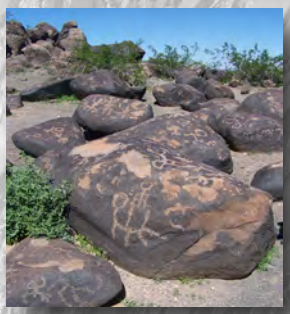

BLM

September 2012

Sonoran Desert National Monument Record of Decision & Approved Resource Management Plan

U.S. Department of the Interior
Bureau of Land Management
Lower Sonoran Field Office, Phoenix, Arizona

MISSION STATEMENT

"The Bureau of Land Management is responsible for stewardship of our public lands. The BLM is committed to manage, protect, and improve these lands in a manner to serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield of our Nation's resources within the framework of environmental responsibility and scientific technology. These resources include recreation, rangelands, timber, minerals, watershed, fish and wildlife habitat, wilderness, air, and scenic quality, as well as scientific and cultural values."

BLM/AZ/PL-12/008

SONORAN DESERT NATIONAL MONUMENT
RECORD OF DECISION AND
APPROVED RESOURCE MANAGEMENT PLAN

Lead Agency: US Department of the Interior (DOI), Bureau of Land Management (BLM)

Cooperating Agencies: Arizona Game and Fish Department, Arizona Department of Transportation

Location: Arizona

Contacts: *Requests for additional information regarding the Record of Decision and Approved Resource Management Plan:*

Rich Hanson, Sonoran Desert National Monument Manager, 623-580-5500

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blm_az_ls_sdnm_plan@blm.gov or call the Phoenix District Office Receptionist, 623-580-5500

Project Web site: http://www.blm.gov/az/st/en/prog/planning/son_des.html

Abstract: The Sonoran Desert National Monument Record of Decision and Approved Resource Management Plan (ROD/ARMP) is a project of BLM Arizona that supports the BLM's Mission. The Approved RMP was prepared under the authority and regulations implementing Presidential Proclamation 7397 and the Federal Land Policy and Management Act (FLPMA) of 1976 (43 Code of Federal Regulations [CFR], 1600). It includes broad land use plan decisions that provide the overall direction for managing resources and resource uses in the Sonoran Desert National Monument (SDNM). Land use plan decisions are expressed as goals and objectives (desired outcomes), allowable uses, and management actions anticipated to achieve desired outcomes. The Approved RMP also includes implementation-level decisions for travel management.

The SDNM is located in Maricopa and Pinal Counties, Arizona, approximately 50 miles southwest of Phoenix, and contains 486,400 acres of BLM-administered lands. The decisions in the RMP only apply to the BLM-administered lands within the Monument.

This plan represents years of ongoing coordinated efforts on the part of the BLM Phoenix District, SDNM staff, BLM Arizona State Office staff, representatives of communities in the Planning Area, cooperating agencies, special interest and user groups, and hundreds of concerned citizens. The decisions outlined in this document will enable the BLM to manage and protect the resources on public lands within the SDNM to achieve desired future conditions and management objectives in compliance with the Presidential Proclamation, in partnership with communities and citizens.

Land use plan decisions identified in the Approved RMP are final and become effective upon the Arizona's State Director's signing of the ROD.

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Phoenix District
Sonoran Desert National Monument
21605 North 7th Avenue
Phoenix, Arizona 85027
www.blm.gov/az/

TAKE PRIDE IN AMERICA

In Reply Refer To:

2000/2010 (P010)

Dear Reader/Interested Party:

I am pleased to announce that, after several years of hard work and collaboration, the Sonoran Desert National Monument Resource Management Plan (RMP) is complete. This document will provide guidance for the management of about 496,400 acres of Federal surface and mineral estate administered by the Bureau of Land Management (BLM) in Maricopa, and Pinal Counties in south-central Arizona.

The attached Record of Decision (ROD) and Approved RMP have been prepared in accordance with the Federal Land Policy and Management Act (FLPMA) and the National Environmental Policy Act (NEPA). The ROD/Approved RMP is available to members of the public and will be sent to pertinent local, State, Tribal and Federal government entities. The ROD finalizes the proposed decisions presented in the Proposed RMP/Final Environmental Impact Statement (FEIS) that was released on June 15, 2012 and subject to a 30-day protest period that ended on July 16, 2012. Nine protest letters with standing were received. The protests were reviewed by the BLM Director in Washington, D.C. After careful consideration of all points raised in these protests, the Director concluded the responsible planning team and decision makers followed all applicable laws, regulations, policies, and pertinent resource considerations in developing the proposed plan. Minor adjustments or points of clarification are incorporated into the Approved RMP in response to issues raised in the protest process and final BLM review. These minor changes are discussed in the ROD under the section titled Clarifications and Modifications, but the protest review did not result in any significant changes from the Proposed RMP.

The approval of this ROD by the BLM Arizona State Director serves as the final decision for all land use plan decisions described in the attached Approved RMP. Implementation-level decisions in the Approved RMP, relating to route designations, are subject to appeal. Appeal procedures for these implementation decisions are described in section 1.4.2 of the attached ROD. Future implementation of land use plan decisions will not be undertaken without suitable further NEPA analysis, including appropriate public involvement.

Notification of the approval of this ROD/Approved RMP will be announced via local news releases and on the BLM website at: http://www.blm.gov/az/st/en/prog/planning/son_des.html. CD-ROM versions of the ROD/Approved RMP may be obtained by contacting the Lower Sonoran Field Office by phone at (623) 580-5500; by sending a request by email to BLM_AZ_LSFO_SDNM@blm.gov ; or at the following address:

Bureau of Land Management
Lower Sonoran Field Office
21605 N. 7th Avenue
Phoenix, Arizona 85027

A limited number of Hard Copy documents will be available at a later date and may be requested from the same locations.

The BLM is pleased to provide this copy of the Sonoran Desert National Monument ROD/Approved RMP for your reference. We greatly appreciate the efforts of all who contributed to completion of this RMP, including the State of Arizona, Maricopa County, The towns of Buckeye and Gila Bend, and numerous Federal and State government agencies that worked closely with us to complete this important effort. We also appreciate the extensive public involvement during this time by local communities, organizations, and individuals. Public input informed and improved this planning document. We look forward to continuing to work with our partners and citizens as we implement the decisions in this RMP.

Sincerely,

Richard B. Hanson

Richard B. Hanson
National Monument Manager

Enclosure

Sonoran Desert National Monument

Record of Decision and

Approved Resource Management Plan

ERRATA SHEET

The following corrections have been made to the document:

1. Page 1-5: At the end of the first paragraph on the page, the referenced decision number was incorrect. It was corrected to read, "Upon recalculation, the AUMs increased to 3,318; this revised AUM decision is the final AUM allocation in the SDNM Approved RMP (see GR-2.1.4)."
2. Page 2-66: Grazing decision GR-2.1.4 incorrectly noted the number of AUMs permitted. It was corrected to read, "GR-2.1.4: 3,318 AUMs are permitted in the SDNM."

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1. RECORD OF DECISION

1.1 INTRODUCTION

This Record of Decision (ROD) approves the United States (US) Department of the Interior, Bureau of Land Management's (BLM's) proposal to manage the BLM-administered lands in the Sonoran Desert National Monument (SDNM) as presented in the attached Approved Resource Management Plan (RMP). This RMP was described as Alternative E in the Lower Sonoran and Sonoran Desert National Monument Proposed RMP and Final Environmental Impact Statement (PRMP/FEIS), which was released on June15, 2012. While the PRMP/FEIS also addressed management of the Lower Sonoran Decision Area, which is also administered by the Lower Sonoran Field Office, this ROD applies only to those decisions for management of the SDNM.

On January 17, 2001, Presidential Proclamation 7397 created the Sonoran Desert National Monument to ensure protection of a spectacular diversity of biological resources, and archaeological and historic sites. These monument objects include abundant saguaro cactus forests; a rich diversity, density, and distribution of plants in the Sand Tank Mountains area; rare patches of desert grasslands; a wide variety of desert wildlife, such as the desert bighorn sheep and Sonoran desert tortoise; and significant archaeological resources, such as large village sites, rock art sites, and lithic quarries.

The SDNM is located in Maricopa and Pinal Counties, Arizona, and contains 486,400 acres of BLM-administered lands. The decisions in the RMP only apply to the BLM-administered lands within the Monument.

This ROD provides an overview of the alternatives considered; a summary of protests received and clarifications made in response; management considerations and rationale for the decisions; and an overview of public involvement in the planning process.

1.2 THE DECISION

The decision is hereby made to approve the attached RMP for the SDNM. The RMP was prepared under the authority and regulations implementing the Federal Land Policy and Management Act (FLPMA)

of 1976 (43 Code of Federal Regulations [CFR] 1600), and includes broad land use plan decisions that provide overall direction for management of resources and resource uses within the SDNM decision area. Land use plan decisions are expressed as goals and objectives (desired outcomes), allowable uses, and management actions anticipated to achieve desired outcomes. Although land use plan decisions identified in the RMP are final and effective upon signing of this ROD, some implementation-level decisions to implement the ROD may require additional steps before on-the-ground activities can begin. The RMP also includes new implementation-level decisions related to travel management. The RMP does not include implementation-level decisions related to grazing.[1]

The decisions included in this ROD and RMP supersede all of the previous RMPs and interim management direction that guided management within the boundaries of the SDNM.

1.2.1 Protest Resolution

An environmental impact statement (EIS) was prepared for this RMP in compliance with the National Environmental Policy Act (NEPA) of 1969. The Approved RMP is nearly identical to the PRMP set forth in the Lower Sonoran-SDNM PRMP/FEIS, published June 2012.

The BLM received nine protest letters during the 30-day protest period provided for the proposed land use plan decisions in the PRMP/FEIS in accordance with 43 CFR Part 1610.5-2. Protesting parties are listed below:

- Arizona State Senator Gail Griffin
- Ronald G. Martin
- Dawn Meidinger, Fennemore-Craig on behalf of Freport-McMoRan Corporation
- Greta Anderson, Western Watersheds Project and Sandy Bahr, Sierra Club – Grand Canyon Chapter
- Michael DeRosier, Beloat Allotment
- The Wilderness Society, Arizona Wilderness Coalition, National Trust for Historic Preservation, Archeology Southwest, Sierra Club – Grand Canyon Chapter, Western Watersheds Project
- Jason Keith, Conley Allotment
- Ron Henry, Mayor, and Colby Turner, Parks and Recreation Director, Town of Gila Bend
- Patrick Bray, Arizona Cattle Growers' Association

Protest resolution is the responsibility of the BLM Washington Office, with input from the Lower Sonoran Field Office and the Arizona State Office. Once the standing of the protesters was determined, protest letters were reviewed for valid protest issues. Valid protest issues are:

[1] The decision document for the implementation-level decision regarding grazing management will be issued separately in compliance with 43 CFR § 4160.

- Land use planning level decisions. Implementation-level decisions are not protestable under the planning regulations.
- Information already raised in comment sometime during the planning process. No new issues can be brought up for protest.
- A concise statement explaining why the State Director's decision is believed to be wrong. A difference of opinion or disagreement is not sufficient to constitute a protest issue.

Protest issues are "parsed" out of letters and then combined into common issues. These issues are then summarized and responded to as issue groups. While the protest process considers the whole letter sent by protesters, this document responds to only those statements that constitute valid protest issues. Responses are then published to the BLM website as a Director's Protest Resolution Report.

The BLM responded to the following protest issues raised by protesting parties:

Impacts Analysis: The BLM failed to analyze the direct and indirect effects of the proposed action, including the proposed closure of public lands to mineral entry and the effects of Areas of Critical Environmental Concern (ACECs) and other special management areas on minerals development.

Cumulative Effects Analysis: The BLM failed to adequately analyze the cumulative effects of the proposed action for minerals management and livestock grazing.

Scoping: The public scoping process for the Lower Sonoran-SDNM RMP was insufficient, as BLM failed to reinitiate scoping in response to significant changes in the Planning Area subsequent to the publication of the Notice of Intent in 2002.

Range of Alternatives: The range of alternatives presented in the PRMP/FEIS failed to explore the opportunity for the enhanced development of mineral resources and to consider an ephemeral grazing alternative.

ACECs: The Cuerda de Lena ACEC did not meet the requisite statutory and regulatory criteria for designation, and BLM failed to fully disclose the proposed management actions and mitigation features for the Cuerda de Lena ACEC.

Air Resources: The PRMP/FEIS does not comply with the requirements of Secretarial Order 3289, and did not adequately analyze impacts on climate change.

Cultural Resources: The BLM failed to adequately analyze impacts on cultural resources under NEPA and did not complete Section 106 consultation with the State Historic Preservation Office for route designations.

Fish, Wildlife, Plants, and Special Status Species: The BLM did not complete consultation as required under Section 7 of the Endangered Species Act (ESA).

Lands, Realty: The PRMP/FEIS did not recognize valid existing rights.

Livestock Grazing: The BLM did not adequately analyze impacts from livestock grazing on wildlife and special status species, visual resource management (VRM), air quality, climate change, vegetation, and

socioeconomics. Additionally, the BLM did not use the best available information as baseline data for the impact analysis. Specific to the SDNM, protesters suggested that BLM did not adequately protect the monument's objects in violation of the Presidential Proclamation.

Department of the Interior Policy for the Integrity of Scientific and Scholarly Activities: During the development of the PRMP/FEIS, the BLM violated the Department of the Interior's Policy for the Integrity of Scientific and Scholarly Activities by committing scientific and scholarly misconduct by changing data and intentionally omitting data relevant to the impact analysis.

Administrative Procedures Act: Aspects of the RMP/EIS process violated the Administrative Procedures Act.

Recreation, Visitor Services: The BLM did not analyze the impacts from allowing recreational target shooting within the SDNM and arbitrarily proposed to allow recreational target shooting in the SDNM.

Wilderness Characteristics: The BLM failed to follow agency policy on managing lands with wilderness characteristics.

The BLM Director's decisions on the protests are summarized in the *Director's Protest Resolution Report, Sonoran Desert National Monument and Lower Sonoran Resource Management Plans*, released on September 14, 2012 and available on the BLM Web site. The Director dismissed the protests from Senator Gail Griffin, Ronald Martin, and the Arizona Cattle Growers' Association because they contained only comments and no valid protest issues. The director dismissed protests from Michael DeRosier and the Town of Gila Bend because the protests cite only implementation decisions. Implementation decisions are not subject to protest under the planning regulations. However, any party adversely affected by an implementation decision may appeal such decision to the Interior Board of Land Appeals after the ROD is signed. The Director denied the protest from Fennemore-Craig, Western Watersheds Project, The Wilderness Society et al., and Jason Keith, and provided responses to their protests in the Director's Protest Resolution Report. In summary, the Director concluded that the BLM Arizona State Director followed the applicable laws, regulations, and policies, and considered all relevant resource information and public input in developing the PRMP. Each protesting party was notified in writing of the Director's findings and the disposition of their protests.

The BLM Director resolved the protests without making significant changes to the PRMP, though minor clarifications were made and have been explained in the Clarifications and Modifications section below.

1.2.2 Clarifications and Modifications

As the result of continued internal review, the BLM made several clarifications between the PRMP/FEIS and the Approved RMP. Minor grammatical or editorial edits were made and are not described here.

The implementation-level grazing decisions are not included in this ROD and Approved RMP. These decisions will be implemented under the authority of BLM grazing regulations at 43 CFR Subpart 4160. The implementation-level decisions for livestock grazing will be issued before the start of the grazing year. See **Sections 1.4.2** and **1.5.1** for additional details.

During review of the livestock grazing AUM decision for the SDNM, the BLM discovered mathematical errors in the original formulas used to calculate the AUM number. In the PRMP/FEIS, the number of AUMs was noted as 3,114 (see Alternative E in Table 2-24 of the Lower Sonoran-SDNM PRMP/FEIS). Upon recalculation, the AUMs increased to 3,318; this revised AUM decision is the final AUM allocation in the SDNM Approved RMP (see GR-2.1.4).

As a point of clarification, a protesting party noted that information regarding baseline information for the grazing analysis was incorrectly stated in the PRMP/FEIS on page 6-251. BLM stated that baseline information was collected through 2010, which is incorrect. The BLM completed data collection in 2009; no new data was collected after 2009. The BLM analyzed and interpreted the data in 2010.

Eight appendices that were in the PRMP/FEIS have been brought forward and renumbered for the Approved RMP, as follows: **Appendix A**, Presidential Proclamation, **Appendix B**, Guidelines for Grazing, **Appendix C**, Recreation Setting and Worksheets, **Appendix D**, Best Management Practices and Standard Operating Procedures, **Appendix E**, Travel Management Plan, **Appendix F**, Possible Easement Locations, **Appendix G**, Route Rationales, and **Appendix H**, Route Mitigations.

Some decisions presented in the PRMP/FEIS were repeated in multiple program areas. In the Approved RMP, these decisions are coded only once. The code reflects the program that is most affected.

1.3 THE ALTERNATIVES

NEPA requires the development and consideration of a reasonable range of management alternatives, including a No Action Alternative, to analyze impacts and guide decision-makers in developing and selecting the RMP. All alternatives must be viable and reasonable. They must reflect the requirements of the Presidential Proclamation; be responsive to issues identified by the public, stakeholders, and BLM specialists and managers during the scoping period; and meet established planning criteria, as well as applicable federal and state laws, regulations, and BLM policies.

1.3.1 Alternatives Considered, but Not Analyzed

The following alternatives and management options were considered as possible ways of resolving resource management issues and conflicts but were eliminated from detailed analysis; rationale for the alternative's elimination is provided under each heading.

Public Safety

There was a recommendation to prohibit the carrying of weapons. By law, US citizens may carry weapons on or through public lands for a number of legitimate purposes including hunting and self-protection. Alternatives for managing recreational target shooting activities were considered in the PRMP for public safety and resource protection purposes, but a prohibition against the possession of firearms was not analyzed.

Driving in Washes

A proposal was submitted requesting that driving be allowed in all washes large enough to accommodate a four-wheel-drive vehicle as a long-standing, traditional use. This alternative was not carried forward into an action alternative because allowing vehicular travel in washes not specifically designated as a BLM asset, such as a primitive road, would force drivers to determine whether the wash was open for travel. Such ambiguity could lead to situations of unlawful driving and resource damage. The travel route inventory conducted by the BLM included routes in washes.

In addition, authorizing unlimited driving in washes at the driver's discretion would essentially open hundreds of miles of wash system to all-terrain or four-wheel drive vehicles, as this action would include currently traveled washes as well as untraveled washes. This type of travel is inconsistent with Presidential Proclamation 7397, which expressly prohibits, with the exception of emergency or authorized administrative use, all off-road motorized and mechanized vehicle use in the Monument. Due to potentially adverse resource impacts on wildlife habitat, soils, and vegetation, unlimited driving in washes is inconsistent with the resource protection and management goals established for the SDNM Decision Area.

Livestock Grazing

For livestock grazing allotments within the SDNM Decision Area, the SDNM proclamation requires the BLM to determine whether livestock grazing is compatible with the paramount purpose of protecting the Monument objects. During the land health evaluation process, the BLM did not determine if the allotments meet the criteria described in the Special Ephemeral Rule; therefore, an alternative to convert all allotments to ephemeral was not analyzed. However, in the future, the BLM could modify the designation based on their future findings, and in coordination and cooperation with the permittee and interested publics, as required by NEPA.

1.3.2 Alternatives Considered in Detail

The general scope and key highlights of each alternative considered in the FEIS for the SDNM RMP are summarized below.

Alternative A, No Action Alternative

Selection of the No Action Alternative for the Monument would continue current management under the existing land use plans, except as changed by Presidential Proclamation 7397, which established the Monument and specified certain management provisions. Alternative A continued current public use and resource protection/conservation prescriptions without change. It neither set desired outcomes for resource management or most uses, nor addressed new issues unforeseen or nonexistent when the current management plans were prepared.

Alternative B

The management decisions in Alternative B generally identified the areas of the Monument that would be most suitable for the largest number of potential uses and emphasized opportunities for those uses.

Alternative B set desired outcomes and allocations for resources discussed in the proclamation, including natural, cultural, and visual, while providing appropriate human use/influence and an array of visitor experiences and opportunities. It focused on proactive techniques for ecosystem restoration, resource management, and scientific research and likely required more intensive use management to avoid or mitigate any adverse effects.

Alternative C

The management decisions in this alternative generally represented an attempt to balance resource protection and human use and influence. As in Alternative B, it set desired outcomes and allocations for the resources discussed in the Monument's proclamation, including natural, cultural, and visual. It proposed a moderate amount of open roads and trails and a mix of recreational opportunities. It proposed a mix of natural processes and proactive techniques for ecosystem restoration, resource management, and scientific research and would likely reduce the need for intensive use management to avoid or mitigate any adverse effects.

Alternative D

Alternative D placed the greatest emphasis on minimal human use and influence and the maintenance of primitive landscapes. It focused on natural processes and other unobtrusive methods for ecosystem restoration, resource management, and scientific research, while emphasizing resource protection and conservation. As in the other alternatives, it set desired outcomes and allocations for Monument resources discussed in the proclamation, including natural, cultural, and visual, while allowing a lower level of human use. The need for both intensive use management and proactive resource stabilization and restoration measures would be reduced by the greatest degree under Alternative D.

Alternative E

Alternative E was the BLM's PRMP for the SDNM Decision Area. It incorporated elements from each of the other alternatives, offering a unique prescription for managing public use of the Monument, while providing long-term protection and conservation of resources. It balanced human use and influence with resource protection. The need for both intensive use management and proactive resource stabilization and restoration measures would be reduced by an intermediate degree.

1.3.3 Environmentally Preferable Alternative

Alternative E, the Approved RMP, is considered by the BLM to be the environmentally preferable alternative when taking into consideration the human (social and economic) environment and the natural environment. The US Council on Environmental Quality has defined the environmentally preferable alternative as the alternative that will promote national environmental policy as expressed in Section 101 of NEPA. The six broad policy goals for all federal plans, programs, and policies are listed below:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.

- Ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
- Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.
- Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment that supports diversity and variety of individual choice.
- Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

In comparison with the other alternatives analyzed, Alternative E best meets the above NEPA goals for the future management of the SDNM. It provides long-term protection and resource conservation, and balances human use and influence with resource protection.

The No Action Alternative, Alternative A, would have no specific special status species or cultural resource provisions or allocations, no management actions specific to wildlife movement corridors, no areas managed to protect wilderness characteristics, and grazing would continue to have undesirable effects. For these reasons, the No Action Alternative is not preferable from an environmental perspective.

The management decisions in Alternative B identified the areas of the Monument that would be most suitable for the largest number of potential uses and emphasized opportunities for those uses. Alternative B set desired outcomes and allocations for resources discussed in the proclamation, including natural, cultural, and visual, while providing opportunities for appropriate human use and influence and an array of visitor experiences and opportunities. It focused on proactive techniques for ecosystem restoration, resource management, and scientific research and likely required more intensive use management to avoid or mitigate any adverse effects. However, Alternative B has the least amount of resource protections and would not achieve balance between resource uses and preserving important historic, cultural, and natural aspects of the SDNM.

The management decisions in Alternative C represented an attempt to balance resource protection and human use and influence. As in Alternative B, it set desired outcomes and allocations for the resources discussed in the Monument's proclamation, including natural, cultural, and visual. Alternative C proposed a moderate amount of open roads and trails and a mix of recreational opportunities. It also proposed a mix of natural processes and proactive techniques for ecosystem restoration, resource management, and scientific research and would likely reduce the need for intensive use management to avoid or mitigate any adverse effects. Alternative C does not attain the widest range of beneficial uses of the environment without degradation or reduction in visitor experience.

Alternative D placed the greatest emphasis on limiting human use and influence and maintaining primitive landscapes. It focused on natural processes and other unobtrusive methods for ecosystem restoration, resource management, and scientific research, while emphasizing resource protection and conservation. As in the other alternatives, Alternative D set desired outcomes and allocations for Monument resources discussed in the proclamation, including natural, cultural, and visual, while allowing a lower level of human use. The need for both intensive use management and proactive resource stabilization

and restoration measures would be reduced by the greatest degree under Alternative D. For these reasons, Alternative D did not achieve a balance between population and resource use, resource protection that permitted enhancement of resource conditions and visitor experience.

Alternative E was the BLM's PRMP for the SDNM Decision Area. It incorporated elements from each of the other alternatives, offering a unique prescription for managing public use of the Monument, while providing long-term protection and conservation of resources. Alternative E balanced human use and influence with resource protection. The need for both intensive use management and proactive resource stabilization and restoration measures would be reduced by an intermediate degree. Overall, Alternative E best meets the requirements of Section 101 of NEPA. The BLM has selected Alternative E as the environmentally preferable alternative.

1.4 LAND USE PLAN DECISIONS, IMPLEMENTATION DECISIONS, AND ADMINISTRATIVE ACTIONS

The Approved RMP provides overall direction for management of all resources on BLM-administered land in the Monument. Many land use plan decisions are implemented or become effective upon publication of the ROD for the Approved RMP and may include desired future conditions, land use allocations (allowable uses) or designations, and special designations.

Land use plan decisions represent the desired outcomes and the actions needed to achieve them. Such decisions were attained using the planning process found in 43 CFR 1600 and guide future land management actions and subsequent site-specific implementation decisions. When presented to the public as proposed decisions, land use plan decisions can be protested to the BLM Director; however, they cannot be appealed to Interior Board of Land Appeals.

Implementation decisions and management actions that require additional site-specific project planning, as funding becomes available, will require further environmental analysis. Some implementation decisions (e.g., route designations) are finalized with this ROD and thus require no further environmental analysis. Administrative actions are not land use planning or implementation decisions, but are a key component of the overall plan because they describe the BLM's day-to-day actions to help meet desired future conditions. The BLM will continue to involve and collaborate with the public during implementation of the Approved RMP. Brief descriptions of the types of decisions are presented below.

1.4.1 Land Use Plan Decisions

Desired Outcomes

Land use plans identify desired outcomes expressed in terms of specific goals and objectives. Goals and objectives direct the BLM's actions in most effectively meeting legal mandates; numerous regulatory responsibilities; national policy, including the Department of the Interior Strategic Plan goals; State Director guidance (see 43 CFR 1610.0-4[b]); and other resource or social needs. Desired outcomes should be identified for and pertain to resources such as natural, biological, and cultural; resource uses such as energy and livestock grazing; and other factors such as social and economic conditions. Land use

plans are designed to most effectively meet these desired outcomes through special designations, allowable uses, land use allocations, and management actions.

Special Designations

Special designations are designated by Congress for special protection, such as wilderness areas (see the Approved RMP). Such designations are not land use plan decisions; however, recommendations for designation can be made at the land use plan level. Congress may then act on these recommendations at a later time.

Administrative designations made by the BLM, such as ACECs, are also considered special designations and can be made in the land use plan (see the Approved RMP).

Allowable Uses (Land Use Allocations)

Land use plans must identify uses, or allocations, that are allowable, restricted, or prohibited on the public lands and mineral estate. These allocations identify surface lands or subsurface mineral interests where uses are allowed, including any restrictions that may be needed to meet goals and objectives. Land use plans also identify lands where specific uses are excluded to protect resource values. Certain lands may be open or closed to specific uses based on legislative, regulatory, or policy requirements or criteria to protect sensitive resource values. If land use plan decisions close areas of 100,000 acres or greater in size to a principal or major use for two years or more, Congress must be notified of the closure upon its implementation as prescribed in 43 CFR 1610.6.

Management Actions

Land use plans for National Monuments must identify the actions anticipated to achieve desired outcomes, including actions to maintain, conserve, protect, restore, or improve land health. These actions include proactive measures (e.g., measures that will be taken to enhance watershed function and condition), as well as measures or criteria that will be applied to guide day-to-day activities on public land. Land use plans also establish administrative designations such as ACECs, recommend proposed withdrawals, land tenure zones, and recommend or make findings of suitability for congressional designations such as components of the National Wild and Scenic Rivers System.

1.4.2 Implementation Decisions

Implementation decisions (or activity-level decisions) are management actions tied to a specific location that implement land use plan decisions. Implementation decisions generally constitute the BLM's final approval allowing on-the-ground actions to proceed and require appropriate site-specific planning and NEPA analysis. Such decisions may be incorporated into implementation plans (activity or project plans) or may exist as stand-alone decisions.

Unlike land use plan decisions, implementation decisions are not subject to protest under the planning regulations. Instead, implementation decisions are subject to various administrative remedies, including, in most cases, appeal to the Interior Board of Land Appeals (under 43 CFR 4.410). Where implementation decisions are made as part of the land use planning process, they are subject to an

administrative review process as prescribed by the specific resource program regulations. For example, the designation of a specific route is an implementation-level decision, rather than a land use plan decision. Consequently, individual route designations are subject to an administrative review process that is described below.

Implementation-level decisions in the PRMP/FEIS are the SDNM route designations for approved motorized and non-motorized public use (see **Section 2.3.1**, Travel Management). All route designations (i.e., routes designated as open, see attached Approved RMP) are finalized with this ROD, and may be appealed at this time.

Grazing Implementation Decisions

The implementation-level grazing decisions are not included in this ROD. These decisions will be implemented under the authority of BLM grazing regulations at 43 CFR Subpart 4160. The BLM expects to issue implementation level decisions for livestock grazing before the start of the grazing year consistent with these regulations, which describe the intended livestock grazing administrative and management actions or series of actions, and provides an avenue by which applicants, permittees, lessees, states having land or resource management responsibilities within the area, and the interested public may challenge and seek further review of the decision.

Appeal Procedures for Travel Management Implementation Decisions

The following procedures describe the appeal process for the implementation decisions related to travel management. Implementation decisions related to Travel Management (see **Section 2.3.1** of the Approved RMP) will be available for appeal immediately upon public release of this ROD/Approved RMP.

Any party adversely affected by an implementation decision may appeal within 30 days of receipt of this decision in accordance with the provisions of 43 CFR Part 4.4. The appeal must include a statement of reasons or file a separate statement of reasons within 30 days of filing the appeal. The appeal must state if a stay of the decision is being requested in accordance with 43 CFR 4.21 and must be filed with the Lower Sonoran Field Manager at the following address:

Field Manager, Lower Sonoran Field Office
21605 North 7th Avenue
Phoenix, AZ 85027-2929

A copy of the appeal, statement of reasons, and all other supporting documents shall be sent to the Field Solicitor at the following address:

Field Solicitor
US Department of the Interior
Office of the Solicitor
401 West Washington Street, SPC 44
Phoenix, AZ 85003

If the statement of reasons is filed separately, it must be sent to the following address:

United States Department of the Interior
Office of Hearings and Appeals
Interior Board of Land Appeals
801 N. Quincy Street, Suite 300
Arlington, Virginia 22203

Request for Stay

Any party wishing to file a request for stay pending the outcome of an appeal of one or more implementation decisions must show sufficient justification based on the following standards under 43 CFR 4.21:

- The relative harm to the party if the stay is granted or denied
- The likelihood of the appellant's success on the merits of the stay
- The likelihood of immediate and irreparable harm if the stay is not granted
- Whether the public interest favors granting the stay

As noted above, the request for stay must be filed with the BLM Field Manager at the address listed above.

1.4.3 Administrative Actions

Although the BLM's intent and commitment to accomplish administrative actions is generally addressed in an EIS, such activities are neither management nor implementation decisions. Administrative actions are day-to-day activities conducted by the BLM, often required by FLPMA, but do not require NEPA analysis or a written decision by a responsible official. Examples of administrative actions include mapping, surveying, conducting inventory or monitoring, scientific research, other studies, partnering and collaborating with partners, developing educational materials, and working with local communities or interest groups.

1.5 MANAGEMENT CONSIDERATIONS FOR SELECTING THE APPROVED RMP

In developing the Approved RMP, the BLM had the discretion to select an alternative in its entirety, or to combine aspects of the various alternatives presented in the Draft RMP/Draft EIS (DRMP/EIS) or the PRMP/FEIS, including considering management approaches presented during the comment period that do not result in significant changes from what the DRMP/EIS considered. The NEPA Handbook (H-1790-1) states, "Various parts of separate alternatives that are analyzed in the draft can also be 'mixed and matched' to develop a complete alternative in the final" (see also 43 CFR 1503.4(a)).

Based on the input received during the planning process, there was both support and opposition to many components of the PRMP. However, the BLM did not receive comments from federal or state agencies, or from tribal governments indicating that the PRMP was inconsistent with other existing plans or policies. Additionally, no inconsistencies with state plans, policies, or programs were identified during

the Governor's consistency review of the PRMP/FEIS. The BLM considered all comments and protests received on the PRMP/FEIS and input from the Governor's consistency review. This ROD serves as the final decision for the land use plan decisions for the Approved RMP. The Approved RMP will become effective on the date this ROD is signed.

1.5.1 Compatibility of Grazing in the SDNM

The Presidential Proclamation establishing the Sonoran Desert National Monument (**Appendix A**, Presidential Proclamation) directed the BLM "…that grazing on Federal lands north of Interstate 8 shall be allowed to continue only to the extent that the Bureau of Land Management determines that grazing is compatible with the paramount purpose of protecting the objects identified in this proclamation." Appendices E and F of the PRMP/FEIS presented the studies that assessed whether grazing is compatible with protecting the objects of the Monument. Methodologies employed in the compatibility analysis included a rigorous land health evaluation process, a thorough literature review, technical reports and guidance, and a comprehensive evaluation of the effects of grazing on Monument objects and their indicators within the SDNM.

In Appendix E of the Lower Sonoran-SDNM PRMP/FEIS, the Lower Sonoran Field Office Manager determined that:

> In some locations, current conditions on the six allotments within the SDNM are not achieving Standard 3 (see Map E-2 of the Lower Sonoran-SDNM PRMP/FEIS, Appendix E). Monument lands not achieving Standard 3 total 127,550 acres, representing 50.5 percent of all Monument lands north of I-8. Livestock use pattern mapping and monitoring data indicate that non-achievement of Standard 3 cannot be attributed to current livestock-grazing practices on 96.6 percent of Monument lands located north of I-8. There may be several contributing factors to non-achievement of Standard 3 aside from livestock grazing.
>
> The results of the analysis indicate that livestock grazing is a causal factor for non-achievement of Standard 3 on 8,498 acres (Map E-2 of the Lower Sonoran-SDNM PRMP/FEIS, Appendix E). This represents 3.4 percent of the 252,500 acres of the Monument north of I-8, and 6.76 percent of the 127,550 acres not achieving Standard 3.
>
> Areas where livestock grazing was determined to be the causal factor for not achieving Standard 3 include portions of the following Monument objects or indicators: palo verde-mixed cacti (1 percent of plant community), the saguaro cactus forest (1 percent of plant community), creosote bush-bursage (5 percent of plant community) or desert wash (2 percent, or 12 miles of the plant community) and its associated wildlife objects (identified in Table E-7, Results of the Land Health Evaluation [LHE Objectives by Monument Object]) and a small portion (1.4 percent, or 10-acres) of the Anza National Historic Trail (NHT).
>
> Currently, the grazing preference for perennial forage is not supported by monitoring and inventory data. Field observations and use compliance checks indicate that operators graze the majority of their permitted animal unit months (AUMs) during the early winter and spring months, which are periods of high levels of ephemeral forage.

