

To: Berg, Marc[mrberg@blm.gov]
From: Betenson, Matthew
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Subject: Re: Question on Livestock Grazing Plan Amendment
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[201703_0_ExecSum_ADEIS_WO-v2.pdf](#)
[Pages from 201703_2_Alts_ADEIS_WO-v2 \(1\).pdf](#)

Hi Marc,

Attached is some info on the topic. This is pre-decisional, draft information not for public release. Look at the alternative matrix around page 24. Let's try to talk about it soon.

Essentially we looked at the existing IM on relinquishment's and considered setting a priority list for the re-allocation or other use in the flow chart--again this is all draft and loosely supported in WO in the spring.

Thanks-Matt

On Mon, Dec 11, 2017 at 12:08 PM, Berg, Marc <mrberg@blm.gov> wrote:

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Mr. Betenson,

Hello, my name is Marc Berg. I work in the district office of Vale, Oregon. You were listed as the contact for questions regarding the Livestock Grazing Plan Amendment. Could you point me in the right direction?

We have begun an amendment ourselves. My research on grazing and voluntary relinquishment has not been very fruitful. I am hoping that this topic may be part of your analysis.

Our goal is to 1) develop a rationale for considering where, or based on what rationale, would lead the BLM to recommend alternative uses/allocations of the range resources from grazing and 2) follow a line of thought that has been considered previously and in other offices to recognize or "weigh" competing uses of the land to grazing. There is not much out there that I can find.

Who would be the best individual to speak with on this subject. Any suggestions are much appreciated.

Thank you,

Marc R. Berg

SEORMP Project Manager

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Executive Summary

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EXECUTIVE SUMMARY

ES.1 INTRODUCTION

The US Department of the Interior (DOI), Bureau of Land Management (BLM), Grand Staircase-Escalante National Monument (GSENM), as the lead agency, has prepared this draft Environmental Impact Statement (EIS) and Livestock Grazing Management Plan Amendment (MMP-A). It is a guide for managing BLM lands in GSENM, as well as lands for which GSENM has administrative responsibility for livestock grazing, specifically portions of the BLM's Kanab Field Office (KFO) and Arizona Strip Field Office (ASFO) and National Park Service (NPS)-managed lands in Glen Canyon National Recreation Area (Glen Canyon).

The approved MMP-A will amend the 2000 GSENM Management Plan (MMP) (BLM 1999) to incorporate management of livestock grazing, and will supersede the existing Escalante, Paria, Vermillion, and Zion regional management framework plans (MFP) signed in 1981 (BLM 1981a, 1981b, 1981c, and 1981d) and a subsequent plan amendment of the Escalante MFP completed in 1999 (BLM 1999), under which livestock grazing in GSENM is currently administered. Information about the MMP-A/EIS can be obtained on the project website at <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=69026>.

The land use planning process is the key tool the BLM uses to manage resources and to designate uses on the lands it administers, in coordination with tribal, other federal, state, and local governments, land users, and interested members of the public. This MMP-A has been prepared using BLM planning regulations and guidance issued under the authority of the Federal Land Policy and Management Act (FLPMA) of 1976 (43 US Code [USC], Section 1701 et seq.) and the BLM's Land Use Planning Handbook, H-1601-1 (BLM 2005), as amended. An EIS is incorporated into this document to meet the requirements of the National Environmental Policy Act of 1969 (NEPA), Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR], Parts 1500-1508), DOI NEPA regulations (43 CFR, Part 46), and the requirements of the BLM's NEPA Handbook, H-1790-1 (BLM 2008).

The planning area encompasses approximately 2,316,100 acres in Garfield and Kane Counties, Utah, and Coconino County, Arizona. The planning area includes all BLM-managed lands in GSENM and BLM- and NPS-managed lands for which GSENM has livestock grazing administration responsibility. This includes lands in portions of the BLM's KFO and ASFO and NPS-managed lands in Glen Canyon.

The planning area is bordered on the west by Bryce Canyon National Park and the BLM KFO, on the north by Dixie National Forest, on the east by Capitol Reef National Park and Glen Canyon, and on the south by the BLM's KFO and ASFO, Utah State and Institutional Trust Lands, and Glen Canyon. Small areas of state, municipal, and private lands are contained within the planning area (see **Figure ES-1**, Planning Area).

The BLM's decision area for this planning effort is all of the BLM grazing lands that GSENM administers, including some lands in the BLM's KFO and ASFO; the NPS decision area is lands in Glen Canyon where GSENM administers grazing permits. The decision area totals approximately 2,242,000 acres in the planning area but does not include state, municipal, or private lands, or small areas of BLM-managed land where no grazing decisions have previously been made or are being made in the MMP-A. **Table ES-1**, Land Status, shows acres by landowner or land management agency in the planning area and the decision area.

**Table ES-1
Land Status**

Landowner/Management Agency	Acres
Planning Area	
BLM	1,934,800
NPS	318,800
State	19,900
Private	42,600
Total	2,316,100
Decision Area	
BLM, GSENM	1,855,400
BLM, Kanab Field Office	65,500
BLM, Arizona Strip Field Office	2,300
NPS, Glen Canyon	318,800
Total	2,242,000

Source: BLM GIS 2014

Note: Acres have been rounded to the nearest 100.

There are 96 allotments in the decision area, 20 of which (approximately 318,800 acres) are wholly or partially in Glen Canyon (see **Figure ES-2**, Livestock Grazing Allotments). The BLM administers the permits on these allotments, in accordance with the enabling legislation for Glen Canyon and by means of a memorandum of understanding and interagency agreement between the BLM and the NPS.

Figure ES-1

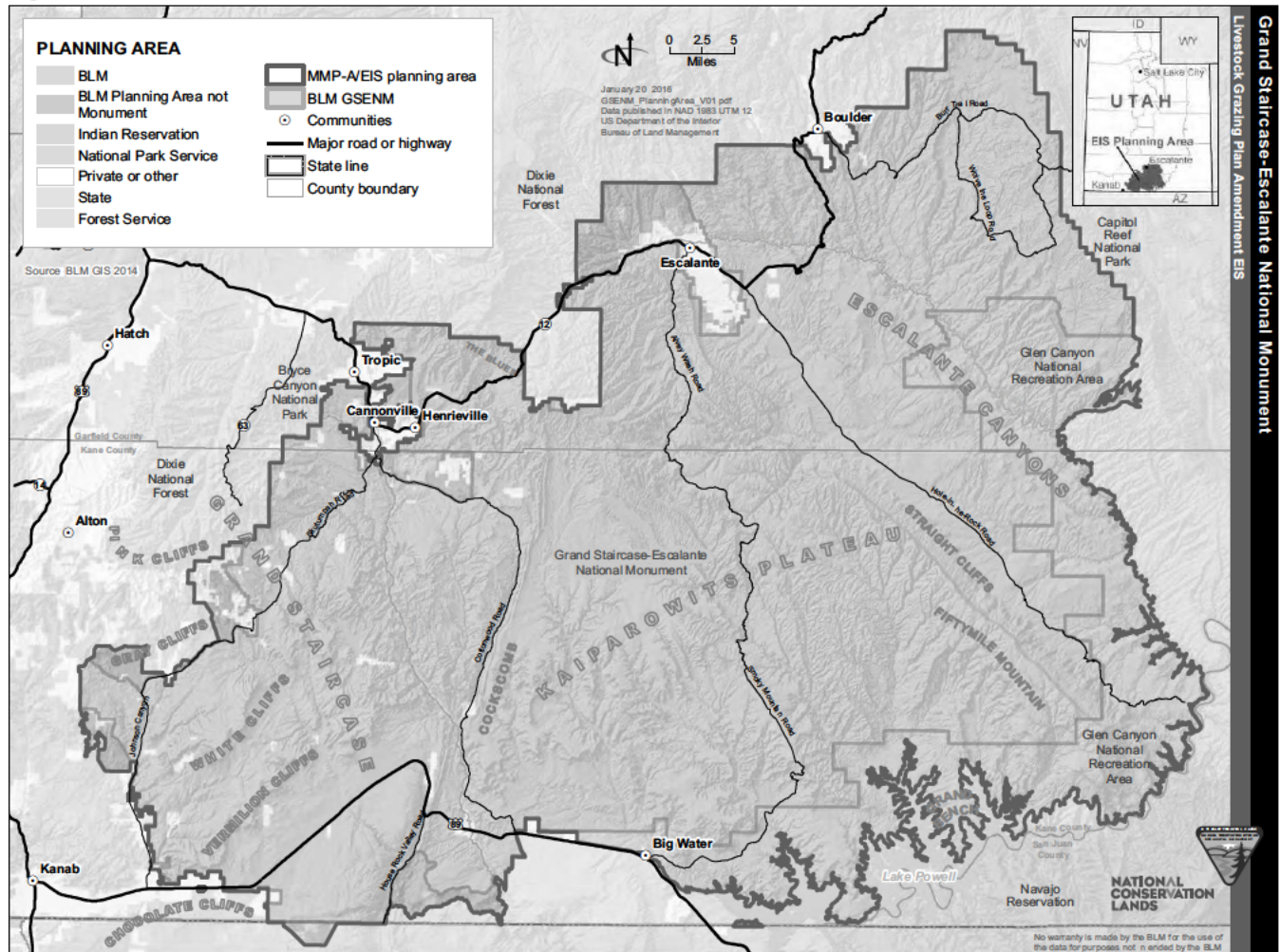
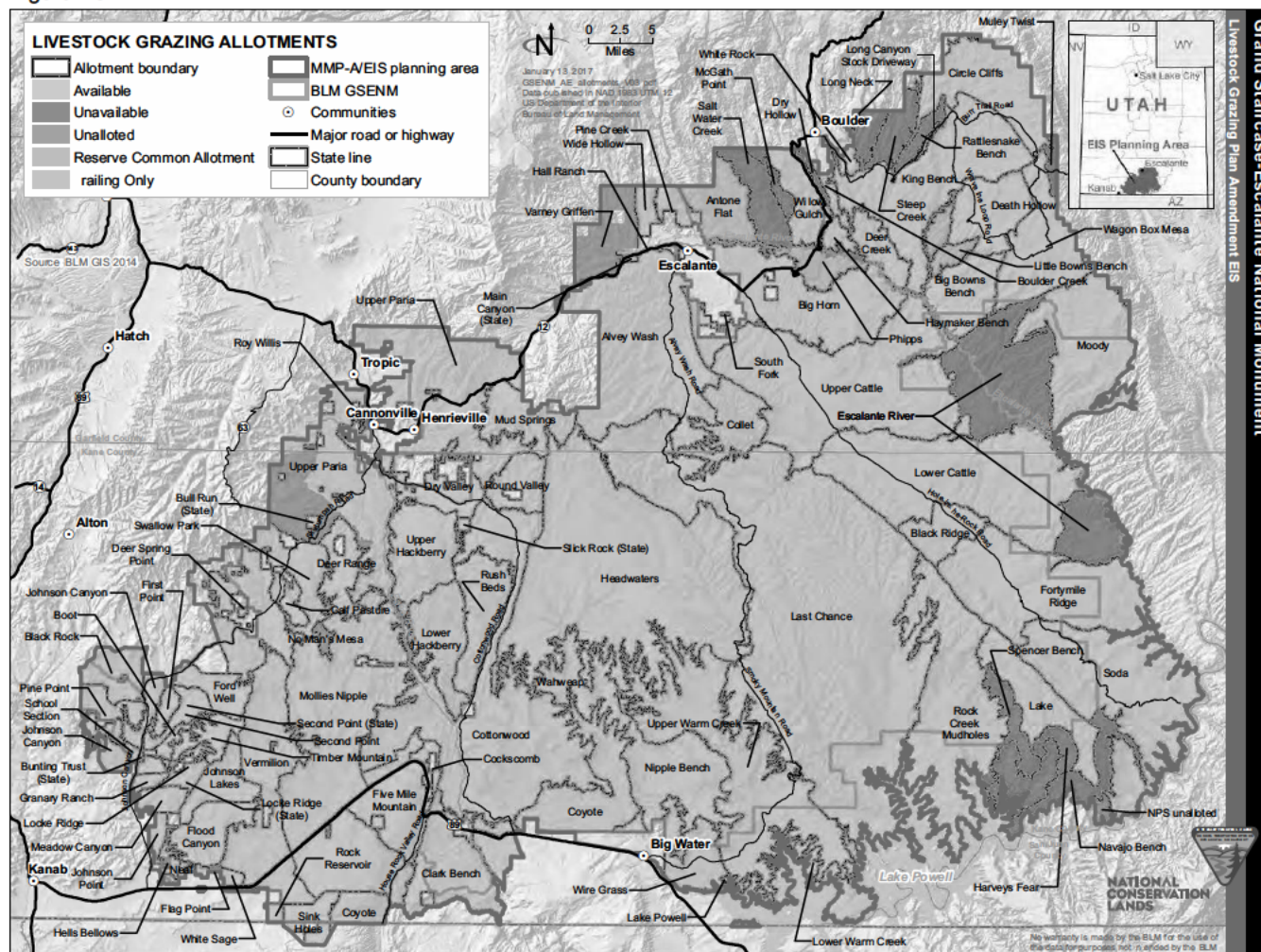


Figure ES-2



Twenty allotments (65,500 acres) are wholly or partially in the BLM's KFO; the Sink Holes allotment (2,300 acres) is partially in the BLM's ASFO. GSENM has decision-making authority for allocation decisions related to these allotments and also administers the permits, in conformance with the land use plans for those offices. In other words, the only decisions in this MMP-A that apply to the KFO and ASFO are the allocation decisions related to allotments that are available or unavailable for livestock grazing. The BLM Arizona Strip Field Office administers the Rock Reservoir and Coyote allotments in GSENM (see **Figure ES-2**).

