



**NATIONAL
CONSERVATION
LANDS**

Grand Staircase-Escalante National Monument

DRAFT RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

DEAR READER LETTER, ABSTRACT, EXECUTIVE SUMMARY

August 2023



U.S. DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

Our Mission

The Bureau of Land Management's mission is to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.

NATIONAL CONSERVATION LANDS

Mission

Conserve, protect, and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations.

Photo by VISIO Photography (James and Jenny Tarpley),
2015 and 2016 GSENM Artists in Residence,
Grand Staircase-Escalante National Monument



United States Department of the Interior



BUREAU OF LAND MANAGEMENT
Paria River District
Grand Staircase-Escalante National Monument
669 S. Highway 89A
Salt Lake City, UT 84101-1434

August 11, 2023

In Reply Refer To:
1610/6240 (UT-P01)

Dear Reader:

Enclosed is the Grand Staircase-Escalante National Monument (GSENM) Draft Resource Management Plan (RMP) and associated Draft Environmental Impact Statement (EIS). The Bureau of Land Management (BLM), Paria River District Office prepared the Draft RMP/EIS in response to Presidential Proclamation 10286, which restored the boundaries and management conditions of GSENM to how they existed prior to December 4, 2017. Proclamation 10286 also directed the BLM to create a new management plan for all federal lands within the restored boundaries of GSENM. The BLM developed the Draft RMP/EIS pursuant to the BLM's regulation for resource management planning found in 43 Code of Federal Regulations Subpart 1610, the National Environmental Policy Act of 1969, and other applicable laws.

The purpose of the Draft RMP/EIS is to provide a management framework, including goals, objectives, and management direction, to guide GSENM management consistent with the protection and/or restoration of Monument objects and the management direction provided in Proclamation 10286. The approved RMP would replace the existing resource management plans for the GSENM and Kanab-Escalante Planning Area that were approved in February 2020.

The BLM encourages the public to provide information and comments pertaining to the analysis presented in the Draft RMP/EIS. We are interested in any new information that would help the BLM as it develops the Proposed RMP/Final EIS. As a member of the public, your timely comments on the Draft RMP/EIS will help formulate the Proposed RMP/ Final EIS. The BLM will accept comments on the Draft RMP/EIS for ninety (90) calendar days following the Environmental Protection Agency's publication of a Notice of Availability of the Draft RMP/EIS in the *Federal Register*. Additionally, a concurrent 90-day comment period for proposed recreational target shooting closures and a 90-day comment period for proposed areas of critical environmental concern (ACEC) is initiated with the publication of the NOA. The BLM must receive comments by November 9, 2023.

The BLM can best use your comments and resource information submissions if received within the review period.

Electronic comments may only be submitted via the ePlanning website:

<https://eplanning.blm.gov/eplanning-ui/project/2020343/510>. You also may hand deliver hard copy comments to the BLM Paria River District Office during business hours Monday-Friday (8:00 a.m. to 4:30 p.m.) or mail them to: ATTN: GSENM RMP Project Manager, BLM Paria River District, 669 South Highway 89A, Kanab, UT 84741. To facilitate analysis of comments and information submitted, we strongly encourage you to submit comments in an electronic format via the ePlanning website.

Your review and comments on the content of this document are critical to the success of this planning effort. If you wish to submit comments on the Draft RMP/EIS, proposed ACECs, or proposed recreational target shooting closures, we request that you make your comments as specific as possible. Comments will be more helpful if they include suggested changes, sources, or methodologies, and reference to a section or page number. The BLM will consider and include comments containing only opinion or preferences as part of the decision-making process, although they will not receive a formal response from the BLM.


Before including your address, phone number, email address, or other personal identifying information in your comment, be advised that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

The BLM will hold a total of five public meetings. Two meetings will be held virtually, and three meetings will be conducted in-person, one each in Kanab, Panguitch, and Escalante. Details of all meetings will be announced once they are known. The dates and locations of Draft RMP/EIS public engagement meetings will be announced at least 15 days in advance.

The BLM will make available for public inspection a hard copy of the Draft RMP/EIS at the BLM Paria River District Office, located at 669 South Highway 89A, Kanab, Utah 84741.

Sincerely,

**HARRY
BARBER**

 Digitally signed by HARRY
BARBER
Date: 2023.08.02 14:33:29
-06'00'

Harry A. Barber
District Manager

Grand Staircase Escalante National Monument Draft Resource Management Plan and Environmental Impact Statement (GSENM RMP/EIS)

1. Responsible Agency: United States Department of the Interior
Bureau of Land Management
2. Type of Action: Administrative (X) Legislative ()
3. Document Status: Draft (X) Final ()
4. Abstract: The Grand Staircase-Escalante National Monument (GSENM) Draft Resource Management Plan (RMP) and associated Draft Environmental Impact Statement (EIS) describe and analyze alternatives for the planning and management of public lands and resources administered by the Bureau of Land Management (BLM), Paria River District Office. The planning area is located in Kane and Garfield counties in Utah. Within the planning area, the BLM administers approximately 1,865,600 acres of surface land, referred to as the decision area. The decision area does not include state, municipal, or private land.

Proclamation 10286, which restored the boundaries and management conditions of GSENM, directs the BLM to “prepare and maintain a new management plan for the entire monument” for the specific purposes of “protecting and restoring the objects identified [in Proclamation 10286] and in Proclamation 6920.” The RMP’s underlying purpose (40 CFR 1502.13) is to provide a management framework, including goals, objectives, and management direction, to guide GSENM management consistent with the protection and/or restoration of GSENM objects and the management direction provided in Proclamations 10286 and 6920.

The GSENM RMP must reflect the unique issues, management concerns, and resource conditions of the management area while reflecting the purposes set forth in Proclamation 10286. As part of the RMP revision process, the BLM conducted scoping to solicit input from the public and interested agencies on the nature and extent of issues and impacts to be addressed in the Draft RMP/EIS. Planning issues identified for this RMP revision focus on climate change, ecosystem resiliency, wildland fire and fuels management, promoting recovery of special status species, wilderness management, livestock grazing, land tenure patterns and access strategy, broad recreation uses and response to increasing population and changing land uses.

Alternative A is the No Action Alternative that continues current management from the 2020 Approved RMPs for the GSENM and Kanab-Escalante Planning Area. Under this alternative, the BLM would continue to manage the use of public lands and resources under the existing RMPs, as amended, to the extent they are consistent with Proclamation 10286. In some cases, decisions in the 2020 Approved RMPs are inconsistent with Proclamation 10286; in those instances, Alternative A has been modified to be consistent with Proclamation 10286. **Alternative B** emphasizes flexibility in planning-level direction to maximize the potential for an array of discretionary actions that may be compatible with the protection of GSENM objects. **Alternative C** underlines the protection and maintenance of intact and resilient landscapes using an area management approach to selectively allow for discretionary uses in appropriate settings. Four management areas similar to those used in the 2000 Monument Management Plan would be established: the front country area, passage area, outback area, and primitive area. **Alternative D** strives to maximize natural ecological processes by minimizing active management and limiting discretionary uses. Land use allocations would curtail discretionary

uses, including recreation, livestock grazing, rights-of-way, and activities under special recreation permits.

Alternatives B, C, and D provide a range of management strategies for addressing issues identified through internal assessment and public scoping. Comments submitted by other government agencies, public organizations, state and tribal entities, and interested individuals were given careful consideration.

Review period: The review period on the GSENM Draft RMP/EIS is 90 calendar days. The review period began when the Environmental Protection Agency published a Notice of Availability in the *Federal Register*.

5. For further information, contact the following:

Scott Whitesides, Project Manager
BLM Utah State Office
440 West 200 S Suite 500
Salt Lake City, UT 84101
801-598-4054

Adé Nelson, Monument Manager
Paria River District Office
669 US-89A
Kanab, UT 84741
801-539-405

Email: GSENM-RMP@empsi.com

Website: <https://eplanning.blm.gov/eplanning-ui/project/94706/510>

Executive Summary

ES.1 INTRODUCTION

The Grand Staircase-Escalante National Monument (GSENM) Draft Resource Management Plan (RMP) and Draft Environmental Impact Statement (EIS) describes and analyzes a range of alternatives for managing public lands within GSENM planning area. The planning area is in Kane and Garfield Counties in Utah. Within the planning area, the United States (U.S.) Department of the Interior, Bureau of Land Management (BLM) administers approximately 1,865,600 acres of surface land, referred to as the decision area. The decision area does not include state, municipal, or private land.

On October 8, 2021, Presidential Proclamation 10286 restored the boundaries and management conditions of GSENM to those that were in place prior to Presidential Proclamation 9682, which reduced the size of GSENM and divided it into three units. The purpose of Proclamation 10286 is to “ensure that the exceptional and inimitable landscape of GSENM, filled with an unparalleled diversity of resources, will be properly protected and will continue to provide the living laboratory that has produced so many dramatic discoveries in the first quarter century of its existence.”