> Concentrated livestock use around North Tank (10 acres) is not consistent with past use during historic time periods, and it negatively affects the protection of the archaeological and historic site within the SDNM. Elsewhere, known rock art sites in the SDNM are not near areas of grazing concentration and have not been impacted by grazing. Artifact scatters have not yielded any definitive evidence of grazing impacts that would affect site setting or integrity.

Based on this determination, the PRMP contained both planning and implementation level decisions for livestock grazing. This ROD addresses only the planning level decisions for livestock grazing. The planning level decision for livestock grazing make those areas where grazing has been determined to be incompatible with the paramount purpose of protecting the objects identified in the Proclamation unavailable to grazing. The grazing decisions identified as "implementation-level decisions" in the PRMP/FEIS – decisions regarding level of use and season of use – must be implemented consistent with the BLM regulations at 43 CFR Subpart 4160. In order to comply with these regulations, the BLM has determined not to address the implementation-level decisions for grazing previously identified in the PRMP/FEIS in this ROD. BLM expects to issue a decision for grazing implementation decisions before the next grazing year

1.6 MITIGATION MEASURES

In developing the alternatives, the BLM used a variety of management methods and tools, including the identification of allowable uses, temporal, spatial, and restrictions on uses, where specific uses will be prohibited, and specific actions needed to achieve desired outcomes. Restrictions on uses include seasonal closures, limitations on surface disturbance, and application of best management practices.

1.7 PLAN MONITORING – RMP-LEVEL DECISIONS

BLM planning regulations (43 CFR Part 1610.4-9) call for the monitoring of RMPs on a continual basis with a formal evaluation done at five year intervals. Land use plan monitoring is the process of tracking the implementation of land use planning decisions (implementation monitoring) and collecting the information necessary to evaluate the effectiveness of land use planning decisions (effectiveness monitoring). Monitoring is the process of following up on management actions and documenting the BLM's progress toward full implementation of the land use plan and the achievement of desired outcomes.

Implementation monitoring is the process of tracking and documenting the implementation (or the progress toward implementation) of land use plan decisions. The BLM tracks what management actions have been proposed or undertaken to implement land use plan decisions, documents which management actions were completed, and sets out what further actions are needed to continue implementing land use plan decisions.

Effectiveness monitoring is the process of collecting data and information in order to determine whether desired outcomes (the goals and objectives in the land use plan) are being met, or progress is being made toward meeting them, as the allowable uses and management actions are being implemented. The level and intensity of monitoring will vary, depending on the sensitivity of the resource or area and the scope of the proposed management activity.

Evaluation is the process of reviewing the land use plan and any plan monitoring reports to determine whether the SDNM Approved RMP-level decisions and NEPA analysis are still valid and whether the plan is being implemented. The SDNM Approved RMP will be evaluated to determine if decisions remain relevant to current issues; decisions are effective in achieving, or making progress toward achieving, desired outcomes; any decisions need to be revised; any decisions need to be dropped from further consideration; and any areas require new decisions.

The SDNM Approved RMP will be evaluated at a minimum every five years; special or unscheduled evaluations may be required to review unexpected management actions or significant changes in the related plans of Indian tribes, other federal agencies, and state and local governments, or to evaluate legislation or litigation that has the potential to trigger an RMP amendment or revision.

1.8 IMPLEMENTATION OF THE MANAGEMENT PLAN

Planning decisions of the Approved RMP will begin to be implemented upon signature of the ROD. Some planning level decisions require immediate action and will be implemented upon publication of the ROD and Approved RMP; other decisions will be implemented over a period of years based on priorities and available funding. The rate of implementation is tied, in part, to the BLM's budgeting process. The implementation of the Approved RMP will also occur in accordance with an adaptive management framework.

1.9 PUBLIC INVOLVEMENT

1.9.1 Public Scoping

The Notice of Intent to initiate planning on the SDNM Decision Area was published in the Federal Register on April 24, 2002 (Vol. 67, No. 79, Page 20158, [AZ-400-02-1610-DO-089A]). The opportunity to comment was also publicized through news releases, mail notification, flyers, and other methods. Eleven public scoping meetings were held, and the public was invited to submit written comments. Overall, more than 6,000 comments were received on both the SDNM and Lower Sonoran Decision Areas during the scoping period. Following scoping, the BLM held additional public workshops throughout the Lower Sonoran Field Office to collaborate on planning criteria, RMP goals and objectives, the range of alternatives, and preliminary alternatives.

1.9.2 Public Review of and Comment on the DRMP/EIS

The EPA published a Notice of Availability of the DRMP/EIS on August 25, 2011. The Notice of Availability initiated the 90-day public comment period required for planning actions. In preparing the PRMP/FEIS, the BLM considered all comments received or postmarked during the public comment period. The DRMP/EIS was made available for viewing, downloading, and commenting by a variety of methods, including as a PDF on the BLM Web site, CD, paper copies, and on the BLM's ePlanning system.

The BLM held eight public meetings throughout the Lower Sonoran Field Office in October 2011. Meeting locations included Phoenix, Ajo, Gila Bend, Mesa, Casa Grande, and Buckeye. Over 200 people

attended the public meetings. The largest number of attendees was from non-affiliated individuals, followed by non-profit organizations, local clubs, and government agencies.

Over 250 organizations, government agencies, industry representatives, and individuals responded during the comment period. Most of the written submissions contained multiple comments on different topics, and over 500 unique comments were made. Comments on the DRMP/EIS pertained to a number of issues including the scope of the document, NEPA adequacy of the baseline data and impact analysis, information related to consultation and coordination on the project, and policies and guidance the BLM needed to follow. In addition, comments were received on a number of resource topics, including air quality, cultural resources, fish and wildlife, livestock grazing, land use and special designations, minerals and energy, noise, national scenic and historic trails, recreation, socioeconomics, special status species, tribal interests, vegetation, visual resources, and water resources.

1.9.3 Public Review of and Protest on the PRMP/FEIS

A 30-day protest period was provided on the land use plan decisions contained in the PRMP/FEIS in accordance with 43 CFR Part 1610.5-2. The BLM received nine protest letters that were subsequently resolved by the BLM Director, whose decision constitutes final agency action for the Department of the Interior. The issues raised in the protest letters covered a broad range of topics with differing opinions, sometimes completely opposite opinions, on how the protesting party felt the BLM erred in the planning process. All protests were dismissed or denied.

1.9.4 Agency Consultations – US Fish and Wildlife Service (USFWS) and State Historic Preservation Office

In accordance with the requirements of Section 7 of the ESA, the BLM consulted with the US Fish and Wildlife Service (USFWS) to ensure that the BLM's proposed action would not jeopardize the continued existence of any listed threatened, endangered, or proposed species or critical habitat. The Biological Opinion (BO) on the Lower Sonoran-SDNM RMP/EIS project included four conservation recommendations to minimize or avoid possible adverse effects on listed species or their critical habitat. See **Section 2.1.8**, Consultation and Collaboration for additional details.

In accordance with the requirements of Section 106 of the National Historic Preservation Act, the BLM has consulted with and obtained comment from the Arizona State Historic Preservation Office (SHPO) concerning the content of this RMP. These comments have been taken into account by the BLM during the development of this RMP. Further consultation with the SHPO will take place as specific actions implementing the RMP are developed.

1.10 RATIONALE FOR SELECTION OF THE APPROVED RMP

The PRMP/FEIS described and analyzed five alternatives, including Alternative A (the No Action Alternative) and Alternatives B, C, D, and E (the Proposed Alternative), each of which represented varying management actions for each resource and resource use for achieving the stated goals and objectives. The BLM has the discretion to select an alternative in its entirety, to combine aspects of the various alternatives that were presented in the PRMP/FEIS, or to consider management approaches

resulting from protest resolution. In this PRMP/FEIS, Alternative E has been identified as the Approved RMP.

The Approved RMP uses Alternative E from the PRMP/FEIS with adjustments made due to clarifications and edits. Alternative E was chosen because it resolves the major issues posed by managing resources in the SDNM while providing for common ground among conflicting opinions and multiple uses of public lands in a sustainable fashion. It provides the best balance of resource protection and use within legal constraints. The Approved RMP:

- Satisfies statutory requirements (true for all alternatives);
- Reflects what the BLM believes to be the best combination of actions to achieve the stated goals;
- Represents the best solution for the purpose and need as described in Chapter 1, Purpose and Need for the Resource Management Plan;
- Provides the best approach to address the key resource and planning issues; and
- Includes input from cooperating agencies, collaborating partners, stakeholders, and the public, and BLM specialists.

The Approved RMP represents the BLM's final decision; upon signing of the ROD/Approved RMP, the decisions become final.

1.11 Availability and Approval of the Plan

Copies of the Record of Decision and the Sonoran Desert National Monument Approved Resource Management Plan may be obtained by viewing or downloading the document from the BLM Web site located at www.blm.gov/az or by obtaining a hard copy or CD at the BLM Phoenix District Office, Lower Sonoran Field Office at 21605 N. 7th Avenue, Phoenix, Arizona 85027. Copies will also be available for review at local community libraries near the SDNM.

Field Manager Recommendation

Having considered a full range of alternatives, associated impacts, and public and agency input, I recommend the adoption and implementation of the Sonoran Desert National Monument Approved Resource Management Plan.

Recommended:

Emily Garber
Field Manager
Lower Sonoran Field Office

9/14/12
Date

District Manager Concurrence

I concur with the adoption and implementation of the Sonoran Desert National Monument Approved Resource Management Plan.

Concurrence:

Scott Cooke
Acting District Manager
Phoenix District Office

9/14/12
Date

State Director Approval

In consideration of the foregoing, I approve the Sonoran Desert National Monument Approved Resource Management Plan.

Approved:

Ray Suazo
Arizona State Director

9/14/12
Date

2. APPROVED RESOURCE MANAGEMENT PLAN

2.1 INTRODUCTION

The United States (US) Department of the Interior, Bureau of Land Management (BLM), Phoenix District Office has prepared the Sonoran Desert National Monument Resource Management Plan (RMP) to provide comprehensive current and future management of BLM-administered lands in the Sonoran Desert National Monument (SDNM). The monument is located approximately 50 miles southwest of Phoenix, immediately east of Gila Bend, Arizona, in eastern Maricopa County and western Pinal County. Its boundaries encompass 496,400 acres, including 486,400 BLM-administered acres, with the remaining lands consisting of privately owned and state-administered parcels (**Map 1**, Surface Management).

The RMP was prepared in compliance with the Sonoran Desert National Monument Proclamation (Proclamation 7397, "the Proclamation") and the BLM's planning regulations Title 43 Code of Federal Regulations (CFR) 1600 under the authority of the Federal Land Policy and Management Act of 1976 (FLPMA). This document also meets the requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality Regulations for Implementing the NEPA (40 CFR 1500-1508), and requirements of the BLM's NEPA Handbook 1790-1.

This plan represents years of ongoing, coordinated efforts on the part of BLM Phoenix District, Lower Sonoran Field Office and SDNM staff, the BLM Arizona State Office staff, representatives of communities near the Planning Area, cooperating agencies, special interest and user groups, and hundreds of concerned citizens. The decisions outlined in this document will enable the BLM to manage and protect the unique resources and monument objects on public lands within the SDNM to achieve desired future conditions and management objectives in partnership with communities, organizations, and citizens.

2.1.1 Purpose and Need

The Monument proclamation assigns responsibility to protect objects for which the Monument was established to the BLM and requires that an RMP be prepared to ensure that the management actions needed to do so are identified and implemented. The Monument Proclamation is the principal direction

for management of the SDNM; all other considerations are secondary to that edict. In the absence of such a plan, current management for the SDNM falls under interim Monument guidance and the various existing RMPs and amendments. These documents do not address many management issues and direction given in the Presidential Proclamation. To address these issues, the BLM needed to prepare a new SDNM RMP.

The purpose of the SDNM RMP is to provide guidance for managing the use of BLM-administered lands and to provide a framework for future land management actions within the National Monument. The SDNM RMP will consolidate and replace the current management guidance for the SDNM.

2.1.2 Decision Area Description

The Lower Sonoran and SDNM planning process was conceived as a combined effort, analyzing two decision areas, the SDNM and the Lower Sonoran Field Office area surrounding the SDNM. The consolidated Planning Area encompassed nearly 8.9 million acres of south-central Arizona and included much of Maricopa County, as well as sections of Gila, Pima, Pinal, and Yuma counties. Population centers within or adjacent to the Planning Area include metropolitan Phoenix and the communities of Goodyear, Buckeye, Gila Bend, Ajo, Globe-Miami, Tonopah, Mobile, Maricopa, Casa Grande, and Sells.

The SDNM Decision Area covers approximately 496,400 acres of south-central Arizona and includes much of eastern Maricopa County, as well as a portion of western Pinal County. Population centers within or adjacent to the Planning Area include metropolitan Phoenix and the communities of Goodyear, Buckeye, Gila Bend, Mobile, Maricopa, and Stanfield. The Decision Area encompasses BLM-administered lands only.

As stated in Presidential Proclamation 7397, the SDNM was designated to protect "a magnificent example of untrammeled Sonoran desert landscape" with an "extraordinary array of biological, scientific, and historic resources" (**Appendix A**, Presidential Proclamation). The Monument is considered a geographic area (Area 8 on **Map 1**, Surface Management), which contains one sub-area, the Sand Tank Mountains, formerly known as "Area A" (Area 9 on **Map 1**, Surface Management), located in the southwest corner of the Monument.

2.1.3 Scoping Issues

Development of this RMP was formally initiated with publication of a Notice of Intent in the Federal Register on April 24, 2002 (67 Federal Register 20158, April 24, 2002 [AZ-400-02-1610-DO-089A]). Following scoping, the BLM held additional public workshops throughout the Lower Sonoran Field Office, which includes the SDNM, to collaborate on planning criteria, RMP goals and objectives, the range of alternatives, and preliminary alternatives. One of the most important outcomes of the scoping process was the identification of significant issues to be addressed in the planning effort. For planning purposes, an "issue" is defined as a matter of controversy or dispute over potential land and resource allocations, levels of resource use, production, and related management practices. Issues help determine what decisions will be made in the RMP and what the EIS must address as required by NEPA.

Based on the more than 6,000 scoping comments received for both the Lower Sonoran and SDNM Decision Areas and subsequent analysis and evaluation, six major planning issues were identified within the scope of this planning effort. All six issues center on balancing resource use and human activity with the mandated level of resource protection.

2.1.4 Issues Addressed

1. How will the BLM manage travel and public access?

Travel management is an important issue for the public and presents a management challenge for the BLM. Many who commented during the public scoping process felt that existing roads and trails should be kept open for public use and, where necessary, maintained, upgraded, or improved to provide safe and efficient public access. Others were opposed to the creation of new roads or believed that unnecessary roads should be closed for the protection of resources, particularly those roads that might fragment wildlife habitat or damage archaeological sites or riparian areas.

Additionally, members of the public expressed concern with the type of motor vehicle use that should be allowed to access the SDNM, with viewpoints falling into two general categories: 1) those who valued off-highway vehicle (OHV) use and favored no or minimal further limitations on such use, and 2) those who expressed concern for the adverse effects from unregulated or increased OHV activities.

The SDNM proclamation specifically states that all off-road motorized and mechanized vehicle use will be prohibited except for emergency or authorized administrative purposes; therefore, only a limited ranged of alternatives were considered.

2. How will the BLM manage wilderness characteristics in the Decision Area?

A number of individuals and groups voiced their concern for protecting areas with wilderness characteristics in the SDNM. During the public scoping period, a number of citizen groups and individuals suggested additional wilderness designations, including the establishment of new wilderness study areas (WSAs). Other commenters felt that there is an abundance of existing wilderness, national monuments, wildlife refuges, and other restricted access lands in the region and were opposed to the additional wilderness-related allocations.

The discussion concerning recommending the designation of additional wilderness areas was outside the scope of the RMP/EIS. Only Congress can designate wilderness areas, the current Department of the Interior and BLM policies do not provide for designation of additional WSAs. However, areas that contain wilderness characteristics can be managed by the BLM to protect those characteristics and were considered in the alternatives in compliance with FLPMA and Washington Office Instruction Memorandum (IM) 2011-154.

3. How will the BLM address wildlife management, including special status species and wildlife water developments in the Decision Area?

Many of those who provided scoping comments on general wildlife and wildlife habitat also commented on special status species. These comments focused on the protection of threatened and endangered species and their habitats. Some comments were general in nature, while others mentioned particular species (e.g., Sonoran pronghorn, cactus ferruginous pygmy-owl, desert tortoise) or management concerns (e.g., fawning/nesting sites, impacts of grazing, effects of off-road driving, etc.) Comments on wildlife management specific to the Lower Sonoran Decision Area concerned Sonoran pronghorn management in the Ajo area.

Various wildlife water development programs, initiated in the 1940s and 1950s throughout the western US, have provided sources of freestanding water under the assumption that this is a key limiting factor on wildlife populations in arid habitats. Critics have suggested that wildlife water developments have not yielded expected benefits and could negatively influence wildlife by increasing predation, competition, and disease transmission. The scientific community in Arizona, led by the efforts of Arizona Game and Fish Department (AGFD), is studying whether water developments are necessary for wildlife, what effect developments might have on populations of non-target animals (e.g., predators), and the development of additional wildlife waters. Scoping comments received regarding wildlife water developments represent both sides of the debate. Some individuals advocated that no new wildlife waters be developed while others stressed the importance of allowing the continued access, maintenance, redevelopment, and construction of wildlife waters.

Wildlife corridors have also arisen as an important issue related to wildlife. Due to urban growth, existing rights-of-way (ROWs), and the preponderance of wildlife corridors lying outside of BLM jurisdiction in the Planning Area, there is concern about maintenance of sufficient wildlife movement corridors within the SDNM Decision Area. Addressing and resolving these concerns were considered in the range of alternatives.

4. How will livestock grazing be addressed in the SDNM?

The scoping process identified livestock grazing as an important issue for a number of people. Many comments pertained to better management of livestock grazing or were in favor of ending livestock grazing on public lands. There were some who advocated prohibiting certain kinds of grazing (e.g., year-round, domestic animals, stock grazing) and those who advocated prohibiting grazing in certain areas (e.g., Sonoran pronghorn and/or desert tortoise habitat, riparian areas) or under certain conditions (e.g., drought, when not sustainable).

The SDNM proclamation mandates that grazing permits on public lands within the Monument south of I-8 will not be renewed at the end of their current term. All of these permits expired in 2008 and 2009. The proclamation also states that grazing on public lands north of I-8 will be allowed to continue only to the extent that the BLM determines that grazing is compatible with the paramount purpose of protecting the Monument objects identified in the proclamation. The RMP considers grazing in its analysis of use allocations.

5. How will renewable and traditional energy facilities and transmission corridors be managed?

Given the growth in renewable energy interest in the Sonoran Desert, much concern was expressed regarding utility corridors, and some concern was expressed regarding renewable energy, particularly utility-scale solar sites. Energy-generating and transmission industries urged the BLM to consider the importance of providing additional utility corridors to meet growing demands for electrical energy requirements in Arizona. Others urged the BLM to consolidate requests for new transmission lines within existing utility corridors and to refrain from granting ROWs) for new corridors. One exception to the opposition to new corridors was a proposal that new transmission lines be accommodated within corridors established within 400 feet of each side of highways. Given public concern and increased demand for energy, several alternatives for transmission corridors and land use authorizations were discussed in the alternatives.

6. How will public recreation activities be managed?

During public scoping, people reported that they enjoy a wide variety of activities in the SDNM Decision Area, including hiking, hunting, sightseeing, camping, observing wildlife, and OHV use. They expressed desires for continued opportunities for such activities. Many of the comments overlapped with the travel management issues, particularly with regard to OHV use. Some disagreed with the types of recreational activities that should be allowed in the Monument. Many expressed concern for the management of certain types of recreation to minimize environmental impacts. Some commenters advocated for dispersed recreation, while others advocated for the development of various types of recreational services (e.g., interpretive sites, restrooms, recreational vehicles areas, equestrian facilities, etc.). Some individuals advocated the development of non-motorized recreational opportunities, while others preferred motorized forms of recreation. There were comments in support of dispersed, primitive-type camping as well as comments in support of having more developed camping with services and facilities.

While some people indicated that they enjoy recreational shooting within the SDNM Decision Area, others expressed their opposition to recreational shooting due to its resource impacts as well as noise and public safety concerns.

Given the proximity of the SDNM to the Phoenix metro area and the increased participation of people in recreation pursuits on public lands over time, ineffective management of visitor activities is recognized as potentially having profound environmental effects on the SDNM. These possible effects, along with potential user conflicts, make appropriate management of recreational activities crucial to protecting public resources. Decisions such as where and what kind of recreational facilities to provide, how to minimize potential user conflicts, and what types of recreation settings should be maintained in specific areas were addressed in the alternatives.

2.1.5 Issues Considered but not Further Analyzed

The issues identified during public scoping (discussed above) shaped the alternatives carried forward in the RMP process. Other issues identified during public scoping were also considered but were not

analyzed further in the planning process because they fell outside of BLM jurisdiction or were beyond the scope of the RMP. The issues and the rationale for not analyzing them further are provided below.

Water

Local aquifers are being depleted, and mineral-laden water is being pumped to the surface, polluting waterways and killing vegetation.

Rationale: The BLM does not have the authority to permit or deny pumping of groundwater in Arizona. Such authority lies with the Arizona Department of Water Resources.

Biological Resources

Protect and restore native fish populations impacted by dams and non-native species.

Rationale: The BLM does not manage any suitable perennial aquatic habitat for native fish species in the Planning Area. Streams within the Planning Area are typically dry and flow only in response to storms.

Protect and manage Sonoran pronghorn and Sonoran pronghorn habitat within the SDNM.

Rationale: The SDNM is outside the current range of Sonoran pronghorn. The BLM will, however, coordinate with the Sonoran pronghorn recovery team during the RMP process and take any necessary measures for protection of historic habitat, as well as consider possible reintroduction of Sonoran pronghorn into the Monument.

Livestock Grazing

Increase grazing fees and use the money to hire more staff to study and protect the land

Rationale: The BLM has no authority to adjust or change the grazing fee. It is set by a formula contained in law, as is the disbursement of the fees collected.

Wild Horse & Burro Management

Do not implement wild horse and burro management in the SDNM

Rationale: There are no wild, free-roaming horses or burros within the Monument, and no herd areas have been designated or recognized, making it unnecessary to address their management. Any burros or horses on the Monument are considered in trespass and are addressed under the BLM's trespass regulations at 43 CFR 4150.

Minerals Management

Allow mining in the Monument; do not grant new mineral leases; ensure any new mining claims are valid and limit to small-scale operation; study and regulate coal-bed methane wells; limit or prohibit resource use in the Monument except for strategic and low-impact mineral extraction

Rationale: Lands within the SDNM are closed to mineral development, subject to valid existing rights, by Monument proclamation. There is no coal in either the SDNM or Lower Sonoran Decision Area.

It is inappropriate that hard rock mining on public lands is governed by outdated laws such as the General Mining Law of 1872

Rationale: The BLM does not have discretionary authority to disregard existing laws. Rather, a course of action that complies with existing laws, such as the General Mining Law of 1872, must be pursued.

Land Tenure Adjustment and Withdrawals

Within the SDNM, sell BLM holdings only as an absolute last resort

Rationale: According to the Monument proclamation, the BLM does not have the authority to sell public lands in the SDNM and can only exchange such lands when it furthers the purposes of the Monument.

Use zoning laws to establish a balance between property rights and conservation of natural resources

Rationale: The BLM does not have jurisdiction over zoning laws. Rather, local and county governments are responsible for establishing zoning laws and controlling land use through zoning. However, the potential for acquisition, disposal, and exchange of public lands could indirectly affect zoning and development and is considered further in the RMP.

Special Area Designations

Designate areas in the Sand Tank Mountains, Margie's Peak, and Butterfield Pass units as WSAs as outlined in the Arizona Wilderness Coalition proposal. Do not designate any additional wildernesses or WSAs; these misguided preservation designations have detrimental impacts on wildlife populations because of unwarranted burdens

Rationale: Only Congress has the authority to designate wilderness, and the current Department of the Interior and BLM policy does not provide for designation of additional WSAs. However, areas that contain wilderness characteristics can be actively managed by the BLM to protect those characteristics, and various alternatives for this management were considered by the BLM.

Visual Resources

Protect the viewsheds through zoning and other mechanisms

Rationale: Local and county governments control land use through zoning; however, the BLM can address the protection of viewsheds through other means. The BLM considers viewshed protection through the VRM program. Various degrees of such protection have been incorporated into the alternatives and were considered by the BLM.

Travel Management

Provide additional motorized public access in wilderness areas for people who are unable to walk long distances

Rationale: Wilderness areas are designated by Congress and must be managed in accordance with the Wilderness Act of 1964, which expressly prohibits motorized vehicle use by the public for recreational purposes. The BLM thus has no authority to develop new or open old motorized vehicle routes within designated wilderness.

Within the SDNM, designate OHV use areas in locations with low wildlife habitat values or where OHV use is already popular; keep each OHV use area to about 30 acres with twisting and interlaced trails

Rationale: Presidential Proclamation 7397 prohibits off-road use in the SDNM; consequently, OHV areas cannot be designated within the Monument.

Airspace

Consider how wilderness designations could adversely affect military overflights

Rationale: As identified above in **Section 2.1.4**, Issues Addressed, the BLM does not have the authority to designate new WSAs or wilderness areas. There would thus be no potential for conflicts to emerge between military airspace use and new WSA/wilderness designations. In terms of conflicts with existing wilderness areas in the SDNM, the Monument proclamation establishing the SDNM provides for continued military use of airspace over the SDNM, including over existing wilderness areas.

Work closely with nearby military bases and airports to schedule flights and design flight paths that are the least intrusive to wildlife populations and the Monument

Rationale: The Monument proclamation does not address the need for the BLM to dictate flight paths, and the many and varied uses by the military of the airspace over the Monument preclude establishing specific flight paths. The military already has specific high altitude flight paths, but they are very wide and have little impact on Monument resources.

Socioeconomics

Include a full identification of the social and economic impacts on all of the approved regional extra-high-voltage electric system components

Rationale: The EIS evaluated economic impacts of the alternatives, including those regarding corridors and ROWs, as needed at a programmatic level to assess the potential environmental impacts. Cumulative economic impacts (i.e., the impacts of the alternatives when combined with past, present, and reasonably foreseeable actions) were also addressed. A full social and economic impact analysis of the regional extra-high-voltage electric system components, however, was beyond the scope of the EIS.

Undocumented Immigrants and Drug Smuggling

Manage illegal immigration and drug smuggling

Rationale: BLM law enforcement is predominantly responsible for visitor safety and resource protection. US Customs and Border Protection, under the Department of Homeland Security, has the mission and responsibility for securing the US Border and enforcing federal immigration and drug laws. While the BLM can respond to crime and resource impacts from border activity, jurisdiction of illegal immigration and international drug smuggling lies with the Customs and Border Protection and Department of Homeland Security. In coordination with Customs and Border Protection, Department of Homeland Security, and state and local law enforcement agencies, the BLM:

- Develops integrated resource and law enforcement goals and priorities on National Landscape Conservation System units and other borderlands locales;
- Coordinates resource rehabilitation and mitigation with deployment of law enforcement resources to maximize effectiveness of both within the borderlands;
- Monitors smuggling activity levels, resource impacts, and mitigation efforts through existing and developing technologies;
- Communicates and coordinates effectively with agency partners and public, including sharing of funding and intelligence;
- Works with partners to identify key areas for increased enforcement, closure, restoration, protection efforts, and visitor safety;
- Actively deploys and collaborates on enhanced communication technologies; and
- Implements coordinated safety measures for agency staff, fire and law enforcement personnel, and public visitors.

2.1.6 Planning Criteria

Planning criteria are the standards, rules, and guidelines that helped guide the RMP/EIS process. The BLM developed planning criteria principally from FLPMA and other applicable laws and, in the case of the SDNM, from Presidential Proclamation 7397, as well as collaboration with partner agencies, American Indian tribes, and the public. The planning criteria were provided to the public for review during the scoping process and were included in the scoping report. General planning criteria and criteria specific to planning in the SDNM are presented below.

General Planning Criteria

- The planning process will include an EIS that will comply with NEPA standards. Two records of decision will be issued: one for the Lower Sonoran Decision Area and one for the SDNM Decision Area.
- The RMP will be completed in compliance with FLPMA, the ESA (16 USC 1531 et seq.), NEPA, the Archaeological Resources Protection Act, and all other relevant federal laws and executive orders, as well as the management policies of the BLM.
- Where previous planning decisions still apply, those decisions will be carried forward into the RMP. The BLM will also use information developed and management alternatives proposed in previous studies of the Planning Area, including the proposed Amendment and Environmental

Assessment to the Lower Gila North Management Framework Plan and the Lower Gila South RMP (BLM 2005a).

- Planning decisions will be made in the context of the best-available data, including information specific to public lands. Regional contextual data may also be used to identify the regional importance of public lands for resource use and protection.
- The planning team will work collaboratively with the State of Arizona; Maricopa, Pinal, Pima, Gila, and Yuma counties; tribal governments; municipal governments; other federal agencies; the Resource Advisory Council; and all other interested groups, agencies, and individuals. Decisions in the plans will strive to be compatible with existing plans and policies of adjacent local, state, tribal, and federal agencies, consistent with federal law and regulations. Opportunities to coordinate management with adjoining landowners for resource protection and public uses will be considered.
- The RMP will be developed to be flexible and adaptable to new and emerging issues and opportunities. During implementation of the RMP, the BLM will continue to work in partnership with the public and with local, state, and tribal governments and agencies to identify priority implementation projects and to identify and resolve emerging issues.
- Native American tribes will be consulted in accordance with policy, and tribal concerns will be given due consideration. The planning process will include the consideration of any impacts on Indian trust assets.
- Consultation with the USFWS will take place throughout the planning process in accordance with Section 7 of the ESA and the National Memorandum of Agreement (August 30, 2000) to identify conservation actions and measures for inclusion in the plans.
- Coordination with the Arizona State Historic Preservation Office (SHPO) will be conducted throughout the planning process.
- The plans will recognize the state's authority to manage wildlife populations, including hunting and fishing, within the Planning Area. Coordination with AGFD will occur in accordance with the statewide memorandum of understanding (MOU; March 1987).
- The plans will set forth a framework for managing recreational and commercial activities in order to maintain existing natural landscapes and to provide for the enjoyment and safety of the visiting public.
- The lifestyles of area residents, including the wide variety of uses of the public lands, will be considered in the RMP.
- Any lands, or interests therein, acquired by the BLM within the Planning Area boundary will be managed consistently with the RMP, subject to any constraints associated with the acquisition.
- The RMP will address travel management for the public lands. Areas will be identified as open to vehicles, closed to vehicles, or limited to designated roads. Within the Monument and in other areas identified in the RMP, motorized and mechanized routes will be designated.
- The RMP will recognize valid, existing rights.
- Federal Geographic Data Committee standards and other applicable BLM standards will be followed in the development and management of data.
- Management of existing wilderness will continue. The RMP will not address reduction or elimination of existing wilderness, changes in boundaries of existing wilderness, or opening of roads or mechanized or motorized access into existing wilderness.

Criteria Specific to the SDNM

Planning criteria for the SDNM were derived from Presidential Proclamation 7397. The proclamation states that the BLM will manage the Monument "pursuant to applicable legal authorities, to implement the purposes of the proclamation." Thus, any BLM planning criteria developed for the SDNM were inextricably tied to protecting the objects identified in the proclamation. The following SDNM criteria were used in addition to the general planning criteria noted above:

- The SDNM RMP will establish guidance upon which the BLM will manage the SDNM and will replace and supersede all other BLM RMPs for the lands covered by the SDNM RMP.
- The SDNM RMP will meet the requirements of the Presidential Proclamation 7397, dated January 17, 2001, to conserve, protect, and restore the objects of geological, archaeological, historical, and biological value within the Monument.
- In accordance with the proclamation, acquired lands and interests within the Monument's boundary will be added to the Monument and will be managed consistently with the SDNM RMP.
- To maintain the existing natural and cultural landscapes of the SDNM to the maximum extent possible, facilities will be located outside the Monument's boundary or in neighboring communities. Facilities that must be located within the Monument's boundaries will be placed in such a way that they are unobtrusive, to the extent practicable.
- The SDNM RMP will not address Monument boundary adjustments or proposals to change the Proclamation.

2.1.7 Planning Process

The SDNM RMP was initiated under the authority of Section 202(f) of FLPMA and guided by BLM planning regulations in 43 CFR 1600. Additionally, the EIS is subject to Section 202(c) of NEPA and guided by the Council on Environmental Quality regulations in 40 CFR 1500.

BLM uses a multi-step planning process when developing RMPs as required by 43 CFR Part 1600 and illustrate in the BLM's Land Use Planning Handbook (H-1601-1). The planning process is designed to help BLM identify the uses of BLM-administered lands desired by the public and to consider these uses to the extent they are consistent with the laws established by Congress and the policies of the executive branch of the federal government. The planning process is issue-driven. The BLM used the public scoping process to identify planning issues, noted above, to direct the development of the SDNM RMP. The scoping process also was used to introduce the public to planning criteria.