ES.2 PURPOSE OF AND NEED FOR THE MONUMENT MANAGEMENT PLAN AMENDMENT

This MMP-A is needed to integrate livestock grazing and rangeland management into the existing MMP. It also provides for the comprehensive, science-based management of livestock grazing that enables multiple use/sustained yield of renewable resources by maintaining or improving land health. Land use plan decisions are needed to identify the lands available for livestock grazing, the amount of forage available for livestock, and possible grazing management practices, such as grazing systems, range improvements (including land treatments), seasons of use, and stocking rates (BLM 2005).

Updated land use plan decisions for livestock grazing are also needed to incorporate new information and the many changes that have occurred since the 1980s. Livestock grazing decisions for GSENM must follow Proclamation 6920, which created the National Monument.

The purposes of this MMP-A are as follows:

- Establish goals and objectives for livestock grazing and rangeland management
- Establish broad-scale decisions that set the stage for site-specific implementation decisions, such as timing (season of use), duration (length of time), frequency of livestock grazing (how often), and magnitude (number of animal unit months (AUMs)) of livestock grazing
- Identify where grazing uses are allowed, restricted, or prohibited (i.e., available or unavailable for livestock grazing)
- Identify grazing management practices
- Provide the land use plan level decisions needed to integrate livestock and rangeland management with the management of GSENM objects and other resources.

For the decision area in Glen Canyon, the MMP-A ensures that the BLM's administration of grazing permits protects the park resources and values of Glen Canyon in accordance with the NPS Organic Act of 1916 (54 USC, Section 100101). It provides that the BLM accomplish the goals and objectives defined in the 1979 Glen Canyon National Recreation Area General Management Plan (GMP), the Glen Canyon Grazing Management Plan (GzMP), and other applicable land use plans. These goals and objectives are in place to protect park resources and to avoid unacceptable impacts or impairment.

The purposes for Glen Canyon are the same as those for GSENM, with decisions to be made by the NPS in accordance with applicable laws and policy.

ES.3 SCOPING

Scoping, as required by 40 CFR, Subpart 1501.7, is an early and open process for determining the scope of issues to be addressed and identifying the significant issues related to a proposed action. Information collected during scoping may also be used to develop the alternatives to be addressed in an EIS.

The intent of scoping is to focus the analysis on significant issues and reasonable alternatives, to eliminate extraneous discussion, and to reduce the length of the EIS (BLM 2008).

The BLM published a Notice of Intent to prepare the GSENM Livestock Grazing MMP-A/EIS on November 4, 2013 (78 Federal Register 66064-66065). This initiated the formal public scoping period, which ended on January 13, 2014, 30 days after the last public scoping meeting. The public scoping period lasted 70 days, more than double the minimum required for BLM land use planning. The BLM published a public scoping report on the project website (<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=69026>). In addition to the comments documented in the scoping report, the BLM will consider all comments received during the planning process when developing the MMP-A.

Public scoping activities included the following:

- The BLM created and is maintaining a project website (<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=69026>) to keep the public informed about the MMP-A/EIS process.
- In November 2013, the BLM mailed a newsletter, announcing the public scoping period, to more than 350 individuals, agencies, and organizations. It provided project background information, the dates and venues for three scoping meetings, decisions to be made, a planning timeline, preliminary planning criteria and planning issues, and a description of the various methods for submitting comments, including dedicated e-mail and postal mail addresses.
- The BLM sent a press release announcing the scoping period to local media outlets and posted it on the project website on November 1, 2013. The press release provided the dates and locations of the scoping meetings and described the various methods for submitting comments. The press release was published on KCSG Television's website on November 1, 2013, in the Wayne & Garfield County Insider on December 5, 2013, and in Deseret News on December 6, 2013. Additionally, "The County Seat," a television program, ran a piece explaining the planning and the implications of changes to grazing on ranchers and counties.
- The BLM hosted three scoping meetings to provide the public with opportunities to become involved, to learn about the project and the planning process, to meet the GSENM MMP-A/EIS team members, and to offer comments. The meetings occurred on December 10, 11, and 12, 2013, in Kanab, Escalante, and Salt Lake City, Utah. The meetings were advertised via press release, the project newsletter, the project website, and phone calls from BLM staff to potentially interested grazing permittees.

- The NPS and BLM participated in open houses to share information on the GSENM MMP-A and other NPS planning in Page, Arizona, and Blanding, Escalante, Kanab, and Salt Lake City, Utah, in February 2014.
- The BLM received 564 written submissions during the public scoping period, comprising 205 separate submissions, and 1 form letter. Most written submissions included more than one comment, so the 564 submissions (including form letters) yielded 1,287 discrete comments. Detailed information about the comments received and about the public outreach process can be found in the GSENM Scoping Report, available on the project website (<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=69026>).

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ES.4 ISSUES

ES.4.1 Issue Identification

Issue identification is the first step of the nine-step BLM planning process. A planning issue is a major controversy or dispute regarding management of resources or uses on BLM-administered lands that can be addressed in a variety of ways, which is within the BLM's authority to resolve. Planning issues provide the major focus for development of alternatives.

ES.4.2 Issues Addressed

GSENM has identified the following planning issues to guide the development and comparison of alternatives:

- Effects of livestock grazing management on GSENM Proclamation-identified scientific and historical objects
- Lands available for livestock grazing in the decision area
- Effects of livestock grazing management on the resources and values for which Glen Canyon was established (e.g., public outdoor recreation use and enjoyment and scenic, scientific, and historical features)
- Forage currently available on an area-wide basis for livestock grazing and available for future anticipated demands
- Guidelines and criteria for future allotment-specific adjustments, such as the amount of forage available for livestock, season of use, or other grazing management practices
- Effects of livestock grazing management on local custom and culture

- Effects of livestock grazing management on the area's economy
- Management of existing range improvement seedings and opportunities for future range improvements
- Effects of livestock grazing management on vegetation, including riparian vegetation
- Effects of livestock grazing management on soils, including biological soil crusts
- Effects of climate change and drought on forage availability
- Effects of livestock grazing management on recreation
- Effects of livestock grazing on cultural resources

ES.4.3 Issues Considered but Not Further Analyzed

Approximately 10 percent of the comments received during the public scoping period concerned issues that are not addressed in this MMP-A. These include implementation decisions that the BLM has already addressed or implementation of the MMP-A, issues to be addressed through policy or administrative action, issues that the BLM has addressed but should be better communicated to those who raised the issues, comments related to laws, regulations, and guidance, and issues beyond the scope of the MMP-A. Specific issues considered but not further analyzed are provided in the scoping report on the project website (<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=69026>).

ES.5 PLANNING CRITERIA

During its initial planning sessions and internal scoping, GSENM staff developed preliminary planning criteria, which establish limitations, guidelines, and standards for the planning process. Planning criteria define the scope of the amendment process and estimate the extent of data collection and analysis. These criteria are based on standards prescribed by applicable laws and regulations, agency guidance, results of consultation and coordination with the public and other federal, state, and local agencies, analysis of information pertinent to the planning area, and professional judgment. The BLM may change planning criteria as a result of public input, as issues are addressed, or as new information is presented.

The BLM identified preliminary planning criteria in the Notice of Intent. Based on public comments and input from cooperating agencies, the BLM modified the preliminary planning criteria for use in preparing the Draft EIS/MMP-A, as follows:

- The BLM will limit the scope of the MMP-A to making land use-level planning decisions specific to livestock grazing.
- This MMP-A will address BLM- and NPS-managed lands, where GSENM administers grazing permits.
- The BLM and NPS will administer grazing in Glen Canyon to protect its values and purposes, in accordance with Public Law 92-593 and the 1916 NPS Organic Act.

- The BLM will use the Utah BLM Standards for Rangeland Health and Guidelines for Livestock Grazing Management (BLM 1997) and will apply existing land health standards to all alternatives.¹
- The approved MMP-A will comply with the FLPMA, NEPA, National Historic Preservation Act, and CEQ regulations at 40 CFR, Parts 1500-1508.
- The approved MMP-A will comply with 43 CFR, Part 1600, 43 CFR, Part 4100, the BLM Land Use Planning Handbook (BLM 2005), the 2008 BLM NEPA Handbook (BLM 2008), and other applicable BLM regulations, policies, and guidance.
- Land use planning decisions for Glen Canyon will comply with applicable NPS management policies, director's orders, and reference manuals.
- Land use planning decisions must be consistent with the Presidential Proclamation for GSENM and with the enabling legislation for Glen Canyon.
- For NPS-managed lands, the BLM will apply to all alternatives the goals, objectives, and recommendations for grazing and management identified in the 1999 GzMP for Glen Canyon; this is to ensure protection of park resources and values, as defined by the NPS. Any proposed updates or revisions to the GzMP goals, objectives, and recommendations for grazing management identified in this MMP-A will be specifically identified and described by alternative.
- The BLM will use an accepted input-output quantitative model, such as IMPLAN, for socioeconomic analysis.
- The BLM and NPS will review and use as appropriate current scientific information, research, technologies, and results of inventorying, monitoring, and coordinating to inform management strategies. The use of scientific and scholarly information will be consistent with Department of Interior Manual 305 DM 3.
- The BLM and NPS will coordinate and communicate with federal, state, local, and tribal governments to ensure that the BLM and NPS consider the provisions of pertinent plans and that it seek to resolve inconsistencies between federal, state, local, and tribal plans. The BLM and NPS will also provide ample opportunities for federal, state, local, and tribal governments to comment on amendment development.
- The BLM and NPS will base the MMP-A on the principles of adaptive management.

ES.6 MANAGEMENT ALTERNATIVES

The basic goal of developing alternatives is to prepare different approaches to address the identified major planning issues. Alternatives must meet the purpose and need; be reasonable; be responsive to the issues; meet the established planning criteria; and meet federal laws, regulations, policies, and standards, including the GSENM Proclamation and the multiple use mandates of the FLPMA.

¹The Utah BLM Standards of Rangeland Health also apply to the portion of the ASFO where GSENM administers livestock grazing.

Following the close of the public scoping period in January 2014, the BLM began developing a range of alternatives by assembling an interdisciplinary team of BLM resource specialists in GSENM based on the issues presented in the GSENM Livestock Grazing Plan Amendment EIS Scoping Report, finalized in May 2014 (BLM 2014) and guided by established planning criteria. Five preliminary alternatives were developed in close coordination with the cooperating agencies (see **Section 5.3.1**, Cooperating Agencies).

The preliminary alternatives proposed different scenarios for managing livestock and rangelands in the planning area. Planning issues raised during scoping and addressed in the alternatives are general livestock grazing topics, livestock grazing management practices, livestock grazing forage availability and allocation, and rangeland health. The BLM made the preliminary draft alternatives publicly available in December 2014. Public comments received on the preliminary alternatives were included in the Preliminary Alternatives Comment Report, finalized in June 2016 (BLM 2016). Based on comments received, the BLM revised the preliminary alternatives and announced the selection of five alternatives for detailed study in the MMP-A in a June 2016 newsletter.

Each alternative stands alone as a potential MMP-A and provides direction for livestock grazing management based on the development of specific goals, objectives, and management actions. Described in each alternative is specific direction influencing land management. Livestock grazing uses not tied to planning issues or mandated by laws or regulations often contain few or no differences in management between alternatives. Alternatives may also result in different long-term conditions.

Each alternative varies in its response to the planning issues, providing a range of possible management approaches that the BLM could implement, along with the outcomes of those approaches. Distinctions between alternatives are expressed in the EIS by varying specific objectives, allowable uses, and management actions. Although each alternative stands alone as a potential MMP-A, the Proposed MMP-A/Final EIS may include elements from multiple alternatives analyzed in this draft.

Summaries of the alternatives are presented below. A complete description of all decisions proposed for each alternative is included in **Chapter 2, Alternatives**. **Table ES-2**, Summary Comparison of Alternatives, highlights the meaningful differences among alternatives.