ES.2 PURPOSE OF AND NEED FOR ACTION

Proclamation 10286 directs the BLM to “prepare and maintain a new management plan for the entire monument” for the specific purposes of “protecting and restoring the objects identified [in Proclamation 10286] and in Proclamation 6920.”

The RMP’s underlying purpose (40 Code of Federal Regulations [CFR] 1502.13) is to provide a management framework, including goals, objectives, and management direction, to guide GSENM management consistent with the protection and/or restoration of GSENM objects.

The following purposes are set forward in Proclamations 10286 and 6920, or they have been identified based on key present and historical GSENM management challenges.

- **Protect and/or restore the entirety of GSENM’s large, remote, rugged, and markedly impenetrable landscapes.** GSENM includes extraordinary dark night skies, natural soundscapes, and a rich mosaic of objects of natural, historical, and scientific interest. Utah’s large extent of unspoiled natural, roadless areas is unique in the lower 48 states, and protection of these lands led to Proclamation 6920.

The primary purpose of the plan is to protect and/or restore GSENM as a whole, for its value as a unique, unspoiled, and natural landscape and its use as an outdoor science laboratory. GSENM’s immense scale and unspoiled naturalness serve as a foundation for the rest of GSENM’s objects, including but not limited to the diversity of ecotypes; geological, cultural, and paleontological resources; vegetation; and wildlife.

Management will address anthropogenic—or human-caused—impacts and challenges. Increases in anthropogenic factors pose diverse challenges for resource preservation (for example, adverse vegetation and soil impacts, loss of geologic and cultural resources, the loss of the potential for human solitude,

adverse effects on certain wildlife species, and increases in noise). Incremental and gradual degradation of resources over time, due to ongoing uses, can easily occur unnoticed.

- **Emphasize GSENM as a living, outdoor laboratory.** GSENM focuses on science and provides for diverse and significant research and discovery related to varied resources and objects. Proclamation 6920, which originally designated GSENM in 1996, states, “[e]ven today, this unspoiled natural area remains a frontier, a quality that greatly enhances the monument’s value for scientific study.” Science is the foundational purpose of GSENM.

Through scientifically informed management, GSENM will sustainably provide for scientific pursuits. Given the intensification of human-caused changes in the world, undisturbed and unaltered natural landscapes on the geographic scale of GSENM are increasingly essential, rare, and hard to maintain. Accordingly, GSENM is equally important both for scientific understanding of the past and for understanding changes and trends that allow us to appropriately plan for and understand the future.

- **Protect and/or restore GSENM’s biological resources.** GSENM supports a range of ecotypes, as well as reference populations, across the landscape’s substantial range of elevation and large geographic extent. Due to the remoteness and substantial variation in elevation and topography, GSENM contains five life zones, a variety of habitats, multiple ecoregions, unique and isolated plant communities, and a diversity of invertebrates, birds, reptiles, and mammals.

The BLM will manage species within interconnected communities and ecosystems. Climate change and drought are pushing ecological conditions outside the historical range of variability, affecting the function and resilience of vegetation and, in turn, habitats and species. Accordingly, ecotypes, vegetation communities, and habitats will be managed for resilience.

- **Protect GSENM’s cultural resources.** GSENM provides for scientific, tribal, and public uses of cultural resources. Cultural resources are locations of human activity, occupation, or use that contain materials, structures, or landscapes that were used, built, or modified by people. Cultural resources include archaeological sites, buildings, structures, objects, districts, and locations associated with cultural practices or beliefs of contemporary communities, including Tribal Nations.

Discretionary uses, including livestock grazing and rising visitation levels, pose challenges for archaeological, and historic resource protection, and for tribal access and uses (for example, Tribal Nations with ties to GSENM have appropriate access to traditionally sacred places and landscapes). Management will provide for varied access and uses, while protecting cultural and historic resources.

- **Protect GSENM’s geology, paleontology, and scenic landscapes.** GSENM landscapes contain unique geological resources, world-class paleontological resources, and extraordinary scenery. Scenic exploration can be accessed via paved and unpaved roads that serve as arteries through GSENM.

Geological and paleontological resources will be protected; they also will be appropriately available for scientific use and public enjoyment. Scientific uses require access and resource protection.

- **Protect and/or restore opportunities to experience GSENM's remote landscape and associated adventure and self-discovery.** While not identified as an object in need of protection, Proclamation 10286 acknowledges world-class recreational opportunities in GSENM. Most visitation to GSENM is recreational, and high and increasing levels of recreational visitation are a top management challenge. Large numbers of visitors can both degrade the visitor experience and impede protection of GSENM objects, including ecologically sensitive areas and species.

The BLM will sustainably protect and/or restore GSENM's objects and remote, fragile landscape amid rapidly rising visitation levels. The BLM also will provide diverse recreational opportunities and basic facilities.

- **Manage discretionary uses in GSENM in the context of protecting, maintaining, or restoring GSENM objects.** GSENM lands have long served a variety of uses and purposes for Tribal Nations, European settlers, and the descendants of both. Since the designation of GSENM in 1996, there has been controversy regarding the BLM's discretionary uses within the context of GSENM preservation mandates.

Discretionary uses will be compatible with sustainable protection and/or restoration of GSENM's objects.

ES.3 PLANNING ISSUES

Relevant issues discussed in this EIS are as follows:

- How would proposed management actions and land use allocations contribute to air pollutant emissions and affect air quality and visibility?
- What would be the expected contribution to greenhouse gas (GHG) emissions from proposed management?
- How would proposed management affect long-term carbon storage and sequestration in GSENM?
- How would proposed management affect biological soil crusts?
- How would proposed management affect vulnerable soils?
- How would proposed management affect soil health and ecological function?
- How would existing and proposed land use allocations and discretionary uses affect terrestrial vegetation, including special status plant species?
- How would vegetation management and restoration approaches affect landscape-scale ecological functioning, terrestrial vegetation, and special status plant species?
- How would management decisions of activities that disturb soils and accelerate erosion affect water resources (groundwater, surface water, wetlands, riparian areas, floodplains, and water quality)?
- How would proposed management impact water quality (and water quality standards set by the State of Utah and the U.S. Environmental Protection Agency) and protection of dependent resources? How would proposed vegetation management and land use allocations affect noxious and invasive, nonnative plants?

- How would proposed management impact historic properties?
- How would proposed management protect cultural resources, including cultural landscapes, traditional uses, and historic properties?
- How would proposed management ensure continued traditional uses of religious or cultural sites important to Tribal Nations and local communities?
- How would proposed management impact landscapes of religious or cultural importance to Tribal Nations and local communities?
- How would proposed management decisions regarding paleontological resource management (such as curation, protection, survey, collection, outreach, and interpretation) impact paleontological resources, research communities, local communities, and visitor experiences?
- How would land use allocations and discretionary uses impact paleontological resources?
- How would land use allocations and discretionary uses impact unique geological features?
- How would proposed management affect wildlife, fisheries, and special status species resources?
- How would proposed management affect inventoried visual values, including scenic quality and the public's highly valued experience of enjoying scenery?
- How would proposed management actions affect dark night skies?
- How would proposed management affect natural quiet soundscapes?
- How would land use allocations and discretionary uses affect fire and fuels?
- How would vegetation management actions affect fire and fuels?
- How would proposed management affect the size, apparent naturalness; outstanding opportunities for solitude or primitive, unconfined recreation; and supplemental values of lands with wilderness characteristics?
- How would vegetation management decisions affect woodland and forestry product harvest in the planning area?
- How would proposed management impact livestock grazing and ranching operations under existing permits and leases?
- How would proposed management affect rangeland condition?
- How would proposed management affect the BLM's ability to provide recreational opportunities and infrastructure while protecting GSENM objects of historical and scientific interest?
- How would proposed management affect the travel and transportation system in GSENM?
- How would proposed management affect land use authorizations and land tenure in the decision area?
- How would management affect the relevant and important values of potential areas of critical environmental concern (ACECs)?
- How would management affect the nature and purpose of the Old Spanish National Historic Trail?
- How would management impact the viewshed surrounding scenic routes and the experience of enjoying scenic routes within the planning area?
- How would management impact the cultural, historic, and natural resources for which National Heritage Areas were designated?

- How would management affect the free-flowing condition, water quality, outstandingly remarkable values (ORVs), and tentative classification of river segments found suitable for inclusion in the National Wild and Scenic Rivers System?
- How would management affect the wilderness characteristics of wilderness study areas (WSAs)?
- How would BLM management actions impact local and regional economic interests and conditions?
- How would BLM management actions impact social conditions and values of communities?
- How would BLM management actions impact the environment, health, and livelihoods of communities with environmental justice concerns?

ES.4 ALTERNATIVES

ES.4.1 Alternative A

Alternative A represents current management from the 2020 GSENM Approved RMPs, which apply to the lands in GSENM as they existed under Proclamation 9682, and the 2020 Kanab-Escalante Planning Area (KEPA) Approved RMP, which applies to the lands that were excluded from GSENM under Proclamation 9682, to the extent that those management actions are consistent with Proclamation 10286. In some cases, decisions in the 2020 Approved RMPs are inconsistent with Proclamation 10286; in those instances, Alternative A has been modified to comply with Proclamation 10286.