Title II, Section 202, of FLPMA directs BLM to coordinate planning efforts with Native American tribes, other federal departments, and agencies of the state and local governments as part of its land use planning process. The BLM is also directed to integrate NEPA requirements with other environmental review and consultation requirements to reduce paperwork and delays (40 CFR Part 1500.4-5). The BLM accomplished coordination with Native American tribes, other agencies, and consistency with other plans through ongoing communications, meetings, and collaborative efforts with an interdisciplinary team, which includes BLM specialists and federal, state, and local agencies.

2.1.8 Consultation and Collaboration

BLM land use planning regulations (43 CFR 1610.3), FLPMA (43 USC 1712), and regulations for implementing NEPA (40 CFR 1501.5 and 1501.6) guide the BLM in coordinating and cooperating with other federal and state agencies, local governments, and American Indian tribes during the land use planning process. This collective guidance instructs the BLM to:

- Stay informed of federal, state, local, and tribal plans;
- Ensure that it considers these plans in its own planning;
- Help resolve inconsistencies between such plans and BLM planning; and
- Cooperate with other agencies and tribal governments during the development of RMPs and NEPA analysis.

The USFWS reviewed the biological assessment and developed a biological opinion, the purpose of which is to prevent unacceptable harm to an ESA-listed species or its habitat. A biological opinion is a scientific judgment about a proposed action, not a policy document. The biological opinion on the Lower Sonoran-SDNM RMP/EIS project included four conservation recommendations to minimize or avoid possible adverse effects on listed species or their critical habitat. The USFWS recommended the following four conservation measures:

Sonoran Pronghorn

1. BLM continue to monitor the condition of fences on and adjacent to BLM lands in the action area to address unauthorized cattle use and identify opportunities to improve SPH [Sonoran pronghorn] passage across fence lines.
2. BLM coordinate with CBP [Cabeza Prieta Wildlife Refuge] to identify opportunities for alternatives to the Bates Well FOB to re-establish a pronghorn movement corridor to the Valley of the Ajo from adjacent lands.

Southwestern Willow Flycatcher

1. BLM monitor the condition of fences on BLM lands in the action area to address unauthorized cattle use of Gila River bottom lands.
2. BLM participate in planning efforts along the Gila River to integrate BLM efforts with the Flood Control District of Maricopa County and local jurisdictions to improve habitat conditions along the Gila River.

Agency coordination efforts included reviewing numerous plans that provide the policies and guide the activities of these agencies and governments.

The BLM has coordinated with federal, state, and county agencies throughout the planning and EIS process. The BLM gathered issues, ideas, and concerns, and discussed the role of agencies in the process. A full listing of the agencies that the BLM coordinated with can be found in the Scoping Report (available from the BLM Phoenix District Office).

A letter introducing the RMP/EIS, identifying data-gathering efforts, and offering agencies the opportunity to become cooperating agencies in the planning efforts was sent to more than 200 agencies, followed by a cooperating agency meeting at the Arizona State Office. The meeting agenda included discussions on the BLM's planning process, collaborative planning, the meaning and responsibilities of cooperating agency status, and opportunities for involvement in the BLM's planning process without becoming a cooperating agency. The BLM's goal was to encourage involvement by all interested parties using whatever methods the parties wished.

For those agencies choosing to be a cooperating agency, MOUs were developed that outlined the roles and responsibilities of the cooperating agencies and the BLM throughout the planning process. The BLM signed MOUs with the Arizona Game and Fish Department and Arizona Department of Transportation discussed below.

Specific Agreements

The BLM and AGFD have agreed to work cooperatively to manage wildlife resources on public lands throughout Arizona. The master MOU (AZ-930-0703) between the BLM's Arizona State Office and the Arizona Game and Fish Commission, which sets policy for the management, preservation, and harvest of wildlife and fish resources, establishes the BLM's responsibility for managing wildlife habitat on public lands and the AGFD's public trust responsibility to manage fish and wildlife populations through the authority of the Commission. As stated in the MOU, the BLM and the AGFD "consider the management of fish and wildlife resources as a high priority and agree to work cooperatively to achieve a shared goal to actively manage, sustain, and enhance those resources."

The BLM, Arizona Department of Transportation, and Arizona Division of Federal Highway Administration have agreed to establish and improve cooperative working relationships (MOU No. AZ-931-0309, Amendment 2). This MOU provides for a coordinated approach to accomplish land and resource management along with transportation development and operation management. The MOU is designed to reduce or eliminate duplication of work, establish procedures for streamlining work processes, ensure that each agency is provided with sufficient lead-time, share available resources, and develop and execute action programs that maximize responsiveness to public needs and concerns. Per the MOU, the BLM will coordinate with responsible agencies to develop design features that minimize the fragmenting effect of the planned roadway and evaluate/incorporate safe and effective wildlife crossings. Where planned roadways potentially fragment other resources, the BLM will work with the responsible agency to provide continued connectivity for those purposes. The BLM will also work with the agency to provide continued safe access to public lands from any developed roadway for recreation and other public land users.

Tribal Government-to-Government Consultation

The BLM has a long history of consultation on this RMP. Beginning in 2002 until late in 2011, BLM staff and managers held and documented 17 face-to-face meetings with tribal staff, legislative council members, or tribal council members about the RMP.

The BLM began by contacting the following tribes to initiate consultation, and invite them to the scoping meetings at the start of the RMP process as well as to participate as a cooperating agency in the planning process:

Ak-Chin Indian Community
Fort McDowell Yavapai Nation
Fort Sill Apache Tribe
Gila River Indian Community
Hopi Tribe
Pascua Yaqui Tribe
Salt River Pima-Maricopa Indian Community
San Carlos Apache Tribe
Tohono O'odham Nation
Tonto Apache Tribe
White Mountain Apache Tribe
Yavapai-Apache Indian Community
Yavapai-Prescott Indian Tribe

The BLM met with interested tribes on 17 occasions to describe and discuss the planning process and Planning Area. A total of five formal letters were sent to the Tribal Chairs with courtesy copies sent to the cultural staff at each and every tribal government. These were sent with return receipt requested. A few reply letters from some tribes were received. Follow-up telephone calls were made to tribal staff in order to make sure that the letters and accompanying documents arrived and to inquire whether there were any concerns that needed to be addressed. On two occasions, the BLM offered field tours that Tribal staff and elders attended. These field tours allowed time for discussion of planning issues at particular sites and particular broad landscapes. Several telephone calls and emails were exchanged at various times in order to provide more detailed information or to have a more in-depth discussion.

Topics covered during consultation included formal consultation, cooperating agency status, and community involvement and collaboration. Tribal staff emphasized the importance of ongoing and regular consultation, and voiced concerns regarding protection of cultural and natural resources, grazing management, law enforcement, with regard to cultural resource site protection, route access, undocumented immigrants, and drug smuggling, and possible land exchanges and acquisitions. The BLM kept the tribes informed on RMP development throughout the planning process via meetings, telephone conversations, letters, faxes, email, personal communication, and news releases, including how to participate in commenting on the DRMP/EIS. These important topics are issues that will continue to be worked on with the tribes throughout Plan implementation.

Section 7 Consultation

In accordance with the requirements of Section 7 of the ESA, the BLM consulted with the USFWS to ensure that the BLM's proposed action would not jeopardize the continued existence of any listed threatened, endangered, or proposed species or critical habitat.

BLM wrote a biological assessment and held a meeting with the USFWS to explain the proposed action and the format used for the effects determinations. The assessment discussed the effects on four listed species in the Lower Sonoran-SDNM Biological Assessment from the PRMP (Alternative E in the PRMP/FEIS). The BLM delivered the completed biological assessment to the USFWS for comments and clarification.

The USFWS reviewed the biological assessment and developed a Biological Opinion; the purpose of a biological opinion is to prevent unacceptable harm to an ESA-listed species or its habitat: it is a scientific

judgment about a proposed action, not a policy document. The biological opinion on the Lower Sonoran-SDNM RMP/EIS project included conservation recommendations to minimize or avoid possible adverse effects on listed species or their critical habitat. It also imposed reasonable and prudent measures needed to minimize any harmful impacts, and required monitoring and reporting to ensure adequate protection compliance.

Section 106 Consultation

In accordance with the requirements of Section 106 of the National Historic Preservation Act, the BLM coordinated with and solicited input from the Arizona SHPO. The BLM and Arizona SHPO followed the coordination protocols in the Arizona Protocol relating to resource management plans; the protocol provides for a phased consultation process related to historic, traditional, and cultural resources for an EIS and subsequent activities that could tier from a ROD. Per these procedures, the BLM Arizona initiated consultation with the Arizona SHPO by written correspondence in 2003. The letter described the Lower Sonoran-SDNM RMP/EIS and specified the need to consult on information presented in the EIS.

Over the course of the planning process, the BLM met with or contacted the SHPO to share updates and information on the planning effort. In October 2011, the BLM send a letter to the SHPO detailing the history of the planning effort and requesting review and comment on the DRMP/EIS by the SHPO. In November 2011, the BLM received the SHPO's comments on the DRMP/EIS noting comments regarding impacts on cultural resources and associated mitigation outlined in the plan.

On July 26, 2012, the BLM sent a letter to the SHPO outlining the need for specific comments on the implementation-level decisions presented in the Travel Management section in accordance with BLM IM No. 2012-067, "Clarification of Cultural Resource Considerations for Off-Highway Vehicle Designations and Travel Management". On August 27, 2012, a letter was received from the SHPO, noting they had no additional comments.

Federal and Military Coordination

The BLM coordinated with other federal agencies and military installations within the Planning Area, including the National Park Service (NPS) and US Air Force. The BLM and NPS met to discuss management options in the Ajo Block area, specifically regarding land tenure adjustments, land use authorizations, ROWs, borderland and associated law enforcement issues, national park access, boundary management, endangered species management, recreation, and comprehensive travel management decisions. The BLM coordinated with the Base Executive Council and Interagency Executive Committee regarding the planning efforts and military involvement for borderlands, travel and recreation management, land restoration, and threatened and endangered species management on Luke Air Force Base and the Barry M. Goldwater Air Force Range military installations, and management of public lands in the Ajo Block, Sentinel Plain, and SDNM.

The BLM also worked with the Borderlands Management Taskforce, which coordinates all federal agencies involved with borderlands management. The BLM's responsibility is to manage and protect natural resources, protect employees and public land users, and coordinate with all other law enforcement agencies (e.g., county, state, and federal agencies, including Immigration and Customs

Enforcement). Issues discussed included impacts related to undocumented immigration, drug and human trafficking, and coordinated management and mitigation measures.

Arizona Governor's Office Coordination

The BLM coordinated and consulted with the Arizona governor and governor's office and other state agencies. The BLM met with the Arizona Department of Transportation to review regional transportation plans and discuss the agency's concerns and questions. Additionally, the BLM had extensive coordination with the AGFD to discuss wildlife management, public access route designations, and wildlife movement corridors.

The Arizona governor was given the opportunity to identify any inconsistencies between the proposed plan and state or local plans, policies, and programs, and to provide recommendations in writing during a 60-day consistency review period, a requirement of the BLM's planning process. The Governor's Office did not note any inconsistency with state policies or plans.

Local Government

The BLM coordinated and consulted with local governments throughout the planning process. The BLM met with the Maricopa County Department of Transportation regarding regional transportation issues, including discussion of anticipated highway planning projects. The BLM also met with the Maricopa County and Pinal County Park and Recreation departments to discuss recreation-related land management coordination efforts for the Saddle Mountain, Buckeye Hills, and San Tan Mountains areas. The BLM also met with the Town of Gila Bend regarding their recreation and development interests.

Additionally, the BLM reviewed numerous county planning documents, including the Pinal County Comprehensive Plan, the Pinal County Open Space and Trails Master Plan, and the City of Maricopa's Parks, Trails, and Open Space Master Plan. The BLM's planning guidance notes that RMPs shall be consistent with other federal, state, and local plans to the maximum extent consistent with federal law and FLPMA provisions, and ensure that consideration is given to those state and local plans relevant to the development of land use plans for public lands. The BLM has reviewed these county plans for consistency and found that the actions in the RMP are generally consistent with the intent and actions in the county plans.

Local governments submitted scoping comments when BLM initiated the planning effort and reviewed and commented on the DRMP/EIS. The BLM will continue to coordinate with local governments after the ROD is signed.

Public Outreach and Local Constituency Groups

In an effort to provide outreach to the local communities in the Planning Area, the BLM contacted constituency groups with interests in several of the planning issues. The BLM contacted several shooting groups to discuss the target shooting analysis, including the Table Mesa Coalition, the Arizona State Rifle and Pistol Association, and the AGFD. The Table Mesa Coalition provided feedback on the shooting analysis, including information on safe shooting practices and distances and areas that should remain open for shooting activities.

2.1.9 Policy

This plan is consistent with and incorporates requirements identified in various laws, regulation and policy. These include Executive Orders, legislative designations, and court settlements and rulings. The policies and decisions that existed prior to this plan being written are outside the scope of the plan but have influenced the decisions, constrained the alternatives, and are needed to understand management of the area.

2.2 PLANNING DECISIONS

This section of the RMP presents the Goals, Objectives, Land Use Allocations, and Management Actions established for BLM-administered lands in the SDNM. Most of the desired future conditions are long-range in nature and will not be achieved immediately, but rather are assumed to require a period of time to achieve. These management decisions are presented by program area. Not all types of decisions were identified for each program.

Implementation- or activity-level decisions are decisions that take action to implement land use plan decisions. These types of decisions require appropriate site-specific planning and NEPA analysis. Implementation decisions generally constitute the BLM's final approval allowing on-the-ground actions to proceed and are generally appealable to the Interior Board of Land Appeals under 43 CFR 4.410. This RMP contains appealable implementation decisions for route designations. This decision is presented separately in **Section 2.3**, Implementation Decision – Travel Management. Please note that all acreages presented in the RMP are estimations, even when presented to the nearest acre.

Complete consideration of the RMP also includes Administrative Actions that outline the objectives, basic management policy, and program direction. Administrative Actions are not land use plan decisions; however, these are day-to-day activities that are not ground-disturbing and are an important component when considering program activities.

2.2.1 Air Quality

Goals, Objectives, and Management Actions

AQ-1: Protect, maintain, and improve the quality of air resources associated with authorized uses and activities on public lands.

AQ-1.1: Maintain existing air quality and air quality-related values (e.g., visibility) by ensuring that authorized uses on public lands comply with and support federal, state, and local laws and regulations for protecting air quality.

AQ-1.1.1: State and local agencies and adjacent land managers will be consulted to address emissions that affect public lands.

AQ-1.1.2: Appropriate management techniques and practices will be applied to all authorized surface-disturbing projects and activities as needed to ensure compliance with standards.

AQ-1.2: Apply mitigation measures for uses and activities within and near adjoining communities, wilderness areas, and large particulate-matter (PM_{10}) (i.e., dust) non-attainment and maintenance areas, especially as they pertain to unpaved roads that traverse public lands.

AQ-1.2.1: Excessive fugitive-dust generation from unpaved roads, construction sites, recreation activity areas, and other areas will be managed to ensure emissions do not exceed air quality standards, particularly those more rigid requirements in non-attainment areas.

AQ-1.2.2: Fugitive-dust emissions from unpaved roads will be mitigated through appropriate control methods, including, but not limited to:

- Lowering speed limits by creating obstacles such as speed bumps;
- Using fugitive-dust control measures such as dust. suppressants, gravel, or pavement;
- Installing cattle guards where unpaved roads meet paved roads;
- Reducing vehicle-use intensity or duration, reducing route density, or re-routing travel routes to more stable soils;
- Limiting the vehicle type on roads or in areas that are susceptible to excessive dust due to unstable soils;
- Closing high-use areas during high-pollution days;
- Closing areas that frequently exceed PM_{10} standards to non-compliant recreation and other projects until mitigation measures are implemented.
- Implementing temporary, seasonal, or permanent route closures when other methods are unsuccessful at controlling fugitive dust that exceeds regulatory limits.

Administrative Actions

Review projects requiring nonmajor permits within 10 kilometers of the SDNM to determine their effects on air quality and affected resources and provide comments to the appropriate regulatory agency.

- Work with adjoining land managers and users and county or municipal authorities to mitigate air quality effects on the SDNM. Make control of fugitive dust emissions from unpaved roads, construction sites, or other activity areas within 10 kilometers of SDNM a priority of this effort.
- Coordinate with county or municipal authorities to encourage control of fugitive dust emissions from unpaved roads that affect attainment of air quality standards in the SDNM.
- Increase public awareness and appreciation of air quality resources and visibility through interpretative displays as part of the public outreach program and visitor facilities planning for SDNM.
- Work with federal, state, and local agencies to monitor air quality in the SDNM. Air quality monitoring should include visibility, ozone, acid deposition, or other relevant air quality indicators.

- Promote the study of air quality conditions in the SDNM, including the effects of ozone, acid deposition and other related pollutants on plants and the supporting ecosystems. Cooperate and promote such activity with academic institutions and other interested parties.

2.2.2 Cave Resources

Goals, Objectives, and Management Actions

CR-1: Protect and conserve caves and karst resources as they are discovered on the public lands.

Objective CR-1.1: Manage caves and karst resources to maintain or enhance their physical integrity and scientific interest.

CR-1.1.1: Evaluate and inventory caves and karst resources, as they are discovered, to determine if the cave contains significant cultural, scientific, biological, geological, hydrological, educational, or recreational values.

CR-1.1.2: Protect and manage significant caves and karst resources for cultural, scientific, biological, geological, hydrological, educational, and recreational values.

CR-1.1.3: Public access to all caves within this Decision Area will be by permission of the authorized officer unless public entry is signed as open. Federal, state and local government employees operating within the scope of their authorizations will be exempt from permit issuance.

2.2.3 Cultural and Heritage Resources Goals, Objectives, and Management Actions

Allocation Summaries

Table 2-1
Cultural and Heritage Site Use Allocation

Cultural and Heritage Site Uses	BLM Acres	Management Action
Big Horn Station – Public and Scientific Use	<5	CH-1.1.1
Christmas Camp – Public and Scientific Use	<5	CH-1.1.1
Happy Camp (Desert Station) – Public and Scientific Use	<5	CH-1.1.1
Selected segments of Butterfield Overland Stage Route (Butterfield Pass) – Public and Scientific Use	3,600	CH-1.1.1
Sonoran Desert Historic Trails SCRMA	16,200	CH-1.1.2

Goals, Objectives, and Management Actions

CH-1: Identify, preserve, and protect important cultural resources and Monument objects. Ensure they are available for appropriate uses by present and future generations.

CH-1.1: Allocate 90 percent of known and evaluated cultural resource sites to one of five use categories: (1) scientific use, (2) conservation for future use, (3) traditional use, (4) public use or (5) experimental use, or classify as "discharged from management," within one year of recording.

CH-1.1.1: Anza-Butterfield Interpretive Trail (a high potential use segment of the Juan Bautista de Anza NHT and Butterfield Overland Stage Route within the SDNM, totaling 3,600 acres), Happy Camp (<5 acres), Christmas Camp (<5 acres), and Big Horn Station (<5 acres) will be allocated as public or scientific use sites.

Management prescriptions for public use sites will follow those set forth in the applicable special designation sections of the RMP when more restrictive. Inventory, recordation, documentation, and preparation of all sites for increased public visitation must be accomplished prior to implementing interpretive developments. Big Horn Station will only be allocated if stabilization measures are taken, critical safety issues are addressed, and legal access is obtained (**Map 2**, Cultural Resources Allocations).

CH-1.1.2: Allocate the Sonoran Desert Historic Trails Special Cultural Resources Management Area (16,200 acres).

CH-1.1.3: Camping within 100 feet of centerline along the Anza-Butterfield Interpretive Trail high potential use segment will be limited to designated campsites as determined in activity-level planning. See also SL-2.1.3, RM-1.1.4, and TM-6.1.1.

CH-1.2: Encourage appropriate scientific use of cultural resources.

CH-1.2.1: Provide opportunities for scientific research and inventory at selected sites, including excavation by qualified researchers.

CH-2: Reduce threats, reduce or prevent damage, and resolve potential conflicts from naturally occurring or unauthorized human-caused damage or deteriorations.

CH-2.1: Impacts by erosion, natural processes, or those due to vandalism, visitation, vehicle traffic, or other unauthorized human activity will be reduced.

CH-2.1.1: Potential conflicts from other resource uses will be minimized, reduced, or unauthorized by complying with Section 106 of the National Historic Preservation Act, and using mitigation or avoidance strategies as prescribed by law, regulation, or the BLM 8100 Manual.

CH-2.1.2: Sites suffering damage or deterioration resulting from natural or human causes will be restored or stabilized.

CH-2.1.3: Sites and Monument objects will be protected from degradation due to erosion and other natural processes by using a wide variety of techniques and tools, such as wash bank stabilization, rip rap, and vegetation restoration.

CH-2.1.4: Sites and Monument objects damaged by vandalism, excessive visitation, vehicle traffic, or other causes will be restored by using signing, fencing, gating, trail re-routing, or other measures.

CH-2.1.5: Special recreation permit (SRP) holders will be required to provide archaeological site etiquette and resource conservation information to all participants, employees, and volunteers associated with permitted activities. See also RM-2.1.10.

CH-2.1.6: The number of visitors at cultural or historic sites will be limited to 25 people at the site at any one time to emphasize resource protection. Some sites may require further limitations to protect the resource. Casual use or group limits for SRPs may be higher on a case-by-case basis if determined to be acceptable in site specific evaluations and the activity/action can be designed to have a minor or negligible impact to cultural resources. See also RM-2.1.11.

CH-3: Manage assemblages of sites within the Decision Areas as cultural landscapes.

CH-3.1: Distinct cultural landscapes will be described and mapped as defined by human use of the environment to protect the physical integrity, enhance visitor experience, and maintain or enhance visual settings. Cultural landscapes are a new and holistic land use concept that attempts to understand human interaction with each other and their environment through time on a landscape scale.

CH-3.1.1: The age, function, and interrelationship of sites attributed to historic indigenous populations in different environmental settings will be identified when possible.

CH-3.1.2: Cumulative impacts on the cultural landscape, as well as impacts on individual sites, will be analyzed as part of the project assessment when projects are proposed.

Administrative Actions

State Historic Preservation Office/National Historic Preservation Act

- Continue to regularly communicate with the SHPO to share information and obtain technical advice on issues relating to compliance with Sections 106 and 110 of the National Historic Preservation Act, in accordance with the Arizona State Protocol.
- Focus proactive (Section 110) inventories on areas defined as Special Cultural Resource Management Areas, and areas along historic trail routes.

Tribal Consultation and Concerns

- Continue to consult with the Gila River Indian Community, the Ak-Chin Indian Community, the Salt River Pima-Maricopa Indian Community, the Tohono O'odham Nation, the Hopi Tribe and other interested Indian tribes to identify places of traditional importance and associated access needs. Develop measures for management and protection of such places that may be identified by tribes during the life of the RMP.
- Identify sacred areas in consultation with Indian tribes and, where practicable, limit land uses to those that do not conflict with ascribed values.
- Honor tribal requests to protect the confidentiality of sensitive information to the extent permitted by law.
- Provide opportunities for participation by Indian tribes in research and interpretation.
- Develop specific management prescriptions for sites allocated to the Traditional Use category in consultation with the Indian tribes to which they are culturally important.
- Restrict public information about the locations of sites that are not allocated to public use as allowed by law and regulation.

Research Opportunities

- Complete documentary research and oral histories to gain a better understanding of cultural resources from homesteading, mining, ranching, and other historical period activities.
- Establish collaborative research partnerships with academic institutions, tribes, professional and nonprofit organizations, vocational organizations, and other entities for an orderly process of cultural research, recordation, and education.
- Work with researchers, tribes, interested members of the public, contractors, local communities, and published materials to define specific cultural landscapes. Work with tribal groups and individuals to define temporal, functional, and inter-relationships of sites within certain landscape settings.
- Provide opportunities for training and participation in site documentation, research, protection, and education projects by tribal members, students, and volunteers. Ensure adequate professional oversight of work conducted by tribal members, students, and volunteers.

Interpretation and Education

- Map and document sites before interpretive development for public use, as needed, to preserve archeological data, plan for interpretive data, and provide a baseline condition assessment for monitoring changes resulting from visitor use.
- Complete interpretive plans for public use sites selected for interpretive development.
- Develop interpretive materials and facilities for selected sites. Provide educational opportunities to the public, including resource protection and appreciation, education, and stewardship.
- Continue to participate in Arizona Archaeology Awareness Month events and other educational outreach programs to highlight the values of cultural heritage resources and the need to protect these resources.
- Provide opportunities for tribal and interested public participation in interpretation.

Monitoring

- Continue to work with and support the Arizona Site Steward Program.
- Develop a monitoring scheme to evaluate the condition of cultural resources.
- Implement procedures for systematic monitoring of all sites developed or authorized for public visitation.

Planning

- Develop Cultural Resource Project Plans for protection or interpretation projects that require precise descriptions of implementation procedures, workforce, scheduling, equipment, and supplies. Implement planning following the guidance in BLM's Manual 8130, Planning for Uses of Cultural Resources.

Special Programs/Cultural Landscapes

- Work with researchers, tribes, concerned members of the public, contractors, local communities, and other stakeholders to make use of previously published materials to define certain cultural landscapes.
- Develop a strategy to identify, assess, and monitor the viewsheds along the historic trail corridor and other important cultural landscapes on the SDNM. Use Geographical Information System (GIS) technology to create viewshed studies and collect information for the monitoring program.

2.2.4 Paleontological Resources

Goals, Objectives, and Management Actions

PL-1: Protect and manage any paleontological resources, including all vertebrate fossils, traces, and invertebrate or plant fossils of paleontological interest, found on public lands for scientific, educational, or recreational values.

PL-1.1: Manage paleontological resources to maintain or enhance their physical integrity, educational values, and scientific interest while avoiding all surface-disturbing activities to the extent possible that will damage paleontological resources.

PL-1.1.1: Collection of paleontological resources for personal use will be prohibited except where intended for legitimate scientific uses and for which written authorization is obtained from the BLM authorized officer.

PL-1.1.2: Standard discovery stipulations will be included in any permit approval that is likely to affect significant paleontological resources. Stipulations will require the user or operator to:

- Suspend operations immediately upon discovery of paleontological resources that will disturb them,

- Contact the authorized officer as soon as reasonably possible,
- Bear the cost of required mitigation.

PL-1.1.4: Upon notification of discovery by a permit user or operator, the BLM will:

- Evaluate the discovery and inform the user/operator within 5 days,
- Allow resumption of use/operations only after completion of mitigation.

Administrative Actions

- Geologic units will be assigned and entered into the Potential Fossil Yield Classification System (per IM No. 2008-009) using geological maps and professional consideration. Assign a separate class ranking to each recognized geologic formation or member present at the surface in accordance with the guidelines provided in the IM.
- All assigned units entered into the Potential Fossil Yield Classification System will be integrated onto a GIS-based geologic map.

2.2.5 Soil Resources

Goals, Objectives, and Management Actions

SL-1: Ensure watersheds are functioning appropriately and are consistent with Land Health Standards. Characteristics of a properly functioning watershed include channels that are stable and in balance with the landscape; erosion and sediment deposition appropriate for the ecological site; infiltration of surface water in soils sufficient to support desired future conditions and minimize erosion from runoff; and flood frequencies, durations, and magnitudes appropriate for the landscape.

SL-1.1: Maintain or restore upland, channel, and riparian components of watersheds that help stabilize or improve watershed conditions. Major indicators of watershed health include maintaining total cover (vegetation and litter) consistent with desired future conditions, riparian areas in proper function condition, and erosion and sedimentation rates appropriate to the ecological site.

SL-1.1.1: Priorities for restoration will be established for disturbed areas. Priorities will be based on the potential for soil erosion and loss, damage to cultural or ecologically sensitive sites, and effects on water quality and quantity.

SL-1.1.2: Degraded sites will be stabilized and restored to slow or stop accelerated soil erosion and sedimentation and limit erosion to the natural rate for the ecological site.

SL-1.1.3: Benefits and risks of retaining the Vekol Valley spreader dike system will be evaluated along with benefits and risks of retaining or implementing vehicle closures in areas with eroded or otherwise degraded roads and trails.

SL-1.1.4: Soil erosion at cultural and ecologically sensitive sites will be evaluated. Soil erosion or degradation at these sites will be mitigated.

SL-1.1.5: Any management-caused soil erosion or degradation of the protected objects of the SDNM will be mitigated and restored to the extent possible.

SL-1.1.6: New or redeveloped facilities not related to water management will be constructed:

- Outside the 100-year floodplain of washes or water ways. Water catchment facilities for wildlife waters could be developed or redeveloped in riparian areas or in the 100-year floodplain or if needed to meet wildlife objectives and no other options are viable.
- In a manner that avoids changing natural water flow or watershed dynamics, and consistent with other resource and public safety goals.
- Existing facilities could be relocated or modified if they are significantly affecting watershed or floodplain function. Where water management facilities are necessary, the BLM will pursue options that minimize changes to natural water flow and watershed dynamics. Any activities in the 100-year floodplain will be planned for compliance with any county or federal floodplain regulations.

SL-2: Maintain or improve sensitive soils to avoid accelerated erosion rates.

SL-2.1: Disturbance of sensitive soil surfaces, including those classified as highly susceptible to wind and water erosion and those with protective desert pavement or well-developed cryptogamic crust, will be avoided. If disturbance occurs, damage will be mitigated.

SL-2.1.1: Developments and ground-disturbing activities will be located away from areas of significant desert pavement, cryptogamic crust, and other sensitive or fragile soils that are vulnerable to disruption or have high wind or water erosion potential unless project goals cannot be met in another location. Where facilities or projects cannot be relocated, mitigation measures will be taken, including application of ground cover, to minimize erosion.

SL-2.1.2: Motorized vehicle use will be limited to designated roads, primitive roads, and trails. Specific designations will occur within this plan for the SDNM.

SL-2.1.3: Vehicle parking and camping will be limited to reasonable use of the shoulder or adjacent area. Designated sites in such locations will be inventoried, mapped, and signed. If monitoring results show effects that exceed limits of acceptable change, motorized vehicles will not be allowed to pull off a designated route. See also CH-1.1.3, RM-1.1.4, and TM-6.1.1.

SL-2.1.4: Surface-disturbing activities – including vehicle camping, parking, and recreation facilities – will be prohibited on undisturbed desert pavement or well-developed cryptogamic crusts.

Administrative Actions

- Update existing soils database on public lands that were formerly part of the Barry M. Goldwater Range (BGR).
- Implement watershed improvement projects to increase ground cover to reduce erosion, sediment yield, and salinity contributions.

2.2.6 Vegetation Resources

Goals, Objectives, and Management Actions

VM-1: The natural diversity and abundance of native vegetation will occur as expected for landform and ecological site, and within the SDNM protect the vegetative objects of the Monument.

VM-1.1: Maintain or restore vegetative communities to achieve desired future conditions as identified in **Table 2-2**, Desired Future Conditions for Vegetation Resources.

Table 2-2
Desired Future Conditions for Vegetation Resources

Vegetative Community*	Acres/Miles in Planning Area	Desired Future Condition
All	N/A	Vegetative communities will provide appropriate cover levels, as described in Natural Resources Conservation Service Ecological Site Descriptions, to protect soils from wind and water erosion. This will ensure properly functioning watersheds and ecological processes in order to sustain healthy biotic populations and communities (biological objects within the SDNM Planning Area).
All		Each vegetation community will be maintained within its natural range of variation in plant composition, structure, and cover at the landscape level. Site potentials (soil, climate, topography) establish the natural limits on what can be produced in terms of vegetation and related resource values like forage, wildlife habitat, and watershed characteristics.
Creosote Bush–Bursage	179,600 acres	The potential of this community is a shrub dominated site with desert scrub species, cacti, and annual forbs and grasses.
Palo Verde-Mixed Cacti	303,300 acres	This vegetative community should consist of more diverse vegetative composition and structure than that of the creosote bush- bursage community. It includes vegetation varying from small shrubs to large trees (such as ironwood, palo verde, and mesquite) interspersed with a variety of cacti, such as mammalaria (*Mammalaria* spp.), prickly pear (*Opuntia* spp.), cholla (*Opuntia* spp.), barrel cactus (*Ferocactus wislizenii*), hedgehog (*Echinocereus* spp.), and saguaro (*Carnegiea gigantea*). Where

Table 2-2
Desired Future Conditions for Vegetation Resources

		potential exists, saguaro cactus forests will support appropriate densities of saguaro, with all age classes represented to ensure recruitment.
Riparian	0 acres	Riparian habitats should contain a diversity of native riparian obligate trees (such as cottonwood [*Populus* spp.] and willow [*Salix* spp.]) of various age and size classes and herbaceous plants adapted to hydric soils to restore ecological conditions and function.
Apacherian-Chihuahuan Upland Scrub	400 acres	The potential for this community is a shrubland dominated community consisting of large desert scrub/trees, including mesquites, acacias or junipers, and cacti. Perennial grass cover is typically low.
Sonoran Mid-Elevation Desert Scrub (Woodlands)	2,000 acres	This vegetative community should consist of a diverse vegetative composition and structure, similar to that of the palo verde-mixed cacti community, but with an increase of perennial grasses, forbs, and large shrub species (jojoba, crucifixion thorn, etc.) due to the increased precipitation.
Mogollon Chaparral	100 acres	This vegetative community should consist of woody species such as shrub live oak, mountain mahogany, desert ceanothus, and cliffrose interspersed with an understory of perennial grasses along with small shrub and forb species.
Desert Grassland	1,054 acres	Manage this plant community as a tobosa (*Pleuraphis mutica*)-dominated grassland while limiting the encroachment of mesquites and other shrubs.
Desert Washes (xeroriparian)	970 miles **	This community should have a multi-layered vegetative structure, as provided by perennial vegetation.
Diverse Composition	N/A	Diverse vegetative composition and structure will include such species as foothills palo verde (*Cercidium microphyllum*), blue palo verde (*Cercidium floridum*), desert willow (*Chilopsis linearis*), ironwood (*Olneya tesota*), mesquite (*Prosopis* spp.), smoke tree (*Psorothamnus spinosus*), and catclaw acacia (*Acacia greggii*) of various sizes and growth forms appropriate to the ecological site.
All	N/A	Ensure sufficient bank and floodplain vegetation (including along braided channel floodplains) provides for hydrologic function of the site.

