the driving forces of fire and fuels treatments that are to enhance ecological health.

In August of 2002, President Bush visited the Squires fire in Oregon and announced his Forest Health Initiative. This Initiative is meant to help the Federal Land Management agencies to conduct fuels projects in a more efficient manner and stay within the scope of the National Environmental Policy Act (NEPA).

3.6.1 Fire Regimes

There are many different fire regimes throughout the West. These range from frequent, low-intensity fires to long fire return intervals with stand replacement fires. A standard vegetation
type characterizes each fire regime. Fire regimes are classified as: understory, mixed, and stand replacement. The vegetation classes are shrublands, woodlands, and grassland ecosystems. Shrublands include sagebrush, desert shrub, southwestern shrub steppe, and chaparral mountain ecosystems. Woodlands include southwestern ponderosa pine, pinyon–juniper, and oak. Grasslands include plains, mountain, desert, and annual grass ecosystems (Paysen et al. 2000).

3.6.2 Understory Fire Regimes

Fires were frequent and of low intensity. Light surface fires burned at intervals averaging less than 10 years and as often as every 2 years (Weaver 1951; Dieterich 1980). All material was consumed on the forest floor during a fire. Trees were not usually killed and the damage was highly variable (Paysen et al.).

Over the past 100 years, the structural and compositional changes in ponderosa pine have been repeatedly documented (Cooper 1960; Biswell et al. 1973; Brown and Davis 1973). What was once an open, parklike ecosystem maintained by frequent, low-intensity fires is now a crowded, stagnated forest. In addition to stand changes, general fire absence has lead to uncharacteristically large accumulations of surface and ground fuels (Kallender 1969).

Pre-1900 and early 1900s photos document that ponderosa pine stands were much more open. Explores, soldiers, and scientists described a forest quite different from that seen today. The open presettlement stands, characterized by well-spaced older trees and sparse pockets of younger trees, had vigorous and abundant herbaceous vegetation (Cooper 1960; Biswell et al. 1973; Brown and Davis 1973). Frequent naturally occurring fires maintained this situation. Large woody fuels in the form of branches or tree boles, which fall infrequently, rarely accumulated over a large area. When they were present, subsequent fires generally consumed them, reducing grass competition and creating mineral soil seedbeds, which favored ponderosa pine seedling establishment (Cooper 1960).

In the early 1900s, forest practices and reduced incidence of fire led indirectly to stagnation of naturally regenerated stands and unprecedented fuel accumulation (Biswell et al. 1973). Stand stagnation occurs on tens of thousands of acres throughout the southwest (Cooper 1960; Schubert 1974) and still exists where mechanical treatments or fire have not taken place.

A combination of heavy forest floor fuels and dense sapling thickets acting as ladder fuels, coupled with drought conditions, frequent lightning, and human-caused ignitions, has resulted in a drastic increase in high-severity wildfires in recent years.

3.6.3 Mixed Fire Regimes

The pinon–juniper woodlands cover about 47 million acres in the Western United States (Evans 1988). Pinon–juniper woodlands in the United States are commonly divided into the Southwestern and the Great Basin woodland ecosystems on the basis of species composition (Paysen et al. 2000). True pinon is common in the Southwest and is usually associated with one or several species of junipers, including one-seed, Utah, alligator, and Rocky Mountain junipers.
Singleleaf pinon is identified with the Great Basin and is generally associated with Utah Juniper. Other species of pinon occur in southern California, Arizona, south of the Mogollon Rim, along the United States–Mexico border, and in Texas (Bailey and Hawksworth 1988). Long-term fire frequencies for pinon–juniper woodlands have not been clearly defined and are the topic of continuing study and discussion. However, there is an agreement that fire was the most important natural disturbance before the introduction of livestock, particularly the large herds of the nineteenth century (Gottfried et al. 1995). It is suspected that before the introduction of livestock use, large areas of savanna and woodland periodically burned. These fires could have occurring during dry years that followed wet years when substantial herbaceous growth developed (Rogers and Vint 1987; Swetnam and Baisan 1996).

In the Intermountain West, presettlement mean fire intervals of less than 15 years were documented in the sagebrush steppe where western juniper now dominates (Miller and Rose 1999). In three sample areas in New Mexico, pinon trees have mean fire return intervals of 28 years with a range of 10–49 (Wilkins 1997). In areas of low productivity, fire return intervals could be greater than 100 years, and occurred more frequently in extreme conditions. However where grass cover was more continuous, fire return intervals were more frequent (10 years; Paysen et al. 2000). In the Great Basin, fire susceptibility depends on the stage of stand development (Meeuwig et al. 1990). In young stands, ground cover may be sufficient to carry a fire, but in older stands ground cover is sparser and may not be sufficient to carry a fire.

In Western oak forest, the fire regimes have been historically classified as frequent low intensity; however, in more recent times these have become more intense with longer return intervals.

3.6.4 Stand Replacement Fire Regimes

Vegetation types with this fire regime are varied. Broadly speaking, they include grassland and shrubland vegetation types. Shrublands consist of desert shrublands and the chapparal mountain shrub type.

Fire frequencies cannot be measured precisely, but most likely occurred every 4 to 20 years (Gruell 1985a). Lightning was probably more important in valleys surrounded by forests than in the grasslands (Gruell 1985b). Fires would burn over large areas in the grasslands, with only natural barriers or weather changes to stop them. These fires would sometimes cover hundreds of square miles (Paysen et al. 2000).

In Wyoming, big sage fire intervals ranged from 10 to 70 years (Young and Evans 1981; Vincent 1992). In arid land, fire history reports fire intervals between 5 and 100 years (Wright 1986). Griffiths (1910) and Leopold (1924) reported that before 1880, desert grasslands produced more grass and fire recurred at approximately 10-year intervals.

In chaparral, fire intervals for large fires (more than 5,000 acres) typically ranged from 20 to 40 years (Wright and Bailey 1982).

3.7 SOILS
3.7.1 Upland Soils

Soils in the analysis area are highly diverse, reflecting the enormous range in environmental conditions found on public lands in the West. Soil development and formation are controlled by five soil-forming factors: (1) climate, especially temperature and precipitation; (2) living organisms, such as native vegetation, microorganisms, and animals; (3) parent material properties, such as chemical and mineralogical composition, grain size, and resistance to weathering; (4) topographic variables such as slope steepness and shape, aspect, position on the landscape, and drainage pattern; and (5) the relative time soils are subject to the soil forming processes (Jenny 1961). These soil-forming factors have combined in the development of seven major soil orders common on public lands in the West. The soils represented by these soil orders have unique properties that greatly influence the productivity, ability to respond to management, and susceptibility to degradation of the public lands of the West (Figure 3.7.1.1).

Alfisols are moderately leached forest soils that occur in cool, moist regions. They are moderately well developed soils that contain an appreciable clay accumulation in their subsoil. Alfisols are common in the coniferous and deciduous forests and mountain shrub communities at higher elevations, and areas influenced by moist maritime weather patterns in the West. These soils are relatively productive and respond favorably to improved land management practices.

Andisols are soils that formed in volcanic ash or other volcanic ejecta. The poorly crystalline volcanic glass composition give them unique chemical and physical properties, including high water-holding capacity and the ability to make large quantities of phosphorus unavailable to plants. These soils are mainly concentrated in forested mountains of the Marine and Temperate Steppe Divisions. They are highly productive and respond favorably to improved land management practices.

Aridisols are soils that developed in very dry conditions. They are light colored; low in organic matter; and may contain accumulations of calcium carbonate, soluble salts, sodium, or gypsum. Aridisols are extensively found in the Temperate Desert and Tropical–Subtropical Desert Divisions and drier regions of the Temperate Steppe and Tropical–Subtropical Steppe Divisions. They support millions of acres of rangeland vegetation communities such as desert shrub, sagebrush, and pinon–juniper. Their dry moisture status much of the year and low organic matter content reduces their productivity. This results in a slower or decreased ability to respond favorably to improved land management practices. The typically harsh environmental conditions can also make them more susceptible to degradation from poor land management practices.

Entisols are soils with weakly developed profiles and are considered young in the soil forming processes. They often occur in recently deposited material or on steep, highly erosive topographic positions. Entisols are very extensive on public lands in the West and are most common in the Temperate Desert and Tropical–Subtropical Desert Divisions arid and semiarid environments supporting desert shrub and sagebrush communities. These soils may respond more slowly to improved land management practices and are often susceptible to degradation from poor land management practices.

Inceptisols have more well-developed profiles than Entisols but are still considered young soils with weakly developed profiles. They are widely distributed and occur under a wide range of ecological settings, including steep slopes, young geomorphic surfaces, and resistant parent
materials. Inceptisols are common in the coniferous and deciduous forests of mountainous
portions of the Marine and Temperate Steppe Divisions, are fairly productive when provided
adequate moisture, and respond well to improved land management practices.

Mollisols are characterized by a thick, dark surface horizon with high organic matter content.
These fertile soils are extensive in the grasslands of the Temperate Steppe, Mediterranean,
Temperate Desert and Tropical–Subtropical Steppe Divisions. Mollisols support the plains
grassland, chaparral–mountain shrub, mountain and plateau grasslands, higher precipitation
sagebrush steppe, and coniferous–deciduous forest community types with an appreciable grass
understory. These soils are highly productive and respond well to improved land management
practices.

Vertisols are soils very high in clay content that have extreme shrink–swell properties. These
soils are found on minor acreage in the Mediterranean, Tropical–Subtropical Steppe, and
Temperate Steppe Divisions. Vertisols support a variety of grassland and shrubland vegetation
communities. These soils present considerable engineering problems, including fence building.
Depending on available rainfall, Vertisols can be productive and respond well to improved land
management practices.

The long-term productivity and health of the soil depends on maintenance of the soil physical,
chemical and biological properties in a favorable condition. Water and wind erosion are
influenced by climate, topography, soil properties and condition, watershed cover, and land use.

Cover is especially important in protecting the soil from the erosive forces of water and wind.
Live plant cover and litter intercept precipitation, reducing raindrop effect and overland flow,
and allowing more infiltration and less runoff and erosion. Cover and soil surface roughness
also reduce wind speed, thus minimizing wind erosion.

Upland rangeland water erosion processes include sheet–rill erosion, gully erosion and
landslides. Sheet–rill erosion is less noticeable but is very widespread and can slowly reduce
the productivity of rangeland soils. Gully erosion is more noticeable and can alter the
hydrology of the landscape. Uplands on many rangeland landscapes have an extensive gully
network, replacing former grass-covered swales. This has altered water flow patterns, resulting
in increases in size and frequency of runoff events and sediment yield to streams. Landslides
mainly occur on very steep slopes with enough precipitation to saturate the soil to a restrictive
layer and are not prevalent on the majority of rangelands.

Soil compaction can result from persistent trampling or vehicle traffic during periods when the
soil is moist and least able to resist structural degradation. Soil compaction can reduce water
infiltration, water movement through the soil profile, water availability to plants, and soil
aeration, and increase runoff.

Soil organisms have a profound effect on the maintenance of soil productivity and health.
Biological soil crusts play a critical role in carbon and nitrogen fixation, soil surface stability,
and reduction of annual grass invasion in many rangeland ecosystems. They can also influence
infiltration, runoff, and soil moisture retention depending on crust structural characteristics, soil
surface texture, and other factors. Many rangeland shrubs and bunchgrasses depend on
mycorrhizal fungi to help them obtain water and nutrients. Soil bacteria are important in
nitrogen fixation and formation of stable soil aggregates on rangelands. Bacteria are capable of
filtering and degrading a large variety of humanmade pollutants in the soil and groundwater so
that they are no longer toxic. Soil arthropods and other soil animals create large soil pores
essential for infiltration and soil water movement. They also help mix soil layers and
incorporate soil organic matter into the soil. These and other soil organisms help maintain the soil food web that is essential for cycling of nutrients and other vital functions on rangelands. As much as 90% of rangeland productivity occurs in the soil (Coupland and Van Dyne 1979). Soil organisms depend on soil organic matter to survive. Any activities that permanently reduce soil organic matter content will have a profound effect on rangeland health and long-term productivity.

3.7.2 Riparian

Riparian soils are formed by sediment eroded from adjacent uplands and deposited in the valley bottoms, stream sediment deposition during overbank flooding, lateral deposition of sediment from stream meander migration, and sediment deposition on lake bottoms and shores. The pedogenic properties of riparian soils dominantly result from repeated periods of saturation, flooding or ponding. Saturation combined with anaerobic, without oxygen, microbial activity often causes a depletion of oxygen in the soil. This process can result in the accumulation of organic matter and the reduction, translocation, or accumulation of iron, manganese, sulfur, or other reducible elements (USDA Natural Resources Conservation Service 1998). These processes create complex patterns of soil characteristics, such as texture, age, and degree of formation, over relatively small areas in riparian systems. Riparian soils are vitally important for capturing, storing, and releasing water in riparian areas, supporting productive vegetation communities, groundwater recharge, perching groundwater, streambank formation, storing nutrients, filtering pollutants, streambank erosion protection, and determination of sediment characteristics. Disturbances which result in reduction of plant cover or deep rooting characteristics, streambank sloughing, accelerated erosion, compaction, loss of the capability to perch water, or other soil characteristics can degrade the functional integrity of a riparian area.

3.8 WATER RESOURCES

3.8.1 Riparian Hydrology

Riparian communities support several hydrological interactions that benefit the overall ecosystem. Vegetation overhanging streambanks helps regulate water temperature, indirectly maintaining dissolved oxygen levels needed for aquatic life. Dense vegetation and relatively level slopes slow runoff from uplands as it passes through the riparian zone, thereby allowing sediment to be deposited and groundwater to recharge. Similarly, natural floodplain obstructions, like vegetation, control overbank flooding. Being fed by alluvial groundwater, streams often remain perennial during dry seasons and extended droughts. In addition to overbank flooding and upland runoff, groundwater is recharged during high flows through channel banks.

Stream channels formed in alluvium depend upon the adjacent riparian zone for their stability. Channels regulate the energy of flowing water by adjusting channel features, including width and depth, streambed slope, and the roughness of the channel bed and banks. (Features such as vegetation, bed materials, and gravel bars cause Roughness.) Streams functioning in a state of
dynamic equilibrium, in which there is a balance between erosion and deposition, experience no net loss or gain in sediment load. As flow and sediment supply vary, channel features adjust in an attempt to achieve a new balance.

The adjustments observed are all in factors related to the dissipation or conservation of energy, and to the distribution of energy expenditure (Leopold 1994).

Riparian communities are degraded by on and off-site disturbances. Sensitive hydrologic interrelations exist between the condition of uplands and their associated riparian communities. Uplands in nonfunctioning condition often experience accelerated surface runoff, higher sediment yields, and increased erosion within the channel systems (DeBano and Schmidt 1989). Direct disturbance, resulting from removal of protective riparian vegetation, decreases the function and stability of the riparian community.

Stream-riparian systems experiencing increases in runoff and sediment from upland disturbances or increased susceptibility to erosion from direct disturbances often cannot adjust their channel features to achieve equilibrium. If sediment increased beyond the stream's ability to carry it, channels tend to aggrade and form multiple interwoven braided channels. In another type of system, where channel erodability or streamflow is increased, with relatively low sediment production, channels will erode.

Streams with coarse-textured substrates and fine-textured banks tend to laterally erode, becoming shallower and wider, often creating braided conditions. Stream channels with fine-textured substrates, common at lower elevations, usually erode vertically, forming gullies.

Shallow and wide streams are sensitive to overgrazing because the stability of their bank depends on the type and vigor of the streamside vegetation. Such streams are considered hydrologically nonfunctioning because streamflow and sediment supply are not in balance and these streams have lost many beneficial riparian functions: overbank flooding, floodplain sediment deposition and soil forming processes, alluvial groundwater recharge, maintenance of water quality, and reduction of peak flows.

When disturbance factors are removed, most riparian-stream systems begin a relatively rapid recovery toward proper functioning condition. Incised or laterally widened streams, however, with low sediment yields, with or without fluctuating flow patterns, do not recover rapidly.

### 3.8.2 Water Quality

The primary water quality issues associated with livestock grazing on Federal lands in the study area are nonpoint source pollutants, including: sediment, fecal coliform bacteria (used as an indicator for other fecal-borne pathogens), nutrients, and salinity.

The Water Quality Act of 1987 (P.L. 100-4) sets forth agency responsibility for nonpoint source water quality management on public lands (Section 313).
It is recognized that Best Management Practices (BMPs) are the primary mechanism for enabling the achievement of water quality standards. The BLM strategy by which nonpoint source controls including BMPs are selected to achieve water quality standards includes the following iterative process: (1) design of BMPs based upon site specific conditions, technical, economic, and institutional feasibility, and the water quality standards of those waters potentially effected; (2) monitoring to ensure that practices are correctly designed and applied; (3) monitoring to determine: a) the effectiveness of practices in meeting water quality standards, and b) the appropriateness of water quality criteria in reasonably assuring protection of beneficial uses; and (4) the adjustment of BMPs when it is found that water quality standards are not being protected to a desired level, or the possible adjustments of water quality standards on the basis of considerations in 40 CFR 131.

The leading causes of nonpoint source water quality impairment are siltation (sediment), nutrients, bacteria, metals (primarily mercury), and oxygen depleting substances. Water pollution threatens public health both directly through the consumption of contaminated food or drinking water, and indirectly through skin exposure to contaminants present in recreational or bathing waters. Contaminants that threaten human health include toxic chemicals and waterborne disease causing pathogens such as viruses, bacteria, and protozoan.

In Water Quality Act Section 305(b) reports to the Environmental Protection Agency (EPA) in 2000 the 11 western states that contain lands managed by the BLM reported that, statewide, aquatic life on 63% of their stream miles assessed were supported or threatened. Thus, 36% of the stream miles assessed were partly or not supporting aquatic life. Nonpoint sources of pollution from urban and agricultural lands are reported as the leading source of water quality impairment.

BLM participates in a Federal program directed by the Colorado River Salinity Control Act (P.L. 98-569) to reduce salt loading in the Colorado River. Salt concentrations on Federal lands are highest in marine shale geologic settings, where annual precipitation averages less than 12 inches.

It has been estimated that Federal land contributes 8% of the total salt load of the Upper Colorado River Basin from nonpoint sources (BLM 1980). Salinity from nonpoint sources increases with sediment yield. Vegetation cover is the most important management variable influencing runoff and sediment yields (BLM 1987). Salinity and vegetation management are a consideration in all projects initiated in the Colorado River Basin.

3.9 AIR QUALITY

The Clean Air Act of 1990 (P.L. 101-549) required the EPA to develop standards for the maximum concentration of certain pollutants that should appear in healthy ambient air. These standards are called National Ambient Air Quality Standards (NAAQS). The EPA has establish NAAQS for seven criteria pollutants: Oxides of Sulphur (SOX), Oxides of Nitrogen (NOX), Ozone (O₃), Carbon Monoxide (CO), Particulate Matter with a diameter less than 10 microns (PM10), Particulate Matter with a diameter less than 2.5 microns (PM2.5) and lead. The EPA
reevaluates the NAAQS periodically to ensure the limits accurately reflect the most present health data for air pollution.

Regions are required to monitor ambient area for compliance with NAAQS standards. If a region exceeds a standard for a pollutant, EPA can designate the area as a non-attainment area. Nonattainment areas then must submit plans to EPA called State Implementation Plans (SIPs) that show the limits and regulations the region will impose as well as modeling data to show EPA the SIP will bring the area into compliance with the NAAQS standard.

Attainment regions are regulated by Prevention of Significant Deterioration (PSD) requirements. To ensure that the levels of pollutants in clean air areas do not rise unnecessarily, the Clean Air Act separates areas into PSD Class I, II, and III designations depending on the need for significant protection.

PSD Class I areas, predominantly National Parks and certain wilderness areas, have the greatest limitations. Virtually any degradations would be significant. Areas where moderate, controlled growth can occur are designated PSD Class II. PSD Class III areas allow the greatest degree of effects.

A total of 114 Class I areas have been designated in the EIS area, consisting predominantly of lands administered by the National Park Service, U.S. Fish and Wildlife Service, and the Forest Service. Most Class I areas are in mountainous regions, but some are at lower elevations. All BLM-administered lands are classified PSD Class II.

The air quality above most western Federal lands cannot be easily described, since monitoring data have not been gathered for most pollutants outside urban areas. In less-developed portions of the West however, ambient pollutant levels are expected to be near or below the measurable limits. Less developed areas with large amounts of dry or disturbed vacant lands can, however, approach or even exceed the NAAQS for PM10, since large amounts of particulate matter can be produced by strong winds blowing over vacant lands.

3.10 WILDLIFE
  3.10.1 Terrestrial
  3.10.2 Migratory Birds
  3.10.3 Riparian, Wetland, and Aquatic Communities

Riparian ecosystems are extremely productive and offer a unique combination of habitat niches for fish and wildlife. Riparian communities provide abundant food, shelter, and water, and are used extensively by wildlife at all stages of their life history. Riparian ecosystems are important for a wide range of physical and biological features, including:

- Dense vegetation cover for shelter, shade, nesting, and resting
- Presence of surface water and abundant soil moisture
- Diverse vegetation structure provides a range of habitat types
- Linear nature provides protected pathways for wildlife migration
Numerous studies have documented the effects of livestock grazing and trampling on aquatic and riparian species in the western United States. Belsky et al. (1999) summarized these effects and their effects on various species groups. Their findings are summarized as follows:

- Fish species diversity, abundance, and productivity decline due to higher water temperatures, increased turbidity, lower summer flows, decreased dissolved oxygen, damaged spawning beds, loss of plant cover, fewer insects, and decreased hiding cover. These habitat changes lead to loss of salmonids and other cold-water species, loss of avian and mammalian predators, and replacement of cold-water aquatic species with warm-water species.

- Aquatic invertebrate abundance, diversity, and species composition is altered by higher water temperatures, increased fine sediments, lower dissolved oxygen levels, and lower late season flows. Alteration of the aquatic invertebrate community results in loss of species that require clean, cold water and coarse substrate, increase in algae feeders, fewer palatable species, and less food for higher trophic levels.

- Amphibian and reptile abundance and species composition declines as a result of loss of prey base, loss of thermal cover and protection from predators, increased aridity, and decreased vegetation structure. Declines in amphibian and reptile numbers leads to loss of biodiversity and prey for higher trophic levels and loss of native species.

- Bird diversity, abundance, and species composition is altered due to reduction in food, water quality and quantity, loss of perches, nesting sites, and protective plant cover. The alteration of bird species composition results in a reduction in biodiversity, replacement of riparian specialists by upland species and generalists, and loss of some neotropical migrants.

- Mammal diversity, abundance, and species composition is often altered due to loss of food sources, change to a warmer, drier, more exposed environment, and behavioral modifications such as avoidance of livestock. Changes in the mammal population lead to changes in predator–prey relations, lessened beaver activity and loss of wetlands they create, and replacement of riparian species with upland species and generalists.

The abundance of threatened and endangered species is reduced due to loss of habitat, disturbance, livestock herbivory, competition with livestock, and habitat fragmentation. The reduction in the abundance of threatened and endangered species could lead to possible extinction.