Alternative A generally allows for maximum discretionary uses (for example, rights-of-way [ROWs] and livestock grazing) and emphasizes management flexibility while still providing for resource protection as required by applicable regulations, laws, policies, plans, and guidance, including the proper care and management of GSENM objects. Alternative A includes the following:

- **Recreation Management Areas (RMAs):** There are five special recreation management areas (SRMAs), two extensive recreation management areas (ERMAs), and seven recreation management zones (RMZs). These RMAs would cover the entirety of GSENM.
- **Off-Highway Vehicle (OHV) Use:** OHV use would be limited to designated routes, except in No Mans Mesa Research Natural Area (RNA) (ACEC), which would be closed to OHV use, and the Little Desert RMZ in the former KEPA, which would be open to cross-country OHV use.
- **Target Shooting:** Target shooting would be prohibited within 0.25 miles of residences, campgrounds, and developed recreational facilities. The distance may be increased depending on area-specific conditions.
- **Recreational Facilities:** The 2020 Approved RMPs do not expressly discuss recreational facilities. However, there are few expressed restrictions outside WSAs on where development could occur.
- **Livestock Grazing:** Nearly all allotments are available for livestock grazing. All suspended animal unit months (AUMs) could be activated over time, pending subsequent analysis and decisions. The 2020 Approved RMPs allow the creation of new nonstructural range improvements where they are not otherwise restricted by another designation. Existing seedings would be restored using a mix of native and nonnative species.
- **ACECs and RNAs (ACECs):** Under this alternative, management of the previously designated No Mans Mesa RNA (ACEC) would continue. No new ACECs would be designated.

- **Vegetation Management:** The BLM could use the full range of vegetation management methods and tools (such as prescribed fire; mechanical, chemical, and biological treatments; and woodland product removal). Treatments would be prioritized in areas where removal of woodland products would improve rangeland health, wildlife habitat, and forage. Nonnative species would be allowed, where necessary, to optimize land health, forage, and productivity in nonstructural range improvements.
- **Other Discretionary Actions:** Besides WSAs, which are exclusion areas, all lands would be either avoidance areas or open for ROWs, permits, and leases, as allowed by Proclamation 10286. The suitability for these land and realty actions would be assessed on a case-by-case basis. Alternative A also would prohibit the casual collection of all paleontological resources, mineral resources, and petrified wood to the extent that prohibition does not constitute a substantial burden on the exercise of religion under the Religious Freedom Restoration Act and other applicable laws.
- **Lands with Wilderness Characteristics:** Lands with wilderness characteristics would not receive any special management to protect size, naturalness, and opportunities for solitude, or primitive and unconfined types of recreation.
- **Transportation and Access:** Maintenance will be performed in accordance with the 2000 GSENM Management Plan until new travel management plans are completed.

ES.4.2 Alternative B

Alternative B emphasizes flexibility in planning-level direction to maximize the potential for an array of discretionary actions that may be compatible with the protection of GSENM objects. Alternative B includes the following:

- **RMA:** Five SRMAs and three RMZs would be established to provide for specific outcomes-based recreational experiences as identified in recreation setting characteristics. Those desired recreation setting characteristics help produce the recreation activity which, in turn, facilitates the outcomes identified in the SRMA objective. Additionally, nine ERMAs would be designated. These RMAs would cover the entirety of GSENM.
- **OHV Use:** WSAs/instant study areas (ISAs), lands with wilderness characteristics identified for protection, and No Mans Mesa RNA (ACEC) would be closed to OHV use. The remainder of GSENM would limit OHV travel to designated routes, with some road density and siting criteria identified. No areas would be open to OHV use.
- **Target Shooting:** Recreational target shooting would be prohibited within 0.25 miles of residences, from, on, or across highways, campgrounds, and developed recreation facilities. RNAs (ACECs) and WSAs/ISAs would be closed to target shooting.
- **Recreational Facilities:** To provide for public health and safety, recreational facilities, such as designated campgrounds and bathrooms, may be developed at some locations. Recreational facilities would be allowed in accordance with RMA prescriptions.
- **Livestock Grazing:** Allotments that are not under permit would be made unavailable for livestock grazing. Allocated AUMs would be the total permitted use of available allotments. Land health assessments would be required within 2 years of the signing of the record of decision (ROD) on allotments within watersheds that have shown a high degree of departure from reference conditions (henceforth, departed watershed). These eight watersheds (see **Figure 3-24, Departed Watersheds, Appendix A**) were identified using data and methods determined by BLM

Utah State Office relating to water, soils, and vegetation resources. Further analysis is discussed in **Appendix B**. Changes in grazing practices would be made according to the results of the land health assessments and determinations. New range improvements could be allowed if they are consistent with the protection of GSENM objects. The BLM would prohibit nonstructural range improvements with a primary purpose of increasing forage for livestock. Maintenance of existing structural range improvements would be allowed if both the structural range improvement and maintenance are consistent with the protection of GSENM objects.

- **ACEC and RNAs (ACECs):** The BLM would designate two ACECs and four RNAs (ACECs). The purpose of these designations would be to protect intact ecosystems where special management—beyond the typical protections provided in GSENM—would be required to protect GSENM objects.
- **Vegetation Management:** Landscape-scale restoration projects would be used to restore functional and resilient vegetation communities. For all vegetation management efforts, potential for lasting resilient restoration would be maximized through the preferential use of native vegetation. Nonnative vegetation may be used in restoration efforts as consistent with project and site-specific consideration and rationale. New discretionary actions would be avoided within 330 feet of riparian areas, unless the action would improve riparian health and result in no adverse impacts on wetlands and riparian areas.
- **Other Discretionary Actions:** Alternative B would accommodate other discretionary actions, such as ROW authorizations. Areas closed to ROW authorizations would include lands with wilderness characteristics, RNAs (ACECs), ACECs, WSAs, the Old Spanish National Historic Trail, and suitable wild segments of wild and scenic rivers. All other lands would be either avoidance areas or open for ROWs, permits, and leases. To ensure discretionary uses are consistent with the protection of GSENM objects, the BLM would evaluate proposed actions on a project-by-project basis.
- **Lands with Wilderness Characteristics:** The BLM would manage some lands with wilderness characteristics to protect those characteristics (that is, size, naturalness, and opportunities for solitude or primitive and unconfined recreation). Therefore, the BLM would eliminate or limit compatible uses in these areas; others would be managed for other compatible uses while not protecting wilderness characteristics.
- **Transportation and Access:** Routes could be maintained and improved to meet public health and safety needs and/or to protect GSENM objects.

ES.4.3 Alternative C

Alternative C emphasizes the protection and maintenance of intact and resilient landscapes using an area management approach to selectively allow for discretionary uses in appropriate settings. Four management areas similar to those used in the 2000 GSENM Management Plan would be established: the front country area passage area, outback area, and primitive area. The designation of management areas would serve as the primary tool for allowable uses while also protecting GSENM objects. Area descriptions under Alternative C include the following:

- **Front Country Area** – The front country area is the focal point for visitation and provides day-use and overnight opportunities that are supported by developed infrastructure. Educating visitors about GSENM objects and resources and their historic and scientific importance will be emphasized. The front country area allows for visitor centers and contact stations, primary day

use and interpretation sites, highway waysides, and overlooks, developed trails and trailheads, and developed campgrounds. The facilities in this area could accommodate larger groups.

- **Passage Area** – The passage area is the secondary area for visitation and provides day use and overnight opportunities that are less developed than those found in the front country area. The passage area allows for secondary travel routes that are a mix of paved and unpaved roads, which receive use as throughways, scenic driving routes, and provide access to recreation destinations. It also provides access to outback and primitive day use and overnight opportunities. The passage area is intended to provide basic recreational infrastructure to support a range of recreational activities and allow visitors to learn about GSENM objects and resources. This basic infrastructure includes and could include additional trailheads, day use and picnic sites, small campgrounds and designated camping areas, toilets, interpretive sites, waysides and overlooks.
- **Outback Area** – The outback area provides a self-directed visitor experience while accommodating motorized and mechanized access on designated routes. Facilities will be rare and provided only when essential for resource protection or public safety.
- **Primitive Area** – The primitive area provides an undeveloped, primitive, and self-directed visitor experience without motorized or mechanized recreational access. Facilities will be nonexistent, except for limited signs for resource protection or public safety.