* The desired future conditions described are general descriptions of the expected plant community makeup. Site potentials (based on ecological sites) and the development of specific desired plant community objectives for each vegetation type should be determined through the use of the Natural Resources Conservation Service ecological site descriptions, rangeland health reference sheets, or information collected from reference or comparison areas or a combination of the above. The ecological site descriptions that correspond to each vegetation community can be found at http://esis.sc.egov.usda.gov.

The vegetative communities listed that occur within the SDNM are identified as biological objects of the Monument. Within the SDNM, specific desired plant community objectives and site potentials were developed for

Table 2-2
Desired Future Conditions for Vegetation Resources

each ecological site and corresponding vegetation type (biological object) through the land health evaluation process. These site potentials were determined through the use of a combination of the information collected from the BGR and Area A (comparison areas), the Natural Resources Conservation Service's ecological site descriptions, and the rangeland health reference sheets for the ecological sites. Achievement of these desired plant community objectives will ensure that the biological objects of the Monument are being protected.
** Based on US Geological Survey 1:100K scale topographic quadrangles

VM-1.1.1: Activities will be evaluated on a case-by-case basis and impacts minimized, mitigated, or avoided to achieve land-health standards and vegetation community desired future conditions, and ensure protection of the vegetative objects of the Monument.

VM-1.1.2: Vegetation treatments could be conducted in order to make progress toward achieving land health standards. Treatments will include, but will not be limited to, seeding, transplanting, watering, seasonal closures, and seasonal use restrictions.

VM-2: Populations of endangered, threatened, and special status plants will be stable and/or increasing and suitable habitat is available for future establishment and maintenance of the populations.

VM-2.1: Identify and protect occupied and potential habitats for maintenance, restoration, or reestablishment of acuña pineapple cactus and other endangered, threatened, or special status plants. Maintain the diversity and properly functioning ecological processes of natural plant communities that support rare or special status plant species.

VM-2.1.1: Authorized surface-disturbing activities within occupied acuña cactus habitat areas will be minimized, mitigated, or avoided. Currently, the only known areas of location are within the very southern portion of the SDNM.

VM-2.1.2: Authorized surface-disturbing activities within habitat areas of any endangered, threatened, or special status plants will be minimized, mitigated, or avoided to ensure stable populations.

VM-3: Noxious and undesirable plant species will not occur on the landscape or, if they occur, they will make up a sufficiently small percentage of the vegetative community that they do not affect ecological processes.

Objective VM-3.1: Control invasive species using an integrated weed-management approach, including prevention, restoration, mechanical, chemical, biological control methods, and prescribed fire, where appropriate.

VM-3.1.1: Proposed projects will use practices that minimize the introduction and spread of invasive species.

VM-3.1.2: Priority will be assigned to the control of invasive species that have a substantial and apparent impact on native plant communities and wildlife. When infestations are identified, they will be evaluated for their potential threat and scheduled for removal accordingly.

VM-3.1.3: Monitoring for invasive species will focus on likely vectors of invasion such as linear features (roads, canals, railroads, utility corridors, etc.), disturbed areas (construction or development areas), and areas where water is available or may pond (water-control structures, etc.).

VM-3.1.4: Certified weed-free feed will be required for all equestrian and stock animal uses authorized under special recreation permits. The general public will be encouraged to provide weed-free feed for their equestrian and stock animals.

VM-4: Protect native plants from collecting and other uses.

VM-4.1: Protect SDNM vegetation by managing collection and uses consistent with the Monument proclamation.

VM-4.1.1: Collecting or removing living or dead native vegetation, including plant byproducts and woodcutting for commercial and personal uses, will be prohibited within the SDNM without written authorization. Examples of authorizations include vegetation removal for Native American traditional uses, scientific research, educational uses, salvage, or meeting management objectives. Authorizations must be in accordance with the Arizona Native Plant Law.

VM-5: Native plants will occur at a natural abundance and distribution.

VM-5.1: Rehabilitate native plant communities after land-disturbing activities, where appropriate. Rehabilitation will be designed to achieve vegetative conditions (cover, composition, etc.) necessary to stabilize the site.

VM-5.1.1: Rehabilitation practices will be used to stabilize and rehabilitate sites impacted from new surface-disturbing activities. Long-term restoration will occur through natural processes. In most cases, lands previously disturbed by historical uses will be allowed to recover through natural processes. Sites that may be appropriate for rehabilitation practices include:

- Recently disturbed sites that may respond quickly to rehabilitation practices, including damage caused by wildfire, immigrant traffic, or other illegal activities;
- Severely damaged, rapidly deteriorating, or rapidly expanding sites;
- Placing adjacent resources at risk;
- Prone to invasion by nonnative species;
- Heavily disturbed, such as mining sites;
- Capable of improving habitat for threatened and endangered species;

- Management priorities that require accelerated restoration to meet selected management objectives.

VM-5.1.2: Native plants will be used as the first priority for all rehabilitation projects. Non-invasive, nonnative plants may be used in limited urgent situations where it may be necessary to protect the resources or when taking no action will further degrade the resources. In these situations, short-lived species (i.e., weed-free nurse crop species) will be preferentially used and will be combined with native species to facilitate the establishment of native species.

VM-5.1.3: Rehabilitation and reclamation plans that describe the site restoration goals, considering the starting condition of the site, and restoration methods will be required for all surface-disturbing activities commensurate with the amount of surface disturbance.

VM-5.1.4: Preliminary success criteria for a site will be considered achieved when soil conditions are stabilized and approximately 50 percent or more of the plant composition and cover are present based on appropriate Ecological Site Descriptions. Trees and shrubs will be considered established when they have survived (without assistance such as watering) for two consecutive years. Livestock will not be turned out on rehabilitated sites until it was determined by an interdisciplinary team that the re-established forage could sustain livestock grazing.

Administrative Actions

- Seed from regionally native or sterile alien (nonnative) species of grasses and herbaceous vegetation will be used in areas where reseeding is necessary following ground disturbance to stabilize soils and prevent erosion by both wind and water.
- Prioritize monitoring for invasive species to determine if weeds not immediately being treated are becoming a greater threat to the resources of concern.

2.2.7 Visual Resources

Allocations Summary

The following VRM classes will be allocated for each alternative to support management objectives for the various resources, such as designated wilderness, areas with wilderness characteristics, NHT segments, and back country recreation settings.

Table 2-3
VRM Classes

VRM Class	BLM Acres	Management Action
Class I	157,700	VR-1.1.1
Class II	248,200	VR-1.1.2
Class III	80,500	VR-1.1.3
Class IV	0	VR-1.1.4

Goals, Objectives, and Management Actions

VR-1: Manage public lands that will maintain scenic quality, natural landscapes, undisturbed views, and other high-quality visual resources.

VR-1.1: Visual resources will be managed according to the class objectives set in the Visual Resource Inventory Handbook H-8410-1 and BLM Guidelines for a Quality Built Environment.

VR-1.1.1: Designated wilderness areas will be allocated as VRM class I (157,700 acres).

VR-1.1.2: 248,200 acres are allocated as VRM class II.

VR-1.1.3: 80,500 acres are allocated as VRM class III.

VR-1.1.4: Zero (0) acres are allocated as VRM class IV.

VR-1.1.5: All surface-disturbing projects or activities, regardless of size or potential impact, will incorporate visual design considerations consistent with the Visual Resource Contrast Rating Manual H-8431-1 to meet VRM class objectives for the area. Even activities in VRM Class IV will consider designs that help reduce visual contrast between a proposed project and landscape settings (color, texture, line, and form). Measures to mitigate potential visual impacts could include the use of natural materials, screening, painting, project design, location sighting, or restoration.

VR-1.1.6: Restoration projects will ensure that visual impacts are minimized in the short term (5 years) and that VRM objectives in the project area are met in the long term (life of the project) when such projects are a) considered essential for public safety, achieving desired future conditions, or reducing hazardous fuels buildups, and b) expected to be visually prominent.

VR-1.1.7: The viewshed of the Juan Bautista de Anza NHT, Highway 238, and Interstate 8 would be managed in a manner that exceeds or maintains the VRM objectives. VRM and scenic management prescriptions would be applied for their preservation and enhancement. The viewshed of the Anza NHT would be managed to maintain the historic landscape setting. See also **Section 2.2.18**.

VR-2: Maintain night sky condition.

VM-2.1: Manage activities and projects on public lands that will contribute light or air pollution to maintain or improve dark, clear skies for stargazing and nighttime military training.

VR-2.1.1: Permanent outdoor lighting will not be allowed in VRM Class I areas.

VR-2.1.2: Development on public lands will be required to use dark-sky-friendly technologies in VRM Classes I through IV to provide opportunities for stargazers and amateur astronomers and to maintain conditions favorable to nighttime military operations. Measures may include, but will not be limited to directing all light

downward, using shielded lights, using only the minimum illumination necessary, using lamp types such as sodium lamps (less prone to atmospheric scattering), using circuit timers, using motion sensors, or using flight proximity detectors.

VR-3: The natural splendor for which the SDNM was designated shall be maintained.

VR-3.1: Visual resources of the SDNM will be managed to preserve or to retain the existing character of the landscape. The visual character of management activities will be managed according to the objectives described above and in VRM Handbook H-8410-1.

VR-3.1.1: Public lands within the Monument will be allocated to the VRM classes as depicted in **Map 3**, Visual Resource Management to ensure visual landscapes as described in the Monument proclamation are protected. See also RM-1.2.3.

Administrative Actions

- Incorporate visual design considerations for all surface-disturbing projects or activities, regardless of size or potential impact, consistent with the Visual Resource Contrast Rating Manual H-8431-1 to meet VRM class objectives for the area.
- Participate in regional planning initiatives and comment on proposals for development on adjacent non-federal lands to encourage future development to be compatible with VRM designations and protection of dark night skies on public lands.
- Develop user facilities (trailheads, non-motorized trails, campgrounds, roads, utilities, interpretive areas) to take advantage of views of scenic and historic landscapes in such a way that visual quality is protected.

2.2.8 Water Resources

Goals, Objectives, and Management Actions

WR-1: Ensure physical and legal availability of water in sufficient quantity and quality to meet the management needs of the Sonoran Desert National Monument.

WR-1.1: New water source developments will not adversely affect existing sources and uses. This will be determined prior to any new development activity, including issuance of landowner's permission to drill required by the Arizona Department of Water Resources.

WR-1.1.1: All proposed new water uses and developments will be assessed to determine whether they will adversely affect springs, streams, tinajas, or seeps; decrease water availability at existing wells; or conflict with other resource management goals.

WR-1.1.2: Groundwater exploration and development will be restricted and damage mitigated in areas with ecological or cultural resources that are sensitive to disturbance.

WR-1.1.3: The only proposed water developments allowed will be those that are consistent with the proclamation.

WR-1.1.4: Groundwater exploration and development will be restricted and damage mitigated in areas with ecological or cultural resources that are sensitive to disturbance.

WR-1.2: The BLM will take necessary steps to acquire all water rights allowed by law to properly manage the SDNM, and to protect the natural resources of the SDNM and objects of the SDNM. Inventory work and at least one-half of water-rights filings will be completed within 5 years of issuing this plan.

WR-1.2.1: Water will be inventoried and appropriate applications and claims filed for state water rights for all water sources and beneficial uses on public land in accordance with state law to ensure water availability to meet management needs and protect ecological functions.

WR-1.2.2: Inventory all water sources, including groundwater sources, within the three wilderness areas of the SDNM for quantification and assertion of federal reserved water rights, and provide notice of these rights to Arizona Department of Water Resources.

WR-2: All surface water in the SDNM will meet appropriate state water quality standards or will have state-approved plans for water quality improvement.

WR-2.1: Impaired water quality in stretches of the Gila River that run through the Planning Area will be improved or corrected within 5 years; the BLM will commit to the state schedule for water quality improvement.

WR-2.1.3: No new water development that will divert water out of SDNM will be allowed.

Administrative Actions

- Identify, evaluate, and assign priorities for restoring disturbed areas considering the potential for soil erosion and loss, damage to cultural or ecologically sensitive sites, and effects on water quality and quantity.
- Evaluate proposals for groundwater withdrawals on BLM-administered lands within an AMA in coordination with the Arizona Department of Water Resources and incorporate any restrictions or guidelines for the AMA.
- Work with county, state, and federal agencies to monitor surface and groundwater quantity and quality on public lands. Correct problems as they are identified.
- Coordinate with the AGFD to be sure all wells within the BGR are registered with Arizona Department of Water Resources. Inventory all water sources on BGR and enter them into the BLM water data management system. Coordinate water rights filings for water sources with the US Air Force and AGFD (applicable to the three relinquished BGR parcels).
- Work with county, state, and federal agencies and other partners to evaluate the quantity of groundwater available and predict the effect of future potential water withdrawals on the ability to provide adequate water availability for natural resource and multiple use goals within SDNM.
- Begin a dialogue with appropriate State of Arizona policy, legal, and water resources staff on the development of a cooperative agreement on the protection of water resources on SDNM.

2.2.9 Wilderness Characteristics

Allocations Summary

Under the approved management action, approximately 107,800 acres of BLM lands in SDNM will be managed to protect wilderness characteristic (WC-1.1.1).

Goals, Objectives, and Management Actions

WC-1: Areas to be managed to protect wilderness characteristics should retain a high degree of naturalness where the imprint of humans on lands and resources is substantially unnoticeable. Furthermore, outstanding opportunities for solitude and primitive or unconfined types of recreation should be maintained or enhanced.

WC-1.1: Manage lands managed to protect wilderness characteristics to maintain a high degree of naturalness and offer outstanding opportunities for solitude or primitive, unconfined recreation by reducing impacts on these values while considering manageability and competing resource demands.

WC-1.1.1: 107,800 acres of public lands will be designated as lands managed to protect wilderness characteristics (**Map 4**, Lands Managed to Protect Wilderness Characteristics).

WC-1.1.2: Private or state in-holdings, including subsurface, will be acquired when available from willing owners. See also LR-2.1.5.

WC-1.1.3: Lands managed to protect wilderness characteristics will be managed as avoidance areas for minor and nonlinear land use authorizations (LUAs) with the exception for law enforcement, public safety or administrative purposes as approved by the authorized officer.

WC-1.1.4: Any potential new minor and nonlinear LUAs, and maintenance of existing facilities, will be evaluated and allowed under the following circumstances:

- When compatible with maintaining or enhancing wilderness characteristics or when needed to protect, manage, or improve natural or heritage resource conditions;
- When meeting law enforcement, agency, or public safety needs;
- When reconstruction, replacement, or major maintenance of existing facilities, or development of new projects, is consistent with this plan's objectives, VRM classes, and desired recreation, social, and managerial settings;
- When the project site can be restored to its previous condition after the project is completed.

WC-1.1.5: Existing facilities and projects no longer active will be removed if practicable.

WC-1.1.6: Sites and locales with human-caused disturbances will be rehabilitated if such actions maintain or enhance wilderness characteristics and natural/heritage resources, are practicable, meet management prescriptions and SOPs, and are addressed in a restoration plan.

WC-1.1.7: Measurement standards will be developed and adopted for:

- Trail conditions,
- Facility conditions,
- Visitor-to-visitor encounters,
- Vegetation changes,
- Vegetation and wildlife desired resource conditions, and
- Other approved activities

WC-1.1.8: Lands managed to protect wilderness characteristics will be designated limited OHV use areas.

WC-1.1.9: Public or commercial collection of plant and mineral materials will be prohibited.

WC-1.1.10: Wheeled game carriers will be allowed.

WC-1.1.11: Closed vehicle routes could be converted, where appropriate, for use as equestrian and/or hiking trails.

WC-1.1.12: New equestrian and/or hiking trails will be established when consistent with this plan's objectives; desired recreation, social, and managerial settings; and VRM classes.

WC-1.1.13: Special recreation permits, commercial recreation and vending operations, guided hunts, and concession leases will be allowed when they are landscape- and wilderness-character resource-dependent activities consistent with this plan's objectives; desired recreation, social, and managerial settings; and VRM classes. See also RM-2.1.10

Administrative Actions

- Employ the lowest-impact methods for development that can be reasonably applied:
- Use design methods that cause the facility to blend into the landscape, including consideration of site selection and use of a low profile;
- Design facilities that will require minimal maintenance;
- Use best management practices to minimize surface and vegetation disturbance during construction;
- Decrease the visual effect of existing facilities during reconstruction, replacement, or major maintenance;
- Establish baseline standards to protect proper levels of recreational and landscape disturbance to protect wilderness characteristics.

2.2.10 Wildland Fire Management

Goals, Objectives, and Management Actions

WF-1: Ensure firefighter and public safety is the highest priority in every fire or fuels management activity.

WF-1.1: Set priorities among protecting residences, community infrastructure, and other manmade property and improvements.

WF-1.1.1: Management Response to unplanned ignitions will be full suppression for all lands within the SDNM.

WF-1.1.2: Implement a hazardous fuels reduction program that creates conditions conducive for safe and effective firefighting.

WF-1.1.3: With community partners, implement the Pinal County Community Wildfire Protection Plans.

WF-2: Wildland fuels are managed to protect wildland-urban interface (WUI) areas and meet resource management objectives.

WF-2.1: Fuels within WUI areas are proactively managed to improve the protection of life and property.

WF-2.1.1: Hazardous fuels around communities at risk and utility infrastructure (e.g., roads, power lines, and communication sites) within the WUI are reduced using mechanical, chemical, biological, and prescribed fire treatments, where applicable.

WF-2.1.2: Identify, prioritize, and implement WUI fuels treatments in the Planning Area. Fuels treatments to reduce wildland fire risk will focus on the WUI areas identified in the Planning Area Community Wildfire Protection Plans and those that are developed collaboratively with SDNM partners.

WF-2.1.3: In consultation with cultural resource specialists, develop fuels treatments to protect cultural resources that are susceptible to damage from wildfire.

WF-2.1.4: Analyze and implement where needed, hazardous fuels reduction in and around recreation sites to improve public and firefighter safety.

WF-3: Limit the extent of wildfires and the impact of fire suppression efforts on wildlife, plant communities, and natural and cultural features.

WF-3.1: Reduce the frequency of human-caused wildland fires and minimize the total number of acres burned within the SDNM.

WF-3.1.1: Management Response to unplanned ignitions will be full suppression for all lands within the SDNM.

WF-3.1.2: Identify, prioritize, and implement non-WUI fuels treatments within the SDNM. Prioritization will be given to fuels treatments that maintain areas in Fire Regime Condition Class I or have the ability to improve areas characterized as Fire Regime Condition Class II and III.

WF-3.1.3: Implement fuels treatments, suppression activities, and prevention activities that target reducing the size and number of human-caused wildland fires.

WF-3.2: For all fire management activities (wildfire suppression, prescribed fire, and mechanical, chemical, and biological vegetation treatments), a focus will be to maintain or improve habitat for federally threatened, endangered, proposed, and candidate (federally protected) species.

WF-3.2.1: Identify and implement post-fire stabilization and rehabilitation actions in burned areas to restore a functional landscape to meet the resource management objectives.

WF-3.2.2: Use prescribed fire, chemical, mechanical, manual, and biological treatments in areas of the SDNM that fall in Fire Regimes 2 and 4 to reduce shrub and tree components.

WF-3.2.3: Protect known locations of habitat occupied by federally listed species. Minimum impact suppression tactics (MIST) will be followed in all areas with known federally protected species or habitat.

WF-3.2.4: Construction of permanent roads, primitive roads, or trails will not be permitted during fire-suppression activities in habitat occupied by federally protected species. Construction of temporary roads, primitive roads, or trails is approved only if necessary for safety or the protection of property or resources, including federally protected species habitat. Temporary road construction should be coordinated with the USFWS, through the resource advisor.

WF-3.2.5: Crew camps, equipment staging areas, and aircraft landing and fueling areas should be located outside of listed species habitats, preferably in locations that have previously been disturbed. If camps must be located in listed species habitat, the resource advisor will be consulted to ensure habitat damage and other effects to listed species are minimized and documented. The resource advisor should also consider the potential for indirect effects to listed species or their habitat from the siting of camps and staging areas (e.g., if an area is within the water flow pattern, there may be indirect effects to aquatic habitat or species located off-site).

WF-3.2.6: Use of motorized vehicles during prescribed burns or other fuels treatment activities in suitable or occupied listed species habitat will be restricted, to the extent feasible, to existing roads, trails, washes, and temporary fuel breaks or site-access

routes. If off-road travel is deemed necessary, any cross-country travel paths will be surveyed prior to use and will be closed and rehabilitated after the prescribed burn or fuels treatment project is completed.

WF-3.2.7: Use of motorized vehicles during rehabilitation or restoration activities in suitable or occupied listed species habitat will be restricted, to the extent feasible, to existing roads, trails, or washes, and to temporary access roads or fuel breaks created to enable the fire suppression, prescribed burn, or fuels treatment activities to occur. If off-road travel is deemed necessary, any cross-country travel paths will be surveyed prior to use and will be closed and rehabilitated after rehabilitation or restoration activities are completed.

WF-3.2.8: All temporary roads, vehicle tracks, skid trails, and OHV trails resulting from fire suppression and the proposed fire management activities will be rehabilitated (water bars, etc.), and will be closed or made impassible for future use.

WF-3.2.9: When using water from sources supporting federally protected species, care must be taken to ensure adverse impacts on these species are minimized or prevented. Unused water from fire abatement activities will not be dumped in sites occupied by federally protected aquatic species to avoid introducing nonnative species, diseases, or parasites.

WF-3.2.10: If water is drafted from a stock tank or other body of water for fire suppression, it will not be refilled with water from another tank, lakes, or other water sources that may support nonnative fishes, bullfrogs, crayfish, or salamanders.

WF-3.2.11: Use of containment systems for portable pumps to avoid fuel spills in riparian or aquatic systems will be required.

WF-3.2.12: For priority fire/fuels management areas (e.g., WUI) with federally protected species or designated critical habitat downstream, BLM biologists and other resource specialists, as appropriate, in coordination with USFWS and AGFD, will determine:

- The number of acres and the number of projects or phases of projects to occur within one watershed per year.
- Where livestock grazing occurs in areas that have been burned, specialists will determine when grazing can be resumed. Such deferments from grazing will only occur when necessary to protect streams from increased ash or sediment flow into streams.

WF-3.2.13: To the extent possible, maintain habitat features necessary to support breeding populations of the pygmy-owl within their historic range and review ongoing fire management activities for effects on essential habitat features needed by cactus ferruginous pygmy-owls. Modify activities, where necessary, to sustain the overall suitability of the habitat for the owls. Priority will be given to activities in or near occupied or recently (within the last 10 years) occupied habitat.

WF-3.2.14: Minimize use of chainsaws or bulldozers to construct fire lines through occupied or found to be occupied listed species habitat except where necessary to reduce the overall acreage of occupied habitat or other important habitat areas that will otherwise be burned.

WF-3.2.15: Avoid developing access roads that will result in fragmentation or a reduction in habitat quality for listed species. Close and rehabilitate all roads that were necessary for project implementation (see RR-5).

WF-3.2.16: During fire management activities in habitat occupied by federally protected plant species, no staging of equipment or personnel will be permitted within 100 meters of identified individuals or populations, nor will off-road vehicles be allowed within the 100-meter buffer area, unless necessary for firefighter or public safety or the protection of property, improvements, or other resources (see FS-7). Primary threats to many of these plant species are trampling or crushing from personnel and vehicles.

WF-3.2.17: No prescribed burning will be implemented within 100 meters of identified locations or unsurveyed suitable habitat for federally protected and sensitive plant populations unless specifically designed to maintain or improve the existing population.

WF-3.2.18: Prior to implementing any fuels treatment activities (prescribed fire, vegetation treatments), pre-project surveys will be conducted for paniculate agaves and saguaros that may be directly affected by fuels management activities.

WF-3.2.19: Protect long-nosed bat forage plants—saguaros and high concentrations of agaves—from wildfire and fire-suppression activities, and from modification by fuels treatment activities (prescribed fire, vegetation treatments), to the greatest extent possible. Agave concentrations are contiguous stands or concentrations of more than 20 plants per acre. Avoid driving over plants, piling slash on top of plants, and burning on or near plants. Staging areas for fire crews or helicopters will be located in disturbed sites, if possible.

WF-3.2.20: No seeding/planting of nonnative plants will occur in any wildfire rehabilitation site or fuels treatment site with paniculate agaves or saguaros.

WF-3.3: For all fire management activities efforts will be made to reduce the impacts on natural and cultural resources.

WF-3.3.1: Conduct all fire management activities within the SDNM, and along the Anza NHT in a manner that will avoid or minimize degradation of these areas and values that have been identified in the respective legislative designations for these areas.

WF-3.3.2: Ensure fire management activities in wilderness areas are compatible with the applicable wilderness plan.

Administrative Actions

- Designate resource advisors from the BLM to coordinate natural resource concerns, including federally protected species. They will also serve as a field contact representative responsible for coordination with the USFWS. Duties will include identifying protective measures endorsed by the field office manager, and delivering these measures to the incident commander; surveying prospective campsites, aircraft landing, and fueling sites; and performing other duties necessary to ensure adverse effects on federally protected species and their habitats are minimized. On-the-ground monitors will be designated and used when fire-suppression activities occur within identified occupied or suitable habitat for federally protected species.
- Brief and educate all fire management personnel (firefighters and support personnel) about listed species and the importance of minimizing impacts on individuals and their habitats. All personnel will be informed of the conservation measures designed to minimize or eliminate take of the species present by resource advisors or designated supervisors. This information is best identified in the incident objectives.
- Evaluate the effectiveness of fire-suppression activities and conservation measures for federally protected species after a fire, when practical, and share the results with the USFWS and AGFD. Revise future fire-suppression plans and tactical applications as needed and as practical.
- Involve biologists in the development of prescribed burn plans and vegetation treatment plans to minimize effects on federally protected species and their habitats within, adjacent to, and downstream of proposed project sites. Biologists will consider the protection of seasonal and spatial needs of federally protected species (e.g., avoiding or protecting important use areas or structures and maintaining adequate patches of key habitat components) during project planning and implementation.
- Require pre-project surveys and clearances (biological evaluations/assessments) for federally protected species for each project site before implementation. All applicable conservation measures will be applied to areas with unsurveyed suitable habitat for federally protected species, until a survey has been conducted by qualified personnel to clear the area for the treatment activity.
- Minimize short-term and long-term impacts when rehabilitating important areas for federally listed species that have been damaged by fire or other fuels treatments. Someone who is familiar with fire impacts and the needs of the affected species will contribute to rehabilitation plan development. Appropriate timing of rehabilitation and spatial needs of federally listed species will be addressed in rehabilitation plans.
- Monitor burned area emergency rehabilitation activities and long-term restoration activities, and share the results with the USFWS and AGFD. Section 7 consultation for burned area emergency rehabilitation activities will be conducted independently, if necessary.
- Develop public education plans that discourage or restrict fires and fire-prone recreation uses during high-fire-risk periods. Develop brochures, signs, and other interpretive materials to educate recreationists about the ecological role of fires, and the potential dangers of accidental fires.
- Develop mitigation plans in coordination with the USFWS for fuels treatment projects (prescribed fire; vegetation treatments) that may adversely affect cactus ferruginous pygmy-owls or their habitat. Mitigation plans for prescribed fire shall limit to the extent practicable the

possibility that fire will spread to riparian habitats. Mitigation plans will be approved by the USFWS.

- Instruct all crew bosses fire personnel (wildfire suppression, wildland fire use, prescribed fire, and vegetation treatments) in the identification of agave and columnar cacti and the importance of their protection.
- Map known locations and potential habitat for plant populations to facilitate planning for wildland fire use, prescribed fires, and vegetation treatments, and to ensure protection of these populations during fire suppression.
- Coordinate with USFWS to delineate buffer areas around plant populations prior to prescribed fire and vegetation treatment activities. The BLM will coordinate with USFWS during any emergency response and wildland fire use activities to ensure protection of plant populations from fire and fire-suppression activities.
- Develop a mitigation plan in coordination with the USFWS for prescribed fires or fuels management projects (mechanical, chemical, biological treatments) within ½ mile of bat roosts or in areas that support paniculate agaves or saguaros. The mitigation plan will ensure that effects on bat roosts and forage plants are minimized and will include monitoring of effects on forage plants. The plan will be approved by the USFWS.
- Examine concentrations of agaves (including shindagger [*A. schottii*]) within each proposed fuels treatment area, and blackline or otherwise protect from treatments any significant concentrations of agaves that appear to be amidst fuel loads that could result in mortality greater than 20 percent (greater than 50 percent *for A. schottii*). The BLM personnel should use their best judgment, based on biological and fire expertise, to determine which significant agave stands are prone to mortality greater than 20 percent (greater than 50 percent for *A. schottii*).
- Support and cooperate in the investigations of agave relationships to livestock grazing, and of the effects of prescribed fire on paniculate agaves.
- Coordinate invasive-species management, monitoring, control, and education efforts with the appropriate federal, state, county, municipal, and tribal agencies and other partners. Efforts will be coordinated through the Borderlands Cooperative Weed Management Area and other similar groups.
- Conduct floristic surveys and monitoring for populations of sensitive, candidate threatened, endangered, rare, or unique species (applicable to the three relinquished BGR parcels).
- Update the existing botanical resources database and vegetation map (applicable to the three relinquished BGR parcels).
- Adhere to the intent of the Arizona Native Plant Law, ESA, and all other applicable laws and regulations to protect vegetative resources.
- Focus invasive species monitoring efforts on likely vectors of invasion such as linear features (roads, canals, railroads, utility corridors, etc.), disturbed areas (construction or development areas), and areas where water is available or may pond (water control structures, etc.).
- Control of noxious weeds required by law will not be subject to a benefit-cost analysis; however, the most economical and efficient method will be analyzed along with the safety of the proposed kind of treatment.
- Follow the Phoenix District Reclamation Plan for rehabilitation procedures.
- (Environmental Assessments) Conduct an environmental analysis at the time of the pretreatment survey. An interdisciplinary team will review any analysis needed on individual projects or group of projects.

- (Cost-Benefit Analysis) Subject land treatments proposed for livestock forage improvement to a cost-benefit analysis to ensure total benefits gained will equal or exceed the cost of the treatments.
- Develop effective interagency and community interactions and cooperation to meet wildland-fire and fuel-management strategies and landscape-scale resource condition objectives across administrative boundaries.
- Include wildfire hazard mitigation strategies in the Fire Management Plan for the Planning Area by identifying appropriate areas for prescribed fire and mechanical, manual, biological, or chemical treatments to reduce hazardous fuels to minimize the adverse effects of uncharacteristic wildland fires and meet resource objectives. The plan will also identify areas for exclusion from fire (through fire suppression), chemical, mechanical, and biological treatments.
- Protect human life (both firefighters' and the public) and communities, property, and the natural resources on which they depend. Firefighter and public safety are the highest priority in all fire management activities.
- Improve public awareness of the role of fire in ecosystem restoration, wildfire risk and mitigation strategies, and wildfire safe community, preparedness, and response planning.

2.2.11 Wildlife and Special Status Species

Goals, Objectives, and Management Actions

WL-1: (Lesser Long Nosed Bat): Maintain, protect, and make accessible to lesser long-nosed bats, roosts and contiguous foraging habitat.

WL-1.1: Protect known roosting habitat for lesser long-nosed bat on public land and maintain contiguous foraging habitat at its current range and distribution.

WL-1.1.1: Mitigation could occur for facility development, including those for recreation purposes, within 4 miles of known lesser long-nosed bat roosts as long as the action does not impact roost sites. In the event that mitigation is not sufficient, the development will be relocated at least 4 miles from roost sites.

WL-1.1.2: Activities with the potential to impact lesser long-nosed bats or their habitats will be evaluated on a case-by-case basis and impacts will be mitigated or avoided.

WL-1.1.3: Medium to high density columnar cactus habitat (≥ 30 saguaro/acre) within 40 miles of known roost sites will be maintained and/or restored.

WL-1.1.4: Protect long-nosed bat forage plants-saguaros and high concentrations of agaves-from modification by treatment activities (prescribed fire, vegetation treatments), to the greatest extent possible. Saguaros and high concentrations of agaves will be excluded from treatments. Agave concentrations are contiguous stands or concentrations of more than 20 plants per acre.

WL-2: (Sonoran Pronghorn): Protect and enhance Sonoran pronghorn habitat and manage to support suitable habitat so it is available for future occupancy based on recovery goals.

WL-2.1: Manage to maintain or improve habitat for future populations of experimental/ nonessential Sonoran pronghorn within the SDNM.

WL-2.1.1: Sonoran pronghorn habitat within the SDNM will be managed to achieve recovery goals.

WL-2.1.2: The Monument will be identified as a potential reintroduction site for an experimental/nonessential population of Sonoran pronghorn. See **Map 5**, Sonoran Pronghorn Classification Areas.

WL-3: (Sonoran Desert Tortoise): Manage tortoise habitat so habitats provide sufficient forage and shelter for a viable population.

WL-3.1: Achieve the following objectives in desert tortoise habitat, as identified by habitat category:

- Category I - Maintain stable, viable populations and protect existing tortoise habitat values and increase populations where possible.
- Category II - Maintain stable, viable populations and halt further declines in tortoise habitat values.
- Category III - Limit tortoise habitat and population declines to the extent possible through mitigation.
- Retain natural shelter sites (boulders or caliche caves or similar features used by tortoises for sheltering) in Category I and II desert tortoise habitats, and
- Maintain or restore a diverse mixture of forage species and adequate cover of vegetation for desert tortoise habitat as recommended by the 1988 Rangewide Plan (BLM 1988b).

WL-3.1.1: Public lands currently allocated for management as Category I, II, and III Sonoran Desert tortoise habitat, as described in **Table 2-4**, Sonoran Desert Tortoise Habitat by Category, will be managed according to the objectives listed above.

Table 2-4
Sonoran Desert Tortoise Habitat by Category

Category	Sonoran Desert Tortoise Habitat (BLM Acres)
I	166,000
II	124,700
III	3,500

The criteria for Category I tortoise habitat areas are as follows:

- Habitat areas are essential to the maintenance of large, viable populations;
- Conflicts are resolvable;
- Populations are medium- to high-density or low-density contiguous with medium- or high-density;
- Populations are increasing, stable, or decreasing.

The criteria for Category II tortoise habitat areas are as follows:

- Habitat areas may be essential to maintenance of viable populations;
- Most conflicts are resolvable;
- Populations are medium- to high-density or low-density contiguous with medium- or high-density;
- Populations are stable or decreasing.