Due to their importance to a wide range of both terrestrial and aquatic species, riparian ecosystems serve as repositories for biodiversity throughout the West (Belsky et al. 1999). Several studies have shown that livestock grazing has led to a decline in neotropical migratory birds that utilize riparian habitat (Saab et al. 1995). The declines are particularly apparent for ground-nesting species and species that forage in riparian areas with heavy shrub or ground cover (Saab et al. 1995). Riparian areas attract a disproportionate number of migrating birds and provide primary habitat for waterfowl and shorebirds (BLM 1994). Wet meadow areas and riparian zones serve as critical feeding and watering sources for sage grouse (Hockett 2002). Larger vertebrate species also depend on riparian areas. Mule deer and elk use riparian areas for food and cover and for travel and migration corridors (Thomas et al. 1979). Pronghorn antelope
use riparian areas extensively in summer (Cooperrider et al. 1986). Flather et al. (1994) reported that livestock grazing was the fourth leading cause of species endangerment in the U.S. and the second leading cause of plant endangerment. The same report also found that within the Arizona Basin and the Colorado–Green River Plateau, livestock grazing is the primary cause of species being federally listed as threatened or endangered. Livestock grazing often indirectly affects wildlife associated with spring and seep ecosystems. Throughout the west, seeps and springs have been altered, and in many cases completely dewatered, in order to provide water for livestock. Springs are developed and their water is piped to a trough or pond, resulting in loss of riparian vegetation and the animals that are dependent on the natural spring ecosystem.

Springsnails are aquatic mollusks that occur primarily as relict populations of formerly widespread species (BLM 2001). There are several species of springsnails on the federal endangered species list and numerous others are found on BLM sensitive species lists. Livestock grazing directly affects springsnail populations through trampling, spring channel alteration, and degradation of water quality (Frest 2002).

3.10.3.1 Cold Water Fisheries

Fish populations are directly affected by changes in riparian habitat. Numerous studies document reduced trout populations as a result of habitat loss and degradation caused by livestock grazing (Platts 1991; Behnke 1992). Ungrazed streams on the Tonto and Santa Fe National Forests had twice as many trout and twice the trout biomass as did grazed streams (Rinne and Lafayette 1991). The native cutthroat trout population in Huff Creek, Wyoming, increased from 36 fish per mile to 444 fish per mile in response to livestock exclusion followed by improved livestock management (Chaney et al. 1990). Measurements showed that Huff Creek’s channel narrowed by about one-third, doubled in depth, and water temperatures declined in response to changes in livestock management (Chaney et al. 1990). BLM’s efforts to protect and expand populations of native cutthroat trout have been hampered by livestock grazing in some areas. Changes in riparian and aquatic habitat due to livestock grazing often give nonnative trout a competitive advantage over native trout (Griffith 1988). Increased sediment loads and higher summer water temperatures due to riparian degradation favor exotic introduced trout species over native cutthroat trout (Stefferud 1988).

Streamside grazing removes vegetation, leading to warmer water temperatures due to loss of shade, and higher levels of sediment in the stream as a result of increased soil erosion. Increased sediment can smother fish eggs in spawning areas and lead to reduced abundance of young fish. Livestock remove vegetative cover and compact soils, which slows the rate of water percolation and infiltration, resulting in unnaturally high and frequent runoff events. The increased erosion and subsequent frequent flood events alter cold water fish habitat by filling pools and substrate with silt, uprooting riparian vegetation, widening stream channels, and lowering water tables (Bock et al. 1992). Wider and shallower stream channels provide less hiding cover for fish and leave them more susceptible to predation. There is a clear and documented connection between the health of upland vegetation and the health of riparian communities and aquatic habitat. Chaney et al. (1993) noted that accelerated runoff from uplands triggers downcutting of soft substrate streams. The downcutting lowers both the streambed and water table, desiccates the riparian area, destabilizes streambanks, and increases erosion and further accelerates runoff.
The cumulative effect of declining riparian condition is that coldwater species such as trout and salmon decline, and are replaced by less valuable and more tolerant species (Belsky et al. 1999).

Livestock grazing has major effects on stream channel morphology. As the protective riparian vegetation is removed, livestock shear off streambanks and the banks begin to erode (Bowers et al. 1979). After the streambanks become broken down and eroded, the stream channel becomes wider and shallower. Wide shallow streams have much greater surface area exposed to solar radiation and evaporation. Eroding streambanks contribute excessive sand and silt accumulation over the stream substrate, leading to loss of aquatic invertebrates and smothering of fish eggs (Armour 1978).

Figure 3.10.3.1.1 shows the sequential degrading of a stream channel and its associated riparian community (BLM 1993). A healthy riparian community protects streambanks from erosion and maintains a high water table and productive habitat for fish and aquatic invertebrates (State A in Figure 3.10.3.1.1). As the stream channel erodes, the wet meadow areas become disconnected from the water table and dry out (State B in Figure 3.10.3.1.1). Sagebrush and rabbitbrush encroach on the site resulting in a reduction in the amount and quality of forage. In the absence of protective riparian vegetation, the stream channel is likely to become incised and form a new base level (State C in Figure 3.10.3.1.1). Once the channel becomes incised, it is classified as nonfunctional. Over time, the incised channel widens and a new floodplain begins to develop at the new base level (State D in Figure 3.10.3.1.1). Figure 3.10.3.1.2 shows the stages in the recovery of a stream-associated riparian area.

3.11 SPECIAL STATUS SPECIES
3.12 WILD HORSES AND BURROS

The Wild and Free-roaming Horse and Burro Act of 1971, as amended, states that wild horses and burros are living symbols of the historical West and, as such, contribute to the diversity of life forms within the Nation. It is the policy of Congress that wild and free-roaming horses and burros shall be protected and managed for a thriving natural ecological balance within areas they were found in 1971. These Herd Management Areas (HMAs) are found in 10 western States—Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, and Wyoming. Appropriate managements levels (AMLs) are or will be established on all Herd Management Areas by 2005. The estimated AML for the Bureau is __ horses and __ burros. Removals are conducted on HMAs that exceed these levels, and excess animals are either adopted by qualified persons or transported to long-term holding facilities in the Midwest to live out their lives. Management on the range to reduce and maintain viable populations consists of selective removals, fertility control, population modeling, gathering of genetics information, and research applications.

At the end of the 1992–1993 gather season (July to February), there were __ horses and __ burros occupying 208 HMAs. Horses are not removed during the foaling season, which is March through June. Burros are not removed during peak summer months (July through August) because of the heat.
Wild horses use the same forage species—usually grasses and forbs—and water sources as livestock. Wild horses and burros range significant distances from water to graze and do not normally congregate around water. Burros tend to be browsers, using shrubs, forbs, and some grasses. Wild horses normally move in bands with numbers ranging from 2 to 40 animals. Burros are more solitary but will form small bands of jennies and their offspring. Within an HMA, wild horses move into the higher country in summer (because of high temperatures and insects) and lower country in winter (to avoid snow). Most of the burros are located in southern California, southern Nevada, and Arizona. Their movements are temperature-related; they are mostly looking for shade in summer. During the rainy season, they will disperse looking for available forage.

Wild horses and burros will affect upland and riparian areas when their numbers are not kept in balance with the available resources. Achieving and maintaining AMLs are important components of any management system.

### 3.13 Recreation

Public lands managed by the BLM provide important recreational opportunities in the western United States in the form of camping, sightseeing, hiking, horseback riding, off-highway vehicle activities, water activities, hunting, fishing, snow activities, and other specialized or newly emerging interests. The recreational setting varies from primitive, nonmotorized access onto the public lands to dispersed motorized activities and to highly developed access on paved scenic drives and overlooks. Most recreational uses depend on the natural qualities of the land and a limited number of facilities to aid in use and access. Some recreational activity includes use of livestock for riding or packing and may include grazing of those animals on the public lands.

The availability of the public lands for recreation contributes to many regional economies in the West. In 2002, recreational use exceeded 67 million visitor use days to BLM-administered lands. Demand for newly developed sites and facilities and greater availability of public lands for dispersed or primitive recreational activities is increasing in some areas. Increasing interest is most evident in regions near urban areas and where populations are rapidly growing.

Intensive recreation occurs at approximately 2,700 developed sites. Less than 1% of BLM-administered rangeland contains developed recreation sites and facilities. More than half of all recreational visits to the public lands are dispersed visits. Dispersed recreation depends on open landscapes, with few developments, that allow for self-initiated exploration and discovery. Most areas providing dispersed recreation opportunities are utilized for livestock grazing. Where water and adjacent riparian areas exist, recreational use occurs during all or a portion of many visits. Riparian areas account for approximately 1% of BLM-administered rangeland.

Recreational use permits are issued for competitive and commercial activities. These include off-highway vehicle races, outfitter and guide services, equestrian races, sightseeing tours, and festivals. Recreational use permits are also issued for individuals and groups at many developed sites, high-use areas, and environmentally sensitive areas. Permits may limit the
number of visitors to an area at any one time. Recreation permits usually require a fee and, in
2002, brought revenues of more than $9 million to BLM.

Public lands administered by BLM contain diverse scenic and visual resources. In many areas,
expansive views, steep terrain, colorful and varied geology, or appealing plant communities
create highly scenic settings. In other areas where scenery may be plain, openness and limited
development create a pleasing aesthetic. These qualities attract visitors for the purpose of
sightseeing, as well as to form the backdrop for many outdoor activities.

3.14 SPECIAL AREAS

The Bureau of Land Management (BLM) provides special management consideration for public
lands possessing unique and important historical, anthropological, ecological, biological,
geological, and paleontological features. These lands include undisturbed wilderness tracts,
critical habitat, natural environments, open spaces, scenic landscapes, historic locations, cultural
landmarks, and paleontologically rich regions. Management designations for public lands
containing special features are created by Congress, presidential proclamation, or established
under BLM administrative procedures. BLM manages these special areas to preserve, protect,
and evaluate significant components of our national heritage.

3.14.1 National Landscape Conservation System

The National Landscape Conservation System (NLCS), established in June 2000 by the BLM,
provides guidance, organization, and leadership for protecting many of the Nation's most
remarkable and beneficial working landscapes (Figure 3.14.1.1). The NLCS consists of
National Monuments, designated by the President, and congressionally designated National
Conservation Areas, National Wilderness Areas, Wilderness Study Areas (also designated by
agency), National Wild and Scenic Rivers, and National Scenic and Historic Trails (descriptions
follow). The NLCS contains 828 units totaling approximately 15% (42 million acres) of BLM-
managed public land—an area larger than the State of Florida. These NLCS units provide
preservation, protection, conservation, and enhancement of open space; solitude; recreation
opportunities; and scientific, cultural, educational, and ecological values, while allowing
compatible resource uses.

NLCS remote wildlands and working landscapes, managed within the BLM multiple-use
framework, provide sources of livelihood as well as havens of solitude and peacefulness.
Specifically, livestock grazing, an authorized activity within the NLCS is managed through
existing applicable law, regulation, and proclamation.

The following definitions briefly describe the NLCS units:

National Monument: A National Monument is an area designated by the President, under the
authority of the Antiquities Act of 1906, to protect objects of scientific and historical interest that
are located on Federal lands.
National Conservation Areas: Areas are designated by Congress to provide for the conservation, use, enjoyment, and enhancement of certain natural, recreational, paleontological, and other resources, including fish and wildlife habitat. The BLM presently manages 13 National Conservation Areas encompassing a total of nearly 4 million acres.

Wilderness: An area designated by Congress and defined by the Wilderness Act of 1964 as a place "where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain." Designation is aimed at ensuring that these lands are preserved and protected in their natural condition. Wilderness areas, which are generally at least 5,000 acres or more in size, offer outstanding opportunities for solitude or a primitive and unconfined type of recreation; such areas may also contain ecological, geological, or other features that have scientific, scenic, or historical value. The BLM manages 148 Wilderness Areas encompassing 6.3 million acres.

Wilderness Study Area: An area designated by a Federal land management agency (Bureau of Land Management, Forest Service, National Park Service, or the Fish and Wildlife Service) as having wilderness characteristics, thus making it worthy of consideration by Congress for wilderness designation. While Congress considers whether to designate a Wilderness Study Area (WSA) as permanent wilderness, the Federal agency managing the WSA does so in such a way as to prevent impairment of the area's suitability for wilderness designation. The BLM manages 604 WSAs encompassing 17.2 million acres.

Wild and Scenic River: A river or river section designated by Congress or the Secretary of the Interior, under the authority of the Wild and Scenic Rivers Act of 1968, to protect outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values and to preserve the river or river section in its free-flowing condition. The law recognizes three classes of rivers—wild, scenic, and recreational. The BLM manages 36 Wild and Scenic Rivers (20 percent of the national system) amounting to 2,056 miles of river, equaling about 1 million acres.

National Scenic Trail: These trails were designated by Congress under the National Trails System Act of 1968, as an extended trail that offers maximum outdoor recreation potential and provides enjoyment of the various qualities—scenic, historical, natural, and cultural—of the areas through which these trails pass. The BLM manages portions of the Continental Divide and Pacific Crest National Scenic Trails, amounting to 641 miles of trail.

National Historic Trail: These trails were designated by Congress under the National Trails System Act, as an extended trail that follows as closely as possible the original trails or routes of travel with national historical significance. Designation identifies and protects historical routes and their historical remnants and artifacts for public use and enjoyment. A designated trail must meet certain criteria, including having a significant potential for public recreational use or interest based on historical interpretation and appreciation. The BLM manages nine National Historic Trails totaling 3,623 miles, including the Iditarod, Juan Bautista De Anza, California immigrant, Nez Perce, Lewis and Clark, Oregon, Mormon Pioneer, Pony Express, and the El Camino Real de Tierra Adentro.
BLM manages other special designation areas outside of the NLCS including Areas of Critical Environmental Concern, Research Natural Areas, National Natural Landmarks, and National Recreation Trails.

3.14.2 Areas of Critical Environmental Concern

Areas of Critical Environmental Concern (ACEC) are BLM designations meant to highlight public lands where special consideration is warranted. BLM establishes and manages ACECs to protect and prevent irreparable damage to historical, cultural, and scenic values; fish or wildlife resources; as well as other natural systems or processes. ACECs can also be established to protect human life and provide safety from natural hazards. The designation recognizes that an area has significant values, and that those values will be protected through planned special management measures. ACEC resources and values must be accommodated as directed through their designation documents when planning for future management actions and land use proposals.

3.14.3 Research Natural Areas

Research Natural Areas (RNAs) contain important ecological and scientific values and are managed for minimum human disturbance. RNAs are primarily used for nonmanipulative research and baseline data gathering on relatively unaltered community types. Since natural processes are allowed to dominate, RNAs also make excellent controls for similar communities that are being actively managed. In addition, RNAs provide an essential network of diverse habitat types that will be preserved in their natural state for future generations. BLM manages 152 RNAs containing over 300,000 acres.

3.14.4 National Natural Landmarks

BLM cooperates with the National Park Service to implement the National Natural Landmarks Program. The program recognizes and encourages the conservation of outstanding examples of natural history. Landmarks are designated by the Secretary of the Interior and are the best examples of biological and geological features in both public and private ownership. The program includes 45 Landmarks comprising over 4000,000 acres.

3.14.5 National Recreation Trails

The Recreational Trails Program provides funds to develop and maintain recreational trails and trail related facilities. The program supports both nonmotorized and motorized recreational trail pursuits.

3.15 PALEONTOLOGICAL AND CULTURAL RESOURCES

3.15.1 Paleontological Resources
Paleontological resources are the remains of plants and animals preserved in soils and sedimentary rocks. They are important for understanding past environments, environmental change, and the evolution of life. Federal legislation (e.g., Federal Land Policy and Management Act, National Environmental Policy Act) directs agencies to manage paleontological resources to preserve them for scientific and public uses.

The BLM has more than 25 million acres of sensitive, fossil-bearing geological deposits on western BLM-administered land. The fossils range in age from the Precambrian (more than 500 million years ago) to the recent (the last 10,000 years) and include examples of all extinct and living phyla.

Paleontological remains range from mammoths associated with the Ice Ages about 10,000 years ago to the microorganisms associated with the earliest evidence of life some 2.8 billion years ago. Paleontological items discovered on Federal land include dinosaur remains in Nevada, Utah, Colorado, Wyoming, California, and Montana; fossil fish deposits from the Green River Formation; insect and plant fossils found in Nevada; and large petrified trees in Arizona and Nevada.

Paleontological resources can be found in any sedimentary formation or soil deposition context, but badlands shale, sandstone, limestone outcrops, fault scarps, and eroded lands have a high potential for containing fossils.

3.15.2 Cultural Resources

Cultural resources consist of the fragile and nonrenewable remains of human activity. Cultural resources are divided into cultural properties and traditional lifeway values. Cultural properties consist of historic districts, sites, buildings, objects, and artifacts that are important in past and present human events. A group's shared traditional lifeway values are abstract, nonmaterial, ascribed ideas that cannot be discovered except through discussions with members of the group. A traditional lifeway value is important for maintaining a specific group's traditional system of religious belief, cultural practice, or social interaction. Lifeway values may or may not be closely associated with definite locations.

About 15,475,300 acres of the 264,200,000 acres of BLM-administered lands have had cultural resource inventories. The results of cultural resource inventories are shown in Table 3.15.2.1; significant areas are listed by designation in Table 3.15.2.2. (Public Land Statistics 2001)

Table 3.15.2.1. Bureau of Land Management Cultural Resource Inventory Data.

<table>
<thead>
<tr>
<th>Total BLM-administered lands (acres)</th>
<th>Total acres inventoried</th>
<th>Percentage of lands inventoried</th>
<th>Number of cultural properties recorded</th>
<th>Number of cultural properties eligible for the National Register of Historic Places</th>
</tr>
</thead>
<tbody>
<tr>
<td>264,200,000</td>
<td>15,475,300</td>
<td>5.9%</td>
<td>255,252</td>
<td>13,952</td>
</tr>
</tbody>
</table>
Table 3.15.2.2. Bureau of Land Management Significant Cultural Resource Areas.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Historic Trails</td>
<td>15 (total mileage: 26,373 miles)</td>
</tr>
<tr>
<td>Properties listed on the National Register of Historic Places</td>
<td>4,206</td>
</tr>
<tr>
<td>National Historic Landmarks</td>
<td>22</td>
</tr>
<tr>
<td>World Heritage Sites</td>
<td>5</td>
</tr>
</tbody>
</table>

Cultural resources are managed through several legal authorities, but mainly through the Section 106 (National Historic Preservation Act) compliance process. Before authorizing surface disturbance, the BLM must identify cultural properties eligible for inclusion on the National Register of Historic Places and consider the effects of the proposed undertaking through the consultation process in Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. This process is implemented in accordance with 36 CFR 800. In many States, procedures for adapting the process to local needs have been developed through programmatic agreements between the BLM, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation.

Section 106 of NHPA does not prohibit disturbing cultural resources. In fact, an authorized officer may permit activities that damage or destroy them. In addition, mitigation is required only if disturbance would affect a property's attributes that make it eligible for the National Register.

In recent years, with an awareness and appreciation of cultural properties and traditional lifeway values, the inventory, protection, stabilization, and enhancement of cultural resources have become integral parts of BLM practices.

3.15.3 Cultural Resources Through Time

Cultural resources in the United States extend back to the earliest human migrations to the Western Hemisphere, some 15,000 years ago. These resources range from isolated artifacts, to small-scale habitation sites, to complex agricultural villages and densely populated pueblos, to natural landscape features of special significance. Prehistoric human occupations were rarely

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uniform over large areas, particularly where there were significant ecological changes over short distances. Consequently, site types, sizes, and densities are extremely variable.

Across the western region, however, water was (and continues to be) one of the most important factors affecting human settlement and survival. As such, many prehistoric, historic, and modern era cultural properties are located near or around water sources.

Prehistoric cultural resources have been organized into early, middle, and late periods, with the early period commonly referred to as Paleoindian (15,000–8,000 years ago), the middle period as Archaic (8,000–2,000 years ago), and the final period as Late Prehistoric (2,000–200 years ago).

Cultural resources from the Paleoindian period are found in high-elevation coniferous and deciduous forests as well as lower elevation plains grasslands and in areas of the desert Southwest, mainly near water sources and in alluvial and colluvial soil deposits. People surviving during this period often hunted megafauna, such as mammoth and giant bison, that are now extinct.

Prehistoric cultural resources from the Archaic period reflect a shift from an exploitation of megafauna to an emphasis on hunting and collecting a variety of resources, such as fish, large and small game, and edible plants and nuts. Hunting sites, plant gathering sites, and temporary camps are probably scattered in most western ecosystems.

Beginning about 2,000 years ago, the Archaic period phased into the Late Prehistoric period with the introduction of agriculture, ceramics, the bow and arrow, and sedentary lifeways as major adaptive elements. In general, site types and patterns were similar during archaic times except where lifeways shifted to an agricultural base.

The Prehistoric era began blending into the Historic era in 1492 when Europeans started migrating to and settling in the Americas; however, the Historic era did not start at the same time everywhere across the West. In the Southwest, the historic period began in the 1500s with the Spanish entrada. In the Pacific Northwest and the Great Basin, significant Euro-American migrations did not begin before the middle of the 1800s; in the Rocky Mountains and Plains the Historic era did not begin until the exploitation of the region by the fur trade in the late 1700s and early 1800s. As many Euro-Americans moved north and west, they took with them a lifeway emphasizing livestock ranching; in the Southwest, ranching began as early as the 1600s, whereas in the northern areas it began in the 1850s. The identity of many small towns and communities in the West is associated with this tradition.

Cultural properties related to the Historic era continue to include indigenous remains such as Indian agency buildings and missions. A majority of historic resources in the West, however, are artifacts, sites, and landscapes associated with early Euro-American exploration, the fur trade, mining, logging, ranching, farming, transportation, manufacturing, and early urban development.
Beginning about 1900, the Historic era merged into modern times. At the turn of the century, the picture of the "Wild West" was changing; the people and places that characterized the "western frontier"—the cowboys, outlaws, Indians, prospecting miners, and military cavalry—were all fading into memory as stories and icons of a bygone era. American society began to shift from a largely rural society to a more urban society. People moved off of farms and ranches into the big cities with increasing industrialization. Native Americans were settled onto reservations with a government policy of assimilation and acculturation. Many mining towns boomed only to become busted ghost towns within a few decades.

These recent changes can be seen in an array of cultural resources and traditional cultural properties. Depression and later era mining camps, abandoned rural hamlets and post offices, World War II bases and installations, artifacts and objects left behind by migrant sheep herders, Civilian Conservation Corps construction works and camps, or even the Interstate Highway System, all document the changing West.

Despite attempts at assimilation and settlement, many Native American tribes have held onto their traditional lifeways and beliefs. They have continued to use their environment to gather native plants, animals, and minerals for use in religious ceremonies, folk medicine, subsistence, and crafts. They have maintained treaty rights into the Modern era to exploit traditional plant gathering and hunting areas. For Native American tribes and individuals, any environment can contain specific places that are significant for spiritual purposes. Those sacred places embodying spiritual values are often associated with indigenous rock art, medicine wheels, rock cairns and effigy figures, spirit trails and spirit gates, caves, rock formations, and springs or lakes. Contemporary use areas are associated with traditional plant and mineral collection locales, vision quest sites, sun dance grounds, shrines, and traditional trails.

The traditional western ranching lifeway also has an associated landscape characterized by livestock on the range, developed springs, wells and watering tanks, and fencelines. It also contains a series of potential traditional cultural properties that include wild horse traps, corrals, ranch houses, sheep herding camps, shearing pens, loading chutes, grange halls and community centers, and one-room school houses. Notwithstanding the radical and sometimes rapid changes the West underwent through the 20th century, western ranching lifeways carried forward a significant part of the world's image of America and America's image of itself. Modern western ranching communities have traditional activities, social behaviors, and values that are part of the Nation's historical, cultural, and natural heritage.
3.16 ECONOMIC CONDITIONS

3.17 SOCIAL CONDITIONS

Demographic Trends

The West is the fastest growing region in the United States. Table 3.17.1 indicates that the populations of all but two of the States in the West grew at rates greater than the Nation as a whole from 1990 to 2000. The populations of five States grew faster than 25% during this period, with Nevada growing by more than 66%. In addition, the West as a region grew faster than other regions in the country. While the nation as a whole grew about 13%, the West grew more than 19%, far outpacing the Northeast and Midwest in population growth.