Additional descriptions of Alternative C include the following:

- **RMA:** Fourteen SRMAs would be designated to provide for specific outcomes-based recreational experiences as identified in recreation setting characteristics. Those desired recreation setting characteristics help produce the recreation activity which, in turn, facilitates the outcomes identified in the SRMA objective. The BLM also would designate eight ERMAs to manage for specific recreational outcomes while ensuring resource protection. These RMAs would not cover all lands within GSENM.
- **OHV Use:** The primitive area and some areas, such as No Mans Mesa, WSAs/ISAs, some lands with wilderness characteristics, would be closed to OHV use; the remainder of GSENM (front country, passage, and outback areas) would limit OHV travel to designated routes. In OHV-limited areas, road density would be minimized. Siting criteria would be identified, especially in important resource areas, to ensure the protection of GSENM objects. No areas would be designated as open to OHV use.
- **Target Shooting:** Recreational target shooting would be prohibited in the front country and primitive areas. In the passage and outback areas, target shooting would be prohibited within 0.25 miles of residences, campgrounds, and developed recreation facilities.
- **Recreational Facilities:** Management areas would identify areas in which recreational facilities could be developed to meet future recreational needs. In general, the front country would allow for facilities to accommodate larger groups, while facilities would be nonexistent in the primitive area.
- **Livestock Grazing:** Allotments that are not under permit would be made unavailable for livestock grazing. Allotments that are both in GSENM and Glen Canyon National Recreation Area (Glen Canyon), and the pastures and allotments fully within Glen Canyon would be closed to livestock grazing. Allocated AUMs would be the total permitted use of available allotments. Land health assessments would be required within 2 years of the RMP/EIS record of decision on allotments within departed watersheds. Changes in grazing practices would be made according to the results of the land health assessments and determinations. No new structural range improvements would

be permitted unless a current (within the last 10 years) land health assessment and determination are completed for the allotment, unless the improvement would exclude livestock from an area and/or provide protection of GSENM objects. The BLM would prohibit nonstructural range improvements with a primary purpose of increasing forage for livestock.

- ACEC and RNAs (ACECs): Under this alternative, the BLM would designate four RNAs (ACECs).
- Vegetation Management: For all vegetation management efforts, maximize potential for lasting resilient restoration through the preferential use of native vegetation. Nonnative vegetation may be used in restoration efforts as consistent with project and site-specific consideration and rationale. To best support recovery of site integrity and resilience, use adaptive management to ensure that health of these efforts is maintained. The front country and passage areas would focus on proactive management, while the outback and primitive areas would focus on natural processes. New discretionary actions would be avoided within 330 feet of riparian areas in all areas. In the front country, passage, and outback areas, the action must not result in adverse impacts on wetland and riparian areas. In the primitive area, the action must enhance the riparian area.
- Other Discretionary Actions: Alternative C would prohibit soil-disturbing actions in the outback and primitive areas to protect and restore soil health, which is foundational for healthy ecosystems. Areas closed to ROW authorizations would include lands with wilderness characteristics, RNAs (ACECs), ACECs, WSAs, the Old Spanish National Historic Trail, and suitable wild and scenic river segments classified as wild (that are within the outback and primitive areas), and the primitive area. All other lands would be either avoidance areas or open for ROWs, permits, and leases. The BLM would authorize access ROWs to private inholdings, if required by law or regulation.
- Lands with Wilderness Characteristics: All lands with wilderness characteristics in the primitive area would be managed to protect those characteristics (that is, size, naturalness, and opportunities for solitude or primitive and unconfined recreation) while providing for compatible uses. The BLM would manage all lands with wilderness characteristics in the passage and outback areas to minimize impacts on wilderness characteristics while allowing for compatible uses. Only lands with wilderness characteristics in the front country area would be managed for other compatible uses while not protecting wilderness characteristics.
- Transportation and Access: Routes could be maintained and improved to meet public health and safety needs and to protect GSENM objects.

ES.4.4 Alternative D

Alternative D strives to maximize natural processes by minimizing active management and limiting discretionary uses. Land use allocations would curtail discretionary uses, including recreation, livestock grazing, ROWs, and activities under special recreation permits. This alternative would also constrain management actions to emphasize natural conditions, such as passive vegetation management. Alternative D includes the following:

- RMAs: The BLM would designate 10 SRMAs and four ERMAs under this alternative. These RMAs would not cover all lands within GSENM. This alternative would designate the least amount of acres within RMAs.

- **OHV Use:** This alternative would designate more lands as closed to OHV use than any other alternative. Designated road density would be minimized, and siting criteria would be identified to ensure the protection of GSENM objects. No areas would be open to OHV use.
- **Target Shooting:** Recreational target shooting would not be allowed anywhere within the boundaries of GSENM.
- **Recreational Facilities:** Recreational facilities would be allowed in accordance with RMA prescriptions. The BLM would prohibit new facilities in areas outside RMAs, except for signage.
- **Livestock Grazing:** Allotments that are not under permit would be made unavailable for livestock grazing. On allotments that are both in GSENM and Glen Canyon, the pastures and allotments fully within Glen Canyon would be closed to livestock grazing. Additionally, most allotments within departed watersheds would be closed. AUMs allocated to livestock would be based on current active use on lands available for grazing. For all allotments in GSENM, completed land health assessments and fully processed permit renewals would be required within 10 years of the signing of the record of decision. No new structural range improvements would be permitted unless a current (within the last 10 years) land health assessment and determination are completed for the allotment, unless the improvement would exclude livestock from an area and/or provide protection of GSENM objects. Nonstructural range improvements with a primary purpose of increasing forage for livestock would be prohibited.
- **ACEC and RNAs (ACECs):** Under Alternative D, management of the previously designated No Mans Mesa RNA (ACEC) would continue. No new ACECs would be designated.
- **Vegetation Management:** Vegetation management methods would prioritize natural processes and techniques over other methods. New discretionary actions would be avoided within 330 feet of riparian areas unless the action would enhance riparian areas. Nonnative species could only be used with approval or for emergency actions.
- **Other Discretionary Actions:** The BLM would authorize access ROWs to private inholdings, if required by law or regulation. Under Alternative D, the BLM would manage the most acres of ROW exclusion. Under Alternative D, corridor 68-116 would no longer be designated as a 368 Energy Corridor under the Energy Policy Act of 2005, and the BLM would no longer focus placement of major ROWs in that corridor.
- **Lands with Wilderness Characteristics:** The BLM would manage all lands with wilderness characteristics to protect those characteristics (that is, size, naturalness, and opportunities for solitude or primitive and unconfined recreation) while providing for compatible uses.
- **Transportation and Access:** Routes could be maintained and improved to meet public health and safety needs.

ES.5 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Air Resources

Impacts on air quality include fugitive dust generation (for example, from vehicular travel on unpaved roads or from destruction of vegetation and exposure and degradation of soils). Alternative A would result in the greatest level of air quality impacts from fugitive dust and other criteria air pollutant emissions (such as increased volatile organic compounds and carbon monoxide from OHVs and smoke from uncontrolled wildfires), while Alternative D would result in the smallest concentration of pollutants. However, differences across the alternatives would not be significant; the impacts would primarily come from increasing recreation and travel, which would be similar under all alternatives. Within areas closed

to OHV travel, emissions would decrease locally; however, motorists could move and concentrate in areas available to OHV travel, resulting in localized degradation of air quality.

Methane emission from livestock grazing is a primary source of total GHGs from activities in GSENM. Alternative A, with the highest number of allowed AUMs would result in the most methane emissions and impacts on climate change, while Alternative D would have the least impacts. Although prescribed fire and active vegetation management under Alternatives B and C would result in the largest GHG emissions from equipment use, they would not be substantial compared with impacts from grazing. With proper grazing techniques, some of the emitted carbon can be sequestered and stored in soil and vegetation. Active vegetation management under Alternatives B and C would improve vegetation health and diversity, which would increase the carbon sequestration and storage potential in GSENM. Active vegetation management under Alternatives B and C would also improve landscape resiliency to wildfires more quickly compared with Alternatives A or D, which would also offset some of the climate change impacts from other actions.

Soil Resources

Land management actions would directly and indirectly impact soil resources within the decision area, including activities associated with ROW development and special land use designations, recreation management, management of livestock grazing, and vegetation and forest management. The decision area contains several soils with special characteristics and biological soil crusts that may limit the potential of these soils to be suitable or compatible with certain management activities; these soils would be directly impacted by ground-disturbing activities.

All four alternatives would, at a minimum, seek to manage uses to prevent damage to and degradation of soil resources and to ensure that appropriate soil health parameters would be maintained or improved. Additionally, all four alternatives would aim to facilitate appropriate research to improve understanding and management of soil resources and biological soil crusts. Under Alternative A, more acreage would remain open for ROW authorizations, OHV use, recreation, and livestock grazing compared with the other three alternatives, resulting in potentially more ground disturbance that would impact soils and degrade soil health parameters and biological soil crusts. Therefore, more impacts on sensitive soils, biological soil crusts, and soil health and function would be expected under Alternative A. Alternatives B and C would allow a middle ground in terms of acres that would be open to ground-disturbing activities, while Alternative D would generally be the most restrictive alternative.