ES.6.1 Alternative A—No Action

Alternative A is the No Action Alternative and is a continuation of the current management direction contained in the 2000 GSENM MMP, the four 1981 BLM MFPs (BLM 1981a, 1981b, 1981c, 1981d), and the 1999 Glen Canyon GzMP (NPS 1999). Existing policy and guidance such as regulations (specifically 43 CFR Part 4100, Grazing Administration), BLM Manuals, and NPS Director's Orders will also be followed.

Livestock grazing would continue at the existing permitted levels. Areas that are currently closed to livestock grazing would remain unavailable to livestock grazing. Areas that are currently unallotted (available for grazing but there is no current permitted grazing use) would remain available for livestock grazing. The three reserve common allotments would also remain available for use as needed and when authorized.

For GSENM, land use plan decisions for livestock grazing beginning on page 40 of the MMP would be retained. For allotments in the planning area, the allocation decisions made in the Escalante, Paria, Vermilion, and Zion MFPs (BLM 1981a, 1981b, 1981c, 1981d) and the 1999 livestock grazing amendment to the MFPs (BLM 1999) would be retained. Grazing on the Glen Canyon portion of the planning area would continue to be governed by its 1999 GzMP (NPS 1999).

Land use plan decisions from the six existing land use plans mentioned above have been reorganized to follow the general format in the BLM Land Use Planning Handbook (H-1601-1). Not all existing land use plan decisions readily fit into the goals, objectives, allowable uses, and management action categories described in the handbook. The interdisciplinary team used some judgment to place existing decisions into the four categories. Where there are any discrepancies, the original plan-level document should be used.

Of the 106,202 AUMs that are currently permitted, 29,245 are suspended. The suspension of these AUMs is primarily the result of allotment land health evaluations, changes in allotment management, and allocation adjustments made during the establishment of allotment management plans or other planning efforts conducted for allotments now administered by GSENM. These suspensions primarily occurred by decisions prior to establishment of GSENM.

During the permit renewal process, BLM regulations allow for active AUMs to be decreased and placed in suspension on grazing permits. This would be the case if monitoring data were to indicate that the provisions for land health standards are not being achieved and on completion of the appropriate level of analysis. Conversely, if the provisions of land health standards are being achieved and an appropriate level of analysis indicates additional AUMs are available, suspended AUMs may be reactivated during this same permit renewal process. The EIS for this MMP-A does not consider suspended AUMs in the analysis of the action alternatives environmental consequences. This is because the level of analysis used at the land use planning level for allotment level decisions and their reactivation is not reasonably foreseeable. This is demonstrated by the current average actual use of 41,343 AUMs.

ES.6.2 Alternative B—No Grazing

This alternative would discontinue livestock grazing in GSENM and Glen Canyon. In addition, livestock grazing would be discontinued in allotments in the Kanab (KFO) and Arizona Strip (ASFO) Field Offices where GSENM has livestock grazing administration responsibility. Permittees would be given two years' notification prior to the cancellation of permits (43 CFR 4110.4-2(b)) and would be provided reasonable compensation for improvements placed or constructed by the permittee (43 CFR 4120.3-6(c)). Vegetation treatments for the purposes of improving land health, wildlife habitat, or natural communities, reducing weeds, or stabilizing cultural sites may still occur per existing decisions in the MMP (BLM 2000) and Glen Canyon GMP (NPS 1979). Nonstructural range improvements would not be maintained for livestock forage. Structural range improvements will be evaluated and removed as necessary to meet objectives for natural and cultural resources.

No monitoring of impacts from livestock grazing would be needed. While opportunities for science and research related to active grazing would be lost, there could be research associated

with the effects of not grazing. The unavailable lands could act as ecological reference areas for comparable regions outside of GSENM and Glen Canyon.

ES.6.3 Alternative C—Reduced Grazing

This alternative emphasizes management that prioritizes native species diversity and ecological processes. Protection of Monument objects and resources and objects identified in the Proclamation and protection of park resources and values would be a priority. Livestock grazing would be managed to ensure reduced impact on resources. A variety of ungrazed reference areas would be established. Changes in grazing systems (e.g., season of use, intensity, and rotation) would be considered first before implementing nonstructural range improvements. Areas currently unavailable and unallotted would remain unavailable for livestock grazing. Additional areas are identified as unavailable based on resource concerns (see **Table 2-2**, Rationale for Unavailable Allotments). Under this alternative, the areas (acres) available for livestock grazing would be reduced compared with Alternative A. Monitoring would occur specific to Goals and Objectives found in Alternative C, in addition to requirements for BLM Utah Rangeland Health Standards. As under Alternative A, AUMs in a suspended use category may be returned to active use during permit renewal, if monitoring demonstrates that the range can support reactivating suspended AUMs.

Under this alternative, the active AUMs would be reduced to below active AUMs under current management (Alternative A). This alternative would reduce grazing to below average actual use, which is 41,343 AUMs based on a 19 year average (1996-2014). There are several allotments that would be unavailable under this alternative where the permittee currently takes nonuse in most years, which contributes to an average actual use that is much lower than active use, which is 76,957 AUMs.

ES.6.4 Alternative D—Increased Grazing

This alternative is derived from the Utah Escalante Region Grazing Zone (UCA 63J-8-105.8) and similar land use ordinances and county resource management plans in Garfield and Kane Counties (e.g., Kane County Land Use Ordinance Chapter 27, Multiple Functions/Multiple Use Grazing Zone). It includes preserving the history, culture, custom, and values of the family ranching industry while emphasizing an improved landscape to maintain a wide variety of beneficiaries.

The goal is to provide for an optimum level of livestock grazing and attainment of healthy rangelands, drought-resilient landscapes, and multiple beneficiaries. It would actively promote improving land health, including developing and maintaining nonstructural range improvements, restoring sagebrush/grassland ecosystems, controlling noxious and invasive plants, and controlling pinyon/juniper where livestock grazing occurs. It would promote maintenance of existing range improvements and would allow for construction of new range improvements, such as water development, fence repairs, fence installation, the use of machinery, and vehicle access for range improvements.

This alternative incorporates innovative, adaptive, livestock management practices and allows for on-site grazing management research. AUMs in a suspended use category would be returned to active use during permit renewal; the overall number of AUMs would be increased. In this alternative, GSENM would be used as a laboratory for innovative grazing techniques.

The improvement of rangeland conditions would be expedited, to remain consistent with ordinances and local plans. Some unallotted and unavailable allotments would be made available for livestock grazing. Overall, there would be an increase in areas (acres) available for livestock grazing and an increase in AUMs allocated to livestock compared with Alternative A.

ES.6.5 Alternative E—BLM and NPS Preferred

This alternative emphasizes multiple use and sustained yield through grazing management designed to ensure that BLM Utah Rangeland Health Standards are achieved and land health is maintained or improved. Livestock grazing would be managed consistent with the Proclamation in GSENM. Nonstructural range improvements would be managed for both ecosystem processes and forage production. As under Alternative A, AUMs in a suspended use category may be returned to active use during permit renewal if monitoring demonstrates that the range can support reactivating suspended AUMs. Overall, there would be a slight reduction in areas (acres) available for livestock grazing and a reduction in AUMs allocated to livestock compared with Alternative A.

The alternative also clarifies certain aspects of existing management decisions for vegetation that are related to livestock grazing. In this alternative, GSENM would be used as a laboratory for innovative grazing techniques.

ES.7 ENVIRONMENTAL CONSEQUENCES

The purpose of the environmental consequences analysis in this MMP-A/EIS is to determine the potential for significant impacts of the federal action on the human environment. CEQ regulations for implementing NEPA states that “human environment” is interpreted comprehensively to include the natural and physical environment and the relationship of people with the environment (40 CFR, Part 1508.14). The “federal action” is the BLM’s selection of an MMP-A on which future livestock grazing decisions will be based for GSENM.

Chapter 4, Environmental Consequences, objectively evaluates the likely direct, indirect, and cumulative impacts on the human and natural environment in terms of environmental, social, and economic consequences that are projected to occur from selecting the alternatives. Some types of impacts for resources or resource uses could be confined to decision area lands, whereas some actions may have off-site/indirect impacts on resources or other land jurisdictions (e.g., private or state lands). The impact analysis identifies both enhancing and improving effects on a resource from management actions, as well as those that have the potential to diminish resource values.

Table ES-3, Comparative Summary of Environmental Consequences, highlights the meaningful differences in impacts under the alternatives.

Table ES-2
Summary Comparison of Alternatives

Theme	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	Continue current management direction. Livestock grazing continues at current permitted levels. Areas currently closed remain unavailable to grazing.	Discontinue livestock grazing in the decision area, including GSENM and Glen Canyon, with 2-year notification. Permittees provided compensation for improvements.	Emphasize native species diversity. Livestock grazing managed or discontinued to reduce conflicts to resources. Changes in grazing systems (e.g., season of use, intensity, and rotation) considered before implementing range improvements. Provide large ungrazed reference areas.	Emphasize healthy landscapes to support multiple uses. Derived from State and County ordinances and plans. Livestock management promotes land health through adaptive management principles and innovative livestock practices. Some unavailable allotments become available and suspended AUMs are returned to active use during permit renewal.	Emphasize sustainable yield through livestock management designed to ensure BLM Utah Rangeland Health Standards are achieved, as well as other applicable criteria on NPS-managed lands, and land health is improved. Provide for reserve common allotments.
Area and AUMs Available for Grazing					
Total Available (acres)	2,089,000	0	1,619,700	2,135,200	2,065,300
Available (acres)	2,074,400	0	1,619,700	2,135,200	2,045,800
Reserve Common Allotment (acres)	14,600	0	0	0	19,500
Active AUMs	76,957	0	63,144	107,955	76,520

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Suspended AUMs	29,245	0	29,245	0	29,245
Maximum Permitted AUMs ¹	106,202	0	92,389	107,955 ²	105,765
Average Actual Use AUMs ³	41,343	0N/A	N/A33,368	N/A42,885	N/A40,100
Acres available per active AUM	27	0	26	20	27
Acres available per AUM, based on average actual use	51	0	49	50	52
Area (acres) Unavailable for Grazing					
Total Unavailable:	153,000	2,242,000	622,300	106,800	176,700
Trailing Only:	15,700	0	15,200	0 ⁴	15,200
Glen Canyon unavailable:	88,700 Includes all or portions of Big Bowns Bench, Escalante River, Harvey's Fear, Navajo Bench, Rock Creek-Mudholes, and Spencer Bench	318,800 (all allotments)	150,200 Includes all or portions of Big Bowns Bench, Escalante River, Fortymile Ridge, Harvey's Fear, Lake, Lower Warm Creek, Navajo Bench, Rock	90,300 Includes all or portions of Big Bowns Bench, Escalante River, Harvey's Fear, Navajo Bench, Spencer Bench, and Unallotted areas in Glen Canyon	95,300 Includes all or portions of Big Bowns Bench, Escalante River, Harvey's Fear, Lake, Navajo Bench, Rock Creek-Mudholes, Spencer Bench, and Unallotted

¹ For Alternative A, "Maximum Permitted AUMs" reflects the total number of permitted AUMs under the existing MFPs, as amended. For Alternative D, this row is the total number of permitted AUMs under the existing MFPs, as amended, plus AUMs associated with newly available allotments or pastures. For Alternatives C and E, this row is current permitted use less the number of AUMs associated with unavailable allotments or pastures under the alternative.

² Currently suspended AUMs would be restored at permit renewal.

³ Average actual use is based on a 19-year average for Alternative A. For the other alternatives, this row is an estimate, based on current average actual use and changes in AUMs associated with areas available and unavailable for grazing. For analysis, the average actual use is assumed to remain static over the life of the plan. Average actual use is provided for comparison only and is not a planning level decision.

⁴ Trailing would be allowed under Alternative D; however, the zero in the column indicates that there are no allotments that would be restricted to trailing only.