The criteria for Category III tortoise habitat areas are as follows:

- Habitat areas are not essential to maintenance of viable populations;
- Most conflicts are not resolvable;
- Populations are low- to medium-density and not contiguous with medium- or high-density;
- Populations are stable or decreasing.

WL-3.1.2: Habitat-management categories and boundaries may be revised as new population information becomes available. The criteria that will be used in revising categories and boundaries are those in the 1988 Rangewide Plan (BLM 1988b).

WL-3.1.3: No net loss will occur in the quality or quantity of Category I and II desert tortoise habitat. Mitigation for impacts will be permissible to achieve no net loss in quantity or quality of desert tortoise habitat in accordance with the Desert Tortoise Rangewide Plan and other applicable policy guidance.

WL-3.1.4: In Category I and II tortoise habitats, all motorized competitive speed races will be prohibited from March 31 through October 15. All other use requests during this time will be reviewed on a case-by-case basis and could be denied or adjusted to avoid conflict with tortoise activity and habitat. Mitigation for conflicts will be permissible to achieve no net loss in quantity or quality of desert tortoise habitat. Development and uses must be compatible with wildlife objectives.

WL-4: (Cactus Ferruginous Pygmy Owls): Maintain or restore habitats to support cactus ferruginous pygmy owls.

WL-4.1: Protect cactus ferruginous pygmy-owls from disturbance during the breeding and nesting seasons. Maintain or improve a complex, multi-layered vegetative structure provided by

perennial plants within the range of the cactus ferruginous pygmy-owl. Structure should consist of approximately 30 percent each of grasses and forbs, shrubs, and trees as dictated by site conditions. Maintain current or improve interconnected habitat patches of sufficient quality (diversity, density, and structure) and quantity (≥ 3 acres) to support cactus ferruginous pygmy-owls. Maintain sufficient vegetation between patches to allow for dispersal.

WL-4.1.1: Activities will be managed to protect, maintain, or improve occupied, or found to be occupied, cactus ferruginous pygmy-owl habitat.

WL-4.1.2: Surface-disturbing activities authorized or permitted by the BLM will be avoided within ½ mile of a known active cactus ferruginous pygmy-owl nest site from February 1 through July 31. All actions will be mitigated and managed to ensure consistency with management objectives, with an emphasis to maintain available habitat. Development planned to occur within 100 meters/330 feet of any known or found to be occupied cactus ferruginous pygmy-owl nest site will be evaluated on a site-specific basis, but significant modification of habitat within these areas should be avoided year round. Uses will be concentrated in less sensitive resource areas or in areas already disturbed.

WL-4.1.3: Use of motorized vehicles on routes within washes in the SDNM that are occupied or found to be occupied by cactus ferruginous pygmy-owls will be prohibited from April 15 to August 31 to protect pygmy-owls during their nesting seasons. Exceptions to the prohibitions will be authorized only for personnel engaged in constructing, maintaining, or repairing facilities; conducting research or surveys; for authorized law-enforcement or fire-suppression emergencies.

WL-4.1.4: Treatment of desert wash habitat, Sonoran desert/desert scrub, or mesquite-invaded grasslands under 4,000 feet in elevation that may support nesting cactus ferruginous pygmy-owls will only occur during the non-nesting season of August 1 to January 31, unless pre-project surveys indicate the area does not support pygmy-owls or mitigation plans approved by the USFWS have alleviated negative consequences.

WL-5: (General Bats): Manage to encourage the natural abundance and diversity of bat habitats so they are stable or increasing.

WL-5.1: Protect bat roosts associated with natural caves and abandoned mine features that are necessary to provide roosting locations for existing bat populations and opportunities for expansion.

WL-5.1.1: In cooperation with AGFD, important bat roosts will be protected where practicable and mitigation measures will be used to resolve potential resource conflicts.

WL-5.1.2: New water developments will be configured to allow for safe use by bats.

WL-5.1.3: Hazardous mine features occupied by bats will be remediated in coordination with the AGFD by installing bat gates or, if other roosts are readily available, by backfilling.

WL-6: (Migratory Birds): Manage migratory bird habitats so they are maintained and/or improving to meet the needs of migratory birds in general.

WL-6.1: Avoid take of migratory birds (adults, nests, eggs, and chicks) to comply with the Migratory Bird Treaty Act, Executive Order 13186, and the BLM-USFWS Memorandum of Understanding.

WL-6.1.1: Applications for activities on public lands will evaluate the effects of the BLM's actions on migratory birds during the NEPA process, if any, and identify where take reasonably attributable to agency actions may have a measurable negative effect on migratory bird populations, focusing first on species of concern, priority habitats, and key risk factors. In such situations, the BLM will implement approaches lessening such take.

WL-7: (Raptor Habitats): Manage raptor habitats so they are maintained and/or improving to meet the needs of raptors in general.

WL-7.1: Manage activities that could reduce raptor nest production.

WL-7.1.1: Authorized developments, uses, and activities within ¼ mile of known occupied raptor nests will be avoided, relocated, or seasonally limited.

WL-7.1.2: Authorized developments, uses, and activities within ½ mile of communal raptor nesting areas will be avoided.

WL-8: (Bighorn Sheep/Big Game): Manage bighorn sheep and other big game habitats so they are maintained and/or improving.

WL-8.1: Provide water for bighorn sheep and protect them from communicable diseases.

WL-8.1.1: Additional waters may be installed in high elevations of bighorn sheep habitat to improve habitat suitability.

WL-8.1.2: Domestic sheep and goat use will be prohibited on all allotments within nine miles of bighorn sheep habitat.

WL-9: (Wildlife Movement Corridors): Manage wildlife movement corridors so they contain ample habitat to assist wildlife in moving from one area to another in a relatively safe manner.

WL-9.1: Manage wildlife movement corridors in a manner that will assist wildlife in safe passage from one area to another.

WL-9.1.1: All new roads and primitive roads where average speeds may be greater than 45 miles per hour, or highways crossing public land, will be designed to facilitate movement of wildlife to reduce mortality of wildlife from vehicle collisions.

WL-9.1.2: Maintenance or expansion of existing roads will incorporate measures to maintain or restore wildlife habitat connectivity and will incorporate, where appropriate, wildlife underpasses or overpasses.

WL-9.1.3: Existing and/or designated roads and/or trails will be subject to seasonal closures if conflicts with wildlife cannot be mitigated.

WL-9.1.4: New surface disturbance within 100 meters of the edge of large washes located in the desert washes vegetative community (those depicted on US Geological Survey 1:24,000 maps) will be mitigated as needed to protect the integrity of washes as corridors.

WL-9.1.5: Density of roads, primitive roads, and motorized trails will be limited to 3 miles of road per section or less within the wildlife movement corridors in accordance with the Habitat Guidelines for Mule Deer (Mule Deer Working Group 2006).

WL-9.1.6: Treatments of invasive plant species will be allowed.

WL-10: (Priority Species Management Guidance): Manage wildlife habitats so they are maintained and/or improved.

WL-10.1: Manage habitats for wildlife species so they are maintained and/or improving to meet the needs of wildlife in general.

WL-10.1.1: Reintroductions, transplants, and supplemental stockings of native wildlife populations (as defined in BLM Manual 1745 or subsequent guidance) could occur in their current or historic range with collaboration between the AGFD and USFWS.

WL-10.1.2: The release of rehabilitated or displaced wildlife on public lands will be allowed, which could involve constructing artificial habitats where appropriate, for species that are compatible with other resource-management and use objectives.

WL-10.1.3: Acquisitions of non-federal lands and disposals of federal land that have, or potentially have, priority species or habitats will include the potential to:

- Enhance the conservation and management of threatened, endangered or special status species habitat, riparian habitat, desert tortoise habitat, key big game habitat;
- Improve the overall manageability of wildlife habitat;
- Improve habitat connectivity in and around the wildlife habitat areas and wildlife movement corridors.
- The BLM will not transfer (dispose of) from federal ownership the following:

- Designated or proposed critical habitat for a listed or proposed threatened, endangered or special status species;
- Lands supporting listed or proposed threatened or endangered species if such transfer will be inconsistent with recovery needs and objectives or conservation measures or will likely affect the recovery of the listed or proposed species, and lands supporting federal candidate species if such action will contribute to the need to list the species as threatened or endangered.
- Retain Category I and II tortoise habitat unless it is in the general public interest to dispose of them, and losses in habitat quality and quantity can be mitigated.

Exceptions to the above could occur if:

- The recipient of the lands agrees to protect the species or critical habitat under the ESA, such as disposal to a non-federal governmental agency or private organization;
- If conservation of the habitat will still be achieved and ensured; or
- In a land exchange if a net gain in the value of species habitat or protection is achieved.

WL 10.1.4: Treatments of invasive species will be allowed to benefit visual resources or wildlife habitat unless otherwise restricted.

WL-10.1.5: Designated roads, primitive roads, and/or trails within washes will be closed from April 15-August 31 to address the forage, shelter, breeding, and thermal cover protection provided by washes as a component of wildlife habitat. This management action will apply to routes 8013, 8018 and 8019.

WL-11: (Wildlife Waters): Provide wildlife with safe, usable, year-round access to water.

WL-11.1: Increase, improve or maintain the density and distribution of wildlife waters on public lands throughout the Planning Area to sustain and enhance wildlife populations across their range.

WL-11.1.1: Maintain and re-develop existing and develop additional wildlife waters in cooperation with AGFD. Increase the density and/or restore the distribution of wildlife waters throughout the Planning Area to sustain and enhance native wildlife populations across their range. All existing wildlife waters will be maintained or improved as needed to maintain the presence of perennial water for native wildlife. New wildlife waters will be built when needed to maintain, restore, or enhance native wildlife population numbers or distributions.

WL-11.1.2: In the event that range water developments are no longer needed for livestock use, the BLM, in consultation with the AGFD, will determine if the water development will be beneficial to meet wildlife distribution goals or other objectives. If it is deemed that the water development is not useful for such purposes, the water source will be removed.

WL-12: (Nonnative Invasive Animal Species Guidance): Manage to reduce or eliminate undesirable nonnative animal species so they do not occur in the Decision Areas or so their presence does not adversely affect ecological processes.

WL-12.1: Limit the distribution and abundance of invasive animal species to current levels. Reduce the impact of invasive species on native ecosystems from current levels.

WL-12.1.1: Non-native, invasive animal species will not be allowed except for biological controls for which peer-reviewed scientific literature states that the introduced species will have no detrimental effects to any native wildlife or plant species in the Planning Area.

Administrative Actions

- Work in partnership with AGFD to manage wildlife and wildlife habitat to achieve AGFD's wildlife population goals. Cooperatively develop habitat management plans to meet Sikes Act requirements and address site-specific habitat management objectives consistent with other natural resource objectives. Wildlife management activities administered by AGFD include, but are not limited to, surveys, telemetry, transplants, water management, vegetation restoration and enhancement, invasive species control, research, law enforcement activities, setting and administering hunting permits, and other wildlife or habitat management projects as identified in the Master MOU between the Arizona Game and Fish Commission and the BLM.
- Work in partnership with AGFD to manage wildlife and wildlife habitat to achieve AGFD's wildlife population goals and other activities as identified in the Master MOU between AGFD and the BLM.
- Work with other land owners within wildlife movement corridors to maintain or improve vegetative connectivity and prevent actions that will obstruct the movement of wildlife through the areas. Fences may be removed when no longer needed or other options meet the need and as funding and opportunities allow.
- Emphasize maintaining and restoring ecological connectivity through land acquisition, partnerships with local landowners, and vegetation resources. If opportunities for wildlife movement cannot be adequately maintained, then mitigation to maintain isolated wildlife populations will be adopted.
- Eliminate unauthorized grazing by cattle, sheep, goats, burros, and other non-native animals and construct wildlife-passable fences where unauthorized use is a problem. Fences may be removed when no longer needed or other options meet the need and as funding and opportunities allow.
- Manage livestock waters to provide safe, usable water for wildlife, where possible. As funding and opportunities permit, existing facilities will be modified for safe wildlife use. The above-ground height of livestock troughs and tanks will not exceed 20 inches. The BLM will install wildlife escape ladders in each facility and provide ramps for small bird and mammal access as funding permits. Storage tanks will be configured to reduce evaporation and prevent wildlife from drowning.
- Contact the appropriate USFWS biologist as soon as practical once a wildfire starts and a determination is made that a federally protected species or its habitat could be affected by the fire or by fire-suppression activities.

- Work with USFWS during the emergency response to apply the appropriate conservation measures.
- If conservation measures cannot be applied during the suppression activities, consult with the responding agency after the fact on any suppression actions that may have affected the federally protected species or its habitat.
- If conservation measures are adhered to, report to the USFWS on the actions taken and the effects on the species and its habitat following the fire; no further consultation on that incident will be required.

Threatened and Endangered Species

- Initiate formal Section 7 consultation with USFWS on all actions that may affect federal listed threatened and endangered species or critical habitat as required by the Endangered Species Act of 1973, as amended.
- Adhere to conservation measures for threatened and endangered species outlined in the ESA and BLM Manual 6840. The ESA provides for the protection of threatened and endangered and proposed threatened and endangered species of plants and animals. Specifications of the ESA pertain to both the Lower Sonoran and SDNM Decision Areas. BLM Manual 6840 prescribes conservation measures for threatened and endangered species, including conservation measures for fire management activities and species-specific conservation measures. To a large extent, these measures have been built in to the RMP alternatives evaluated in this FEIS.
- Monitor existing populations and inventory for additional populations of threatened and endangered species as funding permits.

Wildlife Species

- Maintain and develop a proactive public education program on the desert tortoise and its habitat requirements, including participation in public events with tortoise habitat information.
- Continue to work with and support other agencies and public entities in desert tortoise conservation.
- Coordinate invasive animal species control and education efforts with AGFD.
- Design fences to reduce adverse impacts on wildlife movement. Specifications in BLM Manual 1741 and in local BLM directives will be used. The BLM will consult with AGFD on the design and location of new fences. Where existing fences in wildlife habitat do not meet BLM specifications, they will be modified according to BLM Manual 1741 when they are scheduled for replacement or major maintenance as funding permits. Special consideration will be given to placement, type, and installation of fences in Category I and II desert tortoise habitat to facilitate desert tortoise movement, dispersal, and protection. Before installing facilities, the BLM will conduct a site evaluation for special status and state-protected animals and will develop mitigation to protect these species and their habitats. Such mitigation might include project relocation, redesign, and abandonment.
- Inventory for federally listed, proposed, and candidate species. Implement monitoring programs on known populations of listed, proposed, and candidate species and other special status species (as defined in BLM Manual 6840) to document population levels and status. Where monitoring finds threats to these populations, actions will be taken to protect the species and their habitats.

- Standardize desert tortoise management throughout its habitat. Management will be consistent with the following documents:
    - Desert Tortoise Habitat Management on Public Lands: A Range wide Plan (BLM 1988b).
    - Strategy for Desert Tortoise Habitat Management on Public Lands in Arizona, IM No. AZ-91-16 (BLM 1990a).
    - Strategy for Desert Tortoise Habitat Management on Public Lands in Arizona: New Guidance on Compensation for the Desert Tortoise, IM No. AZ-92-46 (BLM 1992).
    - Instructional Memorandum No. 94-018 Ephemeral Grazing Policy in Desert Tortoise Habitat Supplemental Guidance for Desert Tortoise Compensation, IM No. AZ-99-008 (BLM 1999).
    - Desert Tortoise Mitigation Policy, IM No. AZ-2009-010 (BLM 2009)
- Establish additional desert tortoise study plot(s) or other monitoring methods, as necessary. Read plots at five-year intervals, or as necessary, as funding permits.

2.2.12 Lands and Realty

Goals, Objectives, and Management Actions

LR-1: Manage lands and realty actions to effectively support public needs and resource management objectives.

LR-1.1: The entire SDNM is an exclusion area for utility-scale renewable energy development and communication sites Land Use Authorizations.

LR-1.2 (Major Linear LUAs): Authorize major linear LUAs in locations that utilize designated multiuse utility corridors effectively.

LR-1.2.1: No existing or future multiuse utility corridors will be designated within the Monument.

LR-1.3 (Minor Linear and Nonlinear LUAs): Authorize minor linear and nonlinear LUAs in locations that minimize resource impacts, are compatible with multiple use objectives, and do not compromise the existing rights of current holders.

LR-1.3.1: Proposed minor linear and nonlinear LUAs will be prohibited in SDNM, a designated LUA Exclusion Area, unless they allow for:

- Access to private property in holdings when there is no other reasonable access alternative across non-federal land,
- Authorized emergency, public safety and administrative uses, and
- Uses that will further enhance the goals and objectives of the allocation, as permitted by the authorizing official.

LR-2: Manage land tenure to meet natural resource management objectives, community needs, and to promote agency efficiency.

LR-2.1: Determine interests in lands for consolidation, retention, disposal, and acquisition. Evaluate land tenure actions in accordance with the criteria established in the Arizona Land Tenure Adjustment Strategy.

LR-2.1.1: All 486,400 acres of public land will be retained.

LR-2.1.2 The BLM will continue to eliminate split estate situations by acquiring non-federal subsurface estates that lies beneath federal lands when there is a willing seller.

LR-2.1.3: The BLM will continue to eliminate split estate situations by disposing of federal subsurface estates when there are no known mineral values

LR-2.1.4: The BLM will not dispose of any subsurface mineral estates that lie under BLM managed surface estate.

LR-2.1.5: The BLM will seek land owners who are willing to sell private land interests within the Monument and proceed with acquiring these inholdings (surface and subsurface) as funding opportunities arise. See also WC-1.1.2.

LR-2.1.6: The BLM will seek landowners who are willing to sell partial private land interests (i.e., "easements") within the Monument in cases where the BLM cannot acquire fee-simple ownership in land interests, and proceed with securing the easements as funding opportunities arise.

LR-2.1.7: No lands are designated as being suitable for disposal within the Monument. Exchanges for lands within the Monument for other private lands within the Monument's boundaries will be permitted if they further improve the management of Monument objects and present no net loss to existing objects that will be impacted by the exchange.

Administrative Actions

- Continue to coordinate with the Maricopa County Department of Transportation, the Maricopa Association of Governments, Pinal County, the Arizona Department of Transportation, and the Federal Highway Administration for transportation activities that may affect public lands.
- Cooperate with the Western Utility Group and other industry groups to facilitate the exchange of information and coordinate planning efforts between federal agencies and utility providers through the western US.
- Promptly communicate new designations for land use, resource protection, safety, and security to the public and other agencies, as necessary.
- Activities to maintain existing facilities will be evaluated on a case-by-case basis, and if SDNM resources can be protected, approved.

2.2.13 Livestock Grazing

Allocations Summary

Table 2-5
Livestock Grazing Allocations for the SDNM

Allocation	BLM Acres	Management Action
Total Acres within SDNM	486,400	
Unavailable Acres from Proclamation [1]	155,900	
Unavailable Acres from Area A[2]	78,000	
Unavailable Acres[3] from RMP Decisions	95,290[3]	GR-2.1.3
Total Unavailable Acres	329,190	
Total Available Acres (see summary breakdown for each allotment in Table 2-7 below)	*157,210*	
Total AUMs[4]	3,318	GR-2.1.4

[1] Relinquished lands in BGR south of I-8.

[2] In accordance with the Monument Proclamation the allotments or portions of allotments south of I-8, within SDNM, were made unavailable to livestock grazing when the permits expired.

[3] Acreage includes approximately 8,500 acres (or 3.4%) of the area north of I-8 determined to be unavailable for livestock grazing through the Compatibility Analysis, plus 36,300 acres connected to or surrounding those acres, using a combination of fencing and topographic barriers and wilderness boundaries. Additionally, The Conley Allotment within the Monument boundaries will be unavailable for livestock grazing. These areas encompass a total of 95,290 acres that will be unavailable for livestock grazing.

[4] AUMs shown are prorated and reduced by 7,884 from the total permitted use due to the allotment closures south of I-8. AUMs were further prorated using current data compared to forage allocations suggested in the Lower Gila South RMP Resource Protection Alternative.

Table 2-6
Livestock Grazing Acres[1] for the SDNM North of Interstate 8 Only

Allotments	Available (BLM Acres)	Unavailable (BLM Acres)[2] (GR-2.1.3)
Arnold	1,610	0
Beloat	33,600	0
Big Horn	75,230	16,970
Conley	0	77,710
Hazen	31,930	0
Lower Vekol	14,800	610
Total	157,170	95,290

[1] These numbers reflect the numbers from the Land Health Evaluations and are estimated. The acreage totals shown in **Table 2-5**, Livestock Grazing Allocations for the SDNM, were rounded up for the land use plan-level decisions.

[2] Unavailable numbers come from the acres determined to be incompatible with Monument objects from the Compatibility Analysis, Proposed Compatibility Analysis:

Table 2-6
Livestock Grazing Acres[1] for the SDNM North of Interstate 8 Only

Livestock Grazing on the Sonoran Desert National Monument, and the acreage determined to become unavailable due to the projected boundary closures of the area based on fencing and topographic boundaries.

Goals, Objectives, and Management Actions

GR-1: Manage livestock grazing in the SDNM to provide for multiple uses while maintaining healthy ecosystems.

GR-1.1: Livestock grazing use and associated practices will be managed in a manner consistent with other multiple use needs and other desired resource condition objectives to ensure that the health of rangeland resources and ecosystems are maintained or improved. Management will achieve, or make significant progress toward achieving, Land Health Standards and produce a wide range of public values such as wildlife habitat, livestock forage, recreation opportunities, clean water, and functional watersheds.

General Management Actions

GR-1.1.1: All existing water developments will be evaluated, and modified as necessary, to provide the maximum benefit and minimum impact to priority wildlife and special status species.

GR-1.1.2: Grazing management on allotments categorized as "Maintain" and "Improve" may include rest rotation, deferred rotation, deferred, seasonal, short duration or other management practices to be implemented where needs are identified through monitoring. On "Custodial" allotments, grazing systems or season of use will be coordinated with the permittee, Arizona State Land Department, and/or Natural Resources Conservation Service.

GR-1.1.3: If grazing availability or classification differs for the Big Horn, Conley, Lower Vekol, Hazen, Beloat, and Arnold allotments outside SDNM versus inside the Monument boundaries, fencing or other control mechanisms will be installed to allow for management of Monument lands separately from the rest of the allotment before grazing could continue.

GR-1.1.4: Allotments may be classified as ephemeral in accordance with the Special Ephemeral Rule published December 7, 1968 through Rangeland Health Assessments during the permit renewal process. The BLM has established criteria and SOPs (see **Appendix D**, Best Management Practices and Standard Operating Procedures) based upon the Special Rule through which allotments can be classified and managed as ephemeral. These criteria include:

- Rangelands are within the hot desert biome;

- Average annual precipitation is less than eight inches;
- Rangelands produce less than 25 pounds per acre of desirable perennial forage;
- The vegetative community is composed of less than five-percent desirable forage species;
- The rangelands are generally below 3,500 feet in elevation;
- Annual production is highly unpredictable and forage availability is of a short duration;
- Usable forage production depends on abundant moisture and other favorable climatic conditions; and
- Rangelands lack potential to improve existing ecological status and produce a dependable supply of forage through intensive rangeland management practices.

GR-1.1.5: The Arizona Guidelines for Grazing Administration, as approved in the Arizona Standards for Rangeland Health and Guidelines for Grazing Administration (1997), will apply where appropriate to all livestock grazing activities (**Appendix B**, Guidelines for Grazing).

GR-1.1.6: Land not allocated for livestock use will remain unallocated for this use and its forage and other vegetation will be reserved for wildlife and non-consumptive uses.

GR-1.1.7: If an evaluation of land health standards identifies an allotment where land health standards cannot be achieved under any level or management of livestock use and where current grazing use has been identified as the causal factor, then decisions identifying those areas as available for livestock grazing will be revisited.

GR-1.1.8: Should a livestock grazing permit be relinquished, the allotment and associated resources, and public uses will be evaluated to determine the appropriate allocation of available forage.

GR-1.1.9: One-time travel off of designated routes may be approved with written authorization from the authorized officer to access sick or injured livestock. See also TM-4.2.3.

GR-1.1.10: Construction of new livestock waters in Category I and Category II desert tortoise habitat and in bighorn sheep habitat will be addressed on a case-by-case basis.

GR-1.1.11: Range improvement permits and cooperative range improvement agreements shall specify the standards, design, construction and maintenance criteria for the range improvements and other additional conditions and stipulations or modifications deemed necessary. The extent, location and timing of such actions will be based on allotment-specific management objectives adopted through the evaluation process, interdisciplinary development and analysis of proposed actions, and funding.

GR-2: Manage livestock grazing in the SDNM Decision Area to provide for multiple uses while maintaining healthy ecosystems and protecting the Monument's biological and cultural resources.

GR-2.1: Public lands in SDNM north of I-8 available to livestock use will be managed to achieve or make significant progress toward achieving Land Health Standards to ensure that the health of the biological resources are maintained or improved. Livestock grazing use and associated practices will be managed in a manner consistent with other multiple use needs and other desired resource condition objectives to ensure that the health of rangeland resources and ecosystems are maintained or improved.

GR-2.1.1: Pursuant to the Monument Proclamation, the grazing permits for the allotments south of I-8, within SDNM, were not renewed upon expiration. The public lands South of I-8, within SDNM, will remain unavailable for livestock use and the grazing preferences, attached to the base properties, for permitted use on the allotments will be cancelled. Forage previously allocated for livestock grazing (7,255 AUMs) will be available for other resource uses such as wildlife habitat, watershed values, recreation, etc.

GR-2.1.2: Domestic goats or sheep will not be permitted.

GR-2.1.3: 95,290 acres will become unavailable to livestock grazing use within allotments north of I-8 through a combination of fencing and natural barriers. Allotment-specific unavailable acres (rounded to nearest 10 acres):

- 16,970 acres within the Big Horn allotment
- 77,710 acres within the Conley allotment, and
- 610 acres within the Lower Vekol allotment.

(Total of 8,500 incompatible acres, 36,300 pasture fencing acres and remaining 50,490 acres in Conley allotment). See **Map 6**, Livestock Grazing.

GR-2.1.4: 3,318 AUMs are permitted in the SDNM.

Administrative Actions

- Existing range developments in areas not allocated for livestock use may be removed if not necessary for management of other resources.
- Develop a monitoring plan for allotments as needed to determine and track ecological condition and trend.
- Livestock management changes may be made based on assessment, inventory, or monitoring data. Develop and implement a monitoring plan on the SDNM to determine and track ecological condition and trend. The plan will include:

Monitoring previously established study sites in allotments that will continue to be grazed, and establishing new key areas as needed. Data will be used to support grazing management decisions.

Monitoring previously-established study sites in the allotments not to be grazed and establishing new sites as needed. Location of sites should be established based on resource management goals. Data will be used for comparison to grazed areas and historical data to track resource responses to management changes.

- Establish frequency and intensity of monitoring effort.
- BLM will develop a monitoring program based upon the land health evaluation methodology to determine any effects on Monument objects, not limited to livestock use.

2.2.14 Minerals Management

Allocations Summary

As stated in the Proclamation, the SDNM is withdrawn from all mineral entry and closed to all leasable and salable minerals.

Administrative Actions

- Recognize the superior right to explore for and mine mineral resources on those split estate lands where the BLM manages the surface and the subsurface estate is owned by the State of Arizona or private entities. Develop an MOU with the state to establish procedures to protect SDNM resources from the effects of exploration and mining on SDNM to the greatest extent possible.

2.2.15 Recreation Management

Allocations Summary

Table 2-7
Recreation Allocations

Recreation Management Area / Zone	BLM Acres	Management Action
Sonoran Desert ERMA	486,400 (100%)	RM-1.2
Desert Back Country RMZ	433,600	RM-1.2.4
Juan Bautista de Anza NHT RMZ	52,800	RM-1.2.1
Undesignated Lands	0	
Total Acres	*486,400 (100%)*	

Goals, Objectives, and Management Actions

RM-1: Establish Extensive Recreation Management Areas (ERMAs) and associated zones where specific management considerations are necessary to address recreation use,

demand, or recreation program investments commensurate with the management of other resources and resource uses while sustaining the principal recreation activities and associated qualities and conditions of the area.

RM-1.1 (General Recreation): Through the life of the plan, 90% of sampled visitors report satisfaction with their recreation experience.

General Recreation Management Actions and Allowable Uses

RM-1.1.1: All proposed management actions will conform to the settings described for each recreation allocation.

Camping, Parking, Facilities, and Other

RM-1.1.2: Camping on all lands open to the public will be allowed in accordance with 43 CFR 8365 unless otherwise closed.

RM-1.1.3: Except where otherwise specified, camping will continue to be limited to no more than a period of 14 days within any period of 28 consecutive days and, after the 14th day of occupation, the camper will be required to move outside of at least a 25-mile radius of the previous location until the 29th day since initial occupation.

RM-1.1.4: Vehicle-based camping and parking along roads and primitive roads will be strongly encouraged through visitor information, education, and signing to assist visitors in selecting and using existing camp and parking sites that show clear evidence of prior use. Existing and suitable sites is indicated or evidenced by the following: vehicle access to the site, lack of vegetation, bare mineral soils, and other dispersed campsite amenities such as fire rings. Existing vehicle parking and camping sites must be large enough to accommodate the group size without increasing the disturbed area. See also CH-1.1.3, SL-2.1.3, and TM-6.1.1.

RM-1.1.5: Camping facilities and length-of-stay limits will be developed and adjusted to sustain the prescribed settings and attain the desired objectives of the recreation management area(s) (RMA) or undesignated lands for dispersed camping or managed camping areas.

RM-1.1.6: Long term visitor areas will not be designated.

Geocaching Activities

RM-1.1.7: The placement of geocaches is prohibited in archaeological and raptor nesting sites. Virtual caches may be allowed within archaeological sites with prior written authorization from the authorized officer.

RM-1.2. (SDNM ERMA): Provide modest facilities, educational opportunities, and visitor information to the extent that 90% of sampled visitors report satisfaction with their recreation experience. The Sonoran Desert National Monument ERMA will be designated (486,400 acres)

to provide for recreation opportunities and outcomes that derive from the objects for which the National Monument was designated.

RM-1.2.1 (Juan Bautista de Anza NHT Recreation Management Zone [RMZ]): To provide recreation and educational opportunities directed at visitors seeking to discover, tour, and learn about the Juan Bautista de Anza National Historic Trail (NHT), Arizona history, and natural history of the Sonoran Desert.

RM-1.2.1.1: The Juan Bautista de Anza NHT (Anza) RMZ will be designated within the SDNM ERMA (approximately 52,800 acres).

RM-1.2.1.2: The physical, social and administrative settings for the Anza RMZ will be managed for 72% Front Country, 28% Back Country and <1% Passage. See **Appendix C**, Recreation Setting and Worksheets, for definitions.

RM-1.2.1.3: physical, social and administrative settings for the Anza RMZ will be managed for 31% Front Country, 68% Back Country and <1% Passage.

RM-1.2.1.4: Physical, social and administrative settings for the Anza RMZ will be managed for 45% Front Country, 55% Back Country and <1% Passage

RM-1.2.1.5: The motor vehicle travel system will consist primarily of primitive roads maintained at levels 1-3 with up to 20% maintained at level 5 to provide two-wheel-drive passenger car access to public use cultural sites, day use areas and camping facilities.

RM-1.2.2: In the Anza RMZ, vehicle-based camping (including RVs) will be allowed at designated sites only. A maximum of 100 sites could be designated over the life of the plan, subject to site-specific analysis and monitoring. Cross country travel to access campsites will be prohibited. Specific sites identified as open and/or available for camping will be periodically reviewed and modified based on public demand and resource protection needs within the SDNM.

RM-1.2.3: The zone will be managed mostly for VRM Class II with small portions of Class III near high use recreation areas (see **Map 3**, Visual Resource Management). See also VR-3.1.1.

RM-1.2.4. (Desert Back Country RMZ): To provide recreation opportunities for visitors seeking a remote, undeveloped, back country experience with resource-dependent activities such as hunting, camping, hiking, sightseeing, and four-wheel-drive touring.

RM-1.2.4.1: The Desert Back Country RMZ will be designated (433,600 acres; see **Map 7**, Recreation Management).

RM-1.2.4.2: The physical, social and administrative settings for the Desert Back Country RMZ will be managed for 12% Front Country, 88% Back Country and <1% Passage.

RM-1.2.4.3: The motor vehicle travel system will consist primarily of primitive roads maintained at levels 1-3 with up to 5% maintained at level 5 to provide two-wheel-drive passenger car access to public use cultural sites, day use areas and camping facilities.

RM-1.2.4.4: In the Desert Back Country RMZ, dispersed vehicle-based camping (including RVs) will be allowed on existing or suitable sites as defined in RM-3.1.9. Cross country travel to access campsites will be prohibited. Over the life of the plan, designated sites will be established as the need arises to ensure the protection of Monument objects and other sensitive resources.

RM-2.1.2.5: The zone will be managed shown on **Map 7**, Recreation Management.

RM-2.1. (SDNM General Recreation): Manage for recreation opportunities that derive from the vast, undeveloped, and remote character of the SDNM landscape, providing for the minimum of visitor assistance necessary to ensure visitor health and safety to the extent that 90% of sampled visitors report satisfaction with their recreation experience.

RM-2.1.1: The Sand Tanks Mountains area of the SDNM commonly known as "Area A" will be designated as a Special Management Area. Access to the area will continue to require the Barry M. Goldwater Air Force Range entry and public safety permit (for the BLM, these are managed as Individual Special Recreation Permits).

RM-2.1.2: Motorized and mechanized use will be limited to areas within designated roads, primitive roads, and trails with reasonable use of the shoulder and immediate roadside allowing for vehicle passage, emergency stopping, or parking unless otherwise posted.

RM-2.1.3: Collection of native vegetation as firewood will be prohibited in Front Country and Passage settings. Visitors will be encouraged to bring firewood for campfires from sources outside the Monument. The burning of pallets, crates, and similar materials will be prohibited to prevent the accumulation of nails and staples at campsites.

RM-2.1.4: Visitor and management infrastructure will be constructed and maintained to accommodate visitation in balance with protection of Monument objects; will be modest in scope and scale; and will be designed to blend with the dominant features of the landscape.

RM-2.1.5: Visitor and management infrastructure will be placed on non-Monument lands, where possible.