Vegetation

Alternatives A and B would likely have greater success in moving vegetation conditions toward desired conditions, and increase resiliency of treated areas more quickly and in more areas than Alternatives C or D. This is because Alternatives A and B would increase the amount of proactive vegetation management and use of a wider array of vegetation management methods. This would also benefit special status plant species in the long term by helping to reduce threats such as competition with invasive species and potential for wildlife. It would improve conditions for pollinators, thereby increasing pollination opportunities for special status plants. Prioritizing natural processes under Alternative D and in the primitive management areas under Alternative C could restrict active management of vegetation. Alternatives B and C would increase the options for post-fire stabilization and rehabilitation, including options for native and nonnative seedings and complementary treatments to enhance seeding success.

This would help to maintain and improve vegetation conditions in burned areas to a greater degree than if these options were not allowed.

Alternatives A and B would place the most emphasis on increasing recreational opportunities. This could increase the amount of noxious and invasive species and degrade vegetation and outcompete special status plant species located in recreation areas and along designated routes. It also could increase the potential for human-caused ignitions in these areas. This could result in an increased risk of uncharacteristic fire and decreased vegetation resiliency, compared with management under Alternative D, which would manage fewer of these recreation areas. Of the alternatives, Alternative D would generally include the most allocations to protect lands with wilderness characteristics and other sensitive areas, leading to less impacts on vegetation and special status species from discretionary and compatible uses.

Alternative A would have the most AUMs and acres available to grazing compared with Alternatives B, C, and D. This could result in an increased risk of impacts on vegetation conditions and resiliency due to impacts from improper grazing. Alternative D would have the least number of AUMs and acres available for grazing across all alternatives, which would significantly reduce impacts on vegetation and special status species from grazing.

Regardless of alternative, the planning area will experience increased risk of uncharacteristically large and severe fire due to warmer temperatures, altered precipitation patterns, longer fire seasons, and more extreme fire weather. Climate change effects will combine with and exacerbate some of the effects of the alternatives, especially those that would increase fuels from invasive plants and increase the risk of human-caused fire. These factors would be expected to result in more fire ignitions, more acres burned, and less resilient vegetation conditions.

Water Resources

Under Alternative A, water resources would be managed to protect and maintain water and natural flows, including water flowing into GSENM from adjacent lands. Alternative A is less protective against impacts than Alternatives C and D because it allows new water developments with no restriction, where Alternative C would only allow new water developments in the front country and passage area and Alternative D would prohibit new water developments unless beneficial for natural resource maintenance, restoration, or protection of GSENM objects.

Under Alternative B, resources would be managed to maximize the potential for discretionary actions that are compatible with the protection of GSENM objects. Alternative B provides additional goals of management related to maximizing goals and objectives of GSENM, rather than just maintaining the current hydrology/water quality.

Alternative A is less protective against impacts than Alternative B because under Alternative A, maintenance of existing water developments is to improve livestock and wildlife distribution, while maintenance of water developments under Alternative B would be done to protect, restore, and/or increase the resiliency of GSENM objects.

Alternatives C and D would be the most protective of hydrology within GSENM. Under Alternative C, resources would use area management to carefully allow for discretionary uses in appropriate settings. Alternative C would be more protective of water supply than Alternative B. In the front country area, Alternative C would allow development and maintenance of water sources to support recreation and

visitor-related uses. In the passage, outback, and primitive areas, it is the same as Alternative D in that it would prohibit new recreation related water developments, unless necessary for natural resources maintenance, restoration, or protection of GSENM objects. Additionally, under Alternative C, in the primitive area, new water developments would be prohibited unless a primary purpose of the water development is to protect or restore the resiliency of GSENM objects; and it would maintain water developments for livestock or wildlife or modify them if it protects, restores, and/or increases resiliency of GSENM objects. These management directions would be the same as Alternative D; however, in the front, outback, and passage areas, these water developments would be allowed if they contribute to the protection, restoration, and/or increase the resiliency of GSENM objects, the same as Alternative B.

Under all alternatives, measures are required to stabilize soils and minimize surface water runoff for actions on slopes greater than 10 percent. Surface-disturbing activities result in disruption or damage of biological soil crusts and create opportunities for the establishment and spread of noxious weeds that provide less vegetative cover than native species (Scott et al. 2017). Impacts on water resources that are associated with soil erosion water development include decreased water quality in groundwater and surface water and the potential for contamination to groundwater. Management under Alternatives C and D are more protective against impacts on water resources than Alternative A because Alternatives C and D prohibit soil disturbing actions on areas where soils are mapped and considered as fragile, which can affect water resources through increased erosion and sedimentation, alterations to geomorphology, natural flood control, and pollutant loading.

Noxious Weeds and Invasive, Nonnative Plants

Alternatives A and B, in comparison with Alternatives C and D, would likely have greater success in moving vegetation conditions toward desired conditions, which includes a reduction or eradication of noxious and invasive, nonnative species. Alternative A and B would increase resiliency of treated areas more quickly and in more areas through proactive vegetation management and using a wider array of vegetation treatment methods than Alternatives C or D. Prioritizing natural processes under Alternative D and in the primitive management areas under Alternative C could restrict active management of vegetation.

Alternatives B and C would also increase the options for post-fire stabilization and rehabilitation, including options for native and nonnative seedings and complementary treatments to enhance seeding success. This would help to reduce the establishment and spread of noxious and nonnative, invasive species in burned areas to a greater degree than if these options were not allowed.

Alternatives A, B, and C would place the most emphasis on increasing recreational opportunities, including for motorized and nonmotorized recreation. This could increase the amount of noxious and nonnative, invasive species and fine fuels in recreation areas and along designated routes. This could result in an increased risk of uncharacteristic fire and decreased vegetation resiliency, compared with management under Alternative D, which would manage fewer of these recreation areas. Alternative A also allows for open OHV travel which would increase vectors of weed spread across GSENM. Of all the alternatives, Alternative D would generally include the most allocations to protect lands with wilderness characteristics and other sensitive areas, leading to less impacts from compatible uses.

Alternative A would have the most AUMs and acres available to grazing compared with Alternatives B, C, and D. This would result in increased surface disturbance and vectors for noxious and invasive species

spread. Alternative D would have the least number of AUMs and acres available for grazing across all alternatives, which would significantly reduce the influence of grazing on weed spread in these areas.

Regardless of alternative, the planning area will experience increased risk of uncharacteristically large and severe fire due to warmer temperatures, altered precipitation patterns, longer fire seasons, and more extreme fire weather. Climate change effects will combine with and exacerbate some of the effects of the alternatives, especially those that would increase invasive plants and increase the risk of native communities converting to invasive-dominated communities. These factors would be expected to result in increased fuels from invasive plants, more fire ignitions, more acres burned, and less resilient vegetation conditions.

Cultural Resources

Under Alternative A, plan elements specific to cultural resources would remain from the 2020 Approved RMPs. These plan elements include direction for the identification, preservation, and protection of cultural resources; the reduction of threats and conflicts from other resources; restoration and stabilization of cultural resources; opportunities for traditional use; and the development of cultural resource management plans. Under each action alternative, plan elements specific to cultural resources would be similar in intent to those of Alternative A. However, they would move the plan elements—reducing the threats and conflicts, restoring and stabilizing important and at-risk resources, and providing opportunities for traditional uses—from goals and objectives to management directions. This would make them more action oriented and add detail, such as specific direction to avoid, reduce, or remove imminent and long-term threats and to identify, monitor, and stabilize at-risk cultural resources.

Alternatives B, C, and D include a plan element to employ the cultural resources predictive model to manage authorizations in high-probability areas; Alternative A does not include this plan element. The model statistically evaluated the relationships between known site locations and environmental variables to predict the likely occurrence of cultural resources across GSENM. Under Alternative A, the highest number of known cultural resources, and the most acres with a high probability for cultural resources, could be impacted from management decisions. Project-specific Section 106 compliance would seek to avoid, minimize, or mitigate any adverse effects on cultural resources however, the risk for unintentional impacts would be greatest under Alternative A.

Alternatives B, C, and D include management decisions related to a variety of resources that reduce the potential for impacts on cultural resources, compared with Alternative A. Alternative D would offer the greatest reduction for potential impacts on known cultural sites and in areas with a high probability for cultural resources. While there would be fewer acres of ACECs and RNAs (ACECs) to potentially protect unknown resources under Alternative D, compared with Alternatives B and C, this is counteracted by the greater acreages of provisions limiting ground-disturbing activities under Alternative D, such as visual resource management (VRM) classifications, lands with wilderness characteristics management, livestock grazing unavailability, ROW exclusion, and OHV closures. Alternative A includes the greatest number of allotments that are available for grazing and, therefore, the highest risk to cultural resources. Alternatives B, C, and D offer an increasing amount of reduction, respectively, of potential adverse impacts on cultural resources within allotments, compared with Alternative A.

Tribal Interests

Under Alternative A, current conditions and trends influencing impacts on tribal interests, such as water resources, plant communities, and cultural landscapes, would continue as they are now. Many aspects of management related to a diversity of resources would influence impacts on tribal interests under the alternatives considered. Alternative A would have the largest impacts on tribal interests from cultural resource management, livestock grazing, travel management, OHV use, management of lands with wilderness characteristics, designation of RMAs, and ROW development. Acreages of land management allocations and management directions that would influence these impacts change with each alternative, with the allocations under Alternative D generally being the most protective of tribal interests. Although Alternative D would offer the most protection to tribal interests through restriction of discretionary uses.