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			Creek-Mudholes, Spencer Bench, and Unallotted areas in Glen Canyon		areas in Glen Canyon
Nonstructural Range Improvements GSENM	Maintain and/or restore with native and nonnative species consistent with MMP and BLM Manual 1745.	Restore with native species consistent with MMP and BLM Manual 1745.	Maintain and/or restore with native species consistent with MMP and BLM Manual 1745.	Maintain and/or restore with native and nonnative species; allow new seedlings using native and nonnative plants consistent with BLM Manual 1745.	Maintain and/or restore with native and nonnative species consistent with BLM Manual 1745.
	Follow MMP.	Same as Alternative A.	Passive restoration and non-chemical methods will be the priority for preventing the introduction, establishment, and/or spread of noxious weeds and/or nonnative, invasive species.	Where not otherwise constrained by special designations, allow a variety of vegetation restoration methods, including mechanical, chemical, biological, and prescribed fires.	Same as Alternative D.
	Livestock grazing after native seedlings are established will be modified to ensure the survival of the native plants. The livestock exclusion period required to allow establishment	N/A	Livestock grazing after native seeding restoration will be modified to ensure the survival of the native plants. Post-disturbance, suspend livestock grazing for at least two growing	Same as Alternative E.	After disturbance, modify livestock grazing practices until seedlings are established in order to promote the survival of plants. Generally, areas will be rested from

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	of seeded native species and recovery of surviving plants after a wildfire may be more than two years. Site evaluation will be required to determine when the native seedings should be grazed again and the effectiveness of the current or new grazing system on the persistence of native plants.		seasons or until the majority of native plant species in the area have seeded, whichever is longer. Site evaluation will be required to determine when the native seedings should be grazed again and the effectiveness of the current or new grazing system on the persistence of native plants.		livestock grazing for two growing seasons or until site objectives are met. Site evaluation will be required to determine when objectives for the seedings are met and grazing can be resumed.
Nonstructural Range Improvements Glen Canyon	Nonstructural range improvements and land treatments are not appropriate in Glen Canyon. Management-ignited fires will only be allowed for special circumstances, such as to control potentially new invasive exotic species.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Structural Range Improvement GSNMs: General <i>(includes, but not limited to, fences, cattle guards, corrals, and cabins)</i>	Authorize structural range improvements outlined in the MFPs within constraints of the MMP.	Evaluate structural range improvements associated with livestock grazing for utility, historical significance, or other purposes and remove unless needed to meet objectives for natural and cultural resources.	Authorize structural range improvements consistent with the MMP.	Authorize structural range improvements. Maintain structural range improvements so that forage reserves will be ready for use when needed.	Authorize structural range improvements consistent with the MMP.
Structural Range Improvements Glen Canyon: General	New line cabins (i.e., cabins) are not appropriate in Glen Canyon.		Same as Alternative A.	New line cabins would be considered within Glen Canyon outside of proposed wilderness areas. Proposals would be evaluated on a case-by-case basis via an appropriate NEPA and National Historic Preservation Act process.	Same as Alternative D.
Structural Range Improvements GSNM: Water <i>(includes pipelines, troughs, detention and retention ponds, drainage ditches)</i>	Water developments can be used as a management tool throughout the Monument for the following purposes: 1) Better distribution of livestock when deemed to have an overall beneficial effect on Monument resources, including water sources or		Where water developments are necessary for livestock grazing and protection of Monument objects, such developments will: 1) Be fenced and will protect associated wetland/riparian resources. 2) On/off valves will ensure that	Authorize water developments for the following purposes: 1) Better distribution of livestock when deemed to have an overall beneficial effect on Monument resources, including water sources or riparian areas, or to restore or manage native species or	Same as Alternative D.

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	riparian areas, or to restore or manage native species or populations. 2) They can be done only when NEPA analysis determines this tool to be the best means of achieving the above objectives and when the water development would not dewater streams or springs. 3) Developments will not be permitted to increase overall livestock numbers. 4) Maintenance of existing development can continue, but may require NEPA analysis and must be consistent with objectives of this plan.		water remains in its natural course/site at all times livestock are not present in the allotment/pasture. 3) Float valves would be used during the grazing season.	populations. 2) They can be done only as a means of achieving MMP objectives and only when the water development would not dewater streams or springs. 3) Exceptions would be allowed on a temporary basis such as to fill troughs or storage tanks.	
Structural Range Improvements Glen Canyon: Water	All water developments must consider the needs of wildlife and recreation and will not be constructed, maintained, or	Evaluate structural range improvements associated with livestock grazing for utility, historical significance, or other purposes and remove	New water developments would be considered within Glen Canyon outside of the proposed wilderness area. Proposals would be	Same as Alternative C.	Same as Alternative C.

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	utilized in such a way as to preclude the access to that source by wildlife or recreation users. When grazing permits are canceled or modified for other than public purposes, existing range improvements will be evaluated for abandonment or removal. Removal may be completed by the benefitting party, owner, or agency.	unless needed to meet objectives for natural and cultural resources.	evaluated on a case-by-case basis via an appropriate NEPA and National Historic Preservation Act process.		
Season of Use GSENM	Manage season of use to meet BLM Utah Rangeland Health Standards.	N/A	<p>Adaptively manage season of use, duration, distribution, and stocking rate (AUMs) of livestock grazing to ensure that Goals and Objectives are met.</p> <p>When grazing occurs during the growing season, at a minimum there will be <u>a minimum 6 weeks deferment</u> between the date of when</p>	Adaptively manage season of use, duration, distribution, and stocking rate (AUMs) to meet BLM Utah Rangeland Health Standards. Allow flexibility in permit for season of use (i.e., manage for conditions rather than calendar dates).	Adaptively manage season of use, duration, distribution, and stocking rate (AUMs) to meet BLM Utah Rangeland Health Standards and reduce conflicts with other resources and uses.

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>grazing use begins one year and the date of when grazing use begins the following year. If this is not possible in a particular area, the area will be rested every other year.</p> <p>During winter grazing, use rest rotation and do not graze an area more than two 2 out of three 3 years.</p> <p>Change season of use where livestock grazing overlaps with high use and/or high value recreation areas.</p> <p>Change season of use for grazing as appropriate for biological soil crust and soil site degradation susceptibility so that grazing does not occur during times when crusts are most susceptible to damage.</p>		

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			Change season of use in allotments with known locations of Ute ladies' tresses so that cattle are not present during sensitive seasons.		
			Change season of use, duration, distribution, and/or stocking rate (AUMs) if monitoring for biological soil crust indicates more than a moderate departure from reference.		
Season of Use Glen Canyon	Follow Glen Canyon GzMP (1999) see spring grazing seasons.	N/A	Adaptively manage season of use, duration, and stocking rate (AUMs) of livestock grazing to ensure that NPS Goals and Objectives are met.	Adaptively manage season of use, duration, and stocking rate (AUMs) to meet Glen Canyon resource objectives as defined by the NPS Grazing Plan. Allow flexibility in permit for season of use (i.e., manage for conditions rather than calendar dates). Use BLM Utah Rangeland Health Standards as	Same as Alternative C.

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
				supplement to GzMP Goals and Objectives with actions triggered if these drop below Slight-Moderate in three categories; use long-term monitoring plots to determine trend.	
Riders	Riders are an available tool, but no specific action is identified.	N/A	Where allotments are not meeting or moving toward objectives, a rider will be present five out of every seven days throughout the season of use.	Same as Alternative A.	Same as Alternative A.
Voluntary Relinquishment (see <i>Figure 2-1, Voluntary Relinquishment Decision Tree</i>)	<ul style="list-style-type: none"> Comply with BLM policy for voluntary relinquishment (currently Instruction Memorandum No. 2013-184). The Authorized Officer may take one or more of the following actions: Issue a grazing permit to a different applicant. Stock with livestock 	N/A	Same as Alternative A.		

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>from another allotment with unmet resource objectives.</p> <ul style="list-style-type: none"> • Combine with an adjacent allotment that has unmet resource objectives. • Consider use of the allotment as a reserve common allotment (i.e., continue livestock grazing but do not recognize an individual with preference to the forage). • Amend or revise the land use plan to allocate forage to uses other than livestock grazing. In other words, the land use plan would be amended or revised to allocate the allotment as unavailable for livestock grazing. 				
	N/A	N/A	Preference would be	Preference would be	N/A

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>for amending the MMP to allocate forage for a different purpose.</p> <p>When voluntarily relinquished or otherwise retired, grazing preference <u>may be eliminated</u> in allotments or pastures with Monument objects that are not compatible with or are impacted by livestock grazing (e.g., biological soil crust, riparian areas, declining native plant or wildlife species)-<u>may be eliminated</u>.</p>	<p>for one of the following:</p> <ul style="list-style-type: none"> • Issue a grazing permit to a different applicant. • Stock with livestock from another allotment with unmet resource objectives. • Combine with an adjacent allotment that has unmet resource objectives. 	
Biological Soil Crust and Soil Degradation Susceptibility	<p>Prior to any ground-disturbing activity, the potential effects on biological soil crusts will be considered and steps taken to avoid impacts on their function, health, and distribution. Follow Glen Canyon</p>	Same as Alternative A.	<p>Biological soil crusts are protected from trampling and other physical disturbance within at least 60 percent of their predicted available habitat within GSENM and 80 percent within Glen</p>	Same as Alternative A.	<p><i>GSENM</i>: Same as Alternative A.</p> <p><i>Glen Canyon</i>: Same as Alternative C.</p>

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	GzMP.		Canyon.		
	N/A	N/A	Pastures with more than 50 percent of soils with high soil degradation susceptibility would be unavailable for livestock grazing.	N/A	GSENM: N/A Glen Canyon: Same as Alternative C.
Science GSENM	Follow MMP. For full details on Science and Research guidance provided in the MMP, see pages 44-46 in the MMP.	Follow MMP; no opportunities to study active grazing. There would be research associated with the effects of not grazing. The unavailable lands could act as reference areas for similar ecological sites.	Use science and research to: 1) gain an understanding of the impacts of livestock grazing in the decision area; 2) gain an understanding of the potential for movement of grazed areas toward reference conditions if ungrazed; and 3) distinguish climate impacts from livestock grazing impacts.	GSENM will serve as a laboratory to research innovative grazing techniques. Use science and research to gain an understanding of how to better achieve BLM Utah Rangeland Health Standards.	Follow MMP; GSENM will serve as a laboratory to research innovative grazing techniques and a diversity of grazing practices. Use science and research to gain an understanding of how to better achieve BLM Utah Rangeland Health Standards.
			Emphasize the use of large, ungrazed reference areas to provide reference states.	Allow experimental use of electric fences, other fence design, season of use, supplement/salt placement, water developments, and/or vegetation	Encourage innovation and experimentation. Allow experimentation of grazing techniques and grazing practices to reduce impacts of livestock grazing on

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>treatments, including prescribed fire.</p> <p>Monitor ungrazed reference areas to see how they respond under the management conditions of the decision area absent livestock grazing. Monitor reference areas to see how they move toward a reference state.</p>	<p>If ungrazed reference areas are established, do not exceed 0.5 percent in any allotment or 0.5 percent within GSENM. Allotments or pastures identified as unavailable for livestock grazing do not count toward the 0.5 percent cap within GSENM.</p>	<p>all lands available for livestock grazing.</p> <p>Use ungrazed reference areas to distinguish climate impacts from livestock grazing impacts.</p>
Science Glen Canyon	Glen Canyon will use science-based information to protect park resources and values.	No similar action.	Use science and research to 1) gain an understanding of the impacts of livestock grazing in the decision area; 2) to gain an understanding of the potential for movement of grazed areas toward reference conditions if ungrazed; and 3) to distinguish climate impacts from livestock grazing impacts.	No similar action.	Same as Alternative C.

Table ES-2
Summary Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
GSENM Objects	Manage livestock grazing in a manner consistent with the Proclamation. Follow MMP and BLM policy.	Livestock grazing would be discontinued; impacts would be eliminated.	Reduce livestock grazing in a manner that protects the objects identified in the Proclamation from impacts.	Same as Alternative A.	Same as Alternative A.
Glen Canyon Values and Purposes	Manage livestock grazing in a manner that protects the values and purposes of Glen Canyon, including soil, vegetation, wildlife, special status species, cultural resources, water, paleontology, recreation, and scenic resources.	Livestock grazing would be discontinued; impacts would be eliminated.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action) Resource or Resource Use	Alternative B	Alternative C	Alternative D	Alternative E
Livestock Grazing				
<p>Under Alternative A, continuing to manage 2,089,200 acres as available to livestock grazing and 153,000 acres as unavailable to grazing would allow permitted grazing to continue at current levels (approximately 106,202 permitted AUMs, 76,957 of which are active). Average actual use would continue to be approximately 41,343 AUMs.</p> <p>Allowing structural range improvements in GSENM and Glen Canyon and nonstructural range improvements in GSENM will continue to make forage available for livestock.</p> <p>No grazing permits would be cancelled under this alternative.</p>	<p>Discontinuing livestock grazing in the decision area would have the greatest impact on livestock grazing of any of the alternatives because there would be no more livestock grazing.</p> <p>All 136 grazing permits would be cancelled (a 100 percent decrease).</p>	<p>Under Alternative C, the BLM would reduce the acres available for grazing (a 22 percent reduction, compared with Alternative A). A maximum of 92,389 AUMs would be permitted (13 percent reduction from Alternative A); 63,144 of those AUMs would be active and 29,245 would be held in suspension. The estimated average actual use would be 7,975 fewer AUMs. Reducing permitted AUMs could result in impacts on the ability of individual permittees and lessees to maintain operations, with a potential for economic impacts at the individual or community level.</p> <p>Alternative C would emphasize nonstructural range improvements using native seed, as well as methods that minimize surface-disturbance. This could limit the amount of forage available for livestock if native seeds are not the best based on site type and needs. The number of grazing</p>	<p>Under Alternative D, the BLM would increase the acres available for grazing (two percent increase, compared with Alternative A). A maximum of 107,955 AUMs would be permitted (two percent increase from Alternative A due to restoring suspended AUMs over time). However, the estimated average actual use would be 1,542 more AUMs.</p> <p>Alternative D allows for the implementation of additional areas of seedings and vegetation treatments within GSENM. The resulting increase in forage capacity would help facilitate the reactivation of suspended AUMs.</p> <p>No grazing permits would be cancelled. Permits could be authorized for previously unallotted or unavailable areas that are now available for livestock grazing.</p>	<p>Under Alternative E, the BLM would slightly decrease the acres available for grazing (a two percent reduction, compared with Alternative A). A maximum of 105,540 AUMs would be permitted (one percent reduction, compared with Alternative A); 76,295 of those AUMs would be active and 29,245 would be held in suspension. Estimated average actual use would be 1,243 AUMs less than under Alternative A.</p> <p>The impacts from modifying livestock grazing practices following seed restoration would be the same as identified under Alternative A. Alternative E would provide greater flexibility to grazing permittees than under Alternative A by allowing for the use of native or nonnative seeds (although prioritized with native first) in nonstructural range improvements.</p> <p>One grazing permit would be cancelled, but permits could be authorized for the</p>