As a region, the West is the most urbanized area in the United States. Urbanization is the proportion of a population that lives in urban areas. Table 3.17.2 shows that more than 88% of the population of the West lived in urban areas in 2000. This proportion is even greater than the heavily urbanized northeastern region. Nationally, 79% of the population lived in urban areas in 2000. Seven States in the West exceeded the national urban proportion, with six States having more than an 80% urban population. This proportion grew rapidly for some western States. Urban populations in Idaho and Oregon grew at 9% and 8%, respectively, between 1990 and 2000. Where growth occurs will significantly determine its effect on uses of and involvement in the politics of public lands. Growing pressure to use public lands for recreation and solitude will continue to come from population growth in both urban centers and rural places.

A relevant trend is the relation between the amount of public land and population growth in western counties. In creating a typology of rural counties, the Economic Research Service (ERS) of the U.S. Department of Agriculture designated a county as a "Federal Lands County" if federally owned lands made up 30% or more of a county's land area in 1987. In the eleven western States in 1994, ERS classified 89 counties as metropolitan counties; 128 as nonmetropolitan, nonpublic land counties; and 194 as nonmetropolitan, public land counties (Cook and Miser 1994). Population growth rates from 1990 to 2000 differed for these three categories of counties. Table 3.17.3 displays population change during this period for metropolitan, nonmetropolitan, and nonmetropolitan public land counties in the West. The proportion of the population in western States accounted for by metropolitan counties was stable at about 87% from 1990 to 2000. However, nonmetropolitan public land counties grew by 25% more than the period, much faster than the other two types of counties. While the West was growing rapidly as a region, public land counties were growing faster as a group than other counties. Such growth is changing the social context of ranching throughout the West (Sheridan 2001).

Ranchers

These population trends, their cause, and numerous arguments concerning their effect on communities are well documented. Migration is clearly the major force underlying this population growth (Nord and Cromartie 1997; McGranahan 1999). In addition, the role of
physical amenities, quality of life, proximity to designated wilderness, and other arguments are
frequently forwarded as both a cause of migration to public land counties and as a policy goal
(Clark and Murphy 1996; Duffy-Deno 1998; McGranahan 1999; Deller et al. 2001; Hansen et al
2002; Lorah and Southwick 2003).

The effect of these population changes on ranches is difficult to generalize because ranchers and
ranch operations in the West present a very heterogeneous population. The local and regional
variations in terrain, climate, and ecological systems are almost matched by local and regional
differences in the social, economic, and institutional contexts within which ranches operate
(Gentner and Tanaka 2002). Each ranch has a unique economic structure, participates in a
certain type of regional economy, has a particular type of family relation to the business, and
maintains certain types of ties to a local community and a larger regional, possibly urban, area
(Darden et al. 2001). Ranchers make decisions in different ways for different reasons, and will
therefore experience differing social effects from changes in their economic, social, and
institutional relations. This heterogeneity must be accounted for to understand potential social
effects on ranchers, their operations, and their communities.

Gentner and Tanaka (2002) provide a comprehensive classification of public land grazing
permittees. A random sample of 2000 ranchers was drawn from more than 21,000 Bureau of
Land Management (BLM) and U.S. Forest Service (USFS) permittees and evaluated by using a
mail survey. A set of rancher attributes was used to capture goals and objectives of ranchers,
educational attainment, business organization, number of livestock, sources of labor, income by
source, debt load and financial stress, and other social and economic indicators. Cluster
analysis identified eight groups of ranchers on the basis of these attributes. Two general groups
emerged—hobby ranchers (50.5%) and dependent ranchers (49.5%). The two main groups are
differentiated most notably by their dependence on ranch income for their livelihoods: the hobby
group received less than 22% of their family income from the ranch, whereas the dependent
group received more than 72% of their income from the ranch (see Table 3.17.4). This
detachment of the ranch operation from the majority of household income for more than half of
this sample has social ramifications. Part-time and hobby ranchers may retain attitudes and
local social ties similar to full-time ranchers and be relatively immune to the economic
fluctuations of ranching. The motivation and ability of these ranchers to remain in ranching
even under difficult economic circumstances may actually be higher than those relying directly
on the ranch for their livelihood.

The general characteristics and percentage of the Gentner and Tanaka (2002) sample for each
group are as follows:

Small Hobbyist (11%): Small operations, small herds, lowest dependence on ranch income, high
dependence on off-ranch income, highly educated, slightly lower dependence on Federal forage.

Retired Hobbyist (18%): Older, small operations, higher dependence on ranch income, very high
dependence on retirement income, slightly lower dependence on Federal forage.
Working Hobbyist (15%): Highest dependence on off-ranch income, youngest, small operations, ranching the longest, highest dependence on Federal forage among hobbyists.

Trophy Hobby Rancher (6%): Large operations, large deeded acreage, highest use of hired labor among hobbyists, highest reliance on corporate organizations among hobbyists, highly educated.

Diversified Family Rancher (13%): Dependent on ranch income, more diversified into other nonranching income sources, smallest herd size among professional ranches, relative dependence on family labor, highest reliance on sole proprietorship as business organization, higher reliance on Federal forage.

Dependent Family Rancher (19%): Highest dependence on ranch income, lowest diversification into other income sources, least educated, highest debt load, highest reliance on formal partnerships for ranch business organization, higher reliance on Federal forage.

Corporate Rancher (13%): High reliance on ranch income, largest herd size, large deeded acreage, lowest reliance on Federal forage among professional ranches, high reliance on corporations as business organization.

Sheep Herder Rancher (4%): Depend on sheep for primary ranching operations, large herds, large deeded acreage, highest use of hired labor, highly dependent on ranch income, highest dependence on Federal forage.

Clearly, permittees have very different attributes, motivations, and goals. An important question concerns whether ranchers seek to maximize profit or whether other factors are as important or even primary in explaining why ranchers continue in a difficult environment. Many studies lead to a firm conclusion that most ranchers do not hold maximizing profit as their sole, or even primary, goal in ranching (Smith and Martin 1972; Harper and Eastman 1980; Bartlett, O et al. 1989; Torell et al. 2001; Rowe et al. 2002). Smith and Martin (1972) used such terms as "farm fundamentalism" to describe social motivations for ranching when economic returns were consistently poor. Bartlett et al. (1989) found that an ethic of the land and the role ranching plays in family life were important to Colorado ranchers. Rowe et al. (2002) provided a confirmation that rural ways of life coupled with family concerns were more important to ranchers in two Colorado counties than profit alone.

Gentner and Tanaka (2002) found that professional ranchers valued family tradition, ranching as a good way to raise a family, living closer to friends and families, desire to pass the ranch on to children, and return on investment more than did hobby ranchers (See Table 3.17.5). Maintaining a family tradition and passing the ranch on to children were the most highly ranked goals for both categories of ranchers, resulting in no significant statistical difference between categories. Other goals did show significant differences. Professional ranchers strongly believed that ranches were a good place to raise a family, to stay near friends and family, as well as to pursue profit. Hobby ranchers did not hold these goals as strongly.
Significant family labor is required for some of the ranchers in this sample. Table 3.17.6 shows that most of the professional ranchers require from 20 to 27 months of family labor to run the ranch. This is mixed with very different levels of hired labor. Diversified and dependent professional ranchers use little hired labor in relation to use by corporate and trophy ranchers. The nature of sheep ranching requires significant hired labor in addition to the two full-time family laborers required to run a modern operation.

The social environment of ranching therefore has multiple dimensions. With the exception of the trophy hobbyists, the permittees in the Gentner and Tanaka survey had family tenure on their ranches of well over 20 years, with most having tenure of 30 years or more. Most of these permittees have ranched as Federal grazing permittees for decades and are familiar with the growing complexities and stress associated with being a public land grazer.

This willingness to accept low economic returns to meet other goals is also reflected in the economics of ranch real estate. Torell and Bailey (2000) estimated that only 27% of the value of New Mexico ranches is related to their livestock productivity. Thus, recent buyers of New Mexico ranches are motivated not by their value to produce livestock, but rather by a host of other values commonly associated with ranches. Torell and Bailey found wildlife amenities, proximity to a population center, and type of terrain were more important determinants of ranch sale prices than cattle operations. These new ranchers, along with new residents, bring different demands for space as an amenity (Huntsinger et al. 1997; Bastian et al. 2002; Inman et al. 2002). Even in this environment, many ranches continue to operate with the knowledge that the ranch can be sold at a significant premium to people with other interests in the land.

Communities

As mentioned previously, populations in the rural West have grown dramatically over the last decade. Population growth complicates any assessments of how changes in public land policy might affect ranches and the communities in which they operate. To understand the broader implications range policy changes may have for a community, a discussion of four general social forces affecting communities is necessary. These four community social organization processes occur within and are affected by the social interactions in rural communities, their social and economic histories, and other factors.

Differentiation is the process of expanding the range of values and interests represented in a community. In the West, this is presently influenced by population growth and the decreasing reliance on traditional resource industries for employment. As population increases, social diversity increases and brings about differentiation in the needs, demands, and expectations people have of their community. Economic and employment changes can result in greater differentiation of occupational characteristics in the community, along with shifts between interest groups that enter into community interaction. This process often produces short-run social conflict as those seeking some ideal about their rural community clash with those who lives are not compatible with that ideal (Walker 2003). In addition, conflict over how to view "nature," ranching, and landscapes in general seems to be inherent in the process of

Extra-local linkage is a process through which resources and demands flow back and forth between communities and the larger society. This is best viewed as the extent to which local institutions, economies, and decision makers are influenced by people and social processes outside of the community, and the extent to which they might call on those resources for support. Issues like public land management are highly visible and increase local linkages to extra-local social units. In this sense, public land controversy engenders a higher degree of extra-local linkages to outside groups. Population growth stemming from the conscious choice to move to a public land community implies that people will bring their extra-local social networks with them, complete with values, attitudes, and beliefs. Further, the very nature of the Federal public land management process engenders significant extra-local involvement in decisions affecting local communities. The opportunities of many different groups, local and extra-local, to become directly involved in decisions affecting even small changes in management is much greater in this arena than are opportunities to affect private land decisions.

Stratification refers to the differential distribution of access to resources for meeting needs among populations. This is one of the most important processes—perhaps the most important process. It has wide-ranging implications for local populations. A primary social process affected by public land policies is the distribution of access to local economic opportunity. As traditional resource industries (timber, mining, ranching) are supplanted by the new resource industries (commodification of nature and its amenities), the economic opportunity structure, family status, and arrangements of social power in communities change as well. For example, ranching communities have historically been stratified by access to and control of property (Stinchcombe 1961). Ranchers continue to hold property in greater proportion to most local people, but many landowners now have significant access to land, wealth, and political power, both local and extra-local. In addition, this change is accompanied by a shift in the nature of the local economy. This shift puts significant pressure on ranchers and other residents: "The irony of the New West is that newcomers attracted to diverse imaginaries of rural lifestyles often make real rural livelihoods unavailable" (Walker 2003; see also Jobes 1987). Thus, significant dimensions of stratification now include access to employment that allows families to live well and remain in the community.

Integration is the process by which relations among people in a community are coordinated and interconnected. This is the most complex and rich aspect of social organization, for it focuses on the process of organizing and focusing the activities of various elements of a community. Cohesion, attachment, density of acquaintanceship, social capital, and sense of place are all examples of social relations either derived from or dependent on social integration. Increased differentiation and extra-local linkages present specific challenges for integration, but also carry the potential for new forms of integration to emerge. The degree of integration in a community before the implementation of a policy determines, to a great degree, the ability of that community to take any actions necessary to manage change (Harp et al. 2001). Sufficient community integration is a necessary condition for communities to take action to mitigate social and economic effects of policy decisions (Wilkinson 1970, 1991). Low levels of integration are
often associated with community discussions and decisions being dominated by small groups
whose interests may not be attributable to the community as a whole. This is historically the
situation in rural communities dominated by one industry, such as timber. However, the
question is less one of dominance than it is one of the generalized legitimacy of the decisions
being made. Hence, a small group may make a decision and the community as a whole
generally agrees with both the process and the outcome of the decision. Thus, social integration
plays a part in the legitimization of the decisions.

These organization processes overlap and interact, sometimes working in concert and other
times not. Examples of their application to ranching communities are presented in Table 3.17.7.
Few empirical studies of how these processes play out in ranching communities are available.
These processes and their relations to local economic processes in ranching are reviewed in Harp
et al. (1998).

One related example is a study that examined the relations between social network ties and
community cohesion, integration, and attachment in Owyhee County, Idaho (Harp et al. 2001).
Seven communities were examined and survey methods were used to estimate the importance of
social networks and to construct scales of community cohesion, community integration, and
community attachment. Cohesion is high when social relations between people produce a sense
of belonging to a group with shared beliefs and common behavioral assumptions, and a feeling
of recognition as members of that group (Buckner 1988; Jensen 1998; McClure and Broughton
2000; Rajulton, et al. 2003). In essence, people come to see themselves as part of a larger social
group that shares their own beliefs and actions. Integration is high when people do not feel
isolated or anonymous in their community, and can participate actively in community life
(Brown et al. 1989). Activities that are evidence of integration include visiting, and borrowing
and lending between neighbors. When integration is high, people are more willing to trust their
neighbors in both a social and material fashion (Brown 1993; Cowell and Green 1994).
Attachment is high when people feel a strong sense of social connection to their community that
makes them reluctant to leave or withdraw from social relations (Kasarda and Janowitz 1974;

Social networks are patterns of repeated relations between social actors. They have a number of
conceptually useful attributes, such as the number or strength of social ties to family and friends.
The standard measure of "density of acquaintanceship" was applied. This is the most
empirically important single network measure used in community research. It is measured
simply by the proportion of close friends a respondent has living in his or her community. The
higher the proportion, the more "dense" the local social network for an individual. In other
words, the more friends you have where you live, the more likely you will be to see your
community in a positive light and choose to interact with people there (Goudy 1990; Stinner et al
1990; O'Brien and Hassinger 1992; Beggs et al. 1996; Sharp 2001). In addition, respondents
were asked whether they had a friend in the ranching business or one who ran a local business.
This tied these economic activities to local social networks.

Having more of your friends living in the same community as you, having ranchers and local
business owners in your social network, being White, and which community you live in all
increased respondents' beliefs that theirs was a cohesive and highly integrated community. The significant indicators of attachment attitudes were the size of community the respondent resided in until age 18, respondent's community, density of acquaintanceship, close friends having a business, and how far they drove to work. Hence, the positive social role of ranching was to raise the attitude that the community is a cohesive and integrated place, though not for non-Whites. This is not surprising in the West, given that Latino and Hispanic people are generally stratified into a lower visibility rank with little social or political power. Moreover, this would not be a surprising result even if ethnic groups were themselves ranchers (Raish and McSweeney 2001). Finally, ranching had little effect on the degree to which respondents felt attached to their communities.

There is little doubt that public land ranching and its relation to the land is a social process (Huntsinger and Hopkinson 1996). The relation between social, economic, and ecological issues has been recognized for many years (Adams 1916; Simpson 1975; Abruzzi 1995; Raymond 2002). In many small communities, ranchers play an important social role as decision makers, volunteers, elected officials, and as socially relevant commodity interests. As populations grow, ranches change hands, and this generation of ranchers fades, this role will change. However, the need to recognize community social organization in making management decisions remains important (Curtin 2002).

National Attitudes

National attitudes toward ranching in general tap into social and political institutions that may affect public land grazing management. Three studies of attitudes toward grazing are pertinent, although only one is national.

Brunson and Steel (1996) used a national sample and two Oregon samples to examine how attitudes toward Federal rangeland management vary across the country. First, they split the national sample into eastern and western groups. They found slight differences in regional variations of attitudes and concluded that "...differences in support were slight, and never did one region support a policy that the other rejected."

Second, they used the two samples from Oregon to create comparisons among the Nation, western Oregon, and eastern Oregon. This allowed for comparisons between urbanized areas in general and rural regions where rangelands are more prominent in the landscape and in the local economy. They concluded, "In all cases, residents of the grazing-dependent region of eastern Oregon were more supportive than the national or statewide samples of statements advocating traditional or utilitarian uses, and less supportive of statements urging greater protection of nonforage resources."

Finally, Brunson and Steel concluded that attitudes toward range management are frequently simplistic, consisting of dichotomies of good and bad. Thus, entire sets of attitudes were reduced to a "...poorly developed cognitive structure rooted in simplistic, value-based ideas about the goodness or badness of range practices and conditions." Part of this finding is related to a lack of specific knowledge of rangelands on the part of many people. This produces a
disconnection between their attitudes and what they actually know about the issue (Lybecker et al. 2002).

Brunson and Gilbert (2003) studied visitor attitudes toward grazing in the Grand Staircase–Escalante National Monument, Utah. They looked at the relations between visitors' personal characteristics and their reports of how livestock grazing and multiple-use management affect recreation experiences. Hunters saw more effects from grazing but were not put off by them, whereas hikers saw fewer effects but were more likely to say that their experience was degraded by seeing evidence of livestock grazing. Designation of the area as a monument was seen to have little direct effect on attitudes.

Mitchell et al. (1996) found that almost equal proportions of visitors to a Colorado national forest believed that the presence of grazing enhanced their visit (34%) or detracted from it (33%). Local residents, rural residents, and campers at developed campsites were more tolerant of grazing than those using more remote areas.

Finally, many organized public interest groups apply pressure to remove grazing from public land. This debate is certainly polarized (Knight et al. 2002; Wuerthner and Matteson 2002). Nonetheless, this has an effect on local areas in that national, regional, and local groups seeking to reduce or end grazing on BLM and U.S. Forest Service lands are involved routinely in political and legal processes down to the allotment level. The effect of these activities on ranching communities is difficult to quantify, although they may be anecdotally cited by local ranchers as a source of personal and family stress.

Many advocates for the end of public land grazing argue that ranchers often have social and political clout greatly out of proportion to their numbers (Fennemore and Nelson 2001). There is a general assumption that agencies, particularly the BLM, are "captured agents" of the livestock industry and have been since their inception (Cawley 1993; Klyza 1994; Wilkinson 1994). This approach assumes that the agencies were set up to protect livestock industries and that they continue to do so. Though this attitude still prevails, it has recently been challenged with evidence from the creation of the BLM (Welsh 2002).

All of these diverse attitudes compel various national, regional, and local groups to become involved with public land grazing and the ranching industry in many ways. In general, they have significantly raised the level of scrutiny characterizing grazing decisions. It is fair to generalize a conclusion that these attitudes and activities have an effect on ranchers, communities, and larger social institutions, but that this effect is difficult to discern or estimate.

Case Study of a Small Community: Leadore, Idaho

Many permittees and a few others comment frequently about the role ranching and public land grazing play in the economic and social stability of their communities. This short case study of Leadore, Idaho, is intended to illustrate the connections they are identifying in a concrete fashion.

Leadore, Idaho, is situated in the southern reaches of the Lemhi River valley in Lemhi County. The Lemhi Mountains sit to the west of Leadore and the Continental Divide and
Montana border it to the east. It is a fairly isolated area being about 45 miles south of the county seat in Salmon and about 120 miles north of Idaho Falls. The terrain consists generally of river bottoms, sage steppe and forested slopes at higher elevations. The Bureau of Land Management and U.S. Forest Service manage the majority of the land in the area. Leadore’s mining heritage is long gone, and the geography remains dominated by cattle ranching.

Idaho's population growth of recent years has not affected Leadore to the extent it has the remainder of Lemhi County. Table 3.17.8 shows population changes for the Census subdivisions of Lemhi County in the last two Census years. While Lemhi County as a whole grew 13% from 1990 to 2000, Leadore's growth was slower at 7%. The Patterson area of the county is even more remote than Leadore, yet its population grew even faster at 27%.

The economic and social influence of ranching in this area is significant. In 1991 ranching was estimated to constitute 85% of the direct and induced earnings in the Tendoy–Leadore area, and 77% of direct and indirect employment (Harp et al. 2000; Robison 1997). Over 70% of the jobs held in the area by residents were related directly or indirectly to agriculture. Retail, restaurants some small manufacturing augment the Federal, state and local government employment in the area.

Interviews reported in that research confirmed that almost all commercial agricultural activity derived from cattle ranching. Direct interviews with producers and others estimated that production cow herd to be just over 14,500 head in the Leadore Census subdivision in 1992 (Harp, et al 2000). At that time, dependence on Federal forage was estimated to be about 28%. This was split almost evenly between BLM and U.S. Forest Service permits. Since that time, a considerable number of ranches have been consolidated. Recent interviews indicate that one person has purchased all or part of 6 ranches in the last decade and consolidated them into one operation. Another consolidation in the area combined 4 ranches. Many of the previous owners and their families are no longer in the community.

According to the 1997 Census of Agriculture, 36 of the 40 farms (90%) in the Leadore zip code area sold cattle and calves and for 22 farms (55%) these sales exceeded $50,000. Few agricultural products other than cattle and sheep are sold from this area, with the possible exception of buying or selling hay. Total agricultural sales were greater than $100,000 for 30% of the farms.

The dominant social feature of Leadore is its social commitment to support a K–12 school district, Southern Lemhi District #292. This is a small, rural district with a predominantly agricultural tax base. Table 3.17.9 displays enrollment, graduates and local tax support for the South Lemhi and Salmon Districts of Lemhi County, and for the state of Idaho as a whole. School enrollments fluctuated from a low of 115 to a high of 171. Similarly, the number of graduates ranged from 7 to 23 over the time period. This district has two elementary schools and a high school, with a total of 16 teachers and 1 administrator. In addition, it is not a wealthy district. Table 3.17.9 shows that local taxes per average daily attendance (ADA) are well below the state average for Idaho. While low relative to the state, they are roughly equivalent to the other major district in the county in Salmon. Leadore's enrollment is very low relative to its tax base, with $421,148 of base per ADA, while Salmon (a much larger community) has $340,254 per ADA.

The seasons of ranching and those of the school are primary points of social organization in this community. The dominance of ranches, both economically and socially, fosters a common social view that the entire community's social future is tied to the fate of
ranchers. For example, everyone feels exhausted during calving and its progress dominates
discussion at school athletic events. Even for those who own no cattle, social discourse can
often consist of talking about cattle. Grappling with the challenges of ranching becomes a
social event that fosters a sense of integration and ultimately a sense of community. The social
fate of the school district is also seen as being tied to ranching. This is not a fiscal issue.
Someone will own the land and pay the taxes to the district. Rather, people in Leadore credit
ranchers with a willingness to volunteer for many roles in the schools, including service on the
school board. People find the resources to support sports teams and other activities.

Both ranchers and other community members firmly believe that the combination
of ranch families, community cohesion and a social commitment to Leadore as a ranch
community underlie provide the social organization necessary to maintain the school district.
The view held by many permittees is that ranching is a source, if not the source, of social and
economic stability for their communities. The ability of ranches to keep paying the taxes and
contributing time and other resources to keep a small school district functioning reinforces this
view. They also firmly believe that the economic loss of the ranches might keep the local tax
base intact but that the school itself will not survive. Put another way, the social stability of the
community depends on who is operating the ranch rather than on who owns the ranch.

3.18 ENVIRONMENTAL JUSTICE

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION
4.2 ASSUMPTIONS
4.3 ALTERNATIVE ONE: NO CHANGE IN REGULATIONS (NO ACTION)

4.3.1 Air Quality

4.3.2 Grazing Administration

4.3.2.1 Issuing, Modifying, or Renewing Permits or Leases

Within the no change alternative the BLM would continue to utilize NEPA procedures and
requirements in the processing of permit actions (issuance, modification, etc.). The NEPA
analysis would concentrate on the effected critical environmental and biological elements. The
grazing regulations would contain no requirement for NEPA documentation or clarification on
which nonbiological elements should be analyzed within the NEPA process.