RM-2.1.6: Activities, vehicles, and group sizes will be limited to designated sites and lengths of stay; types and speeds; and numbers as deemed necessary to protect Monument objects.

RM-2.1.7: The designated motorized travel system will consist primarily of existing vehicle routes; however, construction of short segments of new vehicle routes to provide experience opportunities consistent with the outcome objective(s) of management zones will be allowed.

RM-2.1.8: Standards for the management of recreation impacts on objects of the SDNM will be established and monitored by the limits of acceptable change (LAC) method.

Recreational Target Shooting

RM-2.1.9: Recreational target shooting will be allowed on National Monument lands except as specifically restricted in this land use plan or prohibited by federal and state law. This activity may be or may become restricted or prohibited in specific areas where public safety and resource conflicts exist or become identified if active management and cooperative efforts fail to meet resource and safety goals, including the need to protect Monument objects. For the protection of Monument objects, to avoid undue degradation of natural resources, and for the safety of visitors, supplementary rules will be developed to allow enforcement of actions as described in the Administrative Actions following the Recreation Section of this plan. Shooters are encouraged to follow best management practices as outlined in **Appendix D**, Best Management Practices and Standard Operating Procedures.

Special Recreation Permits (SRPs)

RM-2.1.10: At the discretion of the authorized officer, SRPs will be authorized on a case-by-case basis as outlined in 43 CFR 2930.5; in subsequent policies and guidance (See **Appendix D**, Best Management Practices and Standard Operating Procedures); and in the decisions below. See also CH-2.1.5, WC-1.1.13.

RM-2.1.11: Organized groups numbering greater than 25 participants will require a special recreation permit. See also CH-2.1.6.

RM-2.1.12: To ensure protection of Monument objects, permits will not be issued for organized groups of more than 200 participants at one site.

RM-2.1.13: Competitive motor sports will not be allowed in the SDNM.

RM-2.1.14: All commercial, other competitive, and vendor activities will be permitted on a case-by-case basis if Monument objects are protected.

RM-2.1.15: Certified weed-free feed will be required for all equestrian and stock animal uses authorized under SRPs.

Paintball Activities

RM-2.1.16: Paintball activities will be prohibited.

Administrative Actions

- Coordinate with partners and nearby land owners and managers to develop joint campgrounds on and off public lands to provide for public camping needs.
- Develop partnerships and volunteer opportunities with local clubs, organizations, and communities to maintain and monitor routes, recreation sites, and other areas.
- Develop brochures, maps, and information sheets to disseminate recreation use information to the public.
- Coordinate with adjoining landowners; Maricopa, Pima, and Pinal counties; and local communities to enhance visitor and resident safety, improve resource protection, and manage recreation use and access that is compatible with protecting resources.
- Plan, designate, and develop recreation areas, routes, trails, tours, and management strategies through interdisciplinary plans with community and user input. Project plans will establish use indicators and standards for monitoring and evaluation. All development must be compatible with ERMA and RMZs, VRM classes, and resource management objectives. Areas may be developed as needed for the following purposes:
    - Protecting resources,
    - Improving visitor safety, and
    - Maintaining desired recreational setting and experiences.
- The BLM will collaborate with the Wildlife and Hunting Heritage Conservation Council, other interested stakeholders, and the public to implement management of recreational target shooting in the future.
- Coordinate with partners and nearby land owners/managers to develop regional shooting ranges outside the SDNM boundaries to support concentrated recreational target-shooting activities.
- Coordinate with interested shooting enthusiasts to develop partnerships for educating the shooting public in appropriate recreational and shooting behaviors and ethics.
- Work collaboratively with adjoining landowners, local communities, and interested individuals and organizations to incorporate the allowable uses and desired outcomes of this land use plan into comprehensive, activity-level recreation planning for the SDNM. Such activity-level planning and related site-specific projects will be designed to protect Monument objects, resources and visitor safety while providing desired recreation experiences and settings. For example, the BLM may consider recreational target shooting with further travel management planning (e.g. locating roads, trails and facilities that support motorized and non-motorized travel in the SDNM) hiking trails and trailheads, or other visitor facilities. Additional planning will include appropriate NEPA analysis to address potential site specific impacts.
- Develop educational materials and signage to inform the public about how to conduct target shooting activities in ways that avoid impacts on natural resources and monument objects. These materials will also educate visitors about the laws concerning littering, unnecessary damage to natural resources, "'Leave No Trace!" principles, and Arizona Cactus and native plant laws as they apply. These materials will be developed and installed or distributed to the public as soon as possible.
- Dedicate sufficient law enforcement to the National Monument to ensure continued illegal conduct will cease and Monument objects will be protected. This will be particularly important until users become accustomed to the new rules created by this RMP and until the partnerships

described above are able to assist with management of recreational target shooting on the Monument.

- Prepare supplementary rules, closure or restriction orders, and arrange for enforcement of the rules of conduct applicable to public lands in order to minimize any adverse impacts of recreational shooting. The monument will remain open to recreational target shooting.
- Prepare supplementary rules in order to provide BLM Law Enforcement full authority to enforce certain restrictions on the monument with regard to target shooting pursuant to the BLM's authority under 43 CFR 8365.1-6 (including appropriate environmental analysis in compliance with NEPA). For example, a future supplementary rule could include, although not be limited to, the following:
    (a) Only retrievable, freestanding paper targets or targets commercially manufactured for the specific purpose of target shooting are allowed.
    (b) Shooting glass objects, electronic items and waste, and items that may contain hazardous materials (i.e. paint, spray paint, gasoline, Freon, propane, etc.) is prohibited.
    (c) Depositing or shooting appliances, furniture, electronic gear, toys, trash, household or construction products/refuse, or other debris determined to be garbage, refuse or waste by law enforcement or other authorized officers is prohibited.
    (d) Attaching or placing targets on or in front of plants, rocks, or solid objects, signs and public infrastructure is prohibited.
    (e) Shooting, injuring, defacing, harming or destroying plants, signs, outbuildings, public property, or other objects on federal lands that are for the public's enjoyment is prohibited.
    (f) Shooting across or along any numbered BLM road, primitive road, vehicle route or trail, or within any BLM-designated recreation site, facility, trailhead, parking or staging area is prohibited.
    (g) Persons engaged in target shooting shall pick up and remove shell casings, brass, targets, shrapnel, clay pigeon fragments, and all other debris resulting from target shooting activities.
    (h) Discharge of a firearm is prohibited from 30 minutes after sunset to 30 minutes before sunrise.
    (i) Using bullets to detonate explosives or an explosive device is prohibited.
- Patrol and monitor recreational target shooting sites. Monitoring will include a range of possibilities from regular periodic visits to take pictures and document visible changes, to repeated measurement of site characteristics including vegetation, soils, barren areas, trash, or other characteristics as appropriate. BLM will collaborate with interested publics to develop monitoring standards and methodologies for recreation activities on the Monument that address protection of Monument objects. Monitoring of activities such as recreational target shooting, camping, motorized recreation, visitation in wilderness areas, and others, will be conducted to ensure future protection of Monument objects and to inform appropriate changes in Monument management.
- Exercise authority pursuant to 43 CFR. 8364.1 (including appropriate environmental analysis in compliance with NEPA) to close areas or restrict recreational target shooting in order to protect persons, property, and public lands and resources.

- As set forth in the BLM's regulations at 43 CFR Subpart 8365, the rules of conduct applicable to the public lands apply in the SDNM. Violation of these regulations will result in penalties as set forth in 43 CFR 8360.0-7.

2.2.16 Travel Management

Allocations Summary

Table 2-8
Off-Highway Vehicle Area Designations (BLM Acres)

Allocation	Acres	Management Action
Open	0	TM-1.1
Closed	157,700	TM-1.2.1
Limited to Designated Routes	328,700	TM-1.3.1
Total	486,400	

Goals, Objectives, and Management Actions

TM-1: All public land will be classified as open, closed or limited per 43 CFR 8342.1. See Map 8, Travel Management.

TM-1.1: No areas within the SDNM will be allocated open (zero acres).

TM-1.2: Close areas of the SDNM to motorized-vehicle activities for the purposes of protecting Monument objects and resources; and meeting associated conservation, restoration, and public safety goals over the lifetime of the plan.

TM-1.2.1: Approximately 157,700 acres of designated wilderness will remain closed to motorized use.

TM-1.3: Limit motorized vehicle use in SDNM to designated roads or primitive roads to minimize impacts on Monument objects; other resources; and to reduce or eliminate resource, visitor, and behavior-based conflicts over the lifetime of the plan.

TM-1.3.1: Approximately 328,700 acres will be limited to designated roads, primitive roads and trails. All other vehicles (e.g., bicycles, stock drawn carts/wagons, and other devices for conveyance) will be limited to primitive roads designated as open for such use.

TM-1.3.2: Motorized vehicles will be required to be "street legal" (licensed and registered), display a valid Arizona OHV sticker, be compliant with current or future state, county or local licensing, certification or authorization requirements, and be operated by licensed drivers.

TM-1.3.3: Restrictions from other resource section management actions will apply including, WL-1.1. 4.

TM-2: Public use, resource management, and regulatory needs are met by development of a travel management plan and implementation of a travel management system (see Appendix E, SDNM Travel Management Plan, and Map 9, SDNM Route Designations.).

TM-2.1: Delineate areas where community interests or a manageable geographic boundary exists and address landscape issues in a programmatic manner.

TM-3: Protect Monument objects from human impacts associated with motorized and non-motorized travel within the SDNM.

TM-3.1: Manage areas for resource protection, conservation, restoration, and public safety using the OHV area allocation closed.

TM-3.1.1: Camping will be allowed in closed areas when accessed by non-motorized, non-mechanized means.

TM-3.1.2: The use of wheeled game carriers will be prohibited in wilderness areas. Elsewhere, non-motorized, hand-powered, wheeled game carriers will be permitted to travel cross-country for the purpose of retrieving downed game. Retrieval of downed game by cross-country motor vehicle use is prohibited.

TM-3.2: Manage areas by structuring travel for visitor use and enjoyment, resource protection, conservation, and restoration using the OHV area allocation limited over the lifetime of the plan.

TM-3.2.1: Camping would be allowed in closed areas when accessed by non-motorized, non-mechanized means.

TM-3.2.2: The use of wheeled game carriers would be prohibited in wilderness areas. Elsewhere, non-motorized, hand-powered, wheeled game carriers would be permitted to travel cross-country for the purpose of retrieving downed game. Retrieval of downed game by cross-country motor vehicle use is prohibited.

TM-3.3: Manage areas by structuring travel for visitor use and enjoyment, resource protection, conservation, and restoration using the OHV area allocation limited over the lifetime of the plan.

TM-3.3.1: Designated routes within washes are closed from April 15-August 31 to address the forage, shelter, breeding, and thermal cover protection provided by washes as a component of wildlife habitat.

TM-4: Provide a comprehensive travel management system that supports protection of Monument objects, facilitates resource protection, and provides sustainable public use and enjoyment.

TM-4.1: Pursue and secure legal access when possible over the lifetime of the plan.

TM-4.1.1: Legal or permissive access will be secured to all identified access points to designated routes within 10 years of final route designation. Identified access points including legal descriptions may be found in **Appendix F**, Possible Easement Locations.

TM-4.1.2: Access to public lands will be restricted along urban interface as needed to protect Monument values and objects or at the request of adjoining land owners.

TM-4.2: Assign BLM road maintenance intensity levels on designated roads as a part of travel management planning and make adjustments as needed as maintenance of the travel management plans.

TM-4.2.1: Roads and primitive roads could be redeveloped to meet either Level 5 maintenance intensity (the highest BLM standard) or the Level 3 standard as necessary to satisfy Objective 4.2 and prescriptions in TM- 4.2.2 or TM 4.2.3. Level 1 roads are primitive and will not be maintained except to correct safety hazards or resource problems such as erosion.

TM-4.2.2: Up to 10 percent of designated Monument roads/primitive roads may be assigned to Level 5 maintenance standards (passenger-car access) or Level 3 maintenance standards. Level 5 and 3 maintenance level assignments may be adjusted or assigned as necessary to ensure that motorized travel routes:

- Are compatible with protection of Monument objects and resources;
- Achieve the Monument's desired social and managerial recreation settings;
- Meet established limits of acceptable change indicators and standards;
- Satisfy biological and ecological land health standards;
- Protect or mitigate effects on cultural resources;
- Ensure visitor and agency staff safety;
- Resolve erosion, air quality, or resource damage issues;
- Offer sustainable access to popular Monument features, as well as recreation and national historic trail attractions; and
- Meet water quality standards for influenced drainages and watersheds.

TM-4.2.3: One-time travel off of designated routes may be approved with authorization from the authorized officer to access sick or injured livestock. Use of vehicles for livestock herding is prohibited. See also GR-1.1.9.

TM-4.3: Minimize the effects of the route system on the Monument and its objects and implement mitigation strategies as needed to resolve conflicts.

TM-4.3.1: Mitigation strategies will be identified and required to reduce the effects of routes and their use. Examples of typical actions are shown in **Appendix H**, Route Mitigations.

TM-5: Manage the travel management system to protect resources and maintain desired recreation experiences.

TM-5.1: Determine the compatibility of emerging issues such as new vehicle technology or new or proposed recreation uses or use areas such as technical vehicle-use sites or motorcycle-observed trials. Proposals for using new recreation technologies or activities will be evaluated and a decision made to proceed or deny the use or proposal as funding and staffing allows.

TM-5.1.1: Travel management assets or their maintenance intensity shall not be changed without NEPA and a travel plan amendment. Road maintenance activities can only be completed with approval of the authorized BLM officer. This includes all permitted activities that use designated routes such as ranching, mining and other authorized activities.

TM-5.1.2: Adjustments to the designated route network may be requested by the public following the process set forth in **Appendix S**, Route Evaluation Methodology from the Lower Sonoran-SDNM PRMP/FEIS.

TM-5.1.3: Areas affected by legal off-route travel, such as law enforcement-pursuit and wildfire suppression, will be restored within one year of the incident.

TM-5.2: All travel modes and uses on the SDNM travel system must be consistent with the travel management plan and Monument objects and resources. The BLM shall respond promptly to proposals for additional travel modes and uses (as funding and staffing allows).

TM-5.2.1: New travel technologies and uses will be evaluated on a case-by-case basis with community and user input. Compatibility evaluations will be developed as needed to ensure protection of Monument objects and resources, provide compatible and sustainable experiences based on Monument Objects and resources, and visitor safety. The compatibility analysis will establish limits of acceptable change indicators and standards. All uses will be compatible with protection of Monument objects, the Monument's social and managerial recreation settings and VRM standards; the Monuments biological and ecological land health standards; protection of cultural resources; and water quality standards for influenced drainages and watersheds.

TM-6: Protect Monument objects and resources, meet conservation and restoration goals, ensure sustainable public use and enjoyment, and satisfy public safety and regulatory requirements by developing a travel management plan and implementing a sustainable and compatible travel management system.

TM-6.1: Implement a networked system of roads, primitive roads and trails within 1 year of plan completion.

TM-6.1.1: The use of motorized or mechanized vehicles off designated roads or primitive roads will be prohibited with the following management restriction:

- Motorized and mechanized use will be limited to areas within the designated route with reasonable use of the shoulder and immediate roadside allowing for vehicle passage, emergency stopping, or parking unless otherwise posted
- Non-motorized, hand-powered wheeled game carriers will be permitted to travel cross-country (except in wilderness areas) for the purpose of retrieving downed game on public lands. See also CH-1.1.3, SL-2.1.3, and RM-1.1.4.

TM-6.1.2: A travel management plan will be implemented upon plan approval, including designating roads, primitive roads and trails that are open, closed or limited by use type or time, and allocating maintenance class. See **Appendix E**, Travel Management Plan.

Administrative Actions

- Develop of standards for monitoring the route system to be compliant with laws, regulations, and travel management plan goals and objectives
- Establish agreements with local interest groups and communities for long-term route maintenance and community support.
- Participate in regional or municipal transportation planning and promote appropriate legal access consistent with the land use plan.
- Establish a framework for reviewing the travel management program and make necessary changes to meet land health standards, area management, and recreation goals.
- Address casual and authorized recreational uses of the travel system when authorizing actions. Where major arteries in the recreational route network will be truncated or considerably altered by the authorization, mitigation will be required
- Consider adjustments to route designations, including adding, removing, and redeveloping routes and access, when necessary. Criteria for route designation adjustments can be found in **Appendix S**, Route Evaluation Methodology from the Lower Sonoran-SDNM PRMP/FEIS, and **Appendix D**, Best Management Practices and Standard Operating Procedures, Travel Management subsection.
- Develop brochures, maps, access guides, and information sheets to disseminate targeted recreation opportunity information to the public.
- Develop and maintain a monitoring system to support implementation and management of motorized and non-motorized use of the public lands, including routes and access points.
- Implement route-mitigation techniques when designing and implementing the route system.
- In areas where access permits are required, coordinate with other agencies that issue use permits on public lands to provide reasonable access for their permitted activities. For example, the BLM and AGFD will coordinate hunter access into permit-required access areas for hunters with valid hunting licenses for the affected hunting unit.

Support the development and implementation of regional or municipal transportation plans that protect or promote appropriate legal access to public lands and are consistent with resource and use objectives.

- Establish relationships and enter into agreements with local OHV groups and other groups and communities for long-term route maintenance and community support.
- Respect valid existing rights.

- Support development and implementation of regional and municipal transportation plans that protect or provide appropriate legal access to the SDNM and protect its resources and management objectives.
- Where needed, identify the SDNM boundary with appropriate fencing, signs, and other structures.
- Portions of the SDNM may be closed as needed to accommodate safety, weather, resource protection, specific projects, or staffing constraints.

2.2.17 National Byways

Allocations Summary

Table 2-9
Potential Byway Designations (BLM Miles)

Allocation	BLM Miles	Management Action
Interstate 8	21	NB-1.1.3
H-238 Maricopa Road (paved)	18	NB-1.1.2

Goals, Objectives, and Management Actions

NB-1: Provide opportunities for the American public to see and enjoy unique scenic and historic landscapes on public lands deemed to have state or national significance.

NB-1.1: Identify and evaluate potential roads that meet nomination criteria for BLM National Scenic or Back Country Byway designation.

NB-1.1.2: Approximately 18 miles of Highway 238 (Maricopa Road) will be evaluated as a scenic byway (**Map 10**, Special Designations).

NB-1.1.3: Approximately 21 miles of I-8 will be evaluated as a scenic byway (**Map 10**, Special Designations).

NB-2: Promote regional development of eco- and recreational tourism through designation of BLM National Scenic and Back Country Byways and by managing public lands along potential byway corridors to protect the quality of scenic values.

NB-2.1: Maintain open space and the undeveloped natural character of landscapes within the specified byway corridor. Desert landscapes provide visitors with unique scenic and back country experience while traversing the diverse Sonoran Desert, including saguaro cactus stands, rugged mountains, and vast valleys. These landscapes also offer glimpses of traditional western uses, including historic trail corridors, mining, agriculture, and ranching.

NB-2.1.1: Surface-disturbing uses and activities along byways will exceed or at minimum maintain the visual quality consistent with the established VRM setting through project design or mitigation.

NB-2.1.2: Protective measures will be provided in wildlife-movement corridors to protect wildlife. Measures may include setting speed limits, installing speed bumps or other speed-limiting devices, and installing cautionary signs.

NB-2.1.3: No motorized competitive speed events will be authorized on the byways.

2.2.18 National Trails

Goals, Objectives, and Management Actions

NT-1: Manage the Juan Bautista de Anza National Historic Trail corridor through the SDNM through focused management strategies.

NT-1.1: Manage the historic trail corridor on the SDNM to enhance the experience of visitors, maintain the integrity of the historic trail and associated trail sites, and the visual setting throughout the life of the plan. See also VR-1.1.7.

NT-1.1.1: The Juan Bautista de Anza NHT corridor (Anza NHT) will be managed consistent with the National Park Service (NPS) management plan and in cooperation with the NPS (**Map 10**, Special Designations).

NT-1.1.2: Allocate one Juan Bautista de Anza NHT Management Area (**Map 10**, Special Designations).

NT-1.1.3: Retain public lands and acquire available state and private lands from willing sellers and/or easements to ensure long-term use, protection, and access to areas along the Juan Bautista de Anza NHT corridor and within the Anza NHT Management Area.

NT-1.1.4: The Anza NHT corridor and the Anza NHT Management Areas will remain closed to all minerals actions.

NT-1.1.5: The Anza NHT corridor and the Anza NHT Management Area will be an exclusion area for major utility-scale renewable energy development and new major linear LUAs.

NT-1.1.6: The Anza NHT corridor will be an exclusion area for all minor linear and nonlinear LUAs except as described in the Lands and Realty section (see **Section 2.2.12**). LUAs will be mitigated to be consistent with management objectives and prescriptions, and only if impacts are determined to have a negligible to minor effect to resources.

NT-1.1.7: Identify and obtain rights-of-way on selected areas along the Anza NHT corridor and within the Anza NHT Management Area to support National Trail purposes and further trail management objectives.

NT-1.1.8: Cultural sites along the NHT and the Anza NHT Management Area will be identified and developed as allocated in the appropriate use categories and according to management actions and prescriptions identified in the Cultural and Heritage Resources section for all use categories (**Section 2.2.3**, Cultural and Heritage Resources).

NT-1.1.9: Recreation opportunities will be provided consistent with the Anza NHT objectives. Facilities will be developed and placed outside the trail corridor to protect resource values, provide for visitor safety, and support selected use opportunities. Facilities will be developed within the trail corridor only when needed to protect trail integrity and resources, or to establish an Anza NHT recreation retracement route.

NT–1.1.10: Access points and routes needed to access the Anza NHT corridor and the Anza NHT Management Area will be identified and prioritized during travel management planning. Legal access will be secured within 5 years of route designation to ensure public access to the areas.

NT-1.1.11: The Anza NHT corridor and the Anza NHT Management Area will be managed in concert with the Sonoran Desert SCRMA and the Anza Historic Trail RMZ as identified in the Cultural and Heritage Resource and Recreation Management sections (see **Sections 2.2.3** and **2.2.15**, respectively).

NT-1.1.12: The historic landscape and visual values of the Anza NHT corridor and the Anza NHT Management Area will be protected to provide the visitor with an opportunity to appreciate the historic character of the area.

NT-1.1.13: Vegetation will be rehabilitated and restored in the Anza NHT corridor and the Anza NHT Management Area consistent with the natural resource restoration objectives to restore or maintain the integrity of the landscape.

NT-1.1.14: A strategy will be developed to encourage scientific and historical research within the Anza NHT corridor and the Anza NHT Management Area as appropriate with management prescriptions and only if designed to have a negligible or minor effect on resources.

NT-1.1.15: Scientific and historical studies of cultural landscapes, sites, historic trails, and other resources, including excavation, will be allowed by qualified researchers on a case-by-case basis within the Anza NHT corridor and the Anza NHT Management Area and with written authorization from the BLM.

NT-1.1.16: Heritage tourism will only be allowed along the Anza NHT auto route when such use is compatible with protecting the cultural and historical resources and visual values.

NT-1.1.17: The Anza NHT auto route will be marked and promoted as appropriate and consistent with Cultural and Heritage Resource and Travel Management actions designations and prescriptions identified in this plan (see **Sections 2.2.3** and **2.2.15**, respectively).

NT-1.1.18: The Anza NHT corridor and the Anza NHT Management Area will be managed to retain, and restore where appropriate, the physical integrity of the sites and trails through inventory, evaluation, rehabilitation and restoration of vegetation.

NT-1.1.19: Acquire parcels that exhibit characteristics consistent with the landscape setting, or important to management of the National Historic Trail, from willing buyers when funds are available and the parcels are reasonable priced.

Administrative Actions

Inventory

- Perform field inventories, document, and map historic trail resources and associated cultural resources along the Anza NHT.
- Perform recreational inventories along the Anza NHT to identify high potential sites and segments. Make determinations of suitability for installation of recreational trail tread and interpretive developments.
- Perform viewshed analysis on selected Anza NHT segments with priority given to high potential route segments.
- Collect GPS data to Federal Trails Data Standards on the Anza NHT resources and use GIS mapping.

Monitoring

- Perform condition assessments on selected segments of the Anza NHT, with a priority on the high potential route segments.
- Implement procedures for systematic monitoring of the Anza NHT management corridor, including associated sites and trail resources.

Restoration

- Perform mitigation and/or landscape restoration in priority areas along the Anza NHT, where incompatible activities have altered the historic landscape and visual setting of the trail.

Research

- Perform archival research on the history and subsequent uses of the Anza NHT.
- Establish collaborative partnerships with academic institutions, professional and non-profit organizations, individual scholars, tribes, and other entities to perform research on Anza NHT related topics.

Interpretation and Education

- Develop interpretive materials and facilities for selected sites.
- Provide educational materials and opportunities to the public pertaining to the Anza NHT.

Tribal Consultation

- Continue to consult with the Gila River Indian Community, the Ak-Chin Indian Community, the Salt River Pima-Maricopa Indian Community, the Tohono O'odham Nation, the Hopi Tribe, and other interested Indian tribes to identify places of traditional importance.

Partnerships

- Coordinate with partner groups, interest groups, interested individuals, local communities, and other stakeholders on Anza NHT issues and projects.
- Consult and collaborate with the NPS, the administrator of the Anza NHT.

2.2.19 Hazardous Materials and Public Safety

Goals, Objectives, and Management Actions

PS-1: Manage hazards and public use to protect public health and safety.

PS-1.1: Identify naturally occurring or manmade public safety hazards on public lands and take appropriate action to protect public health and safety.

PS-1.1.1: Priorities for remediation of physical safety hazards will be set using the following criteria:

- Where a death or injury has occurred;
- Where site is on or in immediate proximity to a recreation site or a known high use area;
- Where a formal risk assessment has determined a high or extremely high risk level.
- The site is eligible for listing in the Abandoned Mines Cleanup Module of Protection and Response Information System

PS-1.1.2: Priorities for remediation due to water quality issues will be set using the following criteria:

- The state has identified the watershed as a priority based on: water laws or regulations, threat to public health or safety, threat to environment;
- The project is a collaborative effort among multiple agencies or jurisdictions.

PS-1.1.3: Post signs to identify hazardous situations when warranted to protect public safety. Emphasize the risks to visitors of entering public lands and taking responsibility for their own safety.

PS-1.1.4: If illegal activities threaten the safety of the public or BLM employees, or damage Monument objects, areas can be closed to access by the authorized officer. The area can be closed for up to 90 days pending a study or review of the level of impacts and longer term actions may be necessary to provide public safety.

PS-1.1.5: The Sand Tank Mountains south of I-8, formerly known as "Area A," is restricted to entry by permit only

PS-2: Protect public safety by dealing with all hazardous materials and solid wastes on public lands.

PS-2.1: Investigate all reported hazardous-materials and solid-wastes sites. Plan necessary containment and/or cleanup responses on a case-by-case basis as soon as possible upon report.

PS-2.1.1: Establish priorities for investigating releases and planning/implementing responses based on the order in which releases are discovered unless other factors, such as the immediacy of the public-health threat, elevate the response urgency.

PS-2.1.2: Identify the probable scope of needed containment and clean-up efforts.

PS-2.1.3: Rank all sites according to relative priority for treatment planning and action. Priorities to consider include:

- High levels of heavy metals in waste,
- Ground- or surface-water quality degradation,
- Ongoing, active resource damage,
- Safety hazards near established recreation areas or other areas frequented by public land users,
- Other site-specific factors

PS-2.1.4: Inspect mining and milling sites to determine appropriate management for hazardous materials.

PS-2.1.5: Conduct active investigations to identify potentially responsible parties and recover planning, containment, cleanup, monitoring, investigation, and enforcement costs associated with spill/release responses.

PS-2.1.6: Complete site-specific inventories when lands are being disposed or acquired. It is departmental policy to minimize potential liability of the Department of the Interior and its bureaus by acquiring property that is not contaminated unless directed by Congress, court mandate, or as determined by the Secretary.

PS-3: Minimize or eliminate the potential for intentional or accidental releases of hazardous materials or wastes and solid waste.

PS-3.1: Pursue locations of solid waste and wildcat dumpsites. Remove hazardous materials and solid waste, remediate, and, if appropriate, restore sites.

PS-3.1.1: Investigate all reported hazardous-materials and solid-waste sites.

PS-3.1.2: Establish a reporting system and encourage other agencies and citizens to report suspected spill and dump sites or suspected dumping activities.

PS-3.1.3: Establish an inventory of known historic and active mining sites and other areas on public lands where hazardous materials or solid wastes are known or suspected to be present.

PS-3.1.4: Evaluate all BLM actions (including land use authorizations, mining and milling activities, and unauthorized land uses) for their potential to prevent production or dumping of hazardous or solid wastes on public lands by doing the following:

- Minimize releases of hazardous materials through compliance with current regulations.
- Identify appropriate mitigation for activities associated with all types of hazardous materials and waste management and all types of fire management.

Administrative Actions

- Provide public safety information through BLM visitor-use brochures, websites, the BGR/Cabeza Prieta National Wildlife Refuge/Sand Tank Mountains visitor-entry permit system, and various direct contacts with members of the public. Include information on hazards associated with abandoned mines, recreational shooting, unexploded ordnance, smuggler and undocumented alien traffic, other criminal activities, natural resource conditions, or other conditions.
- Post signs in the field to identify certain hazardous situations when warranted to protect public safety. Emphasize visitor acceptance of the risks of entering public lands and responsibility for their own safety.
- To reduce human-caused fires, the BLM will undertake education, enforcement, and administrative fire-prevention measures. Education measures will include various outreach efforts, including a signing program, information as to the natural role of fire within local ecosystems, and participation in fairs, parades, and public contacts. Enforcement will be accomplished by providing training opportunities for employees interested in fire cause determination. Administration includes expanded prevention and education programs with other cooperator agencies.

2.2.20 Scientific Research, Education, and Public Outreach

Scientific Research

The BLM will partner with agencies and the academic and scientific community to develop a strategy for orderly scientific research on the National Monument. Scientific research will be evaluated and approved on a case-by-case basis. A priority will be placed on research likely to enhance management and understanding of public land resources and public uses. Researchers will be required to coordinate with the BLM, including providing a research plan, on proposed research and provide reports and supporting data that describe the outcome of the research.

Approved scientific research will contribute to management of natural and cultural resources and achieving desired future conditions. The collection of any objects in the Monument is authorized only by permit for scientific research or use to ensure compatibility and reporting of results. A reasonable amount of disturbance to soils and/or vegetation may occur during approved research activities in order to meet the research goals. Effects of disturbance are likely to be transient or may require mitigation or rehabilitation of sites.

Collaborative research partnerships will be established with interested organizations, such as local scientific museums or organizations, agencies, academic institutions, professional and nonprofit organizations, vocational organizations, and other entities, for an orderly process of research, recordation, and education about public land resources and uses. These partnerships will support survey, evaluation, recordation, mitigation, protection, and management of various resources, including biological, cultural, scenic, paleontological, geologic, and caves, and public uses including recreation, grazing, mining, and others.

By developing a strategy to encourage scientific research and inventory, the understanding of resources and management needs will improve. A priority will be placed on the development and implementation for inventory, recording, and evaluation of the Monument, and other sensitive areas and resources.

Increased monitoring of public use, vegetation and wildlife habitat, cultural sites, and other resources, with particular focus on sensitive resources and easily accessible and regularly visited areas, will help to ensure the integrity of resources are maintained. Monitoring of public uses, wildlife, and other resources will be enhanced by the use of volunteers, scientific and academic organizations, and other interested groups.

Interpretation, Environmental Education, and Outreach

The BLM will work with partners in agencies, academia, and other organizations to develop an effective environmental education and outreach strategy to enhance public understanding and appreciation of public land resources, and help the BLM achieve its mission and the desired outcomes of this PRMP.

The BLM will support existing educational and interpretive programs and initiatives such as Project Archaeology, Leave No Trace, Tread Lightly!™, Project Learning Tree, and other proven national, state, regional, and local programs. An emphasis will be placed on reuse of existing educational materials.

Additionally, the BLM will work with partners to pursue interpretation and environmental education opportunities, outreach, development, and implementation of on-site and off-site programs for adults and children. The office will work with willing staff from schools, school districts, and other learning institutions to develop curricula that incorporate various learning styles in program design and delivery and focus on the BLM's mission.

To help disseminate information to the public, websites, brochures, maps, access guides, and information sheets will be developed. BLM personnel will also participate in public events, such as fairs and open houses, with information and displays showing public land management. Information will emphasize Leave No Trace and Tread Lightly!™ practices.

Topics may include:

- Resource protection and management,
- Recreational and public access,
- Land use ethics,
- Recreational target shooting
- OHV rules and regulations,
- Public safety,
- Fire,
- OHV and special recreation vehicle information,
- Other information as needed.

Resources Education

Throughout the area, (with particular focus sensitive resource areas, including the Monument, SCRMAs, and threatened and endangered species habitat), emphasis will be placed on resource importance through interpretation, education, signing, and/or brochures.

A public education program will accomplish the following:

- Provide information about resources and their importance,
- Provide information directly related to procedures to be followed if sensitive resources are found,
- Provide safety information to the public and identify any resource protection actions required for public use,
- Specify any pertinent fines for resource damage.

Public Uses and Visitor Information

Visitor information will be developed to guide recreational uses in the SDNM. Information could include identifying recreational opportunities, locations where certain uses are or are not appropriate, an appreciation and respect for other public land users and uses, and methods to avoid conflict.

Public Safety and Fire Education

Educational material will be available regarding public safety, definitions of hazardous materials and solid wastes, and regulations controlling the use and disposal of hazardous materials and solid wastes on public lands. Methods to disseminate information may include brochures at recreational sites, websites, signs at known or likely dumping sites, BGR/Cabeza Prieta National Wildlife Refuge/Sand Tank Mountains visitor entry permit system, and various types of direct contact with visitors. Information on hazards associated with abandoned mines, recreational shooting, unexploded ordnance, smuggler and undocumented alien traffic, natural resource or other conditions also may be included.

To protect public safety, when warranted, signs will be posted to identify certain hazardous situations.

Visitor acceptance of the risks of entering public land and responsibility for their own safety will be emphasized.

The BLM will undertake education, enforcement, and administrative fire prevention mitigation measures to reduce human-caused fires. Education measures may include various media, including signs, information on the natural role of fire within local ecosystems, participation in fairs or parades, and other public contacts. Enforcement will be accomplished by providing training opportunities for employees interested in fire caused determinations. Administration includes expanded prevention and education programs with other cooperating agencies.