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Grand Staircase-Escalante Livestock Grazing MMP-AIEIS
 Administrative Draft MMP-AIEIS for BLM Washington Office Briefing (v2) – NOT FOR PUBLIC RELEASE

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Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
		permits would decrease by 38 percent, as 52 permits would be cancelled.		previously unavailable allotment that is now available for livestock grazing.
Vegetation				
<p>Rocky Mountain Two-Needle Pinyon-Juniper Woodland, Great Basin and Intermountain Dry Shrubland and Grassland, and Barren NVCS macrogroups would have the greatest acreage available, representing 91, 92, and 82 percent, respectively, of the total acreage of those macrogroups in the decision area. Under Alternative A, 106,202 AUMs would be allocated for livestock, with 27 acres per AUM in active use.</p> <p>Nonnative species would not be used to increase forage for livestock in GSENM. This could hinder the ability to meet the BLM Utah Land Health Standards, if nonnative species could be used to stabilize soils in order to establish vegetative communities. No nonstructural range improvements would be implemented in Glen Canyon, which would limit the potential for meeting BLM</p>	<p>Discontinuing livestock grazing in the decision area would greatly reduce impacts on vegetation through passive and active restoration efforts. Only native species would be allowed to be used for restoration in GSENM, which could limit the potential for meeting BLM Utah Land Health Standards compared to Alternative A if native species are unavailable. No nonstructural range improvements would be implemented in Glen Canyon, having impacts as described for Alternative A.</p>	<p>The reduction in acres available for grazing and AUMs, as well as changes in livestock management and the use of large, ungrazed reference areas, would reduce the impact of grazing on vegetation and improve the likelihood for meeting BLM Utah Land Health Standards in GSENM and Glen Canyon and additional NPS rapid assessment methods in Glen Canyon compared to Alternative A.</p> <p>Great Basin and Intermountain Dry Shrubland, Rocky Mountain Two-Needle Pinyon-Juniper Woodland, and Grassland, and Barren NVCS macrogroups would have the greatest acreage available, representing 79, 65, and 65 percent, respectively, of the total acreage of those macrogroups in the decision area.</p> <p>Impacts from management of nonstructural range improvements would be</p>	<p>Under Alternative D, the BLM would increase both the acres available for grazing (two percent increase, compared with Alternative A) and AUMs (two percent increase, compared with Alternative A). While there would be more acres available for livestock grazing and also more AUMs permitted than under Alternative A and although Alternative D would emphasize structural and nonstructural range improvements that would better distribute livestock, the pattern of livestock use is still likely to be similar to current distribution. Therefore, because more livestock would be on the landscape, there is an increased likelihood that grazing would impact vegetation, making it increasingly difficult to meet BLM Utah Rangeland Health Standards in GSENM and Glen Canyon and additional NPS desired vegetation standards in Glen Canyon, compared with Alternative A.</p>	<p>Reductions in the acres available for grazing and AUMs would reduce the impact of grazing on vegetation in areas that would be unavailable to grazing. However, the increase in density of AUMs would increase the impact in areas available to grazing. In areas available to grazing, this could reduce the likelihood for meeting BLM Utah Land Health Standards in GSENM and Glen Canyon and additional NPS rapid assessment methods in Glen Canyon compared to Alternative A.</p> <p>Rocky Mountain Two-Needle Pinyon-Juniper Woodland, Great Basin and Intermountain Dry Shrubland, and Grassland, and Barren NVCS macrogroups would have the greatest acreage available, representing 93, 92, and 83 percent, respectively, of the total acreage of those macrogroups in the decision area. In addition, the BLM</p>

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
Utah Land Health Standards and additional NPS rapid assessment methods in this area.		similar to those described for Alternative B. Under Alternative C, additional measures would be implemented to prevent nonnative invasive plants from establishing or spreading. This would increase the likelihood of meeting BLM Utah Land Health Standards in GSENM and Glen Canyon and additional NPS rapid assessment methods in Glen Canyon compared to Alternative A.	<p>Rocky Mountain Two-Needle Pinyon-Juniper Woodland, Great Basin and Intermountain Dry Shrubland, and Grassland, and Barren NVCS macrogroups would have the greatest acreage available, representing 97, 92, and 91 percent, respectively, of the total acreage of those macrogroups in the decision area.</p> <p><u>Despite changes in livestock management and the use of a variety of vegetation treatment methods, due to the increase in acres available for grazing and AUMs under Alternative D, there is an increased likelihood that grazing would impact vegetation at a rate that would outpace the management to improve vegetation. Thus, it would be increasingly difficult to meet, reduce the impact of grazing on vegetation and improve the likelihood for meeting BLM Utah Land Health Standards in GSENM and Glen Canyon and additional NPS rapid assessment methods in Glen Canyon</u></p>	would increase the acreage managed as a reserve common allotment, which would assist in land restoration efforts. Use of ungrazed reference areas would have impacts as described for Alternative C. Other impacts would be similar to those described for Alternative D.

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
			<p>compared to Alternative A.</p> <p><u>Similarly, the increase in acres available for grazing and active AUMs would likely cause impacts to vegetation that would outpace management that would allow new seedlings and the use of native and nonnative species for nonstructural range improvements in GSENM. Under this alternative, it would be more difficult to meet the BLM Utah Land Health Standards compared to Alternative A. Impacts in Glen Canyon would be the same as under Alternative A. Native and nonnative species would be used for nonstructural range improvements in GSENM, which would help meet the BLM Utah Land Health Standards. In addition, new seedlings would be allowed. Impacts in Glen Canyon would be the same as under Alternative A.</u></p>	
Soil Resources				
Impacts on soil (such as sensitive soils and biological soil crusts) from livestock and livestock management involving surface disturbance,	Impacts on soil from structural and nonstructural range improvements would occur, as described in Section 4.5.3 Nature and Type of	Impacts on soil (such as sensitive soils and biological soil crusts) from livestock and livestock management involving surface disturbance,	Impacts on soil (such as sensitive soils and biological soil crusts) from livestock and livestock management involving surface disturbance,	Impacts on soil (such as sensitive soils and biological soil crusts) from livestock and livestock management involving surface disturbance,

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
<p>soil mixing, nutrient cycling, compaction, and authorized uses would continue, as described in Section 4.5.3 Nature and Type of Effects.</p> <p>There would continue to be 2,089,000 acres (93 percent of the decision area) available for livestock grazing.</p> <p>There are 1,276,000 acres (57 percent of the decision area) where livestock grazing (available for grazing, reserve common allotments, and trailing) would continue to occur on sensitive soils (BLM GIS 2014).</p> <p>Impacts on soil from structural and nonstructural range improvements would continue under current management. In GSENM, the BLM would maintain or restore ranges with native and nonnative species. However, nonstructural range improvements and land treatments are not appropriate in Glen Canyon.</p> <p>There are six livestock grazing allotments in the decision area that do not</p>	<p>Effects.</p> <p>There would be no livestock grazing under Alternative B; consequently, there would be no impacts on soil (including sensitive soils, early biological crust, and late biological crust aggregate) from livestock. Alternative B would have the least impacts on soil from livestock.</p> <p>Impacts on soil from structural and nonstructural range improvements would still occur. In GSENM, the BLM would restore ranges with native species. In GSENM and Glen Canyon, structural range improvements may be removed.</p> <p>There are six livestock grazing allotments in the decision area that do not meet Standard I, and livestock grazing was determined to be the cause on all six allotments. Because livestock grazing would not occur, these six allotments have a higher potential for meeting Standard I <u>more quickly</u> under Alternative B</p>	<p>soil mixing, nutrient cycling, compaction, and authorized uses would occur, as described in Section 4.5.3 Nature and Type of Effects.</p> <p>There would be 1,619,700 acres (72 percent of the decision area) available for livestock grazing.</p> <p>There would be 469,300 fewer acres (21 percent of the decision area) available for livestock grazing than under Alternative A. Compared with Alternative A, there would be fewer impacts on soil, because less area would be grazed.</p> <p>There are 1,010,300 acres (45 percent of the decision area) where livestock grazing and trailing would occur on sensitive soils (BLM GIS 2014). Compared with Alternative A, the area where livestock activities would occur on sensitive soils would decrease by 12 percent of the decision area, thereby providing more protection to these soil types.</p> <p>Impacts on soil from</p>	<p>soil mixing, nutrient cycling, compaction, and authorized uses would occur, as described in Section 4.5.3 Nature and Type of Effects.</p> <p>There would be 2,135,200 acres (95 percent of the decision area) available for livestock grazing.</p> <p>There would be 46,200 more acres (2 percent of the decision area) available for livestock grazing than under Alternative A. Because more livestock would be on the landscape, there is an increased likelihood that grazing would impact soils, making it increasingly difficult to meet BLM Utah Rangeland Health Standards compared with Alternative A.</p> <p>There are 1,319,600 acres (59 percent of the decision area) that would be available for livestock grazing on sensitive soils (BLM GIS 2014). Compared with Alternative A, the area where livestock activities would occur on sensitive soils would increase by two percent of the decision area, thereby</p>	<p>soil mixing, nutrient cycling, compaction, and authorized uses would occur, as described in Section 4.5.3 Nature and Type of Effects.</p> <p>There would be 2,065,300 acres (91 percent of the decision area) available for livestock grazing.</p> <p>There would be 23,700 fewer acres (one percent of the decision area) available for livestock grazing than under Alternative A. Compared with Alternative A, there would be slightly fewer impacts on soil, because slightly less area would be grazed. The intensity of impacts would be about the same as under Alternative A.</p> <p>There are 1,273,700 acres (57 percent of the decision area) where livestock grazing activities (available for grazing, reserve common allotments, and trailing) would occur on sensitive soils (BLM GIS 2014). The impacts would be similar to those under Alternative A, except unallotted acres in Alternative A would become unavailable</p>

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Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
<p>meet Standard I, and livestock grazing was determined to be the cause on all six allotments. In these allotments, 379,400 acres (17 percent of the decision area) would continue to be available for livestock grazing (BLM GIS 2014). <u>Since 2006, the BLM, in coordination with permittees, has made changes in the six allotments, resulting in progress toward meeting standards.</u></p>	<p>than under Alternative A.</p> <p>Since 2006, the BLM, in coordination with permittees, has made changes in the six allotments, resulting in progress toward meeting standards. This trend would increase under Alternative B, because there would be no grazing to affect the allotments that do not meet Standard I. However, the BLM would not have permittees with which to partner under this alternative.</p>	<p>structural and nonstructural range improvements would occur. In GSENM, the BLM would maintain or restore ranges with native species. Passive restoration and non-chemical methods would be implemented. Compared with Alternative A, livestock grazing would be managed or discontinued to reduce conflicts with soil resources thereby minimizing impacts on soil, such as during critical times of the year.</p> <p>There are six livestock grazing allotments in the decision area that do not meet Standard I, and livestock grazing was determined to be the cause on all six allotments. Of these areas, livestock grazing would be available on 329,300 acres (14 percent of the decision area; BLM GIS 2014). Because livestock grazing would not occur in some allotments, these areas have a higher potential for meeting Standard I <u>more quickly</u> under Alternative C than under Alternative A.</p>	<p>increasing impacts on these soil types.</p> <p>Impacts on soil from structural and nonstructural range improvements would occur. In GSENM, the BLM would maintain or restore ranges with native and nonnative species and would allow a variety of vegetation restoration methods. The BLM would maintain structural range improvements so that forage reserves would be ready for use when needed. In GSENM and Glen Canyon, the BLM and NPS would adaptively manage the season-of-use, duration, distribution, and stocking rate. In order to provide for the optimum level of livestock grazing and the attainment of healthy rangelands, Alternative D contains more structural and nonstructural range improvements than Alternative A.</p> <p>There are six livestock grazing allotments in the decision area that do not meet Standard I, and livestock grazing was</p>	<p>for grazing under Alternative E.</p> <p>Impacts on soil from structural and nonstructural range improvements would occur. In GSENM, the BLM would maintain or restore ranges with native and nonnative species and would allow a variety of vegetation restoration methods. The BLM would authorize structural range improvements consistent with the MMP or with the Kanab or Arizona Strip RMPs, where applicable. Also in GSENM, the BLM would adaptively manage season of use, duration, distribution, and stocking rate. Additionally, nonstructural range improvements would be managed both for ecosystem processes and forage production. Compared with Alternative A, Alternative E emphasizes multiple use and sustained yield through grazing management. It is designed to ensure that BLM Utah Rangeland Health Standards are achieved and that land health is improved.</p>