4.3.2.2 Implementing Changes in Grazing Use

The suspension of permitted use would continue to be authorized within the existing regulations.
The level of suspended use would be established through the grazing decision process under
4160.1 or through a documented agreement with the permittee or lessee. The timeframe for the
suspension would be objective (case by case basis) and the BLM would establish the timeline for
suspension within the grazing decision.

4.3.2.3 Range Improvements
The ownership of rangeland improvements would be maintained solely in the name of the United States. The present number of rangeland improvements appeared to have stabilized in regard to number and would be expected to be maintained at approximately 1200 rangeland improvement projects per year for the next five years.

4.3.2.4 Involvement of Interested Publics

The interested publics would be required to inform the authorized officer that they wish to be involved with an allotment or make comments on an allotment in order to participate in the decision making process. The interested public may decline to become involved in the initial planning of the decision making process. After review of a final decision, the interested public may change their stance and have regulatory standing to become involved in the decision making process. The present method of not requiring the interested public to be involved in the preliminary decision making process increases the workload for the grazing administration program. The delayed involvement results in requiring the decision making process to reanalyze a situation.

The BLM would continue to cooperate, within the applicable laws, with state, county, or federal agencies in regard to state cattle or sheep sanitary or brand boards and county or other local weed control districts. Additionally, the BLM would still be required to consult, cooperate, and coordinate or seek review from the interested publics on the following actions: (1.) Designating and adjusting allotment boundaries; (2) Apportioning additional forage; (3) Reducing permitted use; (4) Emergency closures or modifications; (5) Development or modification of grazing activity plan; (5) Planning of the range development or improvement program; (6) Renewing or issuing grazing permit or lease; (7) Modifying a permit or lease; (8) Reviewing or commenting on grazing evaluation reports; and (9) Issuing temporary nonrenewable grazing permits.

4.3.2.5 Authorizing Temporary Changes in Use

The changes in permitted use that are maintained within the terms and conditions of the permit would be authorized by the BLM. The regulations contain no text to what is meant for “within the terms and conditions of the permit”. Therefore, the approval of the applications would be subjective to definition by the authorized officer. This would create the potential for inconsistent application within the grazing administration program. If the application is received after the billing notice has been issued the permittee or lessee would be subject to a service charge.

Permittees or lessees could apply and the BLM could approve temporary nonuse for a term of up to three (3) consecutive years. After the three year period has elapsed the permittee must make full use of the allotment. The BLM could issue a grazing decision to suspend the AUMs from the allotment, but this presents a possible deterrence from a permittees or lessees standpoint for declaring nonuse situations. In addition, the grazing decision process would create additional workload on the grazing administration workforce.
4.3.2.6 Prohibited Acts

All three sets of prohibited acts would be maintained within the grazing regulations. The first and second set of prohibited acts would be utilized in the future by the BLM in the administration of grazing allotments. The third set, which is the provisions regarding prohibited acts related to violations of Federal or State laws or regulations, would also be maintained, but the historical trend of nonutilization would continue.

4.3.2.7 Appeals

The appeal process would continue as outlined within the present regulations. A proposed grazing decision would be issued and in the absence of a protest the proposed grazing decision would become the final grazing decision. The authorized officer would still have the authority to close an allotment and issue a final decision for resource protection issues. The grazing decision process would be utilized in the grazing permit or lease transfer process. This would enable a permittee or lessee to appeal and request a stay of a grazing decision that affects the transfer of the grazing permit or lease. If a stay is granted in favor of the permittee or lessee then the grazing activity would continue as specified on the previous permit. If the permittee or lessee has no historical permit then the grazing activity is authorized according to the final decision.

4.3.2.8 Fundamentals of Rangeland Health

The Standards of Rangeland Health would still continue as specified within the present regulations. The determination of the Standards for Rangeland Health would be achieved through following BLM protocol established within state specific EIS documents and BLM manuals. This guidance provides the inclusion of the utilization of the allotment assessment report, and if available, historical monitoring data in the determination process. The permit renewals, which are effected by the completion of the standards for rangeland health determination, would be maintained on the previously established timeframe. If livestock grazing is implied as a causal factor for the allotment not meeting a standard, then the timeframe for the application of appropriate action to ensure the allotment is progressing towards meeting the standard is no later than the start of the next grazing year. This requires the completion of consultation and NEPA requirements prior to the issuance of a new grazing permit.

4.3.3 Vegetation

4.3.4 Fire and Fuels

Present management would only maintain or slightly decrease the ecosystem health in most regions. Because of economics, permittees or lessees cannot afford to rest their allotments adequately to gain from a fire treatment, thus causing a continuing decrease in range health. Fire is an integral part of all the vegetation types in the West. Fire regimes have been altered because of fire suppression and European influences. Many areas have missed one or more fire cycles
and need fire reintroduced to the ecosystem. Some of the vegetation types are so overgrown from these influences that they need a mechanical or chemical treatment before fire is reintroduced. Overgrown vegetation, exotic species, and the lack of fire have caused some historical fire seasons in the early part of the twenty-first century and the latter part of the twentieth century. Without the help of the grazing community, range health could continue to decline.

4.3.5 Soils

4.3.5.1 Upland Soils

Short-term environmental consequences of the present management alternative would be minimal except on a local scale. Natural disturbance regimes such as wildfire or high intensity rainfall events would potentially negatively affect local upland watershed conditions by increasing erosion, sedimentation, and runoff. Restoration projects such as prescribed burning and seeding would potentially positively affect local conditions by improving watershed cover. Climatic events, such as drought, would have greater short-term effects on upland watershed conditions than present management in the analysis area.

Long-term environmental consequences of present management would be maintenance or a slow improvement of upland soil and watershed condition due to implementation of rangeland health standards and guidelines and restoration efforts. These improvements would derive from improved live plant and litter watershed cover and decreased soil compaction. This would result in decreased erosion, sedimentation, and runoff; healing of gullies; greater soil water availability for plants; improved soil aeration; improved biological soil crust cover; and greater soil macro- and microorganism activity. The improvements would be most pronounced in the higher elevation, moister portions of the analysis area. Improvements would be slowest and most difficult to achieve in the drier portions of the Tropical–Subtropical and Temperate Desert divisions.

The negative effect of a long-term drought cycle would partly offset the improvement of upland soil and watershed condition depending on the severity of the drought cycle. The increased acreage of rangeland ecosystems dominated by cheatgrass, medusahead, and noxious weeds would result in reduction or alteration of important components of the soil biological community on affected acres which would make restoration more difficult. Long-term erosion, sedimentation, and runoff would also be increased on acreage dominated by cheatgrass because of increased wildfire risk and reduced plant cover during severe drought years. Cheatgrass die-off has occurred on over two hundred thousand acres in Nevada in 2003 leaving these sites exposed to severely accelerated erosion and loss of long-term sustainability. The cause and long-term implications of this die-off are unknown at present but could be related to disruption of biological soil function.

Cumulative effects would be improvement in the condition of the soil resource resulting from continued implementation of rangeland health standards. There would be no unavoidable adverse effects. The relation between short-term use and long term productivity would be
maintenance or a slight increase in long-term productivity resulting from continued
implementation of rangeland health standards. There would be no irreversible or irretrievable
commitment of soil resources.

4.3.5.2 Riparian Soils

Short- and long-term environmental consequences of the present management alternative would
be similar to those of upland soils except that the high moisture content of riparian soils can
accelerate responses to improved management practices. Improved riparian area management
would help stabilize riparian areas where the water or sediment supplies are out of balance,
promote growth of deep-rooted, riparian vegetation that helps dissipate stream energy, protects
streambanks, and filters sediment and pollutants from the stream. Displacement of desirable,
deep-rooted riparian vegetation by invasive, exotic riparian plants would potentially reduce
streambank protection and reduce groundwater available for maintenance of healthy riparian
conditions on invaded acreage.

Cumulative effects would be improvement in the condition of the soil resource resulting from
continued implementation of rangeland health standards. There would be no unavoidable
adverse effects. The relation between short-term use and long-term productivity would be
maintenance or a slight increase in long-term productivity resulting from implementation of
rangeland health standards. There would be no irreversible or irretrievable commitment of soil
resources.

4.3.6 Wildlife

4.3.6.1 Terrestrial

The environmental impact changes analysis herein focuses on proposed policy changes and
existing regulations for livestock grazing as they affect wildlife populations and their habitats on
the 162 million acres grazed by domestic livestock in the western United States. Implicit in
these environmental consequences is the analysis of the policy changes and existing regulations
as stated, as well as the practical and legal implications of any changes.

The No Action alternative includes all of the previous regulations, as well as new proposed
policy changes.

The effects on wildlife resources are most beneficial under the No Action alternative.

Satisfactory performance for a grazing permit or lease requires that unsatisfactory performance
results in having a federal or state permit or lease cancelled. This allows BLM to reward those
permittees who are performing well and disciplining those that do not. This results in positive
long-term effects for wildlife resources and the ecosystems on which they depend.

The BLM can presently take action against a grazing permit or lease when a permittee or lessee
has been convicted by a court of law or otherwise found to be in violation of several different
Federal or State laws or regulations (i.e., placing poisonous bait or hazardous devices to kill
wildlife, applying or storing pesticides, herbicides, or other hazardous material on public lands, altering or destroying natural stream courses without authorization, polluting water sources, aiding and abetting or directly illegally taking, destroying, or harassing fish and wildlife), where the violation is related to the grazing use authorized by BLM. This provision has had a positive effect on wildlife resources by discouraging grazing permittees from these prohibited acts. Historic, adverse effects have been realized on Lahontan cutthroat trout, black-tailed prairie dogs and therefore black-footed ferrets, gray and Mexican wolves, jaguar, grizzly bears, southwestern willow flycatchers, and many others.

The existing administrative remedies require that any person whose interest is adversely affected by a final decision may appeal and file a petition for stay. This has had positive effects for wildlife resources as it allows environment organizations to appeal grazing decisions on behalf of wildlife resources. As a result, a stay must be granted by the Office of Hearings and Appeals to suspend implementation of a final decision. This has been positive for wildlife resources.

Broad public participation in the grazing decision process has increased overall support for achieving ecologically sound resource objectives and resulted in decisions benefiting multiple uses and more diverse ecosystems.

BLM ownership of range improvements have allowed projects to be more easily built and modified for safe wildlife use.

4.3.6.2 Migratory Birds [included in 4.3.6.1—doc will need renumbering]

4.3.6.3 Riparian, Wetland, and Aquatic Communities

Trends in riparian condition are discussed in Section 3.5.3.2. Riparian habitat conditions on BLM lands in the lower 48 States showed only minimal improvement from 1998 to 2001. Under continuation of existing management and regulations, overall riparian conditions Bureauwide (excluding Alaska) would remain static or improve only slightly from present conditions. Some regions would show noticeable improvements in riparian conditions, while other regions would show declines or no change. The trend from 1998 to 2001 showed an increase in the percentage of riparian areas classified as “properly functioning” from 36% to 42% (a rate of 1.5% per year). We can assume that the rate of improvement will decrease as the percentage of sites in the “unknown” category falls to zero. The resulting rate of increase in the percentage of properly functioning riparian areas would be approximately 1% per year. At this rate, it would take BLM until 2036 (nearly 40 years later than the original BLM target of 1997) to reach its goal of having 75% of its lotic riparian areas in proper functioning condition. Thus, the continuation of Present Management will not allow BLM to reach its riparian goals in a timely fashion.

It is important to realize that riparian areas classified as properly functioning are simply meeting the minimum BLM standard. A designation of proper functioning condition indicates that a riparian site has the necessary physical characteristics in place to withstand a moderate flood event (approximately a 25-year flood). However, riparian areas classified as properly
functioning do not necessarily provide quality habitat characteristics that are required for proper biological functioning. Thus, a properly functioning riparian area does not necessarily provide quality habitat for birds, fish, or other animals that rely on riparian areas for some aspect of their life history. Many properly functioning riparian areas still have to improve significantly before they provide proper biological function.

At the local scale, some improvements in riparian and aquatic habitat would result from the continuing implementation of rangeland standards and guides as mandated under Present Management. The rangeland standards and guides process identifies where livestock grazing is a significant factor contributing to riparian sites not meeting standards. Once these sites are identified, livestock management practices should be modified to allow these sites to recover so that they will meet riparian standards. Improvements in riparian health depend on the willingness of local BLM managers to enforce changes in grazing management where livestock grazing is a significant factor in failing to achieve or make significant progress toward meeting the riparian standard. Once riparian degradation has been documented and livestock grazing is identified as a significant factor, changes in grazing management should lead to improved riparian conditions.

Regulations under Present Management provide only limited protection for riparian and aquatic habitat. Even with local improvements due to the proper implementation of rangeland standards and guides, in many areas riparian and aquatic conditions will remain static or decline under Present Management. Livestock are adapted to mesic habitats and spend a disproportionate amount of their time in riparian areas. Even with fewer livestock on the range and improved upland conditions in the long-term, livestock will continue to congregate in riparian areas. Livestock grazing and trampling in riparian areas results in reduced abundance and diversity of fish, aquatic invertebrates, amphibians, birds, and threatened and endangered species. The removal of streamside vegetation by livestock leads to increased sedimentation, increased water temperatures due to loss of shading, and wider and shallower stream channels, all of which combine to degrade aquatic habitat.

4.3.7 Special Status Species

The BLM Special Status Species Management Policy (Manual 6840) ensures that actions authorized or approved by BLM are consistent with the conservation needs of special status species and do not contribute to the need to list any special status species. Conservation of special status species means the use of all methods and procedures which are necessary to improve the condition of special status species and their habitats to a point where their special status recognition is no longer warranted.

Special status species are defined as those proposed for listing under the Endangered Species Act (ESA), officially listed as threatened or endangered under the ESA, those listed by a State in a category such as threatened or endangered implying potential endangerment or extinction, or those designated by each BLM State Director as sensitive.
It is BLM policy to conserve listed species and the ecosystem on which they depend. BLM shall manage species proposed for listing under the ESA as threatened or endangered and proposed critical habitat with the same level of protection provided for listed species. For candidate species, BLM shall implement management plans that conserve the species and habitats and ensure that actions authorized, funded, or carried out by BLM do not contribute to the need to list the species. The protection provided by the 6840 policy for candidate species shall be used as the minimum level for protection for BLM sensitive species. State listed species shall be managed consistent with state laws protecting these species to the extent that they are consistent with FLPMA and other federal laws.

Timely implementation of grazing decisions for correcting environmental damage has resulted in reducing resource damage, benefiting more diverse, healthier ecosystems. Implementing decisions before an appeal is resolved has resulted in short to long-term increases in herbaceous cover and forage for wildlife. Historic, adverse effects have been realized on Lahontan cutthroat trout, southwestern willow flycatchers, yellow-billed cuckoo, Bell’s vireo, northern beardless tyrannulets, and countless threatened, endangered, proposed, and candidate plant species.

The present grazing regulations favor emphasizing potential natural vegetation communities that favor most special status species. Any increase in the already burdensome grazing appeals process would have an adverse on terrestrial and aquatic wildlife species. Timely implementation of grazing decisions for correcting environmental problems has reduced resource damage, benefiting riparian areas most importantly for aquatic and migratory birds. Of special concern in the future will be the ability to make timely and effective grazing decisions with respect to pygmy rabbits, mountain plover, mountain quail, and Gunnison and greater sage-grouse, all of whom are being considered for listing in the near future. An inability to make effective grazing decisions for these species will result in long-term, adverse effects to these species. Managing rangelands to restore and maintain natural ecosystems has resulted in increased biological diversity, allowing more wildlife and plant species to meet basic life requirements.

4.3.8 Wild Horses and Burros

4.3.9 Recreation

Recreational experiences would be maintained on the public lands or, where land health standards are not yet attained, improved as upland and riparian conditions improve as actions are taken to attain rangeland health standards.

Recreation uses including sightseeing, wildlife watching, and enjoyment of naturalness would be maintained or improved as vegetation cover increases. Many recreational activities are not centered on sightseeing and enjoyment of naturalness but those qualities contribute to the overall experience and recreational enjoyment of the activity. Most recreational activities would be expected to improve as the setting in which they take place improves. Fishing and hunting opportunities would be expected to be maintained or improved as habitats are maintained or
improved to support greater success rates. Both commercial and non-commercial activities
would be similarly affected.

4.3.10 Special Areas

Overall assumptions for all Alternatives: Special Areas would develop environmental
assessments and decisions to identify and resolve specific on-site concerns affecting
preservation, protection, conservation, and enhancement of resources, and other values and uses.
All proposals would be evaluated using the originating unit proclamations, laws and policies,
whichever is appropriate, to determine implementation suitability.

4.3.10.1 Phase-In of Changes in Use
The present situation does not address a time frame for implementing grazing decisions to
change active use. Changes in use can be implemented without delay allowing the
implementation of corrective actions based on the reduction of livestock numbers. The
immediate reduction of livestock numbers in excess of 10% could impose economic difficulties
on permittees.

4.3.10.2 Range Improvement Ownership
Alternative 1 continues the present range improvement ownership policy of the United States
holding title to permanent and nonstructural range improvements. The existing situation lacks
emphasis concerning expense and risk for cooperators when providing nonstructural
improvements, and cooperators receive no interest in public land for the nonstructural
improvement. Range improvement records indicate that there is no difference between the
number of improvements developed when shared title was in place, and during the present
situation where the United States has title of the range improvements.

4.3.10.3 Temporary Nonuse
The present situation concerning temporary nonuse limits the nonuse period to not more than
three consecutive years. Range restoration actions such as chaining or prescribed fire and
seeding take longer than three years to complete. Livestock may be reintroduced prematurely to
the recovering allotment as a result of this time constrain. Reasons for temporary nonuse as
defined in the present regulations are also constraining in terms of resource values and
protection, and meeting rangeland health standards.

4.3.10.4 Noxious Weeds
The present regulations do not specifically address the issue of noxious weeds. Therefore, there
is no deterrent in the regulations for someone knowingly or willfully spreading noxious weeds.
Presently violators to Executive Order 13113–Invasive Species could not be cited.

4.3.10.5 Basis for Rangeland Health Determinations
Present regulations do not address how the authorized officer determines that existing grazing
management practices are significant factors in failing to meet rangeland health standards.
Resulting determinations effecting permittee operations could be made with less than sound
scientific information. However, it seems impractical that these determinations would be made with less than sound data given the present tendency toward litigation.

4.3.10.6 Timeframe for Meeting Rangeland Health Standards
Existing regulations require BLM to implement appropriate changes in grazing management as soon as possible but no later than the start of the next grazing season if grazing practices are determined to be a causal factor in not meeting significant progress toward the fundamentals of rangeland health. The present timeframe in many instances is unattainable possibly compromising adequate development, review and implementation of appropriate actions and required processes.

4.3.10.7 Definition and Role of Interested Publics
The present situation defines interested public as an individual, groups or organization that has submitted a written request to the authorized officer to be provided an opportunity to be involved in the decision-making process for livestock management of a specific allotment, or has submitted written comments to the authorized officer regarding livestock management of a specific allotment. BLM must consult, cooperate and coordinate (CCC) with or seek review and comment form the interested public on a variety of livestock management actions. In addition, BLM must send copies of proposed and final decisions to the interested public. The existing regulation only requires that an interested public request an opportunity to participate in a decision-making process. The interested public does not have to actually participate to retain interested public status. Also, an interested public can request to be involved with the day to day operational decision-making.

The present method of obtaining public participation allows interested publics information concerning actions that effect livestock management without actually commenting during the decision making process. Interested publics are made aware of changes to daily operational activities through consultation, and cooperation and coordination efforts. This system develops a large mailing list of interested publics; however comments received in generally low.

4.3.10.8 Prohibited Acts
The existing Prohibited Acts lack clarification concerning non-related grazing permit violations. This misunderstanding has lead to confusion and a feeling of “double jeopardy” by permittees. The present Prohibited Acts contain provisions that are not the direct enforcement responsibility of the Secretary of the Interior and reference punitive actions against grazing permits; or state livestock laws. However, these provisions, directly enforceable or not, may act as a deterrent to would be violators.

4.3.10.9 Grazing Use Allowed When a Stay is Granted
Presently, when a stay is granted on a grazing decision the permittee will graze in accordance with the previous year authorization. If the applicant had no authorized use the previous year grazing use will be consistent with the final decision pending resolution of the appeal. BLM has the opportunity to make an adjustment on grazing use when a grazing preference is transferred. The adjustment in grazing use provides a mechanism for implementing on the ground actions
needed to accomplish rangeland health standards. The action by BLM to adjust grazing preference during the sell of a grazing operation may affect the value of the operation.

4.3.10.10 No on the Ground Effect

Social, Economic and Cultural Considerations

Cooperation with State, County and Federal Agencies

Review and Comment on Biological Assessments

Conservation Use

Grazing Preference

Water Rights

Satisfactory Performance

Changes in Grazing Use within the Terms and Conditions of the Permit of Lease

Service Charges

Biological Assessment-Application of Protest and Appeal Provisions

4.3.11 Paleontological and Cultural Resources

The present management alternative (No Action Alternative, Alternative One) includes all of the present regulations. Review of a federal undertaking by a cultural resource specialist is required during specific project planning or implementation at the local level, land use planning initiatives at the state or regional level, or for regulation revision at the national level. Of the present regulations, only range improvement ownership and the Standard and Guideline appropriate action implementation have had the potential to effect on-the-ground actions which consequently can affect heritage resources. New project developments as a result of these actions have been and will continue to be analyzed for affects on heritage resources on a case-by-case basis. Cultural resource surveys precede management actions that could damage cultural resources (BLM Manual 8100, Cultural Resource Management). Historic and prehistoric archaeological sites found during these surveys would be protected in accordance with the National Historic Preservation Act of 1966 (revised) and other laws or executive orders as stated in the Code of Federal Regulations (36 CFR 800).

Prohibited acts under the present regulations allow grazing permits to be cancelled for violation of the "illegal removal or destruction of archaeological or cultural resources" clause. This clause
gives protection to a fragile and nonrenewable resource that may be important to regional and national heritage.

4.3.12 Economic Conditions

There would be no effect from Alternative 1: No Action. [QUESTION ON FORMAT: it seems like I should perhaps analyze this alternative ‘in reverse,’ i.e. talk about effects of not adopting the proposed action.]

4.3.13 Social Conditions

4.3.14 Environmental Justice

4.4 ALTERNATIVE 2: PROPOSED ACTION

4.4.1 Air Quality

4.4.2 Grazing Administration

4.4.2.1 Issuing, Modifying or Renewing Permits or Leases

The BLM would continue to adhere to the NEPA requirements for the analysis of grazing permit or lease issuance, modification, or renewals. The regulations would require the authorized officer to document the NEPA compliance procedures for the affected environmental elements, and in particular, the effects of the proposed action on relevant social, economic, and cultural factors. The proposed action would require the formation of BLM-approved documentation procedures or forms to be utilized within the grazing administration program to ensure consistency across BLM jurisdiction boundaries.

4.4.2.2 Implementing Changes in Grazing Use

Reductions in permitted use would be accomplished through the grazing decision process or a documented agreement with the permittee or lessee. If the reduction is greater than 10% of the total permitted use the implementation of the reduction would occur within a 5-year period. This 5-year timeframe would be not followed in cases where the permittee or lessee agrees to a shorter timeframe or a shorter timeframe is required in order to comply with applicable law (i.e. Endangered Species Act). The 5-year reduction period would require the grazing administration to allocate additional resources to track the changes to ensure that the present permit and bill reflects the reductions of permitted use.