Alternatives B, C, and D contain additional identical management direction related to tribal co-stewardship. Alternative A provides general guidance for tribal co-stewardship; however, under Alternatives B, C, and D, this guidance would be more explicit in directing how to protect tribal interests and foster tribal involvement in the land use planning process.

Paleontological and Geological Resources

Under Alternative A, paleontological resources would continue to be managed in accordance with the 2020 GSENM and KEPA RMPs, except where those management decisions do not align with the Proclamation. While specific goals, objectives, and management direction varies slightly between Alternative A and Alternatives B, C, and D, many of the key elements are the same. For Alternatives B, C, and D, management includes slightly more emphasis on implementation of plans and management strategies in addition to development of protocols.

Management for other resources, including vegetation management, maximum soundscape decibels on the A-weighted scale, and group size limits, could have an impact on paleontological resources. For example, more invasive vegetation management options authorized under Alternative A, or possibly allowed under Alternatives A and B, would result in more ground disturbance, and if in an area with paleontological resources (such as potential fossil yield classification Class 4 or 5) could result in increased potential for impacts. Whereas limitations on maximum decibels on the A-weighted scale in specific or defined locations under Alternatives B, C, and D could limit the types of paleontological resource excavation equipment, including handheld devices (such as jack hammers and rock saws) that could be used (unless exceptions are allowed). Group size limits could limit the maximum number of field crew members in specific locations; this is most restrictive under Alternative D. Additionally, for all alternatives, soil management and VRM may require additional approvals prior to paleontological excavation (such as on slopes greater than 30 percent) or after an excavation is initiated but not completed within a specific period (such as 2 or 3 years).

Based on potential fossil yield classification Classes 4 and 5 acres, Alternative A has the greatest potential for impacts to paleontological resources from ROW authorization, RMA, OHV travel, and grazing management decisions. Under Alternative A, the smallest acreage would be protected through the management of special areas (such as RNAs [ACECs] and lands with wilderness characteristics).

Special designations and restrictions on surface disturbance reduce the potential for impacts on paleontological resources as they would restrict the frequency and extent of surface-disturbing activities and recreation uses that could adversely affect paleontological resources. Thus, compared with Alternative

A, management under Alternatives B, C, and D would reduce potential impacts on paleontological resources as they all include an increase in area managed as limited or closed for specific ground-disturbing activities.

Under Alternative A, there are no defined goals, objectives, or management directions for geological resources (or unique geological features). In contrast, Alternatives B, C, and D provide geological resource management directions for identification of geological sites appropriate for public access and proactively maintaining an annual inventory, monitoring of, and, where appropriate, collecting and curating geological resources, with a focus on areas identified in Proclamation 10286.

Fish and Wildlife

Many goals, objectives, management directions, and allocations for wildlife and fish would remain the same or be similar under all alternatives. These directives provide protection for wildlife and habitats while allowing for other discretionary uses. Management direction for all alternatives would include limiting discretionary uses to protect and recover special status species' (BLM Utah sensitive species and federally listed threatened, endangered, proposed, or candidate plant, animal, or fish species) habitats and populations.

Alternative A would allow for maximum discretionary uses and emphasize management flexibility. Under Alternative A, current trends pertaining to wildlife and habitat, including special status species, would likely continue. Alternative B would emphasize flexibility in planning-level direction to maximize the potential for an array of discretionary actions that would be compatible with the protection of GSENM objects. The allowance of discretionary actions under Alternative B would likely result in impacts on wildlife, including special status species, and wildlife habitat that would be similar to the impacts under Alternative A.

Alternative C would emphasize the protection of intact and resilient landscapes using an area management approach to allow for discretionary uses in appropriate settings. Under Alternative C, more protection in the outback and primitive areas would likely reduce impacts on wildlife in those areas as compared with Alternative A. The front country and passage areas would allow for more discretionary uses and therefore would likely have similar impacts on wildlife and habitat as Alternative A. However, because proactive management would not be prioritized, habitats in the outback and primitive areas could restrict the use of tools that would be beneficial for habitat improvements.

Alternative D would maximize natural processes by limiting discretionary uses. This alternative would also constrain management actions to emphasize natural conditions, such as passive vegetation management. Alternative D would protect more wildlife and habitat through land use allocations and therefore reduce impacts on wildlife and habitat as compared with Alternative A. However, by emphasizing natural processes as opposed to active management, this alternative would also limit some management actions or extend the time it would take to achieve desirable conditions that could improve wildlife habitat.

Visual Resources

Alternative A would continue to manage large portions of GSENM under VRM Class I and II objectives where management activities would preserve or retain the natural landscape character and not attract the attention of casual viewers. Under Alternative A, the BLM would continue to manage portions of landscapes inventoried as having high scenic quality under VRM Class III and IV objectives where

management activities could moderately alter (VRM Class III) or dominate (VRM Class IV) the characteristic landscape.

Alternatives B, C, and D would not manage any GSENM lands with VRM Class IV objectives. They, therefore, would not allow for major modification of the characteristic landscape. In Alternative B, the portion of The Cockscomb within the congressionally designated utility corridor along U.S. Highway 89 would be managed with VRM Class III objectives though it inventoried as a high scenic quality landscape; this would allow future utility projects to moderately alter the area's landscape character. Under Alternative C no landscapes inventoried as having high scenic quality would be managed for VRM Class III objectives. Alternative D would only assign VRM Class I or II objectives to GSENM lands, resulting in all landscapes retaining their landscape character.

Under Alternatives A and B, between approximately 47 percent and 51 percent of GSENM lands would be managed with VRM Class I objectives where only negligible and natural process changes to landscape would be allowed; under Alternative C the acres would increase to 57 percent, and under Alternative D they would increase to 77 percent. Under Alternatives A and D, approximately 25 percent of lands would be managed as VRM Class II objectives, which allow only minor changes in the landscape character such that the attention of the casual observer is not attracted. Under Alternative B and C, approximately 30 percent of GSENM would be managed for VRM Class II objectives. Alternatives A and B would allow for the most acres to be managed as VRM Class III (19 percent) where projects could modify the landscape character such that changes could attract the attention of the casual observer, and Alternative D would not allow any lands to be managed to these objectives. Alternative C would allow for 8 percent of GSENM to be managed with VRM Class III objectives. Only Alternative A allows for any lands within GSENM (12 percent) to be managed for objectives that allow major modification of the landscape character (VRM Class IV).

VRM Class I and II objectives are the more protective of scenic values. Comparing alternatives, Alternative D is the most protective because it manages the entire GSENM under these two VRM classes. The level of protection lessens across alternatives from C to B to A, with Alternative A being the least protective of scenic values with 20 percent of the GSENM managed as VRM Class III and 12 percent VRM Class IV.

Dark Night Skies

Under Alternative A, existing trends associated with dark night skies would continue. Under Alternatives B, C, and D, the BLM would seek International Dark Sky Place status for GSENM. Because the BLM does not have the ability to restrict or prohibit lighting outside GSENM, impacts on dark night skies from adjacent communities and more distant cities would be similar under all alternatives. Alternatives C and D would be the most protective of dark night skies, followed by Alternative B, with Alternative A resulting in the greatest potential impacts on dark night skies.

Natural Soundscapes

Under Alternative A, the application of BMPs outlined in the 2020 GSENM RMPs would continue with no specific areas identified where noise-producing facilities would be prohibited, no limitation on where drone takeoffs and landing could occur, and no further limitations on where OHV use could occur. These would result in continued impacts on soundscapes within GSENM.

Alternatives B, C, and D would identify specific areas where no noise-generating facilities could occur. They also would include additional management prescriptions to limit noise in other areas, limits on where drones can take off and land, identification of appropriate landing areas and landing strips for aircraft, and the expansion of areas closed to OHV use. These would result in further protection of soundscapes compared with Alternative A. Additionally, Alternatives B, C, and D would establish quiet hours at campgrounds, designated camping locations, and other locations, including potential intermittent noise from generators associated with recreational use. These quiet hours would further protect soundscapes where concentrated recreation use occurs. Noise-producing facilities would be most limited under Alternatives C and D because these alternatives identify larger portions of GSENM as either closed to OHV use or where noise-generating facilities would be specifically prohibited.

Under Alternative A, increased noise levels could occur near all of the GSENM noise-monitoring locations, whereas Alternatives B, C, and D would further protect soundscapes adjacent to these monitoring locations. To restore natural soundscapes, under Alternatives B, C, and D, existing facilities that generate sounds would be retrofitted to reduce sound generated below the identified thresholds under each alternative, to the extent possible.