2.3 IMPLEMENTATION DECISIONS – TRAVEL MANAGEMENT

As described in **Section 1.4.2**, implementation decisions (or activity-level decisions) are management actions tied to a specific location that are made to implement the land use plan decisions. While BLM normally makes implementation decisions during more detailed planning after completion of an RMP, there are times when it is appropriate to make them as part of the RMP process. In the SDNM RMP, the following implementation-level decisions were made. See **Section 1.4.2**, Implementation Decisions, for a summary of the protest and appeal procedures associated with these decisions.

Implementation-level Allocations Summary for the SDNM

TMI-1: A network of routes are designated upon plan approval to include roads, primitive roads and trails that are open, closed or limited in their use as specified **Table 2-10**, Route Designations (Miles). For route locations, refer to the route maps on the CD, web site, or hard copies by request to the Lower Sonoran Field Office and on **Map 9**, SDNM Route Designations. For route rationales, see **Appendix G**, Route Rationales.

TMI-2: Routes 8013, 8018, and 8019 which are within washes, are closed from April 15-August 31 to address the forage, shelter, breeding, and thermal cover protection provided by washes as a component of wildlife habitat.

TMI-3: Develop legal public access along Interstate 8, in cooperation with Arizona Department of Transportation and Federal Highway Administration, to designated roads and primitive roads in SDNM.

Table 2-10
Route Designations (Miles)

Total Route Inventory	631.7
Total Proposed Route System Available for Public Use[1]	410.9
Roads Closed to General Public Use[2]	220.4
Road Closure Percentage[3]	35%
Designated Asset Type	
Road - Maintained	32.6
Open	24.2
Limited to Admin Use Only	0.4
Closed	0

Table 2-10
Route Designations (Miles)

New	8.0
Primitive Road - Unmaintained	570.2
Open	323.8
Seasonally Limited (Closed April 15 to Aug. 31)	26.0
Limited to Non-Motorized Use[4]	8.3
Limited to Admin Use Only	7.8
Closed	204.3
Trail	28.9
Open to non-motorized/ mechanized travel (e.g., bicycles, handcarts, etc.)	3.3
Open to non-motorized/non-mechanized travel (wilderness trails)	25.6

[1]Total Proposed Route System (Miles) equals the sum of open roads, primitive roads, trails (including those limited by season, width, and non-motorized use), and new roads. The total excludes roads and primitive roads limited to administrative use. See **Map 9**, SDNM Route Designations.
[2] Road Closures (Miles) equals the sum of closed roads and primitive roads, roads and primitive roads limited to administrative use, and primitive roads limited to non-motorized use.
[3] Road Closure Percentage equals the miles of road closure divided by the total route inventory (631.5 miles). Note: Primitive roads limited to non-motorized use are included here because no vehicular use will be permitted.
[4] Applies to the Anza NHT, where bicycles and handcarts will be allowed, but not motor vehicles.

2.4 PUBLIC INVOLVEMENT

The BLM will continue to work with existing partners, cultivate new partnerships, and actively seek the views of the public. Using techniques such as news releases, website postings, and mass mailings, the BLM will inform the public of new and ongoing management actions and site-specific planning, and provide opportunities and timeframes for comment and other participation. The public is encouraged to contact the BLM (Sonoran Desert National Monument at 21605 N. 7th Avenue, Phoenix, Arizona 85027) and request that their name be placed in the field office mailing list along with their specific area of interest (e.g., wildlife, cultural resources, etc.) for plan implementation. The public may also make this request by calling (623) 580-5500.

The BLM will also continue to coordinate, both formally and informally, with the numerous federal and state agencies, Native American tribes, local agencies, and officials interested and involved in the management of public lands in the SDNM.

2.5 MANAGEMENT PLAN IMPLEMENTATION

The RMP will be implemented as funding and workforce allow. Most of the land use plan decisions are effective upon approval of this document. However, some decisions will take a number of years to be fully implemented. Implementation monitoring will track which decisions have been implemented and when.

After issuing the ROD/Approved RMP, the BLM will establish implementation priorities based on the goals, objectives and management actions detailed in the RMP. The implementation planning process will assist BLM managers and staff in preparing budget requests and in scheduling work priorities. However, the proposed schedule must be considered tentative and will be affected by future funding, changing program priorities, nondiscretionary workloads, and cooperation by partners and the public. Periodic review of the implementation plan will provide consistent tracking of accomplishments and provide information that can be used to develop annual budget requests to continue implementation. Plan implementation is a continuous and active process.

Interdisciplinary impact analysis on implementation actions will be based on the PRMP/FEIS and other applicable EISs. If the analysis prepared for site-specific projects finds potential for significant impacts not already described in an existing EIS, another EIS or a supplement to an existing EIS may be warranted.

Site-specific environmental analyses and documentation, including the use of categorical exclusions and determinations of NEPA adequacy where appropriate, may be prepared for one or more individual projects in accordance with management objectives and decisions established in the approved land use plan. In addition, the BLM will ensure that the environmental review process includes evaluation of all critical elements, including cultural resources and threatened and endangered species, and completes required USFWS Section 7 consultations and coordination with the SHPO.

2.6 PLAN EVALUATION AND MAINTENANCE

2.6.1 Plan Evaluation

Plan evaluation is a process in which the plan and monitoring data are reviewed to determine if management goals and objectives are being met and if management direction is sound. Land use plan evaluations determine if decisions are being implemented, if mitigation measures are satisfactory, if there are significant changes in the related plans of other entities, if there is new data of significance, and if decisions should change through amendment or revision. Monitoring data gathered over time is examined and used to determine whether management actions are meeting objectives. Conclusions are then used to make recommendations on whether to continue current management or to identify what changes need to be made in management practices to meet RMP objectives.

BLM will use land use plan evaluations to determine if the decisions in the RMP, supported by the accompanying NEPA analysis, are still valid in light of new information and monitoring data. Evaluation of the RMP will generally be conducted every five years, unless unexpected actions, new information, or significant changes in other plans, legislation, or litigation triggers an evaluation.

Evaluations will follow the protocols established by the BLM's Land Use Planning Handbook (H-1601-1) and 43 CFR Part 1610.4-9 or other appropriate guidance in effect at the time the evaluation is initiated.

2.6.2 Plan Maintenance

Land use plan decisions and supporting information can be maintained to reflect minor changes in data, but maintenance is limited to refining, documenting, and clarifying previously approved decisions. Some examples of maintenance actions include:

- Correcting minor data, typographical, mapping, or tabular data errors;
- Refining baseline information as a result of new inventory data (e.g., changing the boundary of an archaeological district; refining the known habitat of special status species; or adjusting the boundary of a fire management unit based on updated fire regime condition class inventory, fire occurrence, monitoring data, or demographic changes); and
- Applying an existing fluid mineral lease stipulation to a new area prior to the lease sale based on new inventory data (e.g., applying an existing protective stipulation for tortoise to a newly discovered tortoise habitat area.)

Plan maintenance will be documented in supporting records. Plan maintenance does not require formal public involvement, interagency coordination, or the NEPA analysis required for making new land use plan decisions.

2.7 MONITORING AND ADAPTIVE MANAGEMENT

2.7.1 Monitoring

The BLM expects that new information gathered from field inventories and assessments, research, other agency studies, and other sources will update baseline data and/or support new management techniques, best management practices, and scientific principles. Monitoring the RMP involves tracking the implementation and effectiveness of land use plan decisions (implementation monitoring) identified in **Section 2.2**, Management Decisions. Implementation monitoring tracks the completion of land use plan decisions whereas effectiveness monitoring helps determine whether completion of land use plan decisions achieves anticipated desired outcomes. If implementation of land use plans does not achieve anticipated desired outcomes, adaptive management may be necessary.

Management actions identified for the SDNM are based on studies and the best scientific and commercial information available. However, conditions may change over time. Experience has shown that implemented management actions can be improved as new technology and new information become available. It is also possible that changes in land use will require a different management action to protect the resources. To address the changing conditions and provide management flexibility using best management practices, the SDNM staff will monitor and evaluate the RMP using a process that provides the optimum means of checking the effectiveness of management actions. This process will measure the effectiveness of existing actions by monitoring these actions and applying the results of new scientific research. The process will analyze the current resource conditions resulting from implemented actions and identify and recommend alternatives or modified actions, as necessary, to reach established objectives and goals.

Because the capability to conduct monitoring and analysis at the optimum level can vary from year to year, the actions to be monitored will be prioritized. If monitoring indicates the goals and objectives are not being met, the adaptive management process will be implemented to adjust actions and improve resource condition.

2.7.2 Adaptive Management

Adaptive management is a system of management practices based on clearly identified outcomes, monitoring to determine if management actions are meeting outcomes, and, if not, facilitating management changes that will best ensure that outcomes are met or to re-evaluate the outcomes. The SDNM managers will implement the adaptive management process for decisions appropriate to be adapted in order to meet resource goals and objectives. Monitoring, reports, documents, and timelines associated with the adaptive management process will be subject to the Monument's budget and staffing constraints.

3. GLOSSARY

ABIOTIC: The nonliving, material components of the environment, such as air, rocks, soil, water, coal, peat, and plant litter. See BIOTIC.

ACCELERATED EROSION: Soil loss above natural levels resulting directly from human activities. Because of the slow rate of soil formation, accelerated erosion can permanently reduce plant productivity.

ACQUIRED PUBLIC LANDS: Lands in federal ownership that the government obtained as a gift or by purchase, exchange, or condemnation. See PUBLIC LANDS.

ALLOTMENT: An area of land designated and managed for the grazing of livestock where one or more operators are authorized to graze their livestock. An allotment generally consists of federal rangelands but may include intermingled parcels of private, state, or federal lands. The BLM stipulates the number of livestock and season of use for each allotment.

ANIMAL UNIT: One mature (1,000 pound) cow or the equivalent based upon an average daily forage consumption of 26 pounds of dry matter per day.

ANIMAL UNIT MONTH (AUM): The amount of forage needed to sustain one cow, five sheep, or five goats for one month.

ANNUAL PLANT: A plant that completes its life cycle and dies in one year or less. Also see PERENNIAL PLANT.

AQUATIC HABITAT (COMPONENTS): Habitats confined to streams, rivers, springs, lakes, ponds, reservoirs, and other water bodies.

AQUIFER: A water-bearing bed or layer of permeable rock, sand, or gravel capable of yielding large amounts of water.

ARCHAEOLOGICAL FEATURE: A non-portable object not recoverable from its matrix (usually in an archeological site) without destroying its integrity. Examples are rock paintings, hearths, post holes, floors, and walls.

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC): A designated area on public lands where special management attention is required (1) to protect and prevent irreparable damage to fish and wildlife; (2) to protect important historic, cultural, or scenic values, or other natural systems or processes; or (3) to protect life and safety from natural hazards.

ARIZONA STANDARDS FOR RANGELAND HEALTH AND GUIDELINES FOR GRAZING ADMINISTRATION: Standards and guidelines developed collaboratively by BLM and the Arizona Resource Advisory Council (RAC) to address the minimum requirements of the Department of the Interior's final rule for Grazing Administration, effective Aug. 21, 1995.

ASSETS (TRAVEL MANAGEMENT): An engineering term utilized to describe roads, primitive roads, and trails that are included in Facility Asset Management System (FAMS). Assets are maintained through the maintenance program.

AUTHORIZED OFFICER: Any employee of the BLM who has been delegated the authority to perform duties related to public lands, public purposes, conveyances, hazardous substances, and solid wastes.

BACK COUNTRY BYWAY: A component of the national scenic byway system which focuses primarily on corridors along back country roads which have high scenic, historic, archeological, or other public interest values. The road may vary from a single track bike trail to a low speed, paved road that traverses back country areas (BLM Handbook H-8357-1, B 2).

BACK COUNTRY SETTING: Areas with undeveloped, primitive, and self-directed visitor experience without provisions for motorized or mechanized access, except for identified routes.

BENEFIT (RECREATION/SOCIETAL): A benefit is defined as an improved condition or the prevention of a worse condition. Benefits of leisure and recreation engagements can be realized by individuals (e.g., improved physical and psychological well-being), groups of individuals (strengthened bonds among family and friends), communities (economic gain from tourism), society (the cumulative effects of individual and group benefits), and the environment (a result of a stronger environmental ethic among individuals).

BIG GAME: Large species of wildlife that are hunted, such as elk, deer, bighorn sheep, and pronghorn.

BIGHORN SHEEP HABITAT: Area is open to non-vehicular traffic year around (e.g., hiking, biking, and equestrian). Restrictions vary by location and are listed in RMP. Typically, roads are closed during lambing season (January 1 through June 30).

BIOLOGICAL ASSESSMENT: Information prepared by or under the direction of a federal agency to determine whether a proposed action is likely to harm threatened or endangered species or designated critical habitat, jeopardize the existence of species that are proposed for listing, or adversely

modify proposed critical habitat. Biological assessments must be prepared for major construction activities. The outcome of a biological assessment determines whether formal Section 7 consultation or a conference is needed. Also see BIOLOGICAL OPINION.

BIOLOGICAL DIVERSITY (BIODIVERSITY): The full range of variability within and among living organisms and the ecological complexes in which they occur. Biological diversity encompasses ecosystem or community diversity, species diversity, and genetic diversity.

BIOLOGICAL EVALUATION: The gathering and evaluation of information on proposed endangered and threatened species and critical and proposed critical habitat for actions that do not require a biological assessment. Also see BIOLOGICAL ASSESSMENT.

BIOLOGICAL OPINION: A document that includes the following- (1) the opinion of the US Fish and Wildlife Service or the National Marine Fisheries Service as to whether a federal action is likely to jeopardize the existence of a species listed as threatened or endangered or destroy or adversely modify designated critical habitat; (2) a summary of the information on which the opinion is based; and (3) a detailed discussion of the effects of the action on listed species or designated critical habitat.

BIOLOGICAL VEGETATION TREATMENT: Methods of vegetation treatment that employ living organisms to selectively suppress, inhibit, or control herbaceous and woody vegetation. Examples of such methods include insects; pathogens; and grazing by cattle, sheep, or goats.

BIOTIC: Pertaining to life or living; the living components of the environment. Also see ABIOTIC.

BRAIDING: A pattern of an interlacing or tangled network of several branching and reuniting stream channels separated by branch islands or channel bars.

BROWSE: The part of leaf and twig growth of shrubs, woody vines, and trees available for animal consumption.

CANCELLED/CANCELLATION: A permanent termination of a grazing permit, grazing lease, grazing preference, free-use grazing permit, or other grazing authorization in whole or in part.

CANDIDATE SPECIES: Species not protected under the ESA, but being considered by the US Fish and Wildlife Service for inclusion on the list of federally threatened and endangered species.

CASUAL USE (MINING): Mining that only negligibly disturbs federal lands and resources and does not include the use of mechanized earth moving equipment or explosives or motorized equipment in areas closed to off-highway vehicles. Casual use generally includes panning, non-motorized sluicing, and collecting mineral specimens using hand tools.

CASUAL USE (RECREATION): Non-commercial or non-organized group or individual activities on public land that do the following: Comply with land use decisions and designations (i.e. special area designations), do not award cash prizes; are not publicly advertised; pose minimal risk for damage to public land or related water resources; and generally require no monitoring. If the use goes beyond those conditions, the activity should be treated as any other organized recreational group or

competitive activity or event for which BLM will require the event organizer to obtain a special recreation permit (SRP).

CASUAL USE OF MINERAL MATERIALS: Extracting mineral materials for limited personal (noncommercial) uses.

CATEGORICAL EXCLUSION: A category of actions (identified in agency guidance) that do not individually or cumulatively have a significant effect on the human environment and for which neither an environmental assessment nor an EIS is required (40 CFR 1508.4).

CATTLE GUARD: A device placed in a road, usually a grate or series of metal bars placed perpendicular to the flow of traffic, which allows free passage of vehicles but which livestock will not cross.

CHANNEL: A natural or artificial watercourse with a definite bed and banks to confine and conduct continuously or periodically flowing water.

CHEMICAL VEGETATION TREATMENTS: The applying of chemicals to control unwanted vegetation.

COMMUNICATION SITE: An area of Public Land or National Forest System lands designated for communications use through the land and resource management planning process.

COMMUNITY: A collective term used to describe an assemblage of organisms living together; an association of living organisms having mutual relationships among themselves and with their environment and thus functioning at least to some degree as an ecological unit.

COMPETITIVE RACES: For purposes of this plan, all competitive events that have an element of speed as a component, including, motorcycle enduros, OHV desert racing, and equestrian endurance rides.

COMPOSITION: The proportions of various plant species in relation to the total on a given area. It may be expressed in terms of cover, density, weight, etc.

COOPERATING AGENCY: Assists the lead federal agency in developing an environmental assessment or EIS. The Council on Environmental Quality regulations implementing NEPA define a cooperating agency as any agency that has jurisdiction by law or special expertise for proposals covered by NEPA (40 CFR 1501.6). Any federal, state, local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency.

CORRIDOR: See DESIGNATED MULTIUSE UTILITY CORRIDOR.

COVER: (1) Plants or plant parts, living or dead, on the surface of the ground; (2) plants or objects used by wild animals for nesting, rearing of young, escape from predators, or protection from harmful environmental conditions.

CRITERIA AIR POLLUTANTS: Air pollutants for which acceptable levels of exposure can be determined and for which an ambient air quality standard has been set. Examples of such pollutants are ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and PM_{10} and $PM_{2.5}$.

CRITICAL HABITAT, DESIGNATED: Specific parts of an area (1) that are occupied by a federally listed threatened or endangered plant or animal at the time it is listed and (2) that contain physical or biological features essential to the conservation of the species or that may require special management or protection. Critical habitat may also include specific areas outside an area occupied by a federally listed species if the Secretary of the Interior determines that these areas are essential for conserving the species.

CULTURAL HERITAGE VALUES: The irreplaceable qualities that are embodied in cultural resources, such as scientific information about prehistory and history, cultural significance to Native Americans and other groups, and the potential to enhance public education and enjoyment of the Nation's rich cultural heritage. Section 1 of the National Historic Preservation Act states that "the preservation of this irreplaceable heritage is in the public interest so that its vital legacy of cultural, educational, aesthetic, inspirational, economic and energy benefits will be maintained and enriched for future generations of Americans."

CULTURAL RESOURCE: A location of human activity, occupation, or use identifiable through field inventory, historical documentation, or oral evidence. Cultural resources include archaeological and historical sites, structures, buildings, objects, artifacts, works of art, architecture, and natural features that were important in past human events. They may consist of physical remains or areas where significant human events occurred, even though evidence of the events no longer remains. And they may include definite locations of traditional, cultural, or religious importance to specified social or cultural groups.

CULTURAL RESOURCE DATA: Cultural resource information embodied in material remains such as artifacts, features, organic materials, and other remnants of past activities. An important aspect of data is context, a concept that refers to the relationships among these types of materials and the situations in which they are found.

CULTURAL RESOURCE DATA RECOVERY: The professional application of scientific techniques of controlled observation, collection, excavation, and/or removal of physical remains, including analysis, interpretation, explanation, and preservation of recovered remains and associated records in an appropriate curatorial facility used as a means of protection. Data recovery may sometimes employ professional collection of such data as oral histories, genealogies, folklore, and related information to portray the social significance of the affected resources. Such data recovery is sometimes used as a measure to mitigate the adverse impacts of a ground-disturbing project or activity.

CULTURAL RESOURCE INTEGRITY: The condition of a cultural property, its capacity to yield scientific data, and its ability to convey its historical significance. Integrity may reflect the authenticity of a property's historic identity, evidenced by the survival or physical characteristics that existed during its historic or prehistoric period, or its expression of the aesthetic or historic sense of a particular period of time.

CULTURAL RESOURCE INVENTORY (SURVEY): A descriptive listing and documentation, including photographs and maps of cultural resources. Included in an inventory are the processes of locating, identifying, and recording sites, structures, buildings, objects, and districts through library and archival research, information from persons knowledgeable about cultural resources, and on-the-ground surveys of varying intensity.

Class I: A professionally prepared study that compiles, analyzes, and synthesizes all available data on an area's cultural resources. Information sources for this study include published and unpublished documents, BLM inventory records, institutional site files, and state and National Register files. Class I inventories may have prehistoric, historic, and ethnological and sociological elements. These inventories are periodically updated to include new data from other studies and Class II and III inventories.

Class II: A professionally conducted, statistically based sample survey designed to describe the probable density, diversity, and distribution of cultural properties in a large area. This survey is achieved by projecting the results of an intensive survey carried out over limited parts of the target area. Within individual sample units, survey aims, methods, and intensities are the same as those applied in Class III inventories. To improve statistical reliability, Class II inventories may be conducted in several phases with different sample designs.

Class III: A professionally conducted intensive survey of an entire target area aimed at locating and recording all visible cultural properties. In a Class III survey, trained observers commonly conduct systematic inspections by walking a series of close-interval parallel transects until they have thoroughly examined an area.

CULTURAL RESOURCE PROJECT PLAN: For cultural resource projects, a detailed design plan that defines the procedures, budget, and schedule for such activities as structure stabilization, recordation, interpretive development, and construction of facilities such as trails. These plans include estimates on workforce, equipment, and supply needs.

CULTURAL SITE: A physical location of past human activities or events, more commonly referred to as an archaeological site or a historic property. Such sites vary greatly in size and range from the location of a single cultural resource object to a cluster of cultural resource structures with associated objects and features.

CUMULATIVE IMPACTS: As stated in 40 CFR 1508.8, "...is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

DATA RECOVERY: See CULTURAL RESOURCE DATA RECOVERY.

DECISION RECORD: A manager's decision on a categorical exclusion review or an environmental assessment. Comparable to the record of decision for an environmental impact statement, the decision record includes- (1) a finding of no significant impact, (2) a decision to prepare an environmental impact statement, or (3) a decision not to proceed with a proposal.

DEFERMENT: A period of non-grazing during part of the growing season (see REST ROTATION).

DEFERRED ROTATION GRAZING: Moving grazing animals to various parts of a range in succeeding years or seasons to provide for seed production, plant vigor, and seedling growth.

DESERT TORTOISE HABITAT CLASSIFICATIONS: Three categories of desert tortoise habitat based on population, viability, size, density, and manageability and derived from BLM inventories of desert tortoise habitat throughout the planning areas between 1989 and 1999. The categories are as follows:

Category I. Medium to high tortoise density. Habitat area essential for maintaining large, viable populations.

Category II. Low to moderate tortoise density. Habitat is manageable.

Category III. Isolated patches of good habitat exist but are difficult to manage. Most management conflicts are not resolvable.

DESIGNATED MULTIUSE UTILITY CORRIDOR: See MULTIUSE UTILITY CORRIDOR

DESIRED FUTURE CONDITION: A detailed description of the particular resource condition to be achieved sometime in the future. These serve as resource standards which management is intended to achieve. These are analogous to resource objectives.

DESIRED OUTCOMES: A type of land use plan decision expressed as a goal or objective.

DESIRED PLANT COMMUNITY (DPC): The plant community that has been determined through a land use or management plan to best meets the plan's objectives for a site. A real, documented plant community that embodies the resource attributes needed for the present or potential use of an area, the desired plant community is consistent with the site's capability to produce the required resource attributes through natural succession, management intervention, or a combination of both.

DESTINATION RECREATION-TOURISM MARKET: National or regional recreation-tourism visitors and other constituents who value public lands as recreation-tourism destinations. Major investments in facilities and visitor assistance are authorized within SRMAs where the BLM's strategy is to target demonstrated destination recreation-tourism market demand. Here, recreation management actions are geared toward meeting primary recreation-tourism market demand for specific activity, experience, and benefit opportunities. These opportunities are produced through maintenance of prescribed natural resource setting character and by structuring and implementing management, marketing, monitoring, and administrative actions accordingly.

DEVELOPED RECREATION SITES AND AREAS: Those sites and areas that contain structures or capital improvements primarily used by the public for recreation purposes. Such sites or areas may include such features as: delineated spaces for parking, camping, or boat launching; sanitary facilities; potable water; grills or fire rings; or controlled access.

DIKE: (1) An upright or steeply dipping sheet of igneous rock that has solidified in a crack or fissure in the earth's crust; (2) a human-made structure used to control stream flow.

DISPERSED RECREATION: Recreation that does not require developed sites or facilities.

DISPOSAL: See LAND DISPOSAL.

DRAINAGE AREA: Area or watershed that drains naturally to a particular point on a river, stream, or creek.

DRAINAGE BASIN: Drainage system that consists of a surface stream or body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

EASEMENT: The right to use land in a certain way granted by a landowner to a second party.

ECOLOGICAL CONDITION: See ECOLOGICAL SITE RATING (ECOLOGICAL CONDITION/ ECOLOGICAL STATUS).

ECOLOGICAL INTEGRITY: The quality of a natural unmanaged or managed ecosystem in which the natural ecological processes are sustained, with genetic, species, and ecosystem diversity ensured for the future.

ECOLOGICAL SITE: A distinctive kind of land that has specific physical characteristics and that differs from other kinds of land in its ability to produce a characteristic natural plant community.

ECOLOGICAL SITE DESCRIPTIONS: Descriptions of the following characteristics of an ecological site- soils, physical features, climatic features, associated hydrologic features, plant communities possible on the site, plant community dynamics, annual production estimates and distribution of production throughout the year, associated animal communities, associated and similar sites, and interpretations for management.

ECOLOGICAL SITE INVENTORY: The basic inventory of present and potential vegetation on BLM rangeland.

ECOLOGICAL SITE RATING (ECOLOGICAL CONDITION/ ECOLOGICAL STATUS): The present state of vegetation of an ecological site in relation to the potential natural community for the site. Independent of the site's use, the ecological site rating is an expression of the relative degree to which the kinds, proportions, and amounts of plants in a community resemble those of the potential natural community. The four ecological status classes correspond to 0-25 percent, 25-50 percent, 51-75 percent, or 76-100 percent similarity to the potential natural community and are called early-seral, mid-seral, late-seral, and potential natural community, respectively.

ECOSYSTEM: Organisms, together with their abiotic environment, forming an interacting system and inhabiting an identifiable space.

ENDANGERED SPECIES: Any animal or plant species in danger of extinction throughout all or a significant portion of its range as designated by the US Fish and Wildlife Service under the ESA.

ENVIRONMENTAL ASSESSMENT (EA): As per 40 CFR 1508.9:

"(a) Means a concise public document for which a federal agency is responsible that serves to:

Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.

Aid an agency's compliance with the Act when no environmental impact statement is necessary.

Facilitate preparation of a statement when one is necessary.

(b) Shall include brief discussions of the need for the proposal, of alternatives as required by section 102 (2) (E), of the environmental impacts of the proposed action and Alternatives, and a listing of agencies and persons consulted."

ENVIRONMENTAL IMPACT STATEMENT (EIS): As per 40 CFR 1508.11 "means a detailed written statement as required by section 102 (2) (C) of the Act" (referring to the National Environmental Policy Act.)

EPHEMERAL RANGELAND: Areas of the hot desert biome (region) that do not consistently produce enough forage to sustain a livestock operation but may briefly produce unusual volumes of forage that may be utilized by livestock.

EXCAVATION: The scientific examination of an archaeological site through layer-by-layer removal and study of the contents within prescribed surface units, e.g. square meters.

EXISTING PARKING, STAGING, AND CAMPING AREAS AND DISTURBED AREAS: Sites and areas previously used for overnight stays, parking and staging. Existing sites must have bare mineral earth areas clear of vegetation, other indications include tent pads, camp fire rings, camper and vehicle pullouts, rock alignments and other signs of overnight and long-term use and occupation.

EXTENSIVE RECREATION MANAGEMENT AREA (ERMA): A public lands unit identified in land use plans containing all acreage not identified as a SRMA. Recreation management actions within an ERMA are limited to only those of a custodial nature.

EXTIRPATED SPECIES: A locally extinct species; a species that is no longer found in a locality but exists elsewhere.

FEDERAL LAND POLICY AND MANAGEMENT ACT (FLPMA): The act that (1) set out, for the Bureau of Land Management, standards for managing the public lands including land use planning, sales, withdrawals, acquisitions, and exchanges; (2) authorized the setting up of local advisory councils representing major citizens groups interested in land use planning and management, (3) established criteria for reviewing proposed wilderness areas, and (4) provided guidelines for other aspects of public land management such as grazing.

FINE PARTICULATE MATTER ($PM_{2.5}$): Particulate matter that is less than 2.5 microns in diameter.

FIRE INTENSITY: The rate of heat release for an entire fire at a specific time.

FIRE MANAGEMENT: The integration of fire protection, prescribed burning, and fire ecology knowledge into multiple use planning, decision making, and land management.

FIRE MANAGEMENT PLAN: A plan that defines a program to manage wildland and prescribed fires and documents the fire management program in the approved land use plan.

FIRE SUPPRESSION: All the work of extinguishing or confining a fire, beginning with its discovery.

FIRE SUPPRESSION RESOURCES: People, equipment, services, and supplies available or potentially available for assignment to incidents.

FLOODPLAIN: Nearly level land on either or both sides of a channel that is subject to overflow flooding.

FORAGE: All browse and herbage that is available and acceptable to grazing animals or that may be harvested for feed.

FORB: An herbaceous plant that is not a grass, sedge, or rush.

FRAGILE SOILS: Soils having a shallow depth to bedrock, minimal surface layer of organic material, textures that are more easily detached and eroded, or are on slopes over 35 percent.

FREE USE PERMIT: A permit that allows the removal of mineral materials from public lands free of charge to any federal, state, or territorial agency, unit, or subdivision.

FRONT COUNTRY SETTING: Front Country offers the main setting and locations for intensive resource-dependent recreation uses and facilities. Motorized and mechanized vehicles must remain on existing or designated routes. The lands are generally natural in appearance and may see minor to moderate alterations over the life of the land use plan due to land use authorizations and BLM management actions.

FUEL LOAD (IN FIRE SUPPRESSION): The oven-dry weight of fuel per unit area usually expressed in tons/acre.

FUEL LOADING: The amount of fuel present expressed by weight of fuel per unit area.

FUEL MOISTURE CONTENT (IN FIRE SUPPRESSION): The water content of a fuel expressed as a percentage of the fuel's oven-dry weight. For dead fuels, which have no living tissue, moisture content is determined almost entirely by relative humidity, precipitation, dry-bulb temperature, and solar radiation. The moisture content of live fuels is physiologically controlled within the living plant.

FUGITIVE DUST: Dust particles that are introduced into the air through certain actions such as soil cultivation or vehicles crossing open fields or driving on dirt roads or trails.

FUNCTIONING WATERS (WILDLIFE): A well, catchment, spring, reservoir, or other feature (human made or natural) that provides a reliable source of potable water on a year-long basis. For such a source of water to be considered functional, the quality and quantity of water must be sufficient to sustain native wildlife populations in the local area. For example, a reservoir that fills up during monsoon rains but goes dry in a few weeks is not functional from a wildlife standpoint.

FUNDAMENTALS OF RANGELAND HEALTH: As Described in 43 CFR 4180, the conditions in which (1) rangelands are in proper functioning physical condition, (2) ecological process are supporting healthy biotic populations and communities, (3) water quality is meeting state standards and BLM objectives, and (4) special status species habitat is being restored or maintained.

GENETIC DIVERSITY: The variation in genes in a population pool that contributes to the ability of organisms to evolve and adapt to new conditions.

GEOGRAPHIC INFORMATION SYSTEM (GIS): An information system that integrates, stores, edits, analyzes, shares, and displays geographic information for informing decision making.

GOAL: The desired state or condition that a resource management policy or program is designed to achieve. Broader and less specific than objectives, goals are usually not measurable and may not have specific dates by which they must be reached. Objectives are developed by first understanding one's goals.

GRANT: A document authorizing the use of public or federal lands for the construction, operation, maintenance, and termination of a project.

GRAZING CAPACITY (CARRYING CAPACITY): The highest livestock stocking rate possible without damaging vegetation or related resources. Grazing capacity may vary from year to year or in the same area because of fluctuating forage production.

GRAZING CYCLE: The amount of time required for livestock to rotate completely through all the pastures under an allotment management plan.

GRAZING DISTRICT: The specific area within which the public lands are administered under section 3 of the Taylor Grazing Act of June 1934, as amended (43 USC 315). Public lands outside grazing district boundaries are administered under section 15 of the Act.

GRAZING PERMIT/LICENSE/LEASE: A written document authorizing use of the public lands within an established grazing district. Grazing permits specify all authorized use, including livestock grazing, suspended use, and conservation use. Permits also specify the total number of AUMs apportioned, the area authorized for grazing use, or both.

GRAZING PREFERENCE: A superior or priority position against others for the purpose of receiving a grazing permit or lease. This priority is attached to base property owned or controlled by the permittee or lessee.

GRAZING PRIVILEGES: The use of public land for livestock grazing under permits or leases.

GRAZING REST: Any period during which no livestock grazing is allowed within an area.

GRAZING SEASON: An established period for which grazing permits are issued.

GRAZING SYSTEM: A systematic sequence of grazing use and non-use of an allotment to meet multiple use goals by improving the quality and amount of vegetation.

GROUND COVER: See COVER.

GROUND LITTER: See LITTER.

GROUNDWATER: Subsurface water and underground streams that supply wells and springs. Use of groundwater in Arizona does not require a water right, but must only be "reasonable." Groundwater is separated from surface water by the type of alluvium in which the water is found. Water in the younger, floodplain alluvium is considered surface water. Water in the older, basin-fill alluvium is considered groundwater.

GROUNDWATER RECHARGE: Adding water to an aquifer, a process that occurs naturally from the infiltration of rainfall and from water flowing over earth materials that allow it to infiltrate below the land surface.

HABITAT: An area that provides an animal or plant with adequate food, water, shelter, and living space.

HABITAT FRAGMENTATION: Process by which habitats are increasingly subdivided into smaller units resulting in their increased insularity and losses of total habitat area.

HABITAT MANAGEMENT PLAN: A site-specific wildlife habitat plan.

HAZARDOUS MATERIALS (HAZMAT): An all-encompassing term that includes hazardous substances; hazardous waste; hazardous chemical substances; toxic substances; pollutants and contaminants; and imminently hazardous chemical substances and mixtures that can pose an unreasonable risk to human health, safety, and property.