4.4.2.3 Range Improvements

Ownership of range improvements would be shared among the cooperators according to the financial contribution for the project development and construction costs. The present number of rangeland improvements appeared to have stabilized in regard to number and would be expected to be maintained at approximately 1200 rangeland improvement projects per year for the next 5 years.
4.4.2.4 Involvement of Interested Publics

Interested publics would be defined as an individual, group, or organization that has: (1) submitted a written request or BLM to be provided an opportunity to be involved in the process leading to the decision for management of livestock grazing and followed up on that request by commenting or participating in the decision making process; or (2) submitted written comments to the BLM regarding management of livestock grazing on a specific allotment, as part of the process leading to a BLM decision on management of the livestock grazing on the allotment.

The interested publics would be required to inform the authorized officer that they wish to be involved with an allotment or make comments on an allotment in order to participate in the decision making process. If the interested public declines to become involved in the initial planning of the decision making process, the interested public does not have regulatory standing to become involved in the decision making process.

The specific actions requiring consultation, cooperation, and coordination or seek review and comment form the interested public would be: (1) Apportioning additional forage; (2) Development or modification of grazing activity plans; (3) Planning of range development or improvement program; (4) Reviewing or commenting on grazing evaluation reports.

Specific actions no longer requiring the consultation, cooperation, and coordination standard would be: (1.) Designating and adjusting allotment boundaries; (2) Reducing permitted use; (3) Emergency closures or modifications; (4) Renewing or issuing grazing permit or lease; (5) Modifying a permit or lease; and (6) Issuing temporary non-renewable grazing permits.

The clarity of the interested public and the reduction of actions that would require interested public involvement would enable the BLM to increase the focus of the communication efforts with those interested publics that are involved in the significant issues occurring on grazing allotments. This increased focus should increase the efficiency of communication though the reduction of communication to individuals, groups, or organizations that are not providing constructive input to the decision making process on an allotment. The proposed action still maintains that proposed and final decisions are sent to the interested public.

Lastly, the proposed action would require, that in addition to cooperating with state, county, or federal agencies in regard to state cattle or sheep sanitary or brand boards and county or other local weed control districts, the BLM would also cooperate with grazing boards on the reviewing range improvements and allotment management plans. The review of these items by grazing boards are already occurring on an established basis and therefore the regulation change would only be formalizing these activities.

4.4.2.5 Authorizing Temporary Changes in Use

The proposed action would include a definition for “within the terms and conditions” for approving applications for grazing use that is within the terms and conditions of the existing
The definition for “within the terms in conditions” would contain temporary changes to livestock numbers; period of use; or both that would result with grazing use that does not exceed the AUMs specified in the permit or lease. Additionally, the use may occur within 14 days of the begin date and no latter than 14 days after the end date of the permit. The inclusion of the definition would provide for standardized application within the BLM. The permittee or lessee would not be subject to a service charge if the application is received after the billing notice has been issued.

The BLM could approve temporary nonuse for no longer than one year at a time for resource requirements or personal needs of the permittee or lessee. There would be no time limit to the consecutive years of temporary nonuse that may be approved by the BLM. These changes would allow the grazing administration program to continue beneficial temporary nonuse for more than the present 33-year term. This beneficial use would maintain the present workload for the grazing administration, while providing greater flexibility to the permittee or lessee.

### 4.4.2.6 Prohibited Acts

The first and second set of prohibited acts would be maintained in the regulations and utilized in the future by the BLM in the administration of grazing allotments. The third set, which is the provisions regarding prohibited acts related to violations of Federal or State laws or regulations, would be eliminated from the grazing regulations. This elimination would not affect the grazing administration program, since the third set of prohibited acts has not been utilized since the incorporation into the grazing regulations.

The act of knowingly or willfully introducing noxious weeds on public lands would be added to second set (under 4140.1(b)) of prohibited acts and would apply to any person (not just permittees or lessees) introducing noxious weeds to BLM lands. This provision may present enforcement difficulties within the grazing administration program, but may provide education or deterrence to those individuals considering the introducing noxious weeds to BLM lands.

### 4.4.2.7 Appeals

The appeal process would continue as outlined within the present regulations. A proposed grazing decision would be issued and in the absence of a protest the proposed grazing decision would become the final grazing decision. The authorized officer would still have the authority to close an allotment and issue a final decision for resource protection issues.

The grazing decision process would be utilized in the grazing permit or lease transfer process. When a stay of a decision concerning a decision on a permit or lease offered to a preference transferee is granted the applicant would be offered a new permit or lease with the same terms and conditions of the previous permit or lease.

### 4.4.2.8 Fundamentals of Rangeland Health

The determination for the Standards of Rangeland Health would be based on the assessment report and monitoring data. If monitoring data is not available then the assessment can not be
reach until monitoring is established on the allotment. This process would result in delaying the Standards and Guidelines assessment schedules for allotments, i.e. low priority allotments, which do not have monitoring data available.

The requirement to collect monitoring data prior to issuing a determination would increase the workload within the grazing administration program and impede the timeline some states have established through a statewide EIS for assessment completion dates. Additional funding for staff and associated costs would need to be available for to ensure monitoring is established. In addition, the monitoring requirement would delay the permit renewal process that is tied to the completion of the standards for rangeland health determination. The proposed action would also create an inconsistency in regards to previously made rangeland health assessments in which monitoring data was not required for the determination.

The timeline for making progress towards meeting a standard is initiated once the BLM has completed the relevant and applicable requirements of law, regulations and consultation requirements to ensure that rangeland health conditions exist. If livestock grazing is implied as a causal factor for the allotment not meeting a standard, the BLM would be required to take appropriate action to ensure the allotment is progressing towards the stands or conform to the guidelines no later than 24 months after the determination.

This would include the completion of the NEPA analysis and issuance of a new permit. The extension of time does not mean that 24 months would be required, but that it is the maximum time allowed for the process. The timeline extension would allow the grazing administration process the ability to ensure a professional, well documented, and comprehensively designed product is produced that will effectively address the resource situations.

4.4.3 Vegetation

4.4.4 Fire and Fuels

Fire is a variable, dynamic force with diverse responses and effects. Understanding these processes and interactions is important in determining the role of wildland fire and its effects on the environment. Understanding fire as an ecological process and how it interacts with the environment is critical for developing land management objectives and sustaining rangeland health. The National Fire Plan has increased the pressure on the fire program to increase treatment acres. Some of these regulation changes will aid in the achievement of some of these expectations on the fire program, in turn increasing rangeland health on BLM administered lands.

Under the proposed action, the only two factors in conjunction with fire that could influence rangeland health are temporary nonuse and range improvement ownership. Fire would not have much of an effect on any other areas of the proposed action and therefore is not analyzed.

Temporary nonuse would allow the BLM to rest an area that has had rangeland health treatments implemented on the land for a suitable length of time. After a treatment, drought could cause the
area to not rehabilitate sufficiently, thus needing more time to rest the treatment area. Having
the ability to look at the area every year and determine whether it meets managers’ goals is
important. Having the option of resting for an unlimited amount of time will probably have a
positive effect on the environment and the rangeland health.

Range improvement ownership could cause some problems in the use of fire to aid in rangeland
restoration. With the permittee having some ownership, he or she could resist projects due to the
possibility of damages. These should be easily mitigated with agreements between the BLM and
the permittee and should have no negative effect on the environment.

4.4.5 Soils
4.4.5.1 Upland Soils

Phase-in of changes in active use over a 5-year period would have a negative effect on upland
soil resources by increasing the time period for recovery of watershed cover on allotments
having inadequate live plant and litter cover due to overstocking. Changes in grazing use up to
14 days before and up to 14 days after the end date specified on the permit or lease would have a
negative effect on upland soil resources on allotments where this resulted in a reduction in
watershed cover. Requiring use of both standards assessment and monitoring data to determine
that existing grazing management practices or levels of grazing use are significant factors in
failing to achieve standards and conform with guidelines would have a negative effect on upland
soil resources by increasing the time period for recovery of watershed cover on allotments
failing rangeland health standards. Allowing BLM as long as to 24 months to formulate,
propose, and analyze appropriate action to address failure to meet rangeland health standards
would have a negative effect on upland soil resources by delaying recovery of watershed cover
on those allotments. Reduced watershed cover results in increased erosion, sedimentation, gully
formation, and runoff, and decreased infiltration. The short- and long-term effects would

No limit on number of consecutive years of grazing nonuse would have a beneficial effect for
upland soil resources in allotments where greater natural recovery of watershed cover occurred.
This rules change would also potentially increase the Bureau’s flexibility to rest allotments
affected by drought, wildfire, or restoration treatments and thus improve watershed vegetation
cover and soil physical characteristics such as compaction. The improvements would be most
pronounced in the higher elevation, moister portions of the analysis area. Improvements would
be slower and most difficult to achieve in the drier portions of the Tropical-Subtropical and
Temperate Desert divisions. Adding a noxious weeds provision to prohibited acts would be
beneficial to upland soil resources on allotments where this rule prevented introduction of
noxious weeds. Noxious weeds can displace native plants that provide better watershed cover.
Noxious weed dominance of a site can also result in the loss of some biological components of
the soil, such as mycorrhizal fungi that are needed by many native range plants for survival. The
short- and long-term effects would correspond to the number of acres where upland watershed
cover was maintained or increased and noxious weed infestations were prevented.
Cumulative effects would be adverse for upland soil resources due to net loss of watershed cover. The acreage of adverse effects would not be significant. There would be no unavoidable adverse effects. The relation between short-term use and long-term productivity would depend on the maintenance of adequate watershed cover to protect upland soil resources. There would be no irreversible or irretrievable commitment of soil resources.

4.4.5.2 Riparian Soils

Short- and long-term environmental consequences of the proposed management alternative would be similar to those for upland soils except that the high moisture content of riparian soils can accelerate responses to improved management practices. The result of enhanced riparian vegetation cover would be improved riparian stability and increased growth of deep-rooted, riparian vegetation that helps dissipate stream energy, protects streambanks, and filters sediment and pollutants from the stream. Reduced desirable riparian cover would result in decreased riparian soil stability. The short- and long-term effects would correspond to the number of acres where desirable riparian watershed cover was enhanced or reduced.

Cumulative effects would be adverse for riparian soils due to net loss of desirable riparian cover. The acreage of adverse effects would not be significant. There would be no unavoidable adverse effects. The relation between short-term use and long-term productivity would depend on the maintenance of adequate desirable vegetation cover to protect riparian soil resources. There would be no irreversible or irretrievable commitment of soil resources.

4.4.6 Wildlife

4.4.6.1 Terrestrial

The environmental impact changes analysis herein focus on policy and regulation changes for livestock grazing as they affect wildlife populations and their habitats on the 162 million acres grazed by domestic livestock in the western United States. Implicit in the environmental consequences is the analysis of the policy and regulation changes as stated, as well as the practical and legal implications of these changes.

The Proposed Action will have a slow, long-term adverse effect on wildlife and biological diversity in general. Upland and riparian habitats will continue to decline due to increasing an already burdensome grazing appeals process, lack of ability to control illegal activities on public lands, and allowing livestock operators to acquire rights to livestock management facilities and vegetation on public lands. The cumulative effects resulting from all these changes will be significant and adverse for wildlife and biological diversity in the long term. The numbers of special status species will continue to increase in the future under this alternative.

Significant losses of native habitats have been caused by agricultural conversion, rangeland conversion, livestock management, post-fire rehabilitation, wildfire, prescribed fire, structures, conifer expansion, exotic invasive plants, and wild horses and burros.
The present trend for upland habitats is unknown, but as the West is in the fifth year of a drought, it can be assumed that upland habitats are in poor and declining condition. The poor and declining trend in many western uplands is a result not only of the drought conditions, but also the inherent inability to make livestock adjustments due to the existing burdensome grazing appeals process. This has had significant, long-term adverse effects on wildlife resources, including threatened and endangered and special status species.

To improve working relations with permittees and lessees, explicitly stating and emphasizing in the grazing regulations that the economic, social, and cultural elements be considered when making grazing decisions will tend to give emphasis of these considerations over natural resource considerations, such as wildlife and special status species. The BLM is required by the National Environmental Policy Act of 1969 (Public Law 91-90; 42 U.S.C. 4321 et seq.) to use a systematic interdisciplinary approach, which ensures the integrated use of natural and social sciences and the design arts in planning and decision making affecting the human environment. The grazing regulations do not contain language specifically addressing the need for compliance with the NEPA.

Range improvement ownership has significant meaning with respect to a livestock operator’s right to be there. That is, ownership of water or range improvements gives the livestock operator the right to be at any given point in time and any change in that right results in a “take”. “Take” results in the permittee either being allowed to be grazing regardless of range condition and thus adversely affect wildlife resources or the permittee must be compensated. In the cases of *Hage v. United States*, 35 Fed. Cl. 147, 180 (1996) and *Hage v. United States*, 42 Fed. Cl. 249 (1998), the court held that the operator had indeed ownership of water rights and therefore the right to graze in order to utilize that water. Therefore, by establishing ownership of water or range improvements the livestock operator will have the right to graze and greatly diminishes the ability of the BLM to regulate grazing and will create long-term effects on wildlife resources.

Authorizing joint title to range improvements will have long-lasting adverse effect to the wildlife of the public lands in the West. The proposed action would require that title to all new permanent, structural grazing-related range improvements constructed on public lands, or made to the vegetation resource on the public lands, except temporary or removable improvements, be held jointly between the cooperator(s) and the United States in proportion to their initial contribution to on-the-ground project development and construction costs. Allowing permittees joint ownership of the vegetation of the public lands would give them ownership and therefore a right to “take” that vegetation regardless of adverse effects to wildlife resources.

The BLM would continue work cooperatively with other cooperators in the development and construction of water-related range improvement projects including application for it’s proportional right to acquire, perfect, maintain and administer water rights, as allowed by State law. Some states, such as Nevada, are passing laws prohibiting the federal government from owning water rights, which adversely affects wildlife resources. Under these laws the BLM would not be able to hold water rights for the wildlife resources on public lands, thus there will be a long-term adverse to wildlife and special status species as BLM will be unable to require that water be made available for wildlife during time periods when livestock are not grazing.
Present ability of BLM to hold water rights to benefit wildlife, particularly fish has been significant. Deferring to state water law, as in the case of Nevada, where they prohibit the BLM from holding water rights will have a long-term, adverse effect on wildlife, particularly fish. Where BLM does not have some control over the water, livestock facilities are often shut off when livestock are absent, but wildlife could use the facilities. Exclusive control of water will reduce wildlife habitat quality by promoting wildlife-livestock conflicts.

Under present regulations, the determination that livestock grazing practices are a significant factor in failing to achieve the rangeland health standards or making significant progress toward the fundamentals of rangeland health, BLM is required to formulate, propose, and analyze appropriate actions to address the failure to meet the rangeland health standards by the next grazing season after the determination. Amending when BLM will make changes in grazing management when not meeting land health standards from the present requirement of the next grazing season to 24 months and that any adjustment in active use in excess of 10% must be implemented over a 5-year period could have significant and log-term adverse effects on wildlife resources and biological biodiversity in general, but could be especially problematic for many of the special status species on public lands, especially plants.

The proposed changes for protecting the health of the rangelands:

1. Grazing decisions would require not only a land health assessment, but also monitoring data, usually 2-3 years. BLM, in fact, lacks sufficient funding and staffing to perform adequate monitoring.
2. After a grazing decision record of decision there is a 2-year period allowed prior for making any changes in the grazing operation.
3. Proposed changes in active use greater than 10% would require a 5 year phase-in period.

All of these cumulative delaying tactics could result in a protracted 10 year period for full implementation and change and thus would result in a long-term, adverse effect on wildlife resources and biological diversity, including threatened and endangered and special status species.

The additional provision that determinations that existing grazing management practices or levels of grazing use are significant factors in failing to achieve standards and conform with guidelines must be based on not only the standards and guidelines assessment, but also include monitoring data will further delay the grazing decision process. Present BLM funding and staffing levels do not provide adequate resources for even minimal monitoring and the additional monitoring requirement will further burden the grazing decision process, thus adversely affecting wildlife resources and biological resources in the long term.

The change in definition of “interested public” will limit the ability of environmental groups to participate in the appeals process in the interest of wildlife. Including all interested parties in the appeals process has had a long-term positive effect for wildlife and special status species. Redefining “interested public” as an individual, group or organization that has: (1) submitted a
written request to BLM to be provided an opportunity to be involved in the process leading to a
decision for management of livestock grazing and followed up on that request by commenting
on or otherwise participating in the decision-making process on management of a specific
allotment; or (2) submitted written comments to the BLM regarding management of livestock
grazing on a specific allotment, as part of the process leading to a BLM decision on the
management of livestock grazing on the allotment will lessen the ability of environmental
groups and organizations to participate in weigh in and support wildlife and special status
species with regard to public land grazing issues. This should result in long-term, adverse effects to wildlife and special status species on public lands.

The deletion of the requirements to consult, cooperate and coordinate with or seek review and
comment from the “interested public” for designating and adjusting allotment boundaries,
reducing permitted use, emergency closures or modifications, renewing or issuing grazing
permit or leases, modifying a permit or lease and issuing temporary non-renewable grazing
permits will further reduce the ability of environmental groups and organizations to participate
in weigh in and support wildlife and special status species with regard to public land grazing
issues. This should result in long-term adverse effects on wildlife and special status species on
public lands.

The requirement for the BLM to cooperate with State, local, and County established grazing
boards in reviewing range improvements and allotment management plans on public lands will
result in giving permittees and lessees greater access to the decision making process at the
expense of conservation groups who are advocates for wildlife resources. First, this requirement
will give greater emphasis to local entities who favor extraction of forage and water resources at
the expense of wildlife and biological diversity. Secondly, this requirement will give local
entities greater influence over decision making than national interests who are excluded from
this venue. This would be a long-term adverse effect for wildlife and special status species
resources.

Providing permittees and lessees, the state having lands or responsibility for managing resources
within the area, and the interested public the opportunity to review and comment on biological
assessments prepared under the Endangered Species Act should have no effect on wildlife
resources, other than delaying the process, but it is nonetheless a good cooperative business
practice. Any required concurrence by the livestock permittee or lessee or other entity would
negate the intent of the Endangered Species Act.

Regarding rangeland health, the requirement that the BLM could approve nonuse for no longer
than 1 year at a time for resource reasons as well as for business or personal needs of the
permittee or lessee will create an administrative workload for BLM, but should have little effect
on wildlife resources.

Present regulations allow livestock operators to be cited for certain prohibited acts. Elimination
of these prohibited acts (i.e., Placing poisonous bait or hazardous devices to kill wildlife,
applying or storing pesticides, herbicides, or other hazardous material, altering or destroying
natural stream courses without authorization, polluting water sources, aiding and abetting or
directly illegally taking, destroying, or harassing fish and wildlife, and illegally removing or
destroying archeological or cultural resources) will have a significant, long-term adverse effect
on wildlife and special status species. Even though there may be other regulatory mechanisms
for enforcement none of these regulatory mechanisms are presently effective. Examples include
poisoning prairie dogs and ground squirrels, killing gray and Mexican wolves, grizzly bear
jaguars and mt. lions, diverting water sources from historic Lahontan cutthroat habitat, etc. All
of these illegal activities are conducted in support of their livestock operations and are thus
directly related to livestock grazing activities. While none of the these prohibited acts have been
utilized to penalize a permittee, there is no way to ascertain how many permittees were
influenced not to perform a prohibited act. We do know that a livestock operator in Montana,
not connected to a BLM permit, did poison prairie dogs on public lands with no opportunity for
enforcement due to state law permitting prairie dog poisoning.

Inclusion of prohibited acts as “terms and conditions” in grazing permits has been used rather
sparsely and has not historically constituted an effective prohibition.

The exclusion of certain grazing permit or lease renewals or other proposed actions from EIS or
EA analysis will have a negative effect on wildlife resources. Even though they do not
individually or cumulatively have a significant effect on the human environment, it will limit
wildlife input into allotments needing change to benefit wildlife species. This will also further
restrict BLMs ability to assess cumulative effects of livestock grazing on wildlife and special
status species.

Allowing BLM managers to lock gates on public lands at the request of livestock operators will
further restrict wildlife recreational users from using the public lands whether for hunting,
fishing, or wildlife viewing.

Timely implementation of grazing decisions for correcting environmental damage has resulted in
reducing resource damage, benefiting more diverse, healthier ecosystems. Staying decisions
prior to resolving an appeal will have significant adverse effects on such listed species as
Lahontan cutthroat trout, desert tortoise, southwestern willow flycatchers, yellow-billed cuckoo,
Bell’s vireo, northern beardless tyranniulets, and countless threatened, endangered, proposed, and
candidate plant species. It is doubtful that conservation partnerships, RCAs, voluntary
restructuring of allotments, or conservation easements would have any beneficial effect to
wildlife, especially listed species, unless there is a change within the livestock grazing industry.
Traditionally, livestock operators have shown a desire to appeal proposed grazing decisions,
regardless of the effects on listed species.

4.4.6.2 Migratory Birds [included in 4.4.6.1—need to renumber doc]

4.4.6.3 Riparian, Wetland, and Aquatic Communities

Under Alternative 2, the Proposed Action, riparian, wetland, and aquatic resources will improve
with the implementation of some actions under consideration and decline with the
implementation of others. The Proposed Action will change several elements of BLM’s present
management policies, regulations, and management practices. Many of the elements in the Proposed Action will lengthen the time of appeals, delay the implementation of grazing changes where livestock are causing degradation to resources, and eliminate BLM’s ability to punish livestock operators who undertake certain illegal actions on public lands. Thus, the overall effect of the Proposed Action on riparian, wetland, and aquatic resources will be negative in both the short and long-term. The key elements in the Proposed Action are discussed below, including an analysis of the effect of that change on riparian, wetland, and aquatic resources.

Add a Provision Documenting NEPA Compliance: The Proposed Action would add a new provision requiring BLM to document compliance with NEPA before changing permitted use. The documentation would include BLM’s consideration of any effects of the proposed change on relevant social, economic, and cultural factors. If permitted livestock use is causing degradation of riparian, wetland, or aquatic resources but is allowed to continue because changing permitted use would cause undue social, economic, or cultural hardship to the permittee, then the implementation of this action would have a negative effect on riparian, wetland, and aquatic resources.

Phase-In of Changes in Use: Allowing changes in active use in excess of 10% to be phased in over a 5-year period may have a negative effect on riparian and aquatic resources. If the change required is a decrease in active use due to livestock degradation of riparian, wetland, or aquatic resources, phasing in the decrease rather than imposing an immediate reduction will allow the negative effects associated with grazing to continue at nearly the same level for up to five years.

Authorizing Joint Title for Range Improvement Projects: Allowing title to range improvements to be held jointly has the potential to negatively affect riparian or aquatic resources in the long-term. Based on the outcomes of recent court cases in Nevada, joint ownership of range improvements may give livestock operators a right to graze in order to utilize their water right. If the result of these court cases are applied Bureauwide, BLM will lose much of their ability to manage livestock grazing which will result in negative effects to riparian, wetland, and aquatic resources.

Temporary Nonuse: Eliminating the three consecutive year maximum for temporary nonuse would positively benefit riparian and aquatic resources. Although riparian areas typically respond quickly to the removal of livestock grazing, complete recovery is a slower process. Removing the limit on the number of consecutive years of nonuse would allow adequate time for ecological processes disrupted by livestock grazing (recruitment of young woody species, recovery of vegetation which protects stream banks and attenuates high flows, channel narrowing and stream bank stabilization as riparian vegetation traps sediment, etc.) to recover and function properly. In most cases, more than three years of nonuse is needed for complete recovery of riparian, wetland, and aquatic habitat.