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
			determined to be the cause on all six allotments. Of these areas, 396,200 acres (18 percent of the decision area) would continue to be available for livestock grazing (BLM GIS 2014). The impacts on soil would be similar to those under Alternative A, except for the additional 16,800 acres in Upper Paria that would be available under Alternative D for livestock grazing.	There are six livestock grazing allotments in the decision area that do not meet Standard I, and livestock grazing was determined to be the cause on all six allotments. The impacts would be the same as those under Alternative D.
Water Resources				
<p>Impacts on water from livestock and livestock management involving sedimentation, contamination, and authorized uses would continue, as described in Section 4.6.3 Nature and Type of Effects.</p> <p>There would continue to be 2,089,000 acres (93 percent of the decision area) available for livestock grazing where impacts on water would occur.</p> <p>Impacts on water from structural and nonstructural range improvements would continue from current management under</p>	<p>Impacts on water from structural and nonstructural range improvements would occur, as described in Section 4.6.3 Nature and Type of Effects.</p> <p>There would be no livestock grazing under Alternative B; consequently, there would be no impacts on water from livestock. Alternative B would have the least impacts on water from livestock. It is important to note, however, that livestock grazing would likely be replaced by other activities. Impacts on water from those activities would be speculative, because those activities are unknown at this</p>	<p>Impacts on water from livestock and livestock management involving sedimentation, contamination, and authorized uses would occur, as described in Section 4.6.3 Nature and Type of Effects.</p> <p>There would be 1,619,700 acres (72 percent of the decision area) available for livestock grazing where impacts on water would occur.</p> <p>Impacts on water from structural and nonstructural range improvements would occur. In GSENM, where water developments are</p>	<p>Impacts on water from livestock and livestock management involving sedimentation, contamination, and authorized uses would occur, as described in Section 4.6.3 Nature and Type of Effects.</p> <p>There would be 2,135,200 acres (95 percent of the decision area) available for livestock grazing where impacts on water would occur.</p> <p>Impacts on water from structural and nonstructural range improvements would occur. In GSENM, the BLM would authorize water</p>	<p>Impacts on water from livestock and livestock management involving sedimentation, contamination, and authorized uses would occur, as described in Section 4.6.3 Nature and Type of Effects.</p> <p>There would be 2,065,300 acres (91 percent of the decision area) available for livestock grazing where impacts on water would occur.</p> <p>Impacts on water from structural and nonstructural range improvements would occur. In GSENM, the BLM would authorize water</p>

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
<p>Alternative A. In GSENM, the BLM would continue to use water developments as a management tool. Nonstructural range improvements and land treatments are not appropriate in Glen Canyon. In Glen Canyon, all water developments must consider the needs of wildlife and recreation.</p> <p>Livestock grazing would continue to be available on allotments containing 92.6 miles of 303(d)-listed streams (BLM GIS 2014).</p> <p>Within allotments in the decision area that do not meet Standard 4, there would continue to be 543,000 acres (24 percent of the decision area) available for livestock grazing (BLM GIS 2014). <u>Since 2006, the BLM, in coordination with permittees, has made changes in the six allotments, resulting in progress toward meeting standards.</u></p>	<p>time.</p> <p>Impacts on <u>soil-water</u> from structural and nonstructural range improvements would still occur. In GSENM, the BLM would restore ranges with native species. In GSENM and Glen Canyon, structural range improvements may be removed. Removing structural range improvements would restore the natural conditions of the ranges. It would allow natural soil conditions to develop over larger areas, thereby minimizing the transport of soil capable of affecting water quality and stream conditions.</p> <p>Compared with Alternative A, Alternative B would maintain or restore water conditions over a larger area. There would be 130.8 miles of 303(d)-listed streams on lands unavailable for livestock grazing (BLM GIS 2014). Compared with Alternative A, Alternative B would remove all livestock that contribute to water contamination, thereby increasing the opportunities</p>	<p>necessary for livestock grazing and protection of Monument objects, such developments would be managed. Also, new water developments would be considered within Glen Canyon outside of the proposed wilderness area. Compared with Alternative A, livestock grazing would be managed or discontinued to reduce conflicts to resources, including water resources. Changes in grazing systems would be taken into consideration before range improvements are implemented. This which would minimize impacts on water, such as during critical times of the year.</p> <p>Livestock grazing would occur in allotments available for grazing or trailing that contain 78.4 miles of 303(d)-listed streams (BLM GIS 2014). Compared with Alternative A, Alternative C would decrease livestock activities on allotments containing 14.2 miles of 303(d)-listed streams, thereby increasing the opportunities for improved water quality and conditions.</p>	<p>developments for predetermined purposes. In GSENM, the BLM would allow experimental use of electric fences, other fence design, season of use, supplement and salt placement, water developments, and vegetation treatments, including prescribed fire. Also, new water developments would be considered within Glen Canyon, outside of the proposed wilderness area. Livestock management would promote land health improvements, which would involve water resources. Management would also promote maintaining range improvements. In order to provide for the optimum level of livestock grazing and the attainment of healthy rangelands, Alternative D contains more structural and nonstructural range improvements than Alternative A.</p> <p>Livestock grazing would be available on allotments containing 125.8 miles of 303(d)-listed streams (BLM GIS 2014). Compared with</p>	<p>developments for predetermined purposes. New water developments would be considered within Glen Canyon outside of the proposed wilderness area. Nonstructural range improvements would be managed for both ecosystem processes and forage production. Compared with Alternative A, Alternative E emphasizes multiple use and sustained yield through grazing management. This is designed to ensure that BLM Utah Rangeland Health Standards are achieved and land health is improved.</p> <p>Livestock grazing would occur in allotments available for grazing or trailing that contain 106.9 miles of 303(d)-listed streams (BLM GIS 2014). Compared with Alternative A, Alternative E would increase livestock grazing on allotments containing 14.3 miles of 303(d)-listed streams, thereby increasing the opportunities for livestock to alter water quality and conditions for these streams.</p> <p>With respect to allotments in</p>

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
	<p>for improved water quality and conditions.</p> <p>There would be no acres available for livestock grazing in allotments that do not meet Standard 4 (BLM GIS 2014). Compared with Alternative A, Alternative B would remove all livestock that affect an allotment being able to meet Standard 4, thereby increasing the opportunities for the allotment to meet Standard 4. <u>more quickly than under Alternative A.</u></p>	<p>Within allotments in the decision area that do not meet Standard 4, there would be 407,000 acres (18 percent of the decision area) available for livestock grazing (BLM GIS 2014). Compared with Alternative A, Alternative C would decrease the acres available for livestock grazing in these allotments by 136,000 acres (6 percent of the decision area). This would increase the opportunities for the areas to meet Standard 4. <u>more quickly than under Alternative A.</u></p>	<p>Alternative A, Alternative D would increase livestock grazing on allotments containing 33.2 miles of 303(d)-listed streams, thereby increasing the opportunities for livestock to alter water quality and conditions in these streams.</p> <p>Within allotments in the decision area that do not meet Standard 4, there would be 543,400 acres (24 percent of the decision area) available for livestock grazing (BLM GIS 2014). The impacts on water would be similar to those under Alternative A, except for the additional 380 acres under Alternative D that would be available for livestock grazing in Rock Creek-Mudholes.</p>	<p>the decision area that do not meet Standard 4, the impacts would be similar to Alternative A, except the Rock Creek-Mudholes allotment (1,574 acres) would be a reserve common allotment under Alternative E. This would increase the opportunities for the area to meet Standard 4, because it would likely be grazed less under Alternative E.</p>

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
Recreation				
<p>There would continue to be the potential for livestock grazing to influence recreation setting characteristics and opportunities on 2,089,200 acres (93 percent) of the planning area managed as available for livestock grazing. The average acreage per AUM would be 50. The intensity of impacts would be in direct proportion to the density of grazing activity and number of recreationists in a given area. Accordingly, the greatest potential for impacts on recreation from grazing would be near popular recreation areas and trails frequently used by livestock. This would include the 935,600 acres of SRMAs in GSENM. Alternative A would continue to provide visitors with opportunities to see livestock grazing on public lands.</p> <p>Grazing impacts on recreation settings and opportunities in the backcountry would be less frequent because fewer visitors would experience a change in their recreation</p>	<p>There would be no livestock use under Alternative B, which would eliminate the potential for conflicts between recreation and livestock. Alternative B would also eliminate opportunities for visitors to experience cattle ranching activities.</p> <p>Removing structural range improvements would eliminate the potential for those features to obstruct recreation access or modify recreation settings. Overall, there would be an increase in the quality and quantity of recreation opportunities in GSENM and Glen Canyon NRA, compared with Alternative A.</p>	<p>Managing 469,300 fewer acres as available for grazing compared with Alternative A, would reduce the overall area where grazing could conflict with recreation by 22 percent. In SRMAs, there would be a 19 percent (177,700 acre) reduction in areas available for grazing. There would be an average maximum density of 25 acres per AUM, which The decrease in AUMs would further reduce the potential for impacts on recreation settings and opportunities compared with Alternative A. It would also reduce opportunities for visitors to observe cattle grazing.</p> <p>In areas available for grazing, there would still be the potential for livestock to impact recreation settings and opportunities, particularly near popular recreation areas.</p> <p>Impacts from structural and nonstructural range improvements would be similar to Alternative A.</p> <p>Season of use management</p>	<p>Alternative D would result in a 2 percent (46,200-acre) increase in the overall portion of the planning area where livestock grazing could conflict with recreation settings and opportunities compared with Alternative A. Increasing grazing in SRMAs by 80,600 acres would affect recreation settings and opportunities, particularly in the Escalante Canyon and Paria-Hackberry SRMAs, the two most visited SRMAs in the planning area. Visitors would have slightly more opportunities to view livestock grazing, which may improve recreation experiences for some visitors.</p> <p>Impacts on recreation from the density of livestock would be the same as Alternative A.</p> <p>Structural and nonstructural range improvement impacts on recreation would be similar to Alternative A, with the exception that new line cabins in Glen Canyon could modify recreation setting characteristics. The potential for impacts would be greatest</p>	<p>There would be 23,700 (1 percent) fewer overall acres where livestock grazing would impact recreation compared with Alternative A. However, in SRMAs, there would be a net 1,900 acres fewer acres in SRMAs available for grazing resulting in a slightly greater area where impacts on recreation from grazing could occur. The greatest potential for impacts would be in the Paria-Hackberry SRMA, where 16,800 additional acres would be available for grazing. Impacts from grazing density would be nearly the same as Alternative A as would visitors' opportunities to view livestock grazing on public lands.</p> <p>Impacts from structural and nonstructural range improvements would be the same as Alternative A.</p> <p>Reducing or temporarily eliminating grazing from areas adjacent to Highways 12 and 89 would reduce conflicts in these areas but would also limit visitors' opportunities to observe grazing in GSENM.</p>

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
<p>setting or opportunity from grazing. However, visitors' encounters with livestock, manure, or range improvements in the backcountry would result in a more intense impact on the recreation setting because the activity would contrast more sharply with the undeveloped recreation setting.</p> <p>Structural range improvements would continue to influence the recreation setting and opportunities by modifying the visual setting and obstructing access to certain areas. At the same time, fences and other range improvements would prevent livestock from wandering onto roads, trails, and other areas where people recreate.</p> <p>Nonstructural range improvements, such as reseeding, could displace visitors in the short-term. In the long-term, restoration would improve the recreation setting and quality of recreation opportunities.</p>		<p>would rest allotments or reduce AUMs in certain areas to protect other resources. This would also reduce the potential for conflict with recreation uses, particularly during the late spring and summer.</p>	<p>in remote areas where the cabins would contrast with the primitive recreation setting.</p>	<p>Adaptive management would reduce the potential for recreation conflicts, especially in or adjacent to high-use recreation areas.</p>