Fire and Fuels Management

Alternatives B and C would likely move the vegetation condition and fuel loading toward desired conditions, and increase resiliency of treated areas more quickly and in more areas than Alternatives A or D. Alternatives B and C would increase the amount of proactive vegetation management to reduce hazardous fuels, and would allow a wider array of vegetation management methods than under Alternative A. Alternative D, using only natural processes would not be as effective in vegetation communities that are most departed from historical conditions, due to the amount of hazardous fuel loading in these areas and the increased potential for catastrophic wildfire. Alternatives B and C would also increase the options for post-fire stabilization and rehabilitation relative to Alternatives A and D, including options for native and nonnative seedings and complementary treatments to enhance seeding success. This would help maintain the vegetation condition and fire regime in burned areas to a greater degree than if these options were not allowed.

Alternatives A, B, and C would place the most emphasis on increasing recreational opportunities. This could increase the amount of fine fuels in recreation areas and along designated routes and increase the potential for human-caused ignitions in these areas. This could result in more fires and more acres burned, compared with management under Alternative D, which would manage fewer of these areas. When fires ignite in GSENM, allocations to protect lands with wilderness characteristics and other sensitive areas, could make fire response more complex or difficult; this is because some response methods could be restricted to protect the wilderness character or other sensitive resources. Of the alternatives, Alternative D would generally have the most of these allocations.

Regardless of alternative, the planning area will experience an increased risk of uncharacteristically large and severe fire due to warmer temperatures, altered precipitation patterns, longer fire seasons, and more extreme fire weather. Climate change effects will combine with and exacerbate some of the effects of the alternatives, especially those that would increase fuels from invasive plants and increase the risk of human-caused fire from more recreational use. These factors would be expected to result in more fire ignitions, more acres burned, and movement away from historical vegetation conditions and fire regimes.

Lands with Wilderness Characteristics

Alternative A would continue to manage all lands with wilderness characteristics to allow for other uses. By comparison, Alternative B would manage 72,000 acres for the protection of wilderness characteristics, while Alternative C would manage 190,100 acres of lands with wilderness characteristics for the protection of those characteristics. Under Alternatives B and C, compatible uses may be allowed on other lands with wilderness characteristics so long as those activities are consistent with the protection of GSENM objects. Alternative D would manage all lands with wilderness characteristics in GSENM (559,600 acres) for the protection of those characteristics. Under Alternatives A, B, and C, managing lands with wilderness characteristics to allow for other multiple uses or for other compatible uses could increase the impacts on the size, apparent naturalness, outstanding opportunities for solitude or primitive, unconfined recreation, and supplemental values.

Forestry and Woodland Products

Alternative A is the only alternative under which areas (984,500 acres) would be open to commercial harvest of woodland products. Alternatives B, C, and D would not allow for commercial harvest of woodland products. Noncommercial harvest of woodland products would be allowed on 984,500 acres under Alternative A, 906,300 acres under Alternative B, 88,000 under Alternative C, and prohibited (with some exceptions) under Alternative D.

Livestock Grazing

Alternative A allows for the most available acres (2,134,800) for livestock grazing and the most AUMs for permitted use. Additionally, Alternative A would activate all inactive AUMs within suspended pastures or allotments, increasing the overall availability of forage over the long term, as rangeland conditions allow. Compared with Alternative A, Alternatives B and C would reduce the acres available for livestock grazing by 97,500 acres (5 percent) and 207,800 acres (10 percent), respectively, while Alternative D would reduce the available acres by 46 percent (984,800 acres). Vegetation management under Alternative B would likely have the greatest positive impact on rangeland health across the planning area, as it would emphasize widespread restoration, including seedings with native and nonnative species. Alternative C would manage the most acres of SRMAs, having the highest potential for recreation-livestock conflicts in these areas.

Recreation

Under all alternatives, management for recreation would have long-term beneficial effects on GSENM's associated objects. Of all alternatives, Alternative C would include the greatest designation of SRMAs; therefore, it would provide the most prescriptive recreational management.

Alternative A includes the greatest portion of the decision areas as ERMAs, which could provide greater management flexibility to adapt to changes in recreational use and facility needs compared with the other alternatives. Alternative B would result in similar impacts on recreation from designation of RMAs as under Alternative A, with slightly different recreation decisions associated with the different SRMA, ERMA, and RMZ designations. Alternative D would designate the fewest acres within RMAs of all alternatives. It would limit the BLM's ability to manage for recreational opportunities; this would ultimately limit the beneficial outcomes of recreation compared with the other alternatives.

Alternative A includes the most acreage available for recreational target shooting, which would continue to result in the potential displacement of recreationists seeking other recreation opportunities, which

could result in conflicts with other recreational users in GSENM. Alternative B would limit access for recreational target shooting, compared with Alternative A, because it manages more acreage as closed to recreational target shooting. Alternative C would limit access the shooting sports community to a larger extent than Alternatives A and B because it would manage more acreage as closed to recreational target shooting. Under Alternative D, the BLM would prohibit recreational target shooting across the entire GSENM. This would reduce the potential for conflicts with other recreational users compared with all other alternatives, but it also would eliminate access for all recreational target shooting. This could lead to instances of unauthorized target shooting in GSENM.

Alternative A would be the only alternative that would allow for open cross-country OHV travel. This would provide the greatest access to OHV opportunities, could reduce unauthorized off-trail travel in other areas, and reduce conflicts between motorized recreations, compared with Alternatives B, C, and D. This would continue to result in damage to resources such as native vegetation that could be considered inconsistent with the protection of GSENM's objects. Alternative B would eliminate access for cross-country OHV recreation across GSENM. This could result in unauthorized cross-country OHV travel occurring in certain areas and reduce access for motorized users. Motorized users would likely experience greater conflicts with nonmotorized recreationists on motorized routes in OHV limited areas, as this mileage would be substantially less in Alternative B than in Alternative A. Alternative B would also likely decrease the ability of all recreationists to access nonmotorized trails in certain areas due to the greater area managed as closed to OHV use. Alternative C would result in similar impacts on travel resulting from OHV area designations as under Alternative B, but to a greater extent due to the greater area managed as closed to OHV use. Under Alternative D, the BLM would manage the most acreage as closed to OHV travel of all the alternatives. This would limit resource damage from cross-country OHV travel, decrease impacts on natural settings and primitive recreational experiences, and limit access for authorized all-terrain vehicle and utility-task vehicle recreation. Reduced motorized access could limit accessibility and nonmotorized opportunities in remote areas.

Pedestrian use would be allowed throughout GSENM under all alternatives. Under all alternatives, the establishment of additional recreational infrastructure would enhance recreational opportunities. Alternative A would not specifically address recreational facilities, but there would be few restrictions outside WSAs where development could occur. Alternatives B, C, and D would allow for recreational facilities to provide for future recreational needs, with the most restrictions on the location of facilities under Alternative D. Land use allocations would be the most limited under Alternative D and would curtail discretionary uses, including recreation and activities under special recreation permits.

Travel Management

Potential effects on travel management would occur to varying degrees across alternatives. Route designations are implementation-level decisions that will be analyzed and approved in accordance with the BLM's travel and transportation regulations at 43 CFR 8340 separately through the travel management planning process. This process evaluates and designates routes to provide a high-quality travel network for a wide variety of uses. Examples of beneficial impacts of designating routes through a travel management plan include improved access, experience, and connectivity; the promotion of safety for all users; minimization of conflict among various uses of BLM-managed lands; and reduction in route redundancy, resource degradation, and habitat fragmentation in the planning area. Travel management plans may also provide an opportunity for coordinating transportation planning with Kane and Garfield Counties or adjacent communities. Such coordination could reduce access issues and management

conflicts, improve the safety and convenience of the traveling public, and provide a more sustainable use of resources.

Alternative A is the only alternative that allows for any open cross-country OHV travel; specifically, in the Little Desert RMZ. This would provide beneficial recreational experiences for some users and could avoid instances of cross-country OHV travel in closed areas or areas limited to designated routes. Alternative A would yield the greatest benefits to travel, transportation, and access because it would manage the fewest acres of OHV closed areas of the alternatives. Management direction for landings and takeoffs of motorized aircraft in GSENM is not described in the 2020 Approved RMPs. This would yield the greatest benefits to access for motorized aircraft use because it does not place any restrictions on motorized aircraft use. However, this could limit the ability of the agencies to protect GSENM objects compared with Alternatives B, C, and D.

The BLM would manage the most acreage as closed to OHV use under Alternative D, limiting the potential for resource damage from OHV travel. Management under Alternative D would be most likely to adversely affect transportation and access for OHVs due to the scale of OHV closures.

Under Alternatives B, C, and D, routes could be maintained and improved to meet public health and safety needs. Appropriate landing areas and landing strips for aircraft would be considered to varying degrees under Alternatives B, C, and D, which could allow for increased aircraft access compared with Alternative A.

Lands and Realty

Under all alternatives, any pending ROW and land use authorizations applications or renewals are expected to be resolved. The 137 active ROWs and land use authorizations on BLM-managed land would continue to be managed under the direction of each alternative. The BLM would also likely increase land acquisitions in GSENM. This is due to an increase in funding and staffing to the BLM land acquisition program, as well as a rise in willing seller interest.