Introduction of Noxious Plants: Prohibiting the introduction of noxious plants under the Proposed Action would have a positive effect on riparian and aquatic conditions. The spread of aggressive invasive species such as tamarisk (Tamarix spp.), purple loosestrife (Lythrum salicaria), and Russian olive (Elaeagnus angustifolia) are negatively affecting riparian
communities on public lands. These aggressive invasive species crowd out native riparian species and do not provide the deep roots of willows, sedges (Carex spp.), or cottonwoods (Populus spp.) that hold the streambank in place during high flow events. Making the introduction of invasive species a prohibited act decreases the likelihood that they will be knowingly introduced.

Basis for Rangeland Health Determinations: Using both standards assessment and monitoring as a basis for determining that existing grazing management practices or levels of grazing use are significant factors in failing to achieve standards and conform with guidelines would negatively affect riparian and aquatic resources, especially in the short-term. BLM does not have adequate funding or staffing to monitor resource conditions on public lands, so requiring both a land health assessment and monitoring data will delay the determination of what is causing standards not to be met. This delay will allow ongoing degradation of riparian, wetland, and aquatic resources while the necessary monitoring data is collected.

Timeframe for Meeting Rangeland Health Standards: If livestock grazing is determined to be a significant factor contributing to a riparian area not meeting land health standards, delaying any changes in the grazing permit for up to 24 months, as planned in the Proposed Action, will allow for additional degradation of riparian, wetland, and aquatic habitat. In the case of a riparian area that is functioning-at-risk with a downward trend, one or two additional grazing seasons combined with a high flow event could cause the system to become non-functional.

Removing the Provision for Conservation Use Permits: Removal of this provision as recommended in the Proposed Action would negatively affect riparian and aquatic resources. Conservation use permits would be issued to groups or individuals who do not plan to graze livestock on their allotment. Under this provision, groups or individuals would actively seek allotments that contain valuable riparian or threatened and endangered species habitat. The removal of livestock from allotments that are most vulnerable to degradation from livestock grazing via the issuance of a conservation use permit would have both short and long-term benefits for riparian, wetland, and aquatic resources.

Definition and Role of Interested Publics: The proposed action will require the submission of either a written request or written comments to BLM in order for an individual, group, or organization to obtain “interested public” status. Since it will require more effort to gain interested public status for environmental groups or organizations, this change will negatively affect riparian, wetland, and aquatic resources. The removal of BLM’s requirement to consult, cooperate, and coordinate with or seek review and comment from the interested public on certain actions will also negatively affect riparian, wetland, and aquatic resources. In particular, removing the requirement to involve the interested public in the renewing or issuing of a grazing permit or lease, or the modification of a grazing permit or lease, may lead to negative effects on riparian, wetland, and aquatic resources on public lands. In most instances, the “interested public” who comments on the issuance, renewal, or modification of a grazing permit is a conservation organization whose opposition is based on documentation of negative effects from livestock grazing to riparian, fisheries, wildlife, or threatened and endangered species habitat. Conservation organizations help BLM by identifying and documenting detrimental livestock.
grazing effects on public lands, which enables BLM to more effectively protect riparian,
wetland, and aquatic habitat. Removing the ability of the interested public to remain involved in
the issuance, renewal, or modification of grazing permits will negatively affect riparian and
aquatic resources.

Water Rights: Deleting the existing provision that, to the extent allowed by State law, any water
right would be acquired, perfected, maintained, and administered in the name of the United
States would have a long-term adverse affect on riparian, wetland, and aquatic resources. Some
states are passing laws that prohibit the Federal government from owning water rights. BLM
presently has the ability to hold water rights, and many of these rights are in the form of instream
flows specifically acquired to protect fisheries resources. Riparian, wetland, and aquatic habitat
will be negatively effected if BLM is prohibited by state law from holding water rights.

Prohibited Acts: Elimination of several acts prohibited by present regulations would have both
short and long term negative effects for riparian and aquatic resources. If BLM loses its
enforcement authority to punish violators by not issuing, suspending, or canceling their grazing
permits, then these prohibited acts become more likely to occur on public lands. Even if
violators of these acts are rarely punished, it is difficult to calculate the number of these acts that
were not committed due to the fact that they are prohibited serving as a deterrent. The
elimination of five prohibited acts under the Proposed Action would directly and negatively
affect riparian, wetland, and aquatic resources. The effects of eliminating these prohibited acts
are as follows:

• Placement of poisonous bait or hazardous devices designed for the destruction of
  wildlife: Placing poisonous bait or hazardous devices to kill wildlife often involves the
  use of cyanide, which is lethal to fish and aquatic invertebrates.

• Application or storage of pesticides, herbicides, or other hazardous materials: Improper
  application of pesticides or herbicides can kill fish and aquatic invertebrates. In addition,
  riparian vegetation is sometimes targeted for removal with herbicides due to the mistaken
  perception that willows (Salix spp.) and other riparian species dewater streams and
ditches. These species are vital to properly functioning riparian systems and, by storing
  water in stream banks, actually increase late season stream flows by releasing the stored
  water slowly over time as flows decline.

• Alteration or destruction of natural stream courses without authorization: Unauthorized
  alteration of stream courses would lead to loss of aquatic habitat diversity and destruction
  of riparian vegetation if a stream is straightened or channelized. Streams are often
  straightened or altered in an effort to bring more agricultural land into production or to
  facilitate water removal from a stream into an irrigation ditch. Channelization of streams
  leads to increased erosion and downcutting of the stream channel due to increased stream
  gradient. As streams downcut, the water table lowers, which leads to loss of riparian
  vegetation.

• Pollution of water sources: Polluting water sources directly and negatively affects fish
  and aquatic invertebrate populations.

• Illegal take, destruction or harassment, or aiding and abetting in the illegal take,
destruction or harassment of fish and wildlife resources: Aiding and abetting in, or
directly illegally taking, destroying, or harassing wildlife or fish directly and negatively affects fish populations.

4.4.7 Special Status Species

Refer to the impacts section under the previous Wildlife section, as those effects will also apply to special status species and, in many instances, be exacerbated for special status species who are either threatened or endangered or sensitive due to low population levels, degraded habitats, or endemism.

The BLM Special Status Species Management Policy (Manual 6840) ensures that actions authorized or approved by BLM are consistent with the conservation needs of special status species and do not contribute to the need to list any special status species. Conservation of special status species means the use of all methods and procedures which are necessary to improve the condition of special status species and their habitats to a point where their special status recognition is no longer warranted.

Special status species are defined as those proposed for listing under the Endangered Species Act (ESA), officially listed as threatened or endangered under the ESA, those listed by a State in a category such as threatened or endangered implying potential endangerment or extinction, or those designated by each BLM State Director as sensitive.

It is BLM policy to conserve listed species and the ecosystem on which they depend. BLM shall manage species proposed for listing under the ESA as threatened or endangered and proposed critical habitat with the same level of protection provided for listed species. For candidate species, BLM shall implement management plans that conserve the species and habitats and ensure that actions authorized, funded, or carried out by BLM do not contribute to the need to list the species. The protection provided by the 6840 policy for candidate species shall be used as the minimum level for protection for BLM sensitive species. State listed species shall be managed consistent with state laws protecting these species to the extent that they are consistent with FLPMA and other federal laws.

The proposed changes for protecting the health of the rangelands:

4. Grazing decisions would require not only a land health assessment, but also monitoring data. BLM, in fact, lacks sufficient funding and staffing to perform adequate monitoring.

5. After a grazing decision record of decision there is a 2-year period allowed prior for making any changes in the grazing operation.

6. Proposed changes in active use greater than 10% would require a 5 year phase-in period.

All of these cumulative delaying tactics could result in a protracted 7-year period to effect change and thus would result in a long-term, adverse effect on wildlife resources and biological diversity, including special status species. Changes in active use in excess of 10% would be
implemented over a 5-year period unless the changes must be made before 5 years to comply with applicable law (e.g., Endangered Species Act). The excepted provision for the Endangered Species Act will result in BLM being able to make necessary adjustments within a reasonable timeframe, thus reducing adverse effects on listed threatened or endangered species.

All of these cumulative delaying tactics would result in a long-term, adverse effect on special status species and biological diversity, especially special status species such as Gunnison and greater sage-grouse, mountain plover, pygmy rabbit, mountain quail, etc. Wisdom et al. (2003) identified 363 species of conservation concern in the sagebrush ecosystem in the western United States alone, of which 70% are plants. These 363 species are considered to be at risk of regional extirpation owing to habitat or population declines or rarity (Wisdom et al. 2003).

4.4.8 Wild Horses and Burros [this section is the old original text for proposed action]

The Proposed Action Alternative would have two major negative effects on wild horses and burros from the following regulation changes. They are (1) limiting appeals to those who have a direct interest (are we going to have a definition for what constitutes a direct interest?) and (2) reserve common allotments.

Limiting appeals to those considered to have a direct interest in livestock grazing decisions could have an affect on wild horse and burro numbers and those who support them (i.e., advocacy groups) if there is no avenue for input into the decision. This could affect the number of animals allowed to graze in concert with livestock.

Reserve Common allotments would definitely benefit the livestock grazing community, but in the instances where livestock need to be removed to improve the vegetative community (fire rehabilitation, reseeding), wild horses and burros would also need to be removed and either placed on long-term holding facilities (older animals) or in the adoption pipeline (5 years and under). Either way, the horses and burros would not be available to be returned to the range. Certain herds have specific attributes that would be lost. If there are wild horses and burros on the reserve common allotments, increased grazing pressure could result in negative effects to population numbers and herd dynamics.

If the horses and burros are left on the range, there would be additional forage to support established numbers within identified herd management areas.

The extension of the unhealthy rangeland determination from one grazing season to 18 months would also negatively affect wild horses and burros by allowing range degradation to continue for a longer time before a determination is made. This could affect wild horse and burro dynamics and population numbers.

Positive effects could be realized from the addition of the prohibitive act of knowingly and willfully spreading an invasive species (would be very hard to prove), as this would benefit the rangeland and grazers such as wild horses and burros. And the extension of temporary nonuse
granted for 5 years instead of the 3 years identified previously would allow rangeland health to improve, if overgrazing is the problem, which could positively affect wild horses and burros by reducing competition for key forage species.

4.4.9 Recreation

In areas where land health standards are presently attained, there would be no effect on recreation opportunities such as hunting, fishing, sightseeing, and enjoyment of naturalness. Under some circumstances, where rangeland health standards are not attained, improvement to conditions would be delayed under the proposed action. Delays may include allowing for the acquisition of additional monitoring data, additional time for development of corrective actions, and establishment of a 5 year phase in implementation period. The effect of these delays would vary according to site specific circumstances and conditions. In areas where the poorest range conditions exist, degraded recreational opportunities would persist for a longer period of time before actions would be implemented to bring the area into attainment of rangeland health standards. One exception would be where other laws or regulations, such as the Endangered Species Act, take precedence so that implantation would be more immediate.

Certain prohibited acts would be removed from the range regulations. However, this would not be expected to result in a decline in land health since those acts would continue to be prohibited in other regulations and may be specifically addressed in the special terms and conditions of the grazing permit. Adding knowingly and willfully introducing noxious weeds to the prohibited acts would affect recreation in two ways. First, the recreational setting and opportunities for enjoyment of naturalness, wildlife observation, hunting, fishing, and access to recreational opportunities could be adversely affected by the introduction or spread of invasive species. The proposal would help protect the recreational setting by providing additional regulatory assistance in reducing the potential for noxious weed introduction. Second, the provision would add complications to recreational use by establishing a new condition of use. The greatest effect would be on horseback use where feed is routinely brought in, although in states where weed free feed is already required, this would not create a significant change. The proposal would be most noticeable to recreational uses that require permits as they are the most highly regulated and monitored.

4.4.10 Special Areas
4.4.10.1 Phase-In of Changes in Use
Allowing a change in active use decision in excess of 10 percent to be implemented over a 5-year period would delay implementing corrective action based on a reduction of livestock numbers. Permittees would be able to adjust their operation over a five year period spreading the economic impact of a reduction in use over an extend period of time. BLM could extend the monitoring period and gather additional data used to make a change in active use decision.

4.4.10.2 Range Improvement Ownership
The Proposed Action allows cooperators to share structural range improvement title with the United States in proportion to their initial contribution. Nonstructural range improvements are
accomplished at cooperator risk. The cooperator acquires no interest in the public land by virtue of the range improvement. Allowing shared title may instill a greater sense of land stewardship and responsibility with the cooperator. Shared title may provide stimulus to increase the number of range improvements, however records indicate this may not be true. Share structural range improvement title may lead to takings related to private property on public lands. Special Area managers could lose some control over operation of the improvement and possibly allotment management.

4.4.10.3 Temporary Nonuse
Allowing no limit on consecutive years of nonuse provides the flexibility needed to adequately allow for suitable allotment restoration and recovery. Special Area managers with allotments undergoing extensive restoration would have the flexibility needed to ensure adequate time for recovery. Having no limit on consecutive years of nonuse may provide a mechanism for removing an allotment from the intended use of livestock grazing.

4.4.10.4 Noxious Weeds
The Proposed Action adds a grazing regulation provision concerning knowingly or willfully introducing or spreading a noxious weed to or on public lands. The regulation would provide a deterrent for introducing or spreading noxious weeds to the general public, including permittees on public lands. BLM law enforcement rangers would have the authority to cite for the violation.

4.4.10.5 Basis for Rangeland Health Determinations
The Proposed Action requires that determinations on grazing practices and levels of grazing as significant factors in failing to meet rangeland health standards be based on standards assessment and monitoring. The additional data may improve the scientific basis for determinations and legal defense. Depending on the length of monitoring the proposal could delay implementation of corrective action and meeting rangeland health standards. Present budgetary constraints concerning monitoring and assessment would also add to corrective action delay. The proposal could also delay developing determinations by requiring both standard assessment and monitoring data. Should a permittee be meeting standards while over-utilizing an adjustment can not be made based on over-utilization. Over-utilization could continue to occur until monitoring indicates that the standards are not being met.

4.4.10.6 Timeframe for Meeting Rangeland Health Standards
Alternative 2 proposes to allow BLM to take appropriate corrective action as soon as practicable but not later than the start of the next grazing year following completion of the relevant and applicable requirement of law, regulations and consultation requirements. Corrective action would ensure that fundamentals of rangeland health conditions exist or progress is being made toward achieving rangeland health. This section describes what action must occur to successfully complete consultation requirements.

BLM would have up to 24 months, in compliance with applicable laws and with the consultation requirements, to formulate, propose, and analyze appropriate actions that address the failure to meet standards or conform to guidelines. Providing the additional time allows formulation of
appropriate alternatives and time to solicit permittee and other public input. This action translates to being more effective with correcting on-the-ground problems. However, the proposal would result in delays with implementation of corrective actions to meet standards.

4.4.10.7 Definition and Role of Interested Publics
The Proposed Action would modify the existing regulations by requiring that interested public actually participate in the selected decision-making process. Participation includes providing written comments or otherwise participating in the decision-making process. Simply requesting an opportunity to be involved in a decision-making process would no longer warrant interested public status. Also, the CCC requirement for day-to-day operational activities would be removed from the regulations. The Proposed Action would focus CCC on significant management issues involving interested publics willing to fully participate. The proposal may reduce the number of interested publics, and would reduce the volume of livestock grazing information provided to the public.

4.4.10.8 Prohibited Acts
Alternative 2 would remove provisions regarding prohibited acts related to violations of Federal or State laws pertaining to poisonous bait/hazardous devices, storage of hazardous materials, altering stream courses, water pollution, illegal take, destruction/harassment of fish/wildlife, and destruction/removal of cultural resources. Deleting these laws and regulations from the prohibited acts limits authority to violations of those laws that are the direct enforcement responsibility of the Secretary of the Interior that reference punitive actions against grazing permits; or state livestock laws. Removing the above provisions may represent a lost of deterrents for would-be violators.

4.4.10.9 Grazing Use Allowed When a Stay is Granted
The Proposed Action adds a provision addressing the stay of a decision on a permit or lease offered to a preference transferee. If a stay is granted on a decision to offer a permit or lease to a preference transferee, then the applicant would be offered a new permit or lease with the same terms and conditions of the previous permit lease. The proposal delays the opportunity for BLM to make an adjustment in grazing preference affecting on the ground management of a grazing allotment. The Proposed Action provides economic stability for a permittee selling his grazing operation by offering grazing preference without a decrease in use adjustment.

4.4.10.10 No on the Ground Effect

Social, Economic and Cultural Considerations

Cooperation with State, County and Federal Agencies

Review and Comment on Biological Assessments

Conservation Use
Grazing Preference

Water Rights

Satisfactory Performance

Changes in Grazing Use within the Terms and Conditions of the Permit of Lease

Service Charges

Biological Assessment-Application of Protest and Appeal Provisions

4.4.11 Paleontological and Cultural Resources

Issues to be considered under the Proposed Action, Alternative Two, include elements relating to improving the working relations between permittees or lessees and the BLM, protecting the health of the rangelands, and increasing administrative efficiency and effectiveness.

The majority of the regulation changes, clarifications and additions as stated in the Proposed Action Alternative will have no effect on heritage resources, whether for on-the-ground actions or for the process and requirements of cultural resource management.

The five year phase-in provision could have both beneficial and adverse effects on heritage resources. In the case of decreasing use, heritage resources would be subject to continued effects before the decision is fully implemented; alternately, in the case of increasing use, the delay would allow extra time to provide protection or data recovery of sites that may be affected by the change. Changes to the provision of Rangeland Health Determinations would indirectly affect heritage resources by increasing workload due to site or locality monitoring data requirements, which could delay implementation of grazing related actions.

Changes to Section 4140.1, Prohibited Acts, will have an adverse effect on heritage resources. Elimination of the “illegal removal or destruction of archaeological or cultural resources” clause would hinder BLM’s ability to take action against the permittee or lessee in the form of withholding issuance, cancellation, or suspension of their permit or lease. Additionally, it would limit BLM’s ability to respond to and prevent future violations as well as being contrary to the policy underlying FLPMA. This could significantly affect BLM’s ability to protect and manage cultural resources as required by the National Historic Preservation Act and the Archaeological Resources Protection Act.

Any new projects developed under the changed regulations would be analyzed for affects on heritage resources on a case-by-case basis; all applicable laws, executive orders, regulations and manual requirements and procedures for identification, protection and utilization of, and consultation on heritage resources will be followed.
4.4.12 Economic Conditions

Overall, the local and regional economic effects of the proposed action would be minor. The primary effects would be: 1) increased management flexibility for both permittees and BLM; 2) increased administrative costs to BLM; 3) reduced potential economic effects to permittees by increasing the amount of time to make rangeland health determinations and implement grazing decisions; and 4) increased service charges to permittees undertaking specific actions.

The following provisions have the greatest likelihood of creating economic and/or administrative effects, though none of the provisions, either individually or cumulatively, is considered significant: 1) Social, Economic, and Cultural Considerations; 2) Phase-In of Changes in Use; 3) Temporary Non-Use; 4) Basis for Rangeland Health Determinations; 5) Timeframe for Meeting Rangeland Health Standards; 6) Changes in Grazing Use Within the Terms and Conditions of the Permit or Lease; 7) Services Charges; and 8) Biological Assessments – Application of Protest and Appeal Provisions. Each of these provisions is discussed below.

Social, Economic, and Cultural Considerations: The primary effect of this provision would be to increase BLM administrative costs, and perhaps time, to complete NEPA analysis of changes in permitted use. NEPA already requires federal agencies to consider the effects on the human environment in all of its analyses, including social, economic, and cultural factors. BLM does consider social, economic, and cultural factors in its decision-making but, in some cases, those considerations are not sufficiently documented. Where offices are already documenting these considerations, there will likely be no additional workload. However, in some offices, more documentation will increase the workload.

An additional economic effect of this provision may be that, to the extent that social, economic, and cultural factors were not previously documented, decisions on changes in permitted use may change. This could either benefit or harm the permittee, depending on how the decision might change. Likewise, it could benefit or harm other general economic conditions.

Phase-In of Changes in Use: Decreases or increases in active use exceeding 10% of the existing permit would be phased in over a five-year period unless the permittee agrees to a shorter time period or there is need to comply with applicable law (e.g. the Endangered Species Act). A five-year phase-in of decreases in active use would mitigate the potential economic effect on permittees by allowing ranchers additional time to make alternative arrangements or to simply continue livestock grazing activities at existing levels. However, it may also delay needed long-term improvements in rangeland conditions which may in turn delay the achievement of long-term sustainability of range conditions and the permittee’s economic viability. Phasing in increases in use would also allow permittees to better plan future use to the extent that additional time may be needed to increase herd size and/or adjust seasons of use.

Range Improvement Ownership: Shared title of range improvements could potentially improve permittees’ financial condition to the extent that title may increase the value of their operation or increase their ability to obtain financing. However, permittees currently do have shared
financial interest in range improvements and are compensated for the contribution they made under a cooperative agreement in the event the permit changes ownership so it is not clear what the net effect of this provision might be. Table 4.4.12.1 shows the annual number of range improvements by state from 1982 through 2002. From 1982 to 1995, ownership of range improvements was held jointly by the U.S. government and permittees. Since 1995, the federal government has held sole title. In some states, there was a noticeable decrease in range improvements from 1995 to 1996, but following 1996 the trends are more erratic. Also, there was an overall declining trend in the numbers of range improvements since 1982 when looking at all states combined. Thus, the data on numbers of range improvements before 1995 and after 1995 does not reveal whether permittees became permanently more reluctant to participate in range improvements, or what the effect may have been on the value of their operations. [NOTE TO MYSELF: NEED TO ADD TABLE/TEXT HERE SHOWING $ SPENT ON R.I.]

INSERT TABLE 4.4.12.1 HERE

Temporary Non-Use: This provision would increase the number of years permittees could take non-use. Currently, permittees may only take up to three consecutive years of non-use and this provision would eliminate that three consecutive year limitation. This would be a beneficial economic effect on permittees. Also, it would increase flexibility for both permittees and BLM, since there are a variety of financial and resource-condition reasons for taking non-use beyond three years.

Basis for Rangeland Health Determinations: Rangeland health determinations would need to be based on standards assessments and monitoring prior to proposing possible changes in permitted use. This may delay some determinations and increase costs to BLM to address additional monitoring requirements. The effect on permittees would be that initiation of proposals for changes in permitted use would be delayed and thus any potential changes in their operations would be delayed. This may be a beneficial effect on permittees, depending on whether resource conditions on their allotments can sustain delays in improvement.

Timeframe for Meeting Rangeland Health Standards: The effects would be similar to those from the rangeland health determinations in that BLM would have a longer timeframe, up to 24 months after determination, to analyze any proposed changes to address resource conditions. This delay could potentially benefit permittees in the same way as the rangeland health determination provision above, assuming that delays in proposed changes to permitted use do not cause continued deterioration in range conditions and thus the economic viability of the permittee’s operation.

Changes in Grazing Use within the Terms and Conditions of the Permit or Lease: This provision would primarily increase management flexibility for both BLM and permittees but would likely have little economic effect because overall forage utilization could not exceed the amount of active use specified in the permit. For example, if resource conditions indicated forage availability earlier than the authorized turn-out date on the permit, BLM could authorize temporary changes in grazing use to allow an earlier turn-out date as long as total use does not
exceed the amount of active use authorized by the permit. Without this provision, BLM would have to issue a temporary nonrenewable (TNR) authorization, which is more time consuming and costly than simply basing authorization on existing permit/lease. This provision not only management increases flexibility, it may lower BLM’s costs. It could also result in more efficient utilization of forage because it allows permittees and BLM to respond to annual fluctuations in timing and amount of forage production. [NOTE TO MYSELF: NEED TO DISCUSS WITH GROUP CUZ MY RANGE GUY SAYS WE DON’T HAVE TO ISSUE TNR’S TO DO THIS NOW – HE THINKS THIS WOULD ACTUALLY DECREASE OUR FLEXIBILITY].