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
Air Quality and Climate Change				
<p>Livestock grazing and its associated activities are not a significant source of air pollutant emissions in the planning area and would not impact air quality conditions over the long term.</p> <p>Structural improvements, vegetation treatments, and vehicle use would be short-term, direct sources of emissions. Grazing would be source of indirect particulate emissions resulting from surface disturbance and wind erosion.</p> <p>Over the long term, vegetation treatments would decrease the potential for fugitive particulate emissions from soil erosion, decrease susceptibility to wildfire, and increase carbon storage in soils and vegetation.</p> <p>Methane emissions from livestock grazing would be a small incremental source of greenhouse gas emissions (0.0001 percent of state emissions [2011 levels]).</p>	<p>Livestock grazing would not occur under Alternative B, so there would be no direct impacts on air quality from that use. Exposed soils would continue to be a source of fugitive dust emissions until actively or passively restored.</p> <p>Eliminating livestock grazing would eliminate greenhouse gas emissions from this source in the decision area and would reduce greenhouse gas emissions, compared with Alternative A. In the planning area, greenhouse gas emissions from livestock grazing would remain the same, if livestock that historically grazed on decision area lands were shifted to lands outside of the decision area. Grazing is a small incremental source of greenhouse gas emissions in the planning area.</p>	<p>The types of direct and indirect impacts would be the same as described for Alternative A.</p> <p>Criteria pollutant emissions and greenhouse gas emissions would be less than under Alternative A. Alternative C would provide more protection to sensitive soil types and would decrease windblown particulate emissions compared to Alternative A. Carbon storage levels under Alternative C would likely increase compared to Alternative A.</p> <p>Greenhouse gas emissions from enteric fermentation would be similar to Alternative A and a small incremental source of greenhouse gas emissions.</p>	<p>The types of direct and indirect impacts would be the same as described for Alternative A.</p> <p>Alternative D would have slightly greater criteria pollutant and greenhouse gas emissions, compared with Alternative A. In addition, carbon storage levels under Alternative D would be similar to or slightly less than under Alternative A.</p> <p>Greenhouse gas emissions from enteric fermentation would be similar to Alternative A and a small incremental source of greenhouse gas emissions.</p>	<p>The types of direct and indirect impacts would be the same as described for Alternative A.</p> <p>Alternative E would have the same or slightly fewer criteria pollutant and greenhouse gas emissions, compared with Alternative A. In addition, carbon storage levels under Alternative E would likely be similar to or slightly more, compared with Alternative A.</p> <p>Greenhouse gas emissions from enteric fermentation would be similar to Alternative A and a small incremental source of greenhouse gas emissions.</p>

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
Fish and Wildlife				
<p>Livestock grazing management would meet or move toward meeting Utah rangeland health standards. This requirement would ensure that components of fish and wildlife habitat like soils, vegetation, and wetland and riparian areas are maintained in the long term.</p> <p>Nonstructural range improvements (mechanical, prescribed fire, chemical) would continue to be implemented, and may temporarily impact fish and wildlife species by displacement or short term reduction in habitat quality. In the long term, fish and wildlife habitat would be improved.</p> <p>Structural range improvements (fencing, water developments) would impact fish and wildlife habitat in the short term by disturbing soils and increasing potential for weed establishment and spread, but would improve habitat in the long term by protecting sensitive habitat like wetlands and riparian areas.</p>	<p>Since there would be no livestock grazing under Alternative B, impacts on fish and wildlife would be limited to those from removing structural range improvements and restoring nonstructural range improvements consistent with the MMP. Impacts would be similar to those under Alternative A but would be greatly reduced.</p>	<p>Impacts on fish and wildlife habitat from meeting or moving toward Utah rangeland health standards would be as described under Alternative A.</p> <p>Managing large ungrazed reference areas under Alternative C would generally result in reduced impacts compared to Alternative A.</p> <p>Nonstructural range improvements would emphasize native plant species, passive restoration, and non-chemical treatments. Short term impacts on fish and wildlife species would be reduced compared to Alternative A, but long term habitat improvement would progress more slowly.</p> <p>Impacts from structural range improvements would be the same as described under Alternative A.</p> <p>Fewer acres of big game habitat would be available to livestock grazing compared to Alternative A, reducing impacts. However, fewer</p>	<p>Impacts on fish and wildlife habitat from meeting or moving toward Utah rangeland health standards would be as described under Alternative A.</p> <p>Fewer limits on nonstructural range improvements like aerial chemical spraying and prescribed fire under Alternative D would increase short term impacts on fish and wildlife species compared to Alternative A. The resulting long term habitat improvements would be similar to Alternative A.</p> <p>Impacts from structural range improvements would be the same as described under Alternative A.</p> <p>Slightly more acres of big game habitat would be available to livestock grazing compared to Alternative A, somewhat increasing impacts. Impacts from long term habitat quality increases and water availability would be similar to those described under Alternative A.</p>	<p>Impacts on fish and wildlife habitat from meeting or moving toward Utah rangeland health standards would be as described under Alternative A.</p> <p>Fewer limits on nonstructural range improvements like aerial chemical spraying and prescribed fire under Alternative E would increase short term impacts on fish and wildlife species compared to Alternative A. However, emphasizing and perpetuating native seed use in treatments would increase fish and wildlife habitat quality in the long term compared to Alternative A.</p> <p>Impacts from structural range improvements would be the same as described under Alternative A.</p> <p>Slightly fewer acres of big game habitat would be available to livestock grazing compared to Alternative A, somewhat reducing impacts. Impacts from long term habitat quality increases and water availability would be</p>

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Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
Most big game habitat would continue to be available for livestock grazing. Impacts could include altered forage availability and competition for forage, habitat avoidance, and habitat fragmentation. Alternatively, habitat quality would be improved by nonstructural range improvements in the long term, and water developments may provide increased water availability.		nonstructural range improvements and water developments would limit habitat quality improvement in the long term compared to Alternative A.		similar to those described under Alternative A.
Special Status Species				
Livestock grazing management would meet or move toward meeting Utah rangeland health standards. This requirement would ensure that special status species are maintained at an appropriate level as indicated by population numbers, habitat connectivity, and habitat improvement. 95 percent of critical habitat and all PACs for Mexican spotted owl, and all critical habitat for southwestern willow flycatcher, and 97 percent of greater sage-grouse PHMA would continue to be available for livestock	Since there would be no livestock grazing under Alternative B, impacts on special status species would be limited to those from removing structural range improvements and restoring nonstructural range improvements consistent with the MMP. Impacts would be similar to those under Alternative A but would be greatly reduced.	Impacts on special status species from meeting or moving toward Utah rangeland health standards would be as described under Alternative A. Managing large ungrazed reference areas under Alternative C would generally result in reduced impacts compared to Alternative A. 76 percent of critical habitat and 60 percent of PAC acreage for Mexican spotted owl, 9 percent of critical habitat for southwestern willow flycatcher, and 97 percent of greater sage-	Impacts on special status species from meeting or moving toward Utah rangeland health standards would be as described under Alternative A. Mexican spotted owl critical habitat and PACs and southwestern willow flycatcher critical habitat, and greater sage-grouse PHMA available under Alternative D would be nearly the same as under Alternative A. 95 percent of riparian habitat for listed riparian birds would be available, increasing impacts compared to Alternative A.	Impacts on special status species from meeting or moving toward Utah rangeland health standards would be as described under Alternative A. Mexican spotted owl critical habitat and PACs and southwestern willow flycatcher critical habitat, and greater sage-grouse PHMA available under Alternative E would be nearly the same as under Alternative A. 90 percent of riparian habitat for listed riparian birds would be available, increasing impacts compared to Alternative A.

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
<p>grazing. 88 percent of riparian habitat for listed riparian birds would be available.</p> <p><u>97 percent of greater sage-grouse PHMA would continue to be available for livestock grazing.</u></p> <p>All occupied Kodachrome bladderpod habitat and nearly all Jones' cycladenia habitat would be available; however, since Jones' cycladenia grows on livestock-inaccessible slopes, no impacts would occur. All known Ute ladies'-tresses locations would be similarly available.</p> <p>Nonstructural range improvements would continue to occur and may displace or disrupt breeding for special status wildlife, or result in special status plant mortality if conducted in suitable habitat.</p> <p>Structural range improvements in riparian areas may similarly displace or disrupt listed riparian bird species in the short term but would result in long term habitat improvements.</p>		<p>grouse PHMA would continue to be available for livestock grazing. 66 percent of riparian habitat for listed riparian birds would be available.</p> <p><u>Acres of greater sage-grouse PHMA available to livestock grazing would be the same as described under Alternative A, however, 41 percent fewer AUMs would be available, reducing impacts compared to Alternative A.</u></p> <p>Impacts on Kodachrome bladderpod, Jones' cycladenia, and Ute ladies'-tresses would be the same as described under Alternative A.</p> <p>Nonstructural range improvements would emphasize native plant species, passive restoration, and non-chemical treatments. Short term impacts on special status species would be reduced compared to Alternative A, but long term habitat improvement would progress more slowly.</p> <p>Impacts from structural range improvements would be the same as described under</p>	<p>Impacts on Kodachrome bladderpod, Jones' cycladenia, and Ute ladies'-tresses would be the same as described under Alternative A.</p> <p>Fewer limits on nonstructural range improvements like aerial chemical spraying and prescribed fire under Alternative D would increase short term impacts on special status species compared to Alternative A. The resulting long term habitat improvements would be similar to Alternative A.</p> <p>Impacts from structural range improvements would be the same as described under Alternative A.</p> <p>Impacts on California condor from cattle carcass forage availability would be the same as described under Alternative A.</p>	<p><u>Acres of greater sage-grouse PHMA available to livestock grazing would be the same as described under Alternative A, however, 29 percent fewer AUMs would be available, reducing impacts compared to Alternative A.</u></p> <p>Impacts on Kodachrome bladderpod, Jones' cycladenia, and Ute ladies'-tresses would be the same as described under Alternative A.</p> <p>Fewer limits on nonstructural range improvements like aerial chemical spraying and prescribed fire under Alternative E would increase short term impacts on special status species compared to Alternative A. However, emphasizing and perpetuating native seed use in treatments would increase habitat quality in the long term compared to Alternative A.</p> <p>Impacts from structural range improvements would be the same as described under Alternative A.</p> <p>Because fewer acres would be available and fewer AUMs</p>

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Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
Livestock grazing may provide periodic cattle carcass forage opportunities for California condor.		<p>Alternative A.</p> <p>Because fewer acres would be available and fewer AUMs allocated to livestock grazing, cattle carcass forage opportunities for California condor would be reduced compared to Alternative A.</p>		allocated to livestock grazing, cattle carcass forage opportunities for California condor would be reduced compared to Alternative A.
Cultural Resources				
Combined with acres available for grazing and structural and nonstructural range improvements, Alternative A would be expected to continue to result in both direct and indirect adverse effects. However, they may be minimized with the adoption of the Cultural Resources Management Protocol (Appendix C).	<p>Alternative B would be expected to reduce grazing-related impacts or adverse effects on historic properties throughout the decision area, when compared with Alternative A. However, removing range improvements could involve ground-disturbing activities, which may impact historic properties, either directly or indirectly.</p> <p>In addition, if a cultural landscape, TCP, or other historic property, where ranching is a core element of its historic significance, were to be defined and eligible for listing on the NRHP, certain actions could be considered an adverse effect under Section 106 of the NHPA. An example of these actions is removing ranching from the</p>	<p>Alternative C would be expected to reduce grazing-related impacts or adverse effects on historic properties throughout the decision area, when compared with Alternative A. However, potential structural and nonstructural range improvements associated with Alternative C involving ground-disturbing activities, fire, and herbicides may impact historic properties, either directly or indirectly. Potential direct and indirect impacts or adverse effects under Alternative C may be minimized with the adoption of the Cultural Resources Management Protocol (Appendix C).</p>	<p>Alternative D would likely have grazing-related impacts or adverse effects on historic properties throughout the decision area that would be similar to those under Alternative A. However, some sites now protected from grazing impacts would be open to grazing under Alternative D. Therefore, they could be open to new grazing-related impacts not experienced under Alternative A. Potential direct and indirect impacts or adverse effects under Alternative D may be minimized with the adoption of the Cultural Resources Management Protocol (Appendix C).</p>	<p>Alternative E could result in a slight decrease of grazing-related impacts or adverse effects on historic properties throughout the decision area, when compared with Alternatives A. Potential direct and indirect impacts or adverse effects under Alternative E may be minimized with the adoption of the Cultural Resources Management Protocol (Appendix C).</p>

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Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
	decision area, along with cattle, stock tanks, windmill-pump waters, fence lines, corrals, trails, and other ranching-related resources.			
Paleontological Resources				
In general, no impacts on paleontological resources are anticipated as a result of Alternative A. Fossil resources in bluff shelters and coves do occur, albeit extremely rare, and nearly all the fossils are coprolite deposits. Possible mitigation measures are to place physical grazing exclosures around such sites or to amend allotments to keep livestock out of the sensitive areas.	No grazing-related impacts to paleontological resources would occur under Alternative B.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Visual and Scenic Resources				
Some nonstructural and structural range improvements, if designed and implemented properly, could meet the objectives of all BLM VRM classes. However, there are other improvements that would not meet the objectives, especially those objectives for preserving the existing character of the landscape and those for primarily providing for natural	Under Alternative B, livestock grazing would be discontinued so there would be no impacts on visual resources from new structural or nonstructural range improvements in GSENM or Glen Canyon. Removing range improvements and implementing any necessary reclamation would remove features that potentially	Because livestock grazing would decrease under this alternative, there would likely be less of a need for new structural and nonstructural range improvements. Impacts on both BLM- and NPS-managed lands would be less than under Alternative A.	On BLM-managed lands, there would be a slight increase in livestock grazing compared with Alternative A, so there could be slightly more opportunities for impacts on visual resources from new structural and nonstructural range improvements. There would be an increase in acres available for livestock grazing in VRM Class I, II, and III areas. While only fences,	Impacts under Alternative E would be slightly reduced from Alternative A because there would be fewer acres available for livestock grazing. This is true for both BLM- and NPS-managed lands.