Under Alternative A, all lands outside WSAs would be either avoidance areas or open for new ROWs, permits, and leases. This would likely increase the number of developments, such as communication sites or utility corridors, because ROWs could be approved so long as they consistent with the protection of GSENM objects. Under Alternative B, there would be more land excluded from ROWs, permits, and leases. Under Alternatives B and C, the BLM could allow renewal and upgrade of existing facilities authorized under a ROW/land use authorization within the decision area. t

Under Alternative C, there would be less land managed as ROW open and avoidance areas, and the BLM would continue to manage land designated as ROW corridors in the planning area for renewals and upgrades; however, new ROWs could be authorized outside of the preexisting designated utility corridors in ROW avoidance areas. Under Alternative D, new ROWs would be authorized in avoidance areas and within the preexisting U.S. Highway 89 utility corridor; however, most lands would be managed as ROW exclusion areas.

Special Designations for Conservation and Protection

Areas of Critical Environmental Concern, Research Natural Areas, and Other Special Management Designations

Through designation of multiple new ACECs and RNAs (ACECs), Alternatives B and C would include the most protections of identified values for ACECs, RNAs (ACECs), and other special management designations. Management actions and impacts would vary by designated unit and include closure to OHV uses, prohibiting recreational target shooting, ROW exclusion, and making the areas unavailable to livestock grazing; however, all would align with the protection and management of identified values and GSENM objects. While management actions remain the same across Alternatives B and C, Alternative B would include the most protections for the greatest area, as multiple new ACECs would be designated, increasing the acreage protected. Alternative D would not designate new ACECs or RNAs (ACECs); however, through discretionary actions of other resources, the identified values of the proposed ACECs and RNAs (ACECs) would continue to be protected in a manner similar to designation of the areas.

Alternative A would include the least amount of protections of identified values for ACECs, RNAs (ACECs), and other special management designations. This is because unlike Alternatives B and C, there would be no additional designations. However, management of GSENM objects would provide sufficient management to protect the identified values.

National Trails

The Old Spanish National Historic Trail Corridor Inventory Project is currently ongoing, and information from that report will be included for impacts analysis as available.

Scenic Routes

Alternative D would provide the highest level of protection of the viewsheds seen from designated scenic byways; this is because the route corridor would extend 5 miles from the route's centerline. The entire corridor would be classified as VRM Class II, which would allow for management activities to be seen but not attract the attention of the casual observer, and any changes would repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. Alternatives B and C would include the same VRM Class II designation, but the designation would only apply to the viewshed as seen from the designated routes within the foreground and middleground areas. This would exclude some areas in the outback area that may be covered by the Alternative D 5-mile corridor. Surface-disturbing impacts could occur in the outback area of the viewshed. Alternative A would continue to manage designated scenic routes to protect the values for which they were established. There would be no management of the viewshed as seen from the designated scenic routes and impacts within the viewshed from surface development or disturbance would continue.

Wild and Scenic Rivers

Alternative D would provide the greatest level of protection for suitable wild and scenic rivers, their free-flowing condition, water quality, identified ORVs, and tentative classifications. The BLM would manage all suitable segments and their corridors as ROW exclusion, except in a designated utility corridor. Alternative C would provide the next-highest level of protection by managing all suitable segments in the outback and primitive areas as ROW exclusions. The BLM would manage all other suitable segments as ROW avoidance, except in a designated utility corridor. Alternative B would provide the second-lowest level of protection with only the suitable segments with wild classification corridors managed as ROW exclusion, except in a designated utility corridor. All suitable segments within WSAs, ISAs, and protected

lands with wilderness characteristics would be managed as VRM Class I. All other segments would be managed as VRM Class II. Alternative A would provide the lowest level of protection with all suitable segments, regardless of classification, managed as ROW avoidance, except in designated utility corridors and VRM Class I for only those suitable segments that fall within WSAs.

Wilderness Study Areas

Alternatives B, C, and D would provide the highest level of protection to WSAs; this is because they would require re-inventorying WSA units for wilderness characteristics upon their release. No new proposals or actions would occur within the WSA units until the BLM completes the wilderness characteristics inventory. Proposals and actions would have to be consistent with the protection of wilderness characteristics, GSENM objects, or implemented for public health and safety. In comparison, Alternative A would not require re-inventory of wilderness characteristics and would only release lands on a case-by-case basis, as directed by Congress. Across all alternatives WSAs would continue to be managed as VRM Class I and ROW exclusion, and closed to OHV use.

Social and Economic Values

Under all alternatives, GSENM would continue to stimulate the local and regional economy through increased jobs, wages, economic output, nonmarket values, and ecosystem services from its uses, such as recreational opportunities and grazing and ranching allotments.

Alternative A would likely provide more economic value from grazing through more jobs, labor income, and economic output than Alternatives B, C, and D, due to the larger number of actual AUMs. Alternative B would likely provide more economic value from grazing than Alternatives C and D, and Alternative C would likely provide more economic value from grazing than Alternative D. Alternatives A, B, and C would likely each provide the same amount of economic value from recreation through jobs, income, and economic output. Alternative D could provide less economic value from recreation than Alternatives A, B, and C, if the BLM management decisions lead to a reduction in visitors due to the increase in acres closed to OHV travel, compared with Alternative A, and the potential for more limited access to products and resources. However, there could be an increase in visitors who are looking to recreate in more remote areas.

Impacts on nonmarket values and ecosystem services would be more difficult to quantify than economic values. Under Alternative D, the BLM would protect the most lands with wilderness characteristics and would place the most restrictions on other uses that would not contribute to the protection of the lands, compared with the other alternatives. This would mean the BLM management decisions under Alternative D would most likely provide more nonmarket value associated with open spaces (such as quality-of-life values), but less nonmarket values associated with recreation and grazing (such as mental and physical health and sense of place) than the other alternatives. Under Alternative A, there would continue to be no lands protected for their wilderness characteristics, which would mean that the BLM management decisions, under Alternative A, would likely provide fewer nonmarket values associated with open spaces, but might provide more nonmarket values associated with recreation and grazing than Alternative D.

Environmental Justice

Under Alternatives B, C, and D, the BLM could maintain and improve routes to meet public health and safety needs. Under Alternatives B, C, and D, public safety concerns could be reduced more than under

Alternative A, which limits improvements to the routes listed in the 2000 Monument Management Plan (BLM 2000, TRAN-7).

Under all alternatives, the BLM's management decisions could impact environmental justice communities who rely on wood harvesting for heating sources or other uses. Under Alternative D, BLM management decisions would limit noncommercial and commercial timber harvesting, which would be the most restrictive of the alternatives. This could disproportionately impact environmental justice communities by restricting access to products; however, reducing use of wood for heating sources could improve air quality for the surrounding community, including environmental justice populations. These impacts would be site specific and would depend on the location and concentration of the wood burning. Under all alternatives, the BLM would continue to coordinate and consult with tribes with ties to GSENM. Also, the BLM would implement mitigation measures that would reduce impacts on tribal communities, such as impacts on timber and wood cutting resources, sustenance resources, and cultural and spiritual resources.

Under all alternatives, the BLM's management decisions would continue to support environmental justice communities through employment, public services, economic output, and nonmarket benefits and ecosystem services. Under Alternative D, there could be less economic contributions from recreation than the other alternatives, if the BLM management decisions lead to a reduction in visitors due to more restrictions on land use and access to products and resources. On the other hand, there could be an increase in visitors who are looking for solitude. These impacts on the economy could affect environmental justice populations; however, the magnitude of this impact would depend on the overall change in visitation numbers. Additionally, the jobs associated with recreation and tourism are often short-term or seasonal positions, which might have limited impact on overall income for local households. If there are fewer overall visitors under Alternative D, there could be a reduction in negative impacts on cultural resources, which would likely impact environmental justice populations. Under Alternatives B, C, and D, there could be an increase in nonmarket benefits associated with more protected lands, compared with Alternative A, which could be especially impactful to minority populations and Tribal Nations who use GSENM for spiritual and traditional uses.

ES.6 REFERENCES

BLM (United States Department of the Interior, Bureau of Land Management). 2000. Grand Staircase-Escalante National Monument Management Plan. February. Internet website:

<https://eplanning.blm.gov/eplanning-ui/project/94706/570>.

Scott, M., L. Reynolds, P. Sharfroth, and J. Spence. 2017. The role of a non-native tree in riparian vegetation expansion and channel narrowing along a dryland river. Internet website:

https://www.researchgate.net/profile/Lindsay-Reynolds-4/publication/325209712_The_role_of_a_non-native_tree_in_riparian_vegetation_expansion_and_channel_narrowing_along_a_dryland_river_Russian_olive_invasion_along_a_dryland_river/links/5cf6d9c5299b1fb185974a4/The-role-of-a-non-native-tree-in-riparian-vegetation-expansion-and-channel-narrowing-along-a-dryland-river-Russian-olive-invasion-along-a-dryland-river.pdf?origin=publication_detail.