Service Charges: Increasing service charges for certain actions is essentially a cost-recovery measure for the U.S. Treasury. The primary effects of increasing service charges for certain actions would be to transfer some costs from the public (i.e. BLM) to permittees. The current fee is $10; under the proposed action, fees would increase to:

1) Issuance of crossing permit ($75)
2) Transfer of grazing preference ($145)
3) Cancellation and replacement of grazing fee billing ($50)

To illustrate the effects of this cost-recovery measure, Table 4.4.12.2 below illustrates the effects to the BLM and permittees using the example of grazing preference transfer:

<table>
<thead>
<tr>
<th># of Permit Transfers</th>
<th>Service Charge</th>
<th>Total Revenue Collected (Net Cost to Permittees)</th>
<th>Total BLM Direct Costs</th>
<th>Difference (Net Cost to BLM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,149</td>
<td>$10</td>
<td>$11,490</td>
<td>$1,784,930</td>
<td>$1,773,440</td>
</tr>
<tr>
<td>1,149</td>
<td>$145</td>
<td>$166,600</td>
<td>$1,784,930</td>
<td>$1,618,330</td>
</tr>
<tr>
<td>Total Change:</td>
<td></td>
<td>+ $155,110</td>
<td></td>
<td>- $155,110</td>
</tr>
</tbody>
</table>

Note: based on FY2000 MIS data -- NEED CITATION

As Table 4.4.12.2 indicates, the cost recovery measure for grazing permit transfers would shift $155,110 of the total costs of $1,784,930 from the BLM to about 1,149 permittees. Since permit transfers are typically not recurring events, the costs to permittees represent one-time costs. [NOTE TO MYSELF: ADD TO THIS TABLE COMPARISONS FOR OTHER COST ITEMS. ALSO, CHECK FOR MORE RECENT DATA].

Biological Assessments—Application of Protest and Appeal Provisions: This provision would primarily create a cost savings to BLM in that BA’s would not be considered appealable or
Grazing Preference and Permitted Use: Deleting the term “permitted use” and changing the definition of “grazing preference” to include the total number of AUMs apportioned and attached to base property would have no economic effect. This change reflects essentially a return to the pre-1995 regulations. The 1995 regulations changed the definition of grazing preference to the superior or priority position against others for the purpose of receiving a grazing permit or lease. The priority is attached to base property owned or controlled by the permittee. In addition, the 1995 regulations added the term “permitted use” to mean the forage allocated by, or under the guidance of, an applicable land use plan, and is expressed in AUMs. There was no economic effect from changing the regulations in 1995 and, likewise, there would be no effect from returning to the prior definitions.

Definition and Role of Interested Publics: [NOTE TO MYSELF: Still a little unclear on this one. Molly’s view: The removal of some of the requirements for ccc with the interested public could result in reductions in costs for the BLM, but it is assumed that these cost savings would be minor. There are still requirements for ccc with permittees/lessees and the State so relatively little time is saved by removing ccc with the interested public.]

4.4.13 SOCIAL CONDITIONS
4.4.14 Environmental Justice

4.5 ALTERNATIVE 3: ALTERNATIVE THREE:
4.5.1 Air Quality
4.5.2 Grazing Administration
4.5.2.1 Implementing Changes in Grazing Use

The third alternative differs from the proposed action by allowing a discretionary use of the 5-year phase in process for reductions in permitted. The BLM would have the flexibility to implement a reduction according to the consultation and grazing decision process. This would assist the grazing administration program in requiring a suggested guideline for the process in reducing permitted use, while at the same time allowing the BLM flexibility to formulate a specific response to each situation.

4.5.2.2 Authorizing Temporary Changes in Use

The only change from the proposed action is the third alternative specifies that permittees or lessees could apply for temporary nonuse and the BLM could approve temporary nonuse for no more than 5 consecutive years. This alternative would no have a significant effect on the grazing administration program, but may provide greater flexibility to permittees or lessees. Nonuse applications would be expected to continue at the present level.
4.5.2.3 Fundamentals of Rangeland Health

The third alternative is the same as the proposed action except the BLM would be not be required to use both assessment and monitoring data for the rangeland health determinations. This alternative would require that, if available, monitoring data be used in combination with the assessment documentation to formulate a determination. This action provides the BLM flexibility to maintain established Rangeland Health assessment scheduling and also provides consistency for those allotments that are already been assessed. In addition, the BLM would maintain the scheduling for permit renewals that are tied to the completion of the standards for rangeland health determinations.

4.5.3 Vegetation

4.5.4 Fire and Fuels

Alternative three is the same as the preferred alternative with the exception of temporary nonuse. In some situations, such as drought, an area may need to be rested longer than 5 years to achieve the goals of the land manager. The 5-year limit on temporary nonuse could have a slightly negative effect on the environment.

4.5.5 Soils

4.5.5.1 Upland Soils

Short- and long-term effects of alternative three would be similar to the proposed action with the following differences, which would result in no adverse effects to upland soil resources. The discretionary 5-year phase in of changes in grazing use would result in less negative effects of that rule change. The 5-year limit on nonuse for grazing would reduce the positive effects of that rule change. The option of using either rangeland health assessments or monitoring as basis for determinations of failure to achieve standards and conform with guidelines would be beneficial since there would be less potential delay in making that determination. Thus, allotments with inadequate watershed cover would be permitted to establish more rapid recovery.

Cumulative effects would be neutral to slightly beneficial for upland soils since there would be no net loss of watershed cover. There would be no unavoidable adverse effects. The relation between short-term use and long-term productivity would depend on the maintenance of adequate watershed cover to protect upland soil resources. There would be no irreversible or irretrievable commitment of soil resources.

4.5.5.2 Riparian Soils

Short- and long-term environmental consequences of alternative three would be similar to those for upland soils for this alternative except that the high moisture content of riparian soils can accelerate responses to improved management practices. The short- and long-term effects would
correspond to the number of acres where desirable riparian watershed cover was enhanced or reduced.

Cumulative effects would be neutral to slightly beneficial for riparian soils since there would be no net loss of desirable riparian cover. There would be no unavoidable adverse effects. The relation between short-term use and long-term productivity would depend on the maintenance of adequate desirable vegetation cover to protect riparian soil resources. There would be no irreversible or irretrievable commitment of soil resources.

4.5.6 Wildlife

4.5.6.1 Terrestrial

The effects on wildlife species in Alternative Three are identical to those identified for Alternative Two, with the following exceptions:

The requirement that any change in active use in excess of 10% would be discretionary rather than mandatory would result in BLM being able to make changes on the ground in less than mandated 5 year period. This would greatly reduce the adverse effects on wildlife resources.

The ability of BLM to base rangeland health determinations on a rangeland health assessment or monitoring data would greatly enhance BLM’s ability to take corrective action at the earliest date within existing funding and staffing. This would be a significant improvement over Alternative 2, where monitoring data would be required.

4.5.6.2 Migratory Birds [included in 4.5.6.1—doc will be renumbered]

4.5.6.3 Riparian, Wetland, and Aquatic Communities

Under Alternative 3, effects on riparian, wetland, and aquatic communities would be the same as under Alternative 2, except for the actions discussed below.

Phase-In of Changes in Use: Making the 5-year phase in of changes in use discretionary instead of mandatory would have a negative effect on riparian, wetland and aquatic resources. If the change required is a decrease in active use due to livestock degradation of riparian, wetland, or aquatic resources, having the discretion to take no action at all rather than phasing in the decrease or imposing an immediate reduction will allow the negative effects associated with grazing to continue.

Temporary Nonuse: Extending the period for temporary nonuse from a maximum of three years to five years would positively benefit riparian and aquatic resources. Although riparian areas typically respond quickly to the removal of livestock grazing, complete recovery is a slower process. A five year period of rest from livestock grazing would allow ecological processes disrupted by livestock grazing (recruitment of young woody species, recovery of vegetation which protects stream banks and attenuates high flows, channel narrowing and stream bank
stabilization as riparian vegetation traps sediment, etc.) to recover and function properly. Extending the maximum amount of time for temporary nonuse from five years to indefinitely would provide even greater benefits in situations where five years of recovery is not adequate to restore ecological function.

Basis for Rangeland Health Determinations: Using either standards assessment or monitoring (but not both) as a basis for determining that existing grazing management practices or levels of grazing use are significant factors in failing to achieve standards and conform with guidelines should have minimal effect on riparian, wetland, and aquatic resources. The positive effect of this element is greater in Alternative Three than under the Proposed Action due to the requirement that either assessments or monitoring can be used as a basis for determinations. If either assessments or monitoring show that grazing management practices or levels of grazing use are significant factors in failing to achieve standards or conform with guidelines, then the authorized officer can pursue a change in livestock management.

4.5.7 Special Status Species

The BLM Special Status Species Management Policy (Manual 6840) ensures that actions authorized or approved by BLM are consistent with the conservation needs of special status species and do not contribute to the need to list any special status species. Conservation of special status species means the use of all methods and procedures which are necessary to improve the condition of special status species and their habitats to a point where their special status recognition is no longer warranted.

Special status species are defined as those proposed for listing under the Endangered Species Act (ESA), officially listed as threatened or endangered under the ESA, those listed by a State in a category such as threatened or endangered implying potential endangerment or extinction, or those designated by each BLM State Director as sensitive.

It is BLM policy to conserve listed species and the ecosystem on which they depend. BLM shall manage species proposed for listing under the ESA as threatened or endangered and proposed critical habitat with the same level of protection provided for listed species. For candidate species, BLM shall implement management plans that conserve the species and habitats and ensure that actions authorized, funded, or carried out by BLM do not contribute to the need to list the species. The protection provided by the 6840 policy for candidate species shall be used as the minimum level for protection for BLM sensitive species. State listed species shall be managed consistent with state laws protecting these species to the extent that they are consistent with FLPMA and other federal laws.

Changes in active use in excess of 10% would be implemented over a 5-year period unless the changes must be made before 5 years to comply with applicable law (e.g., Endangered Species Act). The excepted provision for the Endangered Species Act will result in BLM being able to make necessary adjustments within a reasonable timeframe, thus reducing adverse effects on listed species.
4.5.8 Wild Horses and Burros
4.5.9 Recreation

Effects under this alternative would be the same as alternative two, except that alternative three
would allow for shortening the phase in time for corrective actions where an allotment is not in
attainment of rangeland health standards. The authorized officer may implement more
immediate corrective actions that would facilitate recovery and benefit the recreational
opportunities within the area.

4.5.10 Special Areas

4.5.10.1 Phase-In of Changes in Use
Same as the Proposed Action with the exception of the 5-year phase-in for change in active use
in excess of 10 percent would be discretionary. This Alternative provides management
flexibility for determining if the phase-in is appropriate for specific situations.

4.5.10.2 Range Improvement Ownership
Same as the Proposed Action.

4.5.10.3 Temporary Nonuse
Same as the Proposed Action with the exception that the five year limit removes the possibility
of an allotment going into quasi-permanent nonuse.

4.5.10.4 Noxious Weeds
Same as the Proposed Action.

4.5.10.5 Basis for Rangeland Health Determinations
Same as the Proposed Action with the exception that determinations may be based on standards
assessment and/or monitoring. This provides greater flexibility for management decisions.

4.5.10.6 Timeframe for Meeting Rangeland Health Standards
Same as the Proposed Action.

4.5.10.7 Definition and Role of Interested Publics
Same as the Proposed Action.

4.5.10.8 Prohibited Acts
Same as the Proposed Action.

4.5.10.9 Grazing Use Allowed When a Stay is Granted
Same as the Proposed Action.

4.5.10.10 No on the Ground Effect
Issues to be considered under Alternative Three, Modification of the Proposed Action, are much the same as the Proposed Action except for slight modifications to three of the elements (the five year phase-in provision, the temporary nonuse provision, and Rangeland Health Determinations requirements). All of the previous changes or provisions which would have no effect on heritage resources would also have no affect under Alternative Three, including the slight modification in the temporary nonuse provision. Additionally, the provisions in Alternative Two which would affect heritage resources would also have an effect under Alternative Three.

Changes in the remaining two elements, the 5-year phase-in and Rangeland Health Determinations requirements, will have some direct and indirect effects to heritage resources. Having the five year phase-in provision be discretionary rather than mandatory will allow added flexibility to the relation between permittee or lessee and the BLM at the local level. Also, this provision could have both beneficial and adverse effects on heritage resources. In the case of decreasing use, heritage resources would be subject to continued effects before the decision is fully implemented; alternately, in the case of increasing use, the delay would allow extra time to provide protection or data recovery of sites that may be affected by the change. Changes to the provision of Rangeland Health Determinations would indirectly affect heritage resources by increasing workload due to site or locality monitoring data requirements.
The economic effects of Alternative 3 would more closely resemble those of Alternative 1: Current Management, with the exception of three provisions: Phase-in of changes in use; temporary non-use; and the basis for rangeland Health Determinations.

Phase-In of Changes in Use: Under Alternative 3, a 5-year phase-in of changes in use exceeding 10% would be discretionary rather than mandatory. When the 5-year phase-in is used, the effects would be the same as under the Proposed Action. A phase-in period of less than 5 years may require permittees to make management adjustments more quickly than might be preferred by them. However, a shorter phase-in would accelerate improvements in range conditions which in turn may have a long-term beneficial effect on permittees’ operations.

Temporary Nonuse: Under Alternative 3, temporary nonuse could be annually approved for as long as 5 years. The economic effect of this would be somewhere between Present Management (where 3 consecutive years of nonuse may be approved) and the Proposed Action (where there are no limits on the number of consecutive years of approved nonuse). This provision offers an additional 2 consecutive years of nonuse, which would be a beneficial economic effect on permittees and it would increase flexibility for both permittees and BLM.

Basis for Rangeland Health Determinations: Under Alternative 3, BLM would have discretion to use assessments or monitoring, or both, as a basis for rangeland health determinations. This differs from the Proposed Action which requires that assessments and monitoring both be used. The provision would give BLM greater flexibility than under the Proposed Action. Currently, all states have some procedures for standards assessments and these may or may not also be accompanied by monitoring data [QUESTION: IS THIS AN ACCURATE STATEMENT] when making determinations. Consequently, there would be no appreciable effect to BLM in terms of administrative costs or workloads, although this may vary from one office to another. The economic effect on permittees would primarily be that determinations might not be delayed and thus proposed changes in use might occur earlier than under the Proposed Action.

4.5.13 Social Conditions

4.5.14 Environmental Justice

4.6 CUMULATIVE EFFECTS
4.7 UNAVOIDABLE ADVERSE EFFECTS
4.8 RELATION BETWEEN SHORT-TERM USE AND LONG-TERM PRODUCTIVITY
4.9 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

CHAPTER 5. CONSULTATION AND COORDINATION

5.1 PUBLIC PARTICIPATION
  5.1.1 Scoping Process
  5.1.2 Summary of Scoping Comments

5.2 CONSULTATION AND COORDINATION ACTIONS
5.2.1 Tribal

**What if anything has been done or what is the plan? [John C.]**

5.2.2 Federal Agencies

The present management alternative (No Action Alternative, Alternative One) includes all of the present regulations. Review of a federal undertaking by a cultural resource specialist is required during specific project planning or implementation at the local level, land use planning initiatives at the state or regional level, or for regulation revision at the national level. Of the present regulations, only range improvement ownership and the Standard and Guideline appropriate action implementation have had the potential to effect on-the-ground actions which consequently can effect heritage resources. New project developments as a result of these actions have been and will continue to be analyzed for affects on heritage resources on a case-by-case basis. Cultural resource surveys precede management actions that could damage cultural resources (BLM Manual 8100, Cultural Resource Management). Historic and prehistoric archaeological sites found during these surveys would be protected in accordance with the National Historic Preservation Act of 1966 (revised) and other laws and executive orders as stated in the Code of Federal Regulations (36 CFR 800).

Prohibited acts under the present regulations allow grazing permits to be cancelled for violation of the "illegal removal or destruction of archaeological or cultural resources" clause. This clause gives protection to a fragile and nonrenewable resource that may be important to regional or national heritage.

5.2.3 Other Coordination

During this process, the RACs indicated an interest in having the opportunity to provide meaningful and substantive input into the development of the SWL Policy. Each of the States with RACs provided the information to them; in August and September they met and provided each State Director their comments and the State Directors provided this input to the Washington Office (WO220).

5.3 DISTRIBUTION OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The effects of the proposed rules and alternatives are analyzed in the draft EIS, which has been released for public review and comment during a 90-day public comment period. Copies of the draft EIS have been sent to Federal agencies, State and local governmental organizations, and many people concerned about the outcome of the Sustaining Working Landscapes initiative. One copy of the EIS has been mailed to those people who were on the mailing list that was prepared from the XXX meetings that were held.

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Trewartha &. 1968


ACRONYMS AND ABBREVIATIONS

ACEC—area of critical environmental concern

AML—appropriate management level

AMP—Allotment Management Plan

ANPR—Advance Notice of Proposed Rulemaking
ARPA—Archeological Resources Protection Act
BLM—Bureau of Land Management
CFR—Code of Federal Regulations
CO—carbon monoxide
DEIS—Draft Environmental Impact Statement
EA—Environmental Assessment
ESA—Endangered Species Act
FLPMA—Federal Land Policy and Management Act
FAR—Functioning-at-Risk
GAO—General Accounting Office
HMA—Herd Management Area
IMPLAN--Impact Analysis for Planning
NAAQS—National Ambient Air Quality Standard
NEPA—National Environmental Policy Act
NLCS—National Landscape Conservation System
NOI—notice of intent
NOX—oxides of nitrogen
PFC—Proper Functioning Condition
PLC—Public Lands Council
PM—particulate matter
PSD—prevention of significant deterioration
RAC
SIP—State Implementation Plan
Wyoming

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<td>Laramie False Sagebrush</td>
<td><em>Sphaeromeria simplex</em></td>
</tr>
<tr>
<td>Green River Greenthread</td>
<td><em>Thelesperma caespitosum</em></td>
</tr>
<tr>
<td>Uinta Greenthread</td>
<td><em>Thelesperma pubescens</em></td>
</tr>
<tr>
<td>Cedar Mtn. Easter Daisy</td>
<td><em>Townsendia microcephala</em></td>
</tr>
<tr>
<td>Barneby's Clover</td>
<td><em>Trifolium barnebyi</em></td>
</tr>
</tbody>
</table>
Dakota, Oklahoma, Oregon, Utah, Washington and Wyoming. When the economy of each state is viewed as its entirety, the contribution of the rangeland livestock industry may be insignificant. However, these states comprise counties with different economic characteristics and rural agricultural counties often outnumber urban counties. While the rangeland livestock industry may play a negligible role in urban economies, it is still an important economic base providing employment and income in many rural counties in the West.

According to the 1997 Census of Agriculture by US Department of Agriculture, National Agricultural Statistics Service (NASS), there are about 110 counties in the fourteen western states where more than half of the total grazing permits are administered by the BLM. Because the jurisdiction of the BLM grazing regulations is limited to the BLM administered grazing lands, the proposed amendments of grazing regulations would have more imposing effects on those counties with large BLM grazing land. This study presents the projected effects of the proposed regulatory changes on the regional economies of three different counties: Lemhi County, ID, Iron County, UT, and Dona Ana County, NM. The study areas were selected to represent a wide range of ecological and economic conditions of the western counties with BLM grazing. While the results of this study cannot paint the complete picture of the overall effects of the proposed regulatory changes, the regional effects on the western counties in similar economic and grazing conditions can be construed from the results.

The proposed regulatory changes could have economic effects on other industries in the western counties with BLM grazing. For example, the proposed regulatory changes have potential effects on BLM rangeland conditions and wildlife habitats, which would subsequently affect the quality of recreation opportunities offered in BLM lands. The number of recreational visitors and their length of stay might change as a result, which would lead to changes in income and employment in recreation and tourism-related sectors, such as trade and service industries (where recreation occurs), manufacturing industries (where recreational products and supplies are purchased), and transportation industries (to recreational areas). The changes in those industry revenues might have revenue implications for local governments also. However, the proposed amendments of grazing regulations do not directly limit or increase the present recreation access to BLM grazing areas, and potential changes in recreation demand cannot be linked to the proposed regulatory changes at this time. This study focuses on the regional economic effects that stem from the direct financial implications of the proposed regulatory changes to rangeland livestock industry.

The direct and secondary regional economic effects projected in this study are based on the results from the ranch-level financial modeling that estimated the potential financial consequences of the proposed regulatory changes to individual ranches with BLM grazing. The ranch-level financial analysis primarily focused on the potential effects associated with the creation of a Reserve Common Allotment (RCA) program. The proposed amendments include clarifications of the existing grazing regulations and add new provisions to allow greater flexibility to managers and permittees, improve administrative procedures and business practices, and promote community-based conservation and citizen-based stewardship of public land. However, the economic effects of the proposed amendments, other than the creation of a RCA program, would be indirect and cannot be measured explicitly. In the ranch-level financial modeling, the RCA program was treated as a form of insurance, or an option purchased to hedge
range risk in the model, and the maximum option values of the RCA program was estimated for the next 20 years. The details of the ranch-level financial model can be found in *Financial Analysis of Proposed Grazing Regulation Changes on Ranch-level Operations* report. Based on the results from this report, the regional economic effects generated by the ranch-level net financial benefits were analyzed with IMPLAN (Impact Analysis for Planning system). The IMPLAN system was originally developed by the U.S. Forest Service, and is available through the Minnesota IMPLAN Group. IMPLAN system includes a database of regional accounts and an economic modeling program that traces money and commodity flows among industries in a region. IMPLAN allows users to build economic models to estimate changes in employment and income due to policy changes.

Using the IMPLAN system, total changes in sales, employment and income were estimated for each county based on the total financial contribution of the RCA program to individual BLM permittees. The regional economic effects were estimated at 1%, 5% and 10% potential participation rate of BLM permittees. With 1% participation rate, the regional economic effects were minimal in all counties after 5 and 20 years. However, Lemhi County, ID could experience sizable regional economic growth after 20 years, if 10% of all BLM permittees in the county participate in the RCA program every year. The contribution of the cattle sector to the whole economy was relatively higher in Lemhi County, ID than in the other two counties, which could explain the higher level of regional economic benefits. It should be noted that the regional economic effects in this study were modeled without incorporating the potential economic structural changes that these counties are likely to experience in the long run, and the potential differences in the RCA program participation rate among different sizes of cattle operations.

### Methods

#### Study Areas

There are 355 counties in the fourteen western states where some types of grazing occur in BLM land. Among these counties, there are 147 counties with greater than 10% of the total land area is in BLM grazing allotment, according to US Census Bureau and BLM Rangeland Administration System (RAS). Among these, three counties in the Western United States were analyzed as representatives of areas across the western states: Lemhi County, ID, Iron County, UT, and Dona Ana County, NM. This study portrays the projected economic effects of the three counties that stem from the proposed BLM grazing regulation changes over the next 5 years and 20 years. These three counties were chosen to represent different geographic and economic conditions of the western rural counties with BLM grazing, but are characteristics of the western rural counties with BLM grazing areas.