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Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
<p>ecological changes (VRM Class I). The nonstructural range improvements that could be designed to meet the objectives of all VRM classes include manual treatments, prescribed fire, and manual revegetation. The structural range improvements that could be designed to meet the objectives of all VRM classes include fences, gates, and corrals. Aside from Alternative D, Alternative A has the most acres available for livestock grazing where structural and nonstructural range improvements would typically meet or could potentially meet VRM Class objectives.</p> <p>For NPS-managed lands, there would be no nonstructural range improvements to improve forage for livestock. Structural range improvements such as fences and gates, cattle guards, water catchments, and water pipelines could meet the objectives of the Recreation and Resource Utilization Zone. All types of structural range improvements would</p>	<p>contrast with the natural landscape character and return those areas to a natural appearance. Removing unnecessary structural range improvements and implementing reclamation would meet the objectives of all VRM classes and could improve the inventoried scenic quality values. Removing range improvements would also be permissible in all of the NPS management zones and could improve the scenic values.</p>		<p>gates, and corrals could potentially meet VRM Class I objectives, there would be an increase in acres where other types of structural and nonstructural range improvements could meet VRM Class II and III objectives, so it is possible that there would be an increase in these types of activities.</p> <p>On NPS-managed lands, impacts on scenic resources would be the same as under Alternative A.</p>	

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
be allowed in the Development Zone. Alternatives A and D have the same number of acres available for livestock grazing in the Recreation and Resource Utilization Zone and the Development Zone, where the most types of structural range improvements could occur.				
<i>Wildland Fire Management</i>				
<i>Lands with Wilderness Characteristics</i>				
Management of lands with wilderness characteristics would continue via the existing Management Zones and 2,000 acres would be unavailable for livestock grazing.	<p>Management of lands with wilderness characteristics would continue via the existing Management Zones.</p> <p>Zero acres of lands with wilderness characteristics would be available for livestock grazing, and existing range improvements may be removed; thus, the protection of wilderness characteristics would increase, in comparison with Alternative A and Alternative B would <u>have the least potential for impacts among the action alternatives.</u></p>	<p>Management of lands with wilderness characteristics would continue via the existing Management Zones.</p> <p>Under this alternative, 69,800 acres of lands with wilderness characteristics would be unavailable for livestock grazing and passive management emphasized. Protection of wilderness characteristics would increase in comparison with Alternative A.</p>	<p>Management of lands with wilderness characteristics would continue via the existing Management Zones.</p> <p>Under this alternative, 1,300 acres of lands with wilderness characteristics would be unavailable for livestock grazing and the emphasis on active management through implementation of structural and nonstructural range improvements would increase. Protection of wilderness characteristics would decrease in comparison with Alternative A and Alternative D would <u>have the most potential for impacts among the action alternatives.</u></p>	<p>Management of lands with wilderness characteristics would continue via the existing Management Zones.</p> <p>Under this alternative, 2,000 acres of lands with wilderness characteristics would be unavailable for livestock grazing; however, some previously unallotted areas would be available for livestock grazing. Because the previously unallotted areas would become available, the protection of wilderness characteristics would decrease, in comparison with Alternative A.</p>

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Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
Wild and Scenic Rivers				
Management of 180 miles of suitable WSR corridors as available for livestock grazing and 80 miles of suitable WSR corridors as unavailable for livestock grazing would continue. No action would impair the free-flowing nature of a river segment.	No action would impair the free-flowing nature of a river segment. All suitable WSR corridors would be unavailable for livestock grazing, which diminishes the magnitude of impacts on ORVs and water quality. Protection of suitable WSR corridors would increase in comparison with Alternative A.	No action would impair the free-flowing nature of a river segment. Miles of suitable WSR segments unavailable for livestock grazing would increase to by 105 miles, which would diminish the magnitude of impacts on ORVs and water quality. Protection of suitable WSR corridors would increase in comparison with Alternative A.	No action would impair the free-flowing nature of a river segment. Miles of suitable WSR segments available for livestock grazing would increase by 50 miles, which would increase the magnitude of impacts on ORVs and water quality. Protection of suitable WSR corridors would decrease in comparison with Alternative A.	No action would impair the free-flowing nature of a river segment. Miles of suitable WSR segments unavailable for livestock grazing would increase by 20 miles, which would diminish the magnitude of impacts on ORVs and water quality. Protection of suitable WSR corridors would be similar, but slightly increased, in comparison with Alternative A.
BLM Wilderness				
<u>Livestock grazing in the Paria Canyon-Vermilion Cliffs Wilderness cannot increase (BLM 1984) and new improvements to support livestock grazing will not be authorized (43 CFR Section 6304.25(b)). While existing range improvements have local impacts on the untrammeled and natural character, such impacts are localized and do not detract from the unit as a whole. Because grazing would not increase and no new range improvements would be authorized, there would be no impacts on wilderness character under Alternatives A, C, D, or E. Under Alternative B, where livestock grazing would be discontinued and range improvements removed, the untrammeled and natural character of the Wilderness would be enhanced. Such enhancement would be limited to the locations of the range improvements.</u>				
BLM Wilderness and Wilderness Study Areas and NPS-Proposed Wilderness				
Under Alternative A, 85-94 percent of wilderness areas, WSAs, and NPS-proposed wilderness would continue to be available for livestock grazing. The potential of livestock grazing and management to diminish wilderness characteristics would continue in areas of wilderness, WSAs, and NPS-proposed wilderness that are available to livestock grazing.	All wilderness areas, WSAs, and NPS-proposed wilderness would be unavailable for livestock grazing. This would eliminate the potential for livestock grazing and management to diminish wilderness characteristics.	Under Alternative C, 233,300-223,100 fewer acres of wilderness, WSAs, and NPS-proposed wilderness would be available for livestock grazing than under Alternative A. The reduction in available acres would reduce the potential for livestock grazing and management to diminish wilderness characteristics in comparison with Alternative	Under Alternative D, 28,600-43,000 more acres of WSAs would be available for livestock grazing than under Alternative A. Overall, impacts to wilderness areas, on WSAs, and NPS-proposed wilderness would be similar to Alternative A, but the potential for livestock grazing and management to diminish wilderness characteristics in the additionally available WSA	Under Alternative E, +6,600-2,200 more acres of WSAs and 6,500 more acres of NPS-proposed wilderness would be unavailable for livestock grazing than under Alternative A. Overall, impacts to wilderness areas, on WSAs, and NPS-proposed wilderness would be similar to Alternative A, but the potential for livestock grazing and management to diminish

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Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
		A.	areas would increase.	wilderness characteristics in the additionally unavailable WSA areas and NPS-proposed wilderness would decrease.
NPS Proposed Wilderness				
Under Alternative A, 85-88 percent of wilderness areas, WSAs, and NPS-proposed wilderness would continue to be available for livestock grazing. The potential of livestock grazing and management to diminish wilderness characteristics would continue in areas of wilderness, WSA, and NPS-proposed wilderness that are available to for livestock grazing.	All wilderness areas, WSAs, and NPS-proposed wilderness would be unavailable for livestock grazing. This would eliminate the potential for livestock grazing and management to diminish wilderness characteristics.	Under Alternative C, 233,300-24,900 fewer acres of wilderness, WSAs, and NPS-proposed wilderness would be available for livestock grazing than under Alternative A. The reduction in available acres would reduce the potential for livestock grazing and management to diminish wilderness characteristics in comparison with Alternative A.	Under Alternative D, 28,600-1,600 more-fewer acres of WSAs would be available for livestock grazing than under Alternative A. Overall, impacts to wilderness areas, WSAs, and on NPS-proposed wilderness would be similar to Alternative A, but the potential for livestock grazing and management to diminish wilderness characteristics in the additionally available WSA areas would increase would be slightly reduced.	Under Alternative E, 16,600-more acres of WSAs and 6,500 more acres of NPS-proposed wilderness would be unavailable for livestock grazing than under Alternative A. Overall, impacts to wilderness areas, WSAs, and on NPS-proposed wilderness would be similar to Alternative A, but the potential for livestock grazing and management to diminish wilderness characteristics in the additionally unavailable WSA areas and NPS-proposed wilderness would decrease.
Tribal Interests				
Alternative A would continue to result in both direct and indirect impacts or adverse effects. However, they may be minimized with the adoption of the Cultural Resources Management Protocol (Appendix C).	Alternative B would reduce grazing-related impacts or adverse effects on tribal resources and historic properties throughout the decision area, when compared with those alternatives that allow grazing to continue. However, removing range improvements could involve ground-disturbing activities	Alternative C, compared with Alternative A, would reduce grazing-related impacts or adverse effects on tribal resources and historic properties throughout the decision area. However, under Alternative C, potential structural and nonstructural range improvements involving ground-disturbing activities, fire, or herbicides may impact	Alternative D would likely have grazing-related impacts on these properties throughout the decision area; this is similar to Alternative A. However, some sites now protected from grazing impacts would be open to grazing under Alternative D. Therefore, they could be open to new grazing-related impacts not experienced	Alternative E could result in a slight decrease of grazing-related impacts or adverse effects on these properties throughout the decision area, when compared with Alternative A, because of the decreased AUMs and acres available. Potential direct and indirect impacts under Alternative E could be minimized with the adoption

Table ES-3
Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
	that may impact historic properties, either directly or indirectly.	tribal resources and historic properties, either directly or indirectly. Potential direct and indirect impacts or adverse effects under Alternative C may be minimized with the adoption of the Cultural Resources Management Protocol (Appendix C).	under Alternative A. Potential direct and indirect impacts or adverse effects under Alternative D could be minimized with the adoption of the Cultural Resources Management Protocol (Appendix C).	of the Cultural Resources Management Protocol (Appendix C).
Socioeconomics				
<i>Note: Dollar amounts provided below represent the quantifiable economic impacts based on the maximum number of permitted AUMs. These numbers are estimates based on best available data and should be utilized only for comparison of impacts by alternatives. Refer to Section 4.18 for detailed assumptions and methodology utilized in economic modeling.</i>				
AUMs would continue to be available at their currently permitted levels. No grazing permits would be cancelled. Based on average actual use, annual net revenue for permittees is estimated to be \$2,214,704.	Eliminating grazing would result in annual net revenue changes for individual permittees ranging from a loss of \$358,761 to an increase of \$10,606, under the modeled scenarios. All 136 grazing permits would be cancelled (a 100 percent decrease).	Reducing AUMs would result in annual net revenue changes for individual permittees ranging from a loss of \$207,641 to an increase of \$2,047, under the modeled scenarios. The number of grazing permits would decrease by 38 percent, as 52 permits would be cancelled.	Increasing AUMs would result in annual net revenue changes for individual permittees ranging from a loss of \$227 to an increase of \$165,517, under the modeled scenarios. No grazing permits would be cancelled. Permits could be authorized for previously unallotted or unavailable areas that are now available for livestock grazing.	Reducing AUMs would result in annual net revenue changes for individual permittees ranging from a loss of \$26,231 to an increase of \$106, under the modeled scenarios. One grazing permit would be cancelled, but permits could be authorized for the previously unavailable allotment that is now available for livestock grazing.
Environmental Justice				
Under Alternative A, a continuation of the current management direction for livestock grazing is unlikely to have disproportionately adverse impacts on low-income or minority populations.	There would be no disproportionately adverse impacts on low-income or minority populations under the no grazing Alternative B. However, as noted in Nature and Type of Impacts, disproportionately adverse impacts, such as the loss of ranching operation revenues,	There would be no disproportionately adverse impacts on low-income or minority populations under Alternative C. However, as noted in Nature and Type of Impacts, disproportionately adverse impacts, such as the loss of ranching operation revenues, may occur for	There would be no disproportionately adverse impacts on low-income or minority populations under Alternative D.	There would be no disproportionately adverse impacts on low-income or minority populations under Alternative E.

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Comparative Summary of Environmental Consequences

Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Alternative E
	may occur for ranchers with small-scale operations, which may include those of low-income or minority status. Differential impacts, such as enhanced native vegetation, could result on tribal populations who use the land for traditional cultural purposes under a no grazing alternative.	ranchers with small-scale operations, which may include those of low-income or minority status.		

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