Lemhi County, ID and Iron County, UT are areas where grazing on BLM lands occurs on a seasonal basis, while Dona Ana County, NM is the most arid desert area in the U. S. and allows yearlong grazing. According to the rangeland experts in the county extension offices, rangeland production allows about 9 acres per animal unit month (AUM) in Lemhi County, ID, 10 acres per AUM in Iron County, UT, and 35 acres per AUM in Dona Ana County, NM. Lemhi County represents a colder, higher latitude area of the West where grazing on BLM land is seasonal. Most areas of Oregon, Idaho, Montana, Wyoming, and Colorado fall into this category. BLM
permittees in these areas tend to let their livestock graze on BLM land during the summers and feed their livestock off of BLM lands during the winters. BLM permittees are dependent on BLM lands for grazing acreage about 6 months per year, and BLM forage dependency rate ranges from 30 to 50 percent among BLM permittees. A small percentage of these permittees may also have Forest Service permits; however most ranchers are too far from forest service lands in the area described (Lemhi County Extension, University of Idaho Extension Service). Iron County represents the areas of the West where BLM grazing is also seasonal, but grazing occurs during the winters on BLM lands. Large areas of Nevada, Utah and Colorado fall into this category. BLM permittees are dependent on BLM lands for grazing acreage about 5 months per year, and BLM forage dependency rate ranges from 30 to 50 percent among BLM permittees. Many of these permittees also have Forest Service permits used for summer grazing, and many feed their livestock on the home ranch for part of the year (Iron County Extension, Utah State Extension Service). Dona Ana County represents the areas of the West where grazing on BLM lands is yearlong. Most areas of New Mexico, Arizona, southern California, and southern Nevada fall into this category, and BLM forage dependency rate ranges from 80 to 100 percent among BLM permittees. A small percentage of these permittees may also have Forest Service permits or feed their livestock on the home ranch for part of the year; however there are few Forest Service lands in the area described, and few BLM ranchers are set up to bring livestock home, as forage is available yearlong on BLM lands (Dona Ana County Extension, New Mexico State Extension Service).

The economic characteristics of three counties are presented in Table 1. The most notable difference among these three counties, other than their geographic locations, is demographics. Population growth rate of Lemhi County is comparable to the U.S. average. However, population of Lemhi County has slightly decreased in recent years, while other two counties have experienced rapid population growth and demographic changes that are typical in many western rural communities. Lemhi County also has the smallest acreages of BLM grazing allotments, but Iron County has the least amount of Active AUMs, which is the number of AUMs that BLM permittees or lessees could be authorized to use. Dona Ana county seems to be the poorest with about quarter of the population living under poverty, but its economy is bigger and diverse with 183 different types of industries. The economy of Lemhi county is the smallest and least diverse by comparison.

Table 1. Economic and Demographic Conditions: Lemhi County, ID, Iron County, UT, and Dona Ana County, NM.

<table>
<thead>
<tr>
<th></th>
<th>Lemhi County, ID</th>
<th>Iron County, UT</th>
<th>Dona Ana County, NM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population, 20001</td>
<td>7,806</td>
<td>33,779</td>
<td>174,682</td>
</tr>
<tr>
<td>Population % change, 1990-20001 (USA: 13.1%)</td>
<td>13.1%</td>
<td>62.50%</td>
<td>28.90%</td>
</tr>
<tr>
<td></td>
<td>20001</td>
<td>19991</td>
<td>USA: $41,994</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------</td>
<td>-------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>Median household income, 19991</strong></td>
<td>$30,185</td>
<td>$33,114</td>
<td>$29,808</td>
</tr>
<tr>
<td>Persons below poverty, percent, 19991(USA: 12.4%)</td>
<td>15.30%</td>
<td>19.20%</td>
<td>25.40%</td>
</tr>
<tr>
<td><strong>Personal Income Total2</strong></td>
<td>$151,659,008</td>
<td>$546,902,016</td>
<td>$3,031,624,960</td>
</tr>
<tr>
<td>Employment2</td>
<td>4,420</td>
<td>19,100</td>
<td>77,362</td>
</tr>
<tr>
<td>Number of Industries2</td>
<td>101</td>
<td>139</td>
<td>183</td>
</tr>
<tr>
<td>Land area, 20001 (Acres)</td>
<td>2,921,152</td>
<td>2,111,040</td>
<td>2,436,736</td>
</tr>
<tr>
<td>Farms with grazing permit3</td>
<td>116</td>
<td>87</td>
<td>64</td>
</tr>
<tr>
<td>Number of BLM permits3</td>
<td>106</td>
<td>69</td>
<td>45</td>
</tr>
<tr>
<td>Total Acreages of BLM grazing allotments4 (% of Total Land Area)</td>
<td>568,487 (19.5%)</td>
<td>939,043 (44.5%)</td>
<td>1,071,981 (44%)</td>
</tr>
<tr>
<td>Active AUMs 4,5</td>
<td>68,445</td>
<td>66,238</td>
<td>95,211</td>
</tr>
<tr>
<td>Billed AUMs, 20004</td>
<td>50,317</td>
<td>43,936</td>
<td>70,361</td>
</tr>
</tbody>
</table>

2 IMPLAN 2000.
4 BLM Rangeland Administration System (RAS) as of 7/23/2003. The percentage of the BLM acres in the allotment which lie in each county was applied to calculate total BLM grazing allotment acreages and Active and Billed AUMs of each county.
5 Sum of active aums for all permittees and lessees on the allotment. This is the number of AUMs they could be authorized to use.

**Regional Economic Impact Analysis with IMPLAN model**
In order to address the economic effects of the proposed regulatory changes on local communities and the wider region, an input-output method was utilized. A regional economy consists of numerous businesses classified into industries according to types of output and sales. These industries exchange goods and services among one another, and also with industries in other regions. An increase in sales of one business generates more sales and incomes for other businesses and households in the region. By following the transactions among industries, the input-output method describes the economic structure of a defined region, and provides an insight to the overall effects of the proposed regulatory changes on the regional economy. By
following the distribution of all purchases and sales in a region, an inter-industry table can be
developed. Input-output method is a tool to estimate the economic linkages of industries within a
regional economy according to the multipliers, which indicate the size of the total effects of
"new money" into the economy. If the proposed regulatory changes create net financial benefits
to BLM permittees, they generate an influx of "new money" into the regional economy (direct
effects). The effects of "new money" on the local economy do not end there. BLM permittees
would buy more goods and services from other local businesses (indirect effects), and employees
of the ranch could spend more money also (induced effects). If "new money" generated by the
sales of an industry had to be spent mostly on the materials and services brought in from outside
the region (leakage), total effect (sum of direct, indirect and induced effects) would be relatively
small. If most of the materials and services are supplied within the region, total effects would be
relatively large.

The economic effects of the proposed regulation changes were analyzed with IMPLAN (Impact
Analysis for Planning system). The IMPLAN includes a database containing information of
regional economies and an economic modeling program that traces the model and service flows
and estimates the economic effects of industries on the regional economy. IMPLAN Data files
include information for 528 different industries, and 21 different economic variables. The most
recent IMPLAN Data files available for three counties was used along with the national input-
output structural matrices for the effect analysis. The county level IMPLAN data were derived
from the 1997 Census of Agriculture by US Department of Agriculture, National Agricultural
Statistics Service, along with the Benchmark Input-output study from the Bureau of Economic
Analysis (BEA). The 2000 IMPLAN data set was used for the regional economic impact
projection for the next 20 years, in conjunction with the data from other sources such as US
Census Bureau, Bureau of Economic Analysis, US Department of Agriculture National
Agricultural Statistics Service (NASS), and the BLM Rangeland Administration System (RAS).
Also the rangeland experts in the Lemhi County Extension (University of Idaho Extension
Service), Iron County Extension (Utah State Extension Service), and Dona Ana County
Extension (New Mexico State Extension Service) were contacted for the supplementary
information.

The ranch-level financial analysis provided the estimated net financial benefits of the creation of
a RCA program for individual operators with different operation sizes and forage dependency
level on BLM lands. To calculate total financial benefit of the RCA program in each county, the
number of BLM permittees in each operation size class was estimated and multiplied by the
financial benefit per operator in that class. Different level of BLM forage dependency level was
assigned to each county based on the nature of different seasonality of grazing on BLM land:
50% for Lemhi County and Iron County, and 80% for Dona Ana County. Changes in farm
expenditures resulted from the net financial benefits of the RCA program were estimated by
applying the typical spending pattern of beef cow operations. The regional purchase coefficients,
the IMPLAN estimated fraction of the region's commodity demand met by using locally
produced commodity, was applied to calculate the portion of farm expenditure retained in the
county.
Estimated changes in local farm expenditures were traced using the IMPLAN input-output model, in order to estimate the total economic effects on overall output, income, and number of employment in each county. Total effects presented in this study are the sum of direct, indirect and induced effects with all activities of industries, households and factors, which includes payments to workers (including benefits), taxes, and profits. The direct effects are the changes in locally spent farm expenditures generated by the net financial benefits from the RCA program, and the indirect effect are the changes in inter-industry purchases as they respond to the new demands of the directly affected industries, and the induced effects are the changes in spending from households as income increases or decreases due to the changes in production.

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Results

The contribution of the cattle sector to the county economy was insignificant in Iron County and Dona Ana County providing less than one percent of employment and income. However, it is a significant contributor in the economy of Lemhi County, and generates three percent of total employment and four percent of total income. Table 2 shows the present industry output, and employment and income of the Cattle sector (except Feedlot) and Sheep, Lambs and Goats sector for three counties.

Table 2. Cattle and Sheep Livestock Industry (except feedlot): Lemhi County, ID, Iron County, UT, and Dona Ana County, NM.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Industry Output</th>
<th>Employment</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>Lemhi, ID</td>
<td>12,169,000</td>
<td>129</td>
</tr>
<tr>
<td>Sheep, Lambs&amp;Goats</td>
<td>156,000</td>
<td>7</td>
<td>87,000</td>
</tr>
<tr>
<td>Cattle</td>
<td>Iron, UT</td>
<td>6,310,000</td>
<td>59</td>
</tr>
<tr>
<td>Sheep, Lambs&amp;Goats</td>
<td>2,506,000</td>
<td>98</td>
<td>532,000</td>
</tr>
<tr>
<td>Cattle</td>
<td>Dona Ana, NM</td>
<td>9,887,000</td>
<td>164</td>
</tr>
<tr>
<td>Sheep, Lambs&amp;Goats</td>
<td>53,000</td>
<td>4</td>
<td>10,000</td>
</tr>
</tbody>
</table>

* All numbers are in dollars in 2000, except employment (Source: IMPLAN, 2000).

Based on the BLM billed AUMs from the RAS, the used BLM AUMs by cattle were calculated after breakout the AUMs used by sheep on BLM lands. An AUM by definition is the forage used by a 1,000-pound cow with calf in one month. This same AUM can maintain about six sheep. According to the rangeland experts in the county extension offices, the number of sheep kept seasonally in BLM grazing allotments is 200 and 4000 heads in Lemhi County and Iron County,
respectively. There is no sheep grazing on BLM lands in Dona Ana County. The proportion of total AUMs for all cattle (not on feedlot) in the county generated in BLM grazing allotments was applied to calculate the share in the Cattle sector supported by BLM grazing (Table 3). The contribution of BLM grazing to the Cattle sector is most significant in Iron County, providing sixteen percent of total output.

Table 3. Cattle and Sheep Livestock Industry supported by AUMs from BLM grazing allotments: Lemhi County, ID, Iron County, UT, and Dona Ana County, NM.

<table>
<thead>
<tr>
<th>County</th>
<th>Industry Output</th>
<th>Employment</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lemhi, ID</td>
<td>Cattle</td>
<td>1,119,548</td>
<td>11.97</td>
</tr>
<tr>
<td>Sheep</td>
<td>6,240</td>
<td>0.28</td>
<td>3,480</td>
</tr>
<tr>
<td>Iron, UT</td>
<td>Cattle</td>
<td>1,009,600</td>
<td>9.44</td>
</tr>
<tr>
<td>Sheep</td>
<td>125,300</td>
<td>4.9</td>
<td>2,660</td>
</tr>
<tr>
<td>Dona Ana, NM</td>
<td>Cattle</td>
<td>771,186</td>
<td>12.79</td>
</tr>
</tbody>
</table>

* All numbers are in dollars in 2000, except employment (Source: IMPLAN, 2000).

The proposed amendments of the existing BLM grazing regulation would affect the BLM permittees in these three counties. Net financial benefit for each operator was estimated in the ranch-level financial analysis. In order to estimate the total financial benefit generated by the RCA program, the number of BLM permittees in each operation size class was estimated. The farm operation size was grouped as small, medium, and large at the level of 50, 250, 1000 AUMs in the ranch-level financial analysis. For this study, the head of cattle, 1-9 was classified as small operation, and 10-49 as medium operation, and 50+ as large operation. Although the size class defined in the ranch level financial impact analysis cannot exactly represent all size of the cattle operations with BLM grazing, the financial effects of the RCA program would be similar among the similar size operations. The number of BLM permittees by each operation size group was estimated by applying the proportional distribution of different farms sizes (Beef Cow) from the 1997 Census of Agriculture to the number of BLM permits in each county (Table 4).

Table 4. BLM permittees by Inventory Size: Lemhi County, ID, Iron County, UT, and Dona Ana County, NM.

<table>
<thead>
<tr>
<th>County</th>
<th>Number of Cattle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-9</td>
<td>10-49</td>
</tr>
<tr>
<td>Lemhi, ID (Farms)</td>
<td>16</td>
</tr>
</tbody>
</table>
Table 5 shows total net financial benefits of the RCA program in each county. Total financial benefits were dependent on how many BLM permittees in each county would participate in the program. Given the nature of the program, large cattle operations may have more incentives to participate in the program; however, the participation rate may vary year-to-year depending on the natural and market conditions. In this study, the equal rate of participation rate across all operation sizes was assumed for the regional economic impact analysis.

Table 5. Total Financial Benefits (cumulative) of the creation of a RCA program with the voluntary participation rate of 1%, 5% and 10% of all BLM permittees: Lemhi County, ID, Iron County, UT, and Dona Ana County, NM.

<table>
<thead>
<tr>
<th>County</th>
<th>RCA Participation Rate</th>
<th>Financial benefits Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lemhi, ID</td>
<td>1%</td>
<td>After 5 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>125,080</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>After 5 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>625,401</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>After 5 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,250,802</td>
</tr>
<tr>
<td></td>
<td>After 20 years</td>
<td></td>
</tr>
<tr>
<td></td>
<td>519,173</td>
<td></td>
</tr>
<tr>
<td>Iron, UT</td>
<td>1%</td>
<td>After 5 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>123,542</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>After 5 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>617,711</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>After 5 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,235,422</td>
</tr>
<tr>
<td></td>
<td>After 20 years</td>
<td></td>
</tr>
<tr>
<td></td>
<td>512,864</td>
<td></td>
</tr>
<tr>
<td>Dona Ana, NM</td>
<td>1%</td>
<td>After 5 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45,706</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>After 5 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>617,711</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>After 5 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,235,422</td>
</tr>
<tr>
<td></td>
<td>After 20 years</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5,128,642</td>
<td></td>
</tr>
</tbody>
</table>
In order to estimate the regional economic effects generated by the creation of a RCA program, the total financial benefits to BLM permittees need to be linked to changes in their farm expenses. Changes in their expenses are the direct effects that create the additional demands in other industries in the region. The additional demands generated were estimated by looking at the typical farm expenditure pattern for beef cow operations. The farm expenditures per one dollar of net income are showed in Table 6. Changes in the farm expenses of BLM permittees were calculated by applying the ratio of farm expense versus net income to the net financial benefits estimated in the ranch-level financial analysis. The categories found in the Farm Income and Expenses report were matched with the IMPLAN industry sectors, and estimated changes in demands for the industries were entered in the IMPLAN system. If a farm expense category matched more than one IMPLAN industry sector, the estimated expenses in the category were equally distributed to the IMPLAN sectors.

Table 6. Beef Cow Operation Farm Expenditures (per one dollar of net income)

<table>
<thead>
<tr>
<th>Farm Expenditures Categories</th>
<th>IMPLAN Industry Description</th>
<th>Farm Expenditures per net income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock purchases</td>
<td>3 Ranch Fed Cattle</td>
<td>2.246</td>
</tr>
<tr>
<td></td>
<td>4 Range Fed Cattle</td>
<td></td>
</tr>
<tr>
<td>Feed</td>
<td>12 Feed Grains</td>
<td>0.854</td>
</tr>
<tr>
<td></td>
<td>13 Hay and Pasture</td>
<td></td>
</tr>
<tr>
<td>Veterinary services and supplies</td>
<td>26 Agricultural Services</td>
<td>0.107</td>
</tr>
<tr>
<td>Other livestock-related expenses*</td>
<td>26 Agricultural Services</td>
<td>0.182</td>
</tr>
<tr>
<td>Seed and plants</td>
<td>14 Grass Seeds</td>
<td>0.089</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
<td>Value</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
</tbody>
</table>
| Fertilizer and chemicals                | 202 Nitro.&Phos. fertilizers  
                                        | 203 Fertilizers, Mixing Only  
                                        | 204 Agri. Chemicals, N.E.C       | 0.325  |
| Labor                                   | 4 Range Fed Cattle                                                           | 0.348  |
| Fuels and oils                          | 444 Gas Prod..&Distribution                                                 | 0.267  |
| Repairs and maintenance                 | 56 Maintenance and Repair  
                                        | 479 Auto Repair and Services                                                | 0.397  |
| Machine-hire and custom work            | 309 Farm Machinery&Equip.                                                   | 0.110  |
| Utilities                               | 443 Electric Services                                                        | 0.144  |
| Other variable expenses**               | 440 Transportation Services  
                                        | 470 Other Business Services                                                  | 0.212  |
| Real estate and property taxes          | 523 State & Local Gov                                                        | 0.208  |
| Interest on real estate debt            | 456 Banking  
                                        | 457 Credit Agencies                                                          | 0.565  |
| Insurance premiums                      | 459 Insurance Carriers  
                                        | 460 Insurance Agents&Brokers                                                 | 0.149  |
| Rent and lease payments                 | 473 Equip. Rental&Leasing                                                    | 0.253  |


*Includes livestock leasing, custom feed processing, bedding, and grazing.

**Includes supplies, registration fees, transportation, storage, and general business expenses.

Table 7 presents the projected changes in total output, employment and income in the three counties as a result of the net financial benefits generated by the proposed amendments of the existing BLM grazing regulations. The estimated regional economic impacts vary depending on the potential participation rate of the individual BLM permittees. In this study, the effects were estimated at 1%, 5% and 10% participation level of all BLM permittees in each county. With 1% participation rate, the regional economic effects were minimal in all counties after 5 and 20 years. In Dona Ana County and Iron County, the estimated regional economic effects are negligible even with 10% participation rate. However, Lemhi County could experience sizable...
regional economic growth after 20 years, if more than five percent of all BLM permittees in the county participate in the RCA program every year. The contribution of the cattle sector to the whole economy was larger in Lemhi County than in other two counties, which could explain significant regional economic affects of the proposed regulatory changes in Lemhi County. It should be noted that the regional economic affects in this study were modeled without incorporating the potential economic structural changes that these counties are likely to experience in a long run, and potential differences in the RCA program participation rate among different sizes of cattle operations.

Table 7. Total Regional Economic Impacts (cumulative) of the creation of RCAs with the voluntary participation rate of 1%, 5% and 10% of all BLM permittees: Lemhi County, Iron County, and Dona Ana County.

<table>
<thead>
<tr>
<th>County</th>
<th>RCA Participation Rate</th>
<th>Direct Impacts on Local Sales</th>
<th>Total Increase in Output</th>
<th>Total Increase in Employment</th>
<th>Total Increase in Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lemhi, ID</td>
<td>1%</td>
<td>After 5 years</td>
<td>748,071</td>
<td>947,674</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After 20 years</td>
<td>8,335,031</td>
<td>11,071,200</td>
<td>146</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>After 5 years</td>
<td>3,740,355</td>
<td>4,738,370</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After 20 years</td>
<td>41,675,155</td>
<td>55,356,000</td>
<td>728</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>After 5 years</td>
<td>7,480,710</td>
<td>9,476,740</td>
<td>139</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After 20 years</td>
<td>83,350,310</td>
<td>110,712,000</td>
<td>1,455</td>
</tr>
<tr>
<td>Iron, UT</td>
<td>1%</td>
<td>After 5 years</td>
<td>719,759</td>
<td>1,003,707</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After 20 years</td>
<td>2,987,958</td>
<td>4,166,720</td>
<td>49</td>
</tr>
</tbody>
</table>
The table below presents the estimated costs and benefits of grazing activities for different percentages and time periods, with all numbers in dollars in 2000, except employment.

<table>
<thead>
<tr>
<th></th>
<th>After 5 years</th>
<th>After 20 years</th>
<th>After 5 years</th>
<th>After 20 years</th>
<th>After 5 years</th>
<th>After 20 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5%</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3,598,795</td>
<td>14,939,790</td>
<td>5,018,535</td>
<td>20,833,600</td>
<td>60</td>
<td>6134675</td>
</tr>
<tr>
<td><strong>10%</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7,197,590</td>
<td>29,879,580</td>
<td>10,037,070</td>
<td>41,667,200</td>
<td>119</td>
<td>2955530</td>
</tr>
<tr>
<td><strong>Dona Ana, NM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1%</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>286,038</td>
<td>1,189,791</td>
<td>393,794</td>
<td>1,638,009</td>
<td>6</td>
<td>112224</td>
</tr>
<tr>
<td><strong>5%</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,430,190</td>
<td>5,948,955</td>
<td>1,968,970</td>
<td>8,190,045</td>
<td>30</td>
<td>561120</td>
</tr>
<tr>
<td><strong>10%</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,860,380</td>
<td>11,897,910</td>
<td>3,937,940</td>
<td>16,380,090</td>
<td>59</td>
<td>1122240</td>
</tr>
</tbody>
</table>

*All numbers are in dollars in 2000, except employment.*

**Discussions**

The proposed changes to the BLM grazing regulations would allow greater flexibility to managers and permittees, improve administrative procedures and business practices, and promote community-based conservation and citizen-based stewardship of public land. In this
study, the economic impacts of the proposed changes were analyzed focusing on the creation of a RCA program. Based on the results from the ranch-level financial modeling, the regional economic effects generated by the net financial benefits of the RCA program to individual ranchers were estimated in three counties: Lemhi County, ID, Iron County, UT, and Dona Ana County, NM.

The regional economic effects of the RCA program are dependent on the participation rate of BLM permittees, which would vary year-to-year contingent on the market and meteorological conditions. Overall, the regional economic effects of the RCA program seem to be minor compared to the total income and employment of these counties. It should be noted that the regional economic impacts in this study were modeled without incorporating the potential economic structural changes that these counties are likely to experience in a long run, and potential differences in the RCA program participation rate among different sizes of cattle operations. The counties presently experiencing rapid population growth, such as Iron County and Dona Ana County may go through significant economic restructuring within the next 20 years. The relative importance of the Cattle sector would be further dwindling, although the exact economic impacts are hard to predict.

The regional economic impacts estimated for Lemhi County need to be looked at more carefully. The results show that the economy of Lemhi County can be significantly affected by the net financial benefits generated by the RCA program in 20 years when more than five percent of BLM permittees participate in the RCA program every year. Lemhi County is where the contribution of the Cattle sector to the county economy is most significant, and the population is decreasing in recent years (decreasing 2.6% from April 1, 2000-July 1, 2001) according the UC Census Bureau. Unlike many western rural counties experiencing rapid population growth and demographic changes due to interstate in-migration, Lemhi County may not experience diminishing relative importance of the Cattle sectors. The proposed regulatory changes and the creation of a RCA program could make contributions to the western rural counties with BLM grazing where population is declining, if the considerable number of BLM permittees participate in the RCA program.