HERBACEOUS: Of, relating to, or having the characteristics of a vascular plant that does not develop woody tissue.

HERD AREA (HA): Geographic areas of the public lands identified as habitat used by wild horses and/or wild burros at the time the Wild Free-Roaming Horses and Burros Act of 1971 was enacted.

HERITAGE TOURISM: Programs that seek to stimulate economic development by promoting the use of historic properties. Management concerns include ensuring the long-term preservation and sustainable use of properties. Best-management practices also encourage economic partnerships between the BLM and the state, tribal and local tourism programs.

HIGH POTENTIAL HISTORIC SITE: Those historic sites related to the route of the National Historic Trail, or sites in close proximity thereto, which provide opportunity to interpret the historic

significance of the trail during the period of its major use. Criteria for consideration as high potential sites include historic significance, presence of visible historic remnants, scenic quality, and relative freedom from intrusion. (From Section 12 of The National Trails System Act).

HIGH POTENTIAL ROUTE SEGMENT: Those segments of a trail which would afford high quality recreation experience in a portion of the route having greater than average scenic values or affording an opportunity to vicariously share the experience of the original users of a historic route. (From Section 12 of The National Trails System Act).

HISTORICAL SITE: A location that was used or occupied after the arrival of Europeans in North America (ca. A.D. 1492). Such sites may consist of physical remains at archaeological sites or areas where significant human events occurred, even though evidence of the events no longer remains. They may have been used by people of either European or Native American descent.

HYDRIC: Characterized by, relating to, or requiring an abundance of moisture.

HYDROLOGIC CYCLE: The circuit of water movement from the atmosphere to the earth and its return to the atmosphere through various stages or processes, such as precipitation, interception, runoff, infiltration, percolation, storage, evaporation, and transpiration.

IGNEOUS ROCK: Rock, such as granite and basalt, which has solidified from a molten or partially molten state.

IMPLEMENTATION DECISIONS: Decisions that take action to implement land use plan decisions; generally appealable to Interior Board of Land Appeals under 43 CFR 4.410.

INDICATORS: Elements of the human environment affected, or potentially affected, by a change agent. An indicator can be a structural component, a functional process or an index. A key indicator integrates several system elements in such a way as to indicate the general health of that system.

INFILTRATION: The downward entry of water into the soil or other material.

INFRASTRUCTURE: The set of systems and facilities that support a region or community's social and economic structures. Examples of such systems include energy, transportation, communication, education, medical service, and fire and police protection.

INHOLDING: Parcels of land owned or managed by someone other than BLM but surrounded in part or entirely by BLM-administered land.

INTERDISCIPLINARY TEAM: A team of varied land use and resource specialists formed to provide a coordinated, integrated information base for overall land use planning and management.

INTERESTED PUBLIC: An individual, group, or organization that has submitted a written request to the authorized officer to be provided an opportunity to be involved in the decision-making process for the management of livestock grazing on specific grazing allotments or has submitted written comments to the authorized officer regarding the management of livestock grazing on a specific allotment.

INVASIVE SPECIES (INVADERS): Plant species that were either absent or present only in small amounts in undisturbed portions of a specific range site's original vegetation and invade following disturbance or continued overuse.

KEY AREA: A key area is a relatively small portion of an allotment selected because of its location, proximity to water, livestock and wildlife habitat values, and value as a long-term monitoring point.

KEY FORAGE SPECIES: Forage species whose use serves as an indicator of the degree of use of associated species.

LAND DISPOSAL: A transaction that leads to the transfer of title to public lands from the federal government.

LANDFORM: A discernible natural landscape that exists as a result of geological activity such as a plateau, plain, basin, or mountain.

LANDS MANAGED TO PROTECT WILDERNESS CHARACTERISTICS: An allocation resulting from a land use plan management decision for the purpose of protecting lands with wilderness characteristics. A wider range of actions and activities may be allowed than can occur in designated wilderness.

LAND TENURE ADJUSTMENT: The transfer of land or interest in land (e.g., easement) between the United States and private individuals, entities, state or local governments.

LAND USE ALLOCATION: The identification in a land use plan of the activities and foreseeable development that are allowed, restricted, or excluded for all or part of the planning area, based on desired future conditions.

LAND USE AUTHORIZATION (LUA): The BLM's authorization; through leases, permits, and easements; of uses of the public land. Land use authorizations may allow occupancy, recreational residences and cabin sites, farming, manufacturing, outdoor recreation concessions, National Guard maneuvers, and many other uses.

LAND USE PLAN: A set of decisions that establish management direction for land within an administrative area as prescribed under the planning provisions of FLPMA; an assimilation of land-use-plan-level decisions developed through the planning process outlined in 43 CFR 1600, regardless of the scale at which the decisions were developed. The term includes both Resource Management Plans and Management Framework Plans.

LEASABLE MINERALS: Minerals whose extraction from federally managed land requires a lease and the payment of royalties. Leasable minerals include coal, oil and gas, oil shale and tar sands, potash, phosphate, sodium, and geothermal steam.

LEASE: An authorization to possess and use public lands for a fixed period of time.

LEAVE NO TRACE: A nationwide (and international) program to help visitors with their decisions when they travel and camp on America's public lands. The program strives to educate visitors about the nature of their recreational impacts as well as techniques to prevent and minimize such impacts.

LITTER: The uppermost layer of organic debris on the soil surface, essentially freshly fallen or slightly decomposed vegetal material.

LIVESTOCK/KIND OF LIVESTOCK: The species of domestic livestock, i.e., cattle, sheep, horses, burros, and goats.

LOCATABLE MINERALS: Minerals that may be acquired under the Mining Law of 1872, as amended.

LOCATION: The act of taking or appropriating a parcel of mineral land, including the posting of notices, the recording thereof when required, and marking the boundaries so they can be readily traced.

LUA AVOIDANCE AREA: Areas with sensitive resource values where minor linear and non-linear land use authorizations would be strongly discouraged and therefore "avoided."

LUA EXCLUSION AREAS: Areas with sensitive resource values where minor linear and non-linear land use authorizations would not be authorized.

MAINTENANCE (ROAD): From BLM 9100 Manual: The work required keeping a facility in such a condition that it may be continuously utilized at its original or designed capacity and efficiency, and for its intended purposes. Road or trail maintenance actions include (a) signage, (b) minor repairs, e.g. correction of drainage, erosion, or vegetation interference problems. Upon performance of condition assessment, maintenance could also be construed as (c) allowing road or trail to remain in present state for regular and continuous use.

MAINTENTANCE INTENSITIES: Maintenance intensities provide a range of consistent objectives and standards for the care and maintenance of BLM routes based on identified management objectives consistent with land-use planning resource management objectives. These intensities provide operational guidance to field personnel on the appropriate intensity, frequency, and type of maintenance activities that should be undertaken to keep the route in acceptable condition and provide guidance for the minimum standards of care for the annual maintenance of a route. Four levels of objectives and standards are provided which are labeled as follows: Level 0 (routes to remove from transportation system), Level 1 (low intensity) , Level 3 (moderate intensity) and Level 5 (high intensity).

MAJOR LINEAR LAND USE AUTHORIZATION: Land use authorizations that include transmission lines (consisting of 115 kV or higher), water and gas pipelines (greater than 10 inches in diameter), roads (wider than 200 feet), as well as significant canals.

MANAGEMENT ACTIONS/PRACTICES (FROM RANGELAND STANDARDS & GUIDES): Actions or practices that improve or maintain basic soil and vegetation resources. Rangeland practices typically consist of watershed treatments (planting, seeding, burning, rest, vegetation manipulation, grazing management) in an attempt to establish desired vegetation species or communities.

MANUAL VEGETATION TREATMENTS: The use of hand-operated power tools and hand tools to cut, clear, or prune herbaceous and woody plants. In manual treatments, workers cut plants above ground level; pull, grub, or dig out plant root systems to prevent later sprouting and regrowth; scalp at ground level or remove competing plants around desired vegetation; or place mulch around desired vegetation to limit the growth of competing vegetation. Manual vegetation treatments cause less ground disturbance and generally remove less vegetation than prescribed fire or mechanical treatments.

MECHANICAL VEGETATION TREATMENTS: The use of mechanical equipment to suppress, inhibit, or control herbaceous and woody vegetation. The BLM uses wheeled tractors, crawler-type tractors, mowers, or specially designed vehicles with attached implements for such treatments.

MINERAL ENTRY: The filing of a claim on public land to obtain the right to any minerals it may contain.

MINERALIZATION: Evidence of the presence of minerals.

MINERAL MATERIAL DISPOSAL: The disposal through sale or free use permit of sand, gravel, decorative rock, or other materials defined in 43 CFR 3600.

MINERAL MATERIALS: Materials such as common varieties of sand, stone, gravel, pumice, pumicite, and clay that are not obtainable under the mining or leasing laws but that can be acquired under the Mineral Materials Act of 1947, as amended.

MINING DISTRICT: An area, usually designated by name, with described or understood boundaries, where minerals are found and mined under rules prescribed by the miners, consistent with the Mining Law of 1872.

MINOR LINEAR LAND USE AUTHORIZATIONS: Land use authorizations which consist of transmission lines (consisting of 115 kV or less), water and gas pipelines (less than 10 inches in diameter), roads (less than 200 feet wide), and other minor utility systems.

MONITORING: The periodic observation and orderly collection of information to determine (1) the effects of resource management actions by tracking changing resource trends, needs, and conditions; and (2) the effectiveness of actions in meeting management objectives.

MOTORIZED TRAIL: A designated route that allows the use of motorcycles.

MULTIPLE USE: A combination of balanced and diverse resource uses that considers long-term needs for renewable and nonrenewable resources including recreation, wildlife, rangeland, timber, minerals, and watershed protection, along with scenic, scientific, and cultural values.

MULTIUSE UTILITY CORRIDOR: The BLM's preferred route for placing MAJOR LINEAR LAND USE AUTHORIZATION for utilities (i.e. pipelines and power lines) and transportation (i.e. highways and railroads).

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA): The federal law, effective January 1, 1970, that established a national policy for the environment and requires federal agencies to become

aware of the environmental ramifications of their proposed actions, to fully disclose to the public proposed federal actions and provide a mechanism for public input to federal decision-making, and to prepare environmental impact statements for every major action that would significantly affect the quality of the human environment.

NATIONAL HISTORIC PRESERVATION ACT OF 1966, AS AMENDED (NHPA): A federal statute that established a federal program to further the efforts of private agencies and individuals in preserving the Nation's historic and cultural foundations. The National Historic Preservation Act authorized the National Register of Historic Places, established the Advisory Council on Historic Preservation and a National Trust Fund to administer grants for historic preservation, and authorized the development of regulations to require federal agencies to consider the effects of federally assisted activities on properties included on or eligible for the National Register of Historic Places.

NATIONAL HISTORIC TRAIL: One of the three categories of national trails defined in the National Trails System Act of 1968 that can only be established by act of Congress and are administered by federal agencies, although part or all of the land base may be owned and managed by others. National historic trails are generally more than 100 miles long and follow as closely as possible and practicable the original trails or routes of travel of national historic significance. Their purpose is identifying and protecting the historic route and its remnants and artifacts for public use and enjoyment.

NATIONAL HISTORIC TRAIL CORRIDOR CONCEPT: Federal Trails Data Standards (FTDS) have been developed in order to describe several types of components of National Historic Trails. The codes NHT^1, NHT^2, and NHT^3 are the labels used to describe these aspects. The National Historic Trail corridor may be comprised of two or even three of these aspects.

NHT^1 is defined as the congressionally designated NHT route and any associated NHT heritage sites.

NHT^2 is defined as the historic route and sites where history occurred.

NHT^3 is defined as the recreation aspect of the National Trail: where the trail and/or sites can be used for interpretive and recreational purposes.

NATIONAL HISTORIC TRAIL MANAGEMENT AREA: This is an allocation based on the congressionally designated NHT route (NHT^1), BLM inventories, and GIS view shed analysis. A National Historic Trail Management Area encompasses the area identified along a portion of the National Historic Trail that meets certain criteria. The area must include a segment of National Historic Trail that qualifies as a "high potential route segment" and/ or has a "high potential historic site" within or along it (NHT^2). The width of the National Historic Trail Management Area is defined as an area extending to the visual horizon from the NHT corridor on either side.

NATIONAL MONUMENT: An area designated to protect objects of scientific and historic interest by public proclamation of the President under the Antiquities Act of 1906, or by Congress for historic landmarks, historic and prehistoric structures, or other objects of historic or scientific interest on public lands. Designation also provides for the management of these features and values.

NATIONAL REGISTER DISTRICT: A group of significant archaeological, historical, or architectural sites, within a defined geographic area, that is listed on the National Register of Historic Places.

NATIONAL REGISTER ELIGIBLE PROPERTIES: Cultural resource properties that meet the National Register criteria and have been determined eligible for nomination to the National Register of Historic Places because of their local, state, or national significance. Eligible properties generally are older than 50 years and have retained their integrity. They meet one or more of four criteria- (a) associated with events that have made a significant contribution to the broad patterns of our history; (b) associated with the lives of persons significant in our past; (c) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master; and (d) have yielded, or may be likely to yield, information important in prehistory or history.

NATIONAL REGISTER OF HISTORIC PLACES: The official list, established by the National Historic Preservation Act, of the Nation's cultural resources worthy of preservation. The National Register lists archeological, historic, and architectural properties (i.e. districts, sites, buildings, structures, and objects) nominated for their local, state, or national significance by state and federal agencies and approved by the National Register Staff. The NPS maintains the National Register.

NATIONAL WILD AND SCENIC RIVERS SYSTEM: A system of nationally designated rivers and their immediate environments that have outstanding scenic, recreational, geologic, fish and wildlife, historical, cultural, and other similar values and are preserved in a free-flowing condition. The system consists of three types of streams- (1) recreation—rivers or sections of rivers that are readily accessible by road or railroad and that may have some development along their shorelines and may have undergone some impoundments or diversion in the past, (2) scenic—rivers or sections of rivers free of impoundments with shorelines or watersheds still largely undeveloped but accessible in places by roads, and (3) wild—rivers or sections of rivers free of impoundments and generally inaccessible except by trails with watersheds or shorelines essentially primitive and waters unpolluted.

NATIVE DIVERSITY: The diversity of species that have evolved in a given place without human influence.

NATIVE SPECIES: A species that is part of an area's original flora and fauna.

NITROGEN OXIDES (OXIDES OF NITROGEN, NO_2): A general term for compounds of nitric oxide (NO), nitrogen dioxide (NO_2), and other oxides of nitrogen. Nitrogen oxides are typically created during combustion and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant and may have many adverse health effects.

NON-ATTAINMENT AREA: An area in which the level of a criteria air pollutant is higher than the level allowed by the federal standards. A single area may have acceptable levels of one criteria air pollutant but unacceptable levels of one or more other criteria air pollutants. Therefore, an area can be both attainment and nonattainment at the same time.

NON-FUNCTIONAL: Riparian-wetland areas are considered to be in nonfunctioning condition when they don't provide adequate vegetation, landform, or large woody debris to dissipate stream energy associated with high flows and thus are not reducing erosion, improving water quality, or other normal

characteristics of riparian areas. The absence of certain physical attributes, such as a flood plain where one should be, is indicators of nonfunctioning conditions.

NON-LINEAR LAND USE AUTHORIZATIONS: LUAs that are not linear in fashion and do not exceed five acres of total surface disturbance. These LUAs do not produce or store more than 100 MW.

NOXIOUS WEED: The Federal Noxious Weed Act, 1974 (PL 930629) defines a noxious weed as, "any living stage (including seeds and reproductive parts) of a parasitic or other plant of a kind which is of foreign origin, is new to or not widely prevalent in the US, and can directly or indirectly injure crops, other useful plants, livestock, poultry or other interests of agriculture, including irrigation, navigation, fish and wildlife resources, or the public health."

OBJECTIVES: The planned results to be achieved within a stated time period. Objectives are subordinate to goals, narrower in scope, and shorter in range. Objectives must specify time periods for completion, and products or achievements that are measurable. See also GOAL.

OBLIGATE: Essential, necessary, unable to exist in any other state, mode, or relationship.

OFF-HIGHWAY VEHICLE (OHV): Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: (1) any non-amphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; (4) vehicles in official use; and (5) any combat or combat support vehicle when used for national defense.

OFF ROAD: Cross country travel between designated routes.

ON ROAD: Travelling on designated routes.

PALEONTOLOGICAL RESOURCES: The remains of plants and animals preserved in soils and sedimentary rock. Paleontological resources are important for understanding past environments, environmental change, and the evolution of life.

PARTICULATE MATTER: Fine liquid or solid particles suspended in the air and consisting of dust, smoke, mist, fumes, and compounds containing sulfur, nitrogen, and metals. Also see $PM_{2.5}$ PARTICULATES and PM_{10} PARTICULATES.

PASSAGE SETTING: Passage setting provides a motorized travel corridor traversing the Back Country setting. This corridor is 200 feet wide (100 feet each side), centered on a motorized travel route designated for public use, and is available for management infrastructure in response to resource concerns and visitor demand. The lands are generally natural in appearance and may see minor to moderate alterations over the life of the land use plan due to land use authorizations and BLM management actions.

PASTURE: A grazing area that is separated from other areas by fencing or natural barriers.

PERENNIAL PLANT: A plant that has a life cycle of three or more years. Also see ANNUAL PLANT.

PERENNIAL STREAM: A stream that flows from source to mouth throughout the year; a stream that normally has water in its channel at all times.

PERMIT: A short-term revocable authorization to use public lands for specified purposes.

PERMITTED USE: The forage allocated by, or under the guidance of, an applicable resource-management plan for livestock grazing in an allotment under a permit or lease and is expressed in animal unit months (AUMs).

PERMITTEE: A person or company permitted to graze livestock or conduct commercial recreation on public land.

PLANNING CRITERIA: The standards, rules, and other factors developed by managers and interdisciplinary teams for their use in forming judgments about decision making, analysis and data collection during planning. Planning criteria streamline and simplify the resource management planning actions.

PLANT SUCCESSION: The process of vegetation development by which an area becomes successively occupied by different plant communities of higher ecological order.

PLANT VIGOR: The relative wellbeing and health of a plant as reflected by its ability to manufacture enough food for growth and maintenance.

PM_{10} PARTICULATES: A criteria air pollutant consisting of small particles with an aerodynamic diameter of 10 microns or less. Their size allows them to enter the air sacs deep within the lungs where they may be deposited in have adverse health effects. These particles include dust, soot, and other tiny bits of solid materials in the air.

$PM_{2.5}$ PARTICULATES: Tiny particles with an aerodynamic diameter of 2.5 microns or less. These particles penetrate most deeply into the lungs.

POPULATION: A group of interbreeding organisms of the same kind occupying a particular space; a group of individuals of a species living in a certain area.

POTENTIAL NATURAL COMMUNITY (PNC): The stable biotic community that would become established on an ecological site if all succession stages were completed without human interference under present environmental conditions. The PNC is the vegetation community best adapted to fully use the resources of an ecological site.

PRESCRIBED FIRE (BURNING): The planned applying of fire to rangeland vegetation and fuels under specified conditions of fuels, weather, and other variables to allow the fire to remain in a predetermined area to achieve such site-specific objectives as controlling certain plant species; enhancing growth, reproduction, or vigor of plant species; managing fuel loads; and managing vegetation community types.

PRIMITIVE RECREATION: Recreation that provides opportunities for isolation from the evidence of humans, a vastness of scale, feeling a part of the natural environment, having a high degree of challenge and risk, and using outdoor skills. Primitive recreation is characterized by meeting nature on its own terms, without comfort or convenience of facilities.

PRIMITIVE ROAD: A linear route managed for use by four-wheel drive or high-clearance vehicles. Primitive roads do not normally meet any BLM road design standards.

PRIMITIVE ROUTE: Any transportation linear feature located within areas that have been identified as having wilderness characteristics and not meeting the wilderness inventory road definition.

PRIORITY HABITAT: Includes fish and wildlife habitats requiring protective measures and/or management guidelines to ensure habitat availability.

PRIORITY WILDLIFE SPECIES: Includes fish and wildlife species requiring protective measures and/or management guidelines to ensure their perpetuation. Moreover, priority wildlife species includes State Endangered, Threatened, Sensitive, and Candidate species; animal aggregations considered vulnerable; and those species of recreational, commercial, or tribal importance that are vulnerable.

PROPERLY FUNCTIONING CONDITION: Riparian-wetland areas are functioning properly when enough vegetation, landform, or large woody debris is present to dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality; filter sediment, capture bed-load, and aid floodplain development; improve floodwater retention and groundwater recharge; develop root masses that stabilize stream banks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity. The functioning condition of riparian-wetland areas is influenced by geomorphic features, soil, water, and vegetation.

Uplands function properly when the existing vegetation and ground cover maintain soil conditions capable of sustaining natural biotic communities. The functioning condition of uplands is influenced by geographic features, soil, water, and vegetation.

PUBLIC LANDS: Land or interest in land owned by the United States and administered by the Secretary of the Interior through the BLM without regard to how the United States acquired ownership, except lands located on the Outer Continental Shelf, and land held for the benefit of Indians, Aleuts, and Eskimos.

RANGE IMPROVEMENT: An authorized physical modification or treatment which is designed to improve production of forage; change vegetation composition; control patterns of use; provide water; stabilize soil and water conditions; restore, protect and improve the condition of rangeland ecosystems to benefit livestock, wild horses and burros, and fish and wildlife. Range improvements may be structural or nonstructural. A structural improvement requires placement or construction to facilitate the management or control the distribution and movement of animals. Such improvements may include fences, wells, troughs, reservoirs, pipelines, and cattle guards. Nonstructural improvements consist of practices or treatments that improve resource conditions. Such improvements include seedings;

chemical, mechanical, and biological plant control; prescribed burning; water spreaders; pitting; chiseling; and contour furrowing.

RANGELAND: A kind of land on which the native vegetation, climax, or natural potential consists predominately of grasses, grass like plants, forbs, or shrubs. Rangeland includes lands revegetated naturally or artificially to provide a plant cover that is managed like native vegetation. Rangelands may consist of natural grasslands, savannas, shrub lands, moist deserts, tundra, alpine communities, coastal marshes, and wet meadows.

RANGELAND STUDIES: Any study methods accepted by the authorized officer for collecting data on actual use, utilization, climatic conditions, other special events, and trends to determine whether management objectives are being met.

RAPTORS: Birds of prey.

RECORD OF DECISION: A document signed by a responsible official recording a decision that was preceded by the preparing of an environmental impact statement.

RECREATIONAL TARGET SHOOTING: The discharge of any firearm for any lawful, recreational purpose other than the lawful taking of a game animal. Recreational target shooting does not include firearms use employed in accordance with state hunting regulations and policy regarding recreational target shooting does not apply to hunters in pursuit of game with firearms that are being employed in accordance with such regulations.

RECREATION AND PUBLIC PURPOSES ACT of 1926 (44 Stat. 741, as amended; 43 USC 869 et seq.): An act of Congress that allows lease or acquisition of public land to be used for recreation or public purposes by local government entities (county or city governments) and nonprofit organizations.

RECREATION EXPERIENCES: Psychological outcomes realized either by recreation-tourism participants as a direct result of their onsite leisure engagements and recreation-tourism activity participation or by non-participating community residents as a result of their interaction with visitors and guests within their community and/or interaction with the BLM and other public and private recreation-tourism providers and their actions.

RECREATION MANAGEMENT ZONES (RMZs): Subunits within a special recreation management area or ERMA managed for distinctly different recreation products. Recreation products are comprised of recreation opportunities, the natural resource and community settings within which they occur, and the administrative and service environment created by all affecting recreation-tourism providers, within which recreation participation occurs.

RECREATION NICHE: The place or position within the strategically targeted recreation-tourism market for each special recreation management area that is most suitable (i.e., capable of producing certain specific kinds of recreation opportunities) and appropriate (i.e., most responsive to identified visitor or resident customers), given available supply and current demand, for the production of specific recreation opportunities and the sustainable maintenance of accompanying natural resource and/or community setting character.

RECREATION OPPORTUNITIES: Favorable circumstances enabling visitors' engagement in a leisure activity to realize immediate psychological experiences and attain more lasting, value-added beneficial outcomes.

RECREATION OPPORTUNITY SPECTRUM (ROS): One of the existing tools for classifying recreation environments (existing and desired) along a continuum ranging from primitive, low-use, and inconspicuous administration to urban, high-use, and a highly visible administrative presence. This continuum recognizes variation among various components of any landscape's physical, social and administrative attributes; and resulting descriptions (of existing conditions) and prescriptions (of desired future conditions) define recreation setting character. Descriptions of settings follow:

Primitive:

- Remoteness: An area designated by a line generally 3 miles from all open roads, railroads, and motorized trails.
- Evidence of Humans: Setting is essentially an unmodified natural environment. Evidence of humans would be unnoticed by an observer wandering through the area.
- Evidence of trails is acceptable but should not exceed standard to carry expected use.
- Structures are extremely rare.
- Social: Usually less than six parties per day encountered on trails and less than three parties visible at campsites.
- Managerial: Onsite regimentation is low with controls primarily offsite.

Semi-primitive Non-motorized:

- Remoteness: An area designated by a line generally ½ mile from any road, railroad, or trail open to public motorized use. (The guideline for applying the ½ mile criterion is to use ½ mile except where topographic or physical features closer than ½ miles adequately screen out the sights and sounds of humans and make access more difficult and slower. For example, if a ridge is ¼ mile from the road, use the ridge instead of the ½ mile.)
- Any roads, railroads, or trails within the semi-primitive non-motorized areas will have the following characteristics:
- Closed to public motorized use, and
- Are reclaimed, or in the process of reclaiming (when reclaiming will harmonize with the natural appearing environment). Some examples are old logging roads, old railroad beds, old access routes to abandoned campsites, temporary roads, and gated roads that are used for occasional administrative access.
- Evidence of Humans: Natural setting may have subtle modifications that would be noticed but not draw the attention of an observer wandering through the area.
- Little or no evidence of primitive roads and the motorized use of trails and primitive roads.
- Structures are rare and isolated.
- Social: Usually 6-15 parties per day encountered on trails and six or fewer parties visible from campsite.
- Managerial: Onsite regimentation and controls present but subtle.

Semi-Primitive Motorized:

- Remoteness: An area designed by a line generally ½ mile from open better than primitive roads. (The guideline for applying the ½ mile criterion is to consistently use ½ mile where topographic or physical features closer than ½ mile adequately screen out the sights and sounds of humans, e.g. a ridge ¼ mile from the road).
- Contains open primitive roads that are not maintained for the use of standard passenger-type vehicles, normally OHVs and high-clearance vehicles, e.g. an old pickup with high clearance. These open roads are generally tracks, ruts, or rocky-rough surface and upgraded and not drained. The roadbeds and cuts are mostly vegetated with grass or native material unless they are too rocky for vegetation. The roads harmonize with the natural environment. Examples include old logging roads from before specified road years, old revegetated railroad beds, old access roads to abandoned home-sites, temporary logging roads that are revegetated, and low standard administrative roads (normally used for access to wildlife openings).
- Evidence of Humans: Natural setting may have moderately dominant alterations but would not draw the attention of motorized observers on trails and primitive roads within the area. Any closed improved roads must be managed to revegetate and harmonize with the natural environment.
- Strong evidence of primitive roads and the motorized use of trails and primitive roads.
- Structures are rare and isolated.
- Social: Low to moderate contact frequency.
- Managerial: Onsite regimentation and controls present but subtle.

Roaded Natural:

- Remoteness: No criteria.
- Evidence of Humans: Natural setting may have modifications, which range from being easily noticed to strongly dominant to observers within the area. But from sensitive travel routes and use areas these alterations would remain unnoticed or visually subordinate.
- There is strong evidence of designed roads, highways, or both.
- Structures are generally scattered, remaining visually subordinate or unnoticed to the sensitive travel route observer. Structures may include utility corridors or microwave installations.
- Social: Frequency of contact is- Moderate to High on roads; Low to Moderate on trails and away from roads.
- Managerial: Onsite regimentation and controls are noticeable but harmonize with the natural environment.

Rural:

- Remoteness: No criteria.
- Evidence of Humans: Natural setting is culturally modified to the point that it is dominant to the sensitive travel route observer. This setting may include pastoral, agricultural, intensively managed wild landscapes, or utility corridors. Pedestrian or other slow-moving observers are constantly within view of culturally changed landscape.
- There is strong evidence of designed roads, highways, or both.

- Structures are readily apparent and may range from scattered to small dominant clusters, including utility corridors, farm buildings, microwave installations, and recreation sites.
- Social: Frequency of contact is: Moderate to High developed sites, on roads and trails, and water surfaces; Moderate away from developed sites.
- Managerial: Regimentation and controls obvious and numerous, largely in harmony with the human-made environment.

Urban:

- Remoteness: No criteria.
- Evidence of Humans: Setting is strongly structure dominated. Natural or natural appearing elements may play an important role but be visually subordinate. Pedestrian and other slow moving observers are constantly within view of artificial enclosure of spaces.
- There is strong evidence of designed roads and/or highways and streets.
- Structures and structure complexes are dominant.
- Social: Large numbers of users onsite and in nearby areas.
- Managerial: Regimentation and controls obvious and numerous.

RECRUITMENT: The increase in population caused by natural reproduction or immigration.

RENEWABLE ENERGY: Energy which comes from natural resources such as sunlight, wind, rain, tides, and geothermal heat, which are renewable (naturally replenished).

RESOURCE ADVISORY COUNCIL (RAC): A citizen-based group of 10 to 15 members chartered under the Federal Advisory Committee Act and appointed by the secretary of the interior to forward advice on public land planning and management issues to the BLM. Council membership reflects a balance of various interests concerned with the management of the public lands and users of the public lands.

RESOURCE MANAGEMENT PLAN (RMP): The Federal Land Policy and Management Act (43 CFR 1601.0-5 (k)) details the form and contents of an RMP. It generally establishes that the document will provide guidance on:

- Land areas for limited, restricted or exclusive use; designation, including ACEC designation; and transfer from Bureau of Land Management Administration;
- Allowable resource uses (either singly or in combination) and related levels of production or use to be maintained;
- Resource condition goals and objectives to be attained;
- Program constraints and general management practices needed to achieve the above items;
- Need for an area to be covered by more detailed and specific plans;
- Support action, including such measures as resource protection, access development, realty action, cadastral survey, etc., as necessary to achieve the above;
- General implementation sequences, where carrying out a planned action is dependent upon prior accomplishment of another planned action; and
- Intervals and standards for monitoring and evaluating the plan to determine the effectiveness of the plan and the need for amendment or revision.

- It is not a final implementation decision on actions which require further specific plans, process steps, or decisions under specific provisions of law and regulations.

REST: See GRAZING REST.

RESTORATION (CULTURAL RESOURCE): The process of accurately reestablishing the form and details of a property or portion of a property together with its setting, as it appeared in a particular period of time. Restoration may involve removing later work that is not in itself significant and replacing missing original work. Also see STABILIZATION (CULTURAL RESOURCE).

REST-ROTATION GRAZING: A grazing system in which one part of the range is ungrazed for an entire grazing year or longer while other parts are grazed for a portion or all of a growing season. Distinguished from deferment, in which non-use occurs only during part of the grazing season (see DEFERMENT).

RIGHT-OF-WAY: A permit or easement that authorizes the use of lands for certain specified purposes, commonly for pipelines, roads, telephone lines, or power lines.

RIPARIAN: Pertaining to or situated on or along the bank of streams, lakes, and reservoirs.

RIPARIAN AREA: A form of wetland transition between permanently saturated wetlands and upland areas. Riparian areas exhibit vegetation or physical characteristics that reflect the influence of permanent surface or subsurface water. Typical riparian areas include lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels. Excluded are ephemeral streams or washes that lack vegetation and depend on free water in the soil.

ROAD (Travel Management definition): A linear route declared a road by the owner, managed for used by low-clearance vehicles having four or more wheels, and maintained for regular and continuous use.

ROAD (Wilderness Inventory definition): A route that has been improved and maintained by mechanical means to insure relatively regular and continuous use. Refer to BLM IM 2011-154, Attachment 1 for additional description of this definition.

ROADSIDE: A general term denoting the area adjoining the outer edge of the road.

ROTATIONAL GRAZING: A grazing system that involves scheduled movement of grazing animals from one pasture to another. Utilizing rotational grazing can improve livestock distribution while incorporating rest period for new forage.

ROUTE: represents a group or set of roads, trails, and primitive roads that represents the BLM transportation system. Generically, components of the transportation system are described as "routes".

RUNOFF: Precipitation, snow melt or irrigation water that appears in uncontrolled surface streams or rivers.

SALABLE MINERALS: Common variety minerals on public lands, such as sand and gravel, which are used mainly for construction and are disposed of by sales or special permits to local governments.

SCIENTIFIC DATA RECOVERY: See CULTURAL RESOURCE DATA RECOVERY.

SCOPING: An early and open process for determining the scope of issues to be addressed in an environmental impact statement and the significant issues related to a proposed action.

SEASONAL GRAZING: A grazing system that allows livestock grazing on a particular area for only part of the year.

SEASON OF USE: The time period when livestock grazing is permitted on a given range area as specified in the grazing permit.

SECTION: 640 acres, 1 mile square.

SECTION 2920 PERMIT: Revocable authorizations, for up to three years to permit land uses that involve either little or no land improvement or construction, or investment which can be amortized within the terms of the permit. A permit conveys no possessory interest. The authorized officer may renew it at his/her discretion or revoke it in accordance with its terms or the provisions of 43 CFR 2920.9-3. There are no limitations on the amount of land that maybe included in a permit; however, the area should be limited to the size justified.

SECTION 7 CONSULTATION: The requirement of Section 7 of the ESA that all federal agencies consult with the US Fish and Wildlife Service or the National Marine Fisheries Service if a proposed action might affect a federally listed species or its critical habitat.

SEDIMENT: Solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water. Sediment includes chemical and biochemical precipitates and decomposed organic material such as humus.

SEDIMENTARY ROCKS: Rocks, such as sandstone, limestone, and shale, that are formed from sediments or transported fragments deposited in water.

SEDIMENTATION: The process or action of depositing sediment.

SEDIMENT LOAD (SEDIMENT DISCHARGE): The amount of sediment, measured in dry weight or by volume, which is transported through a stream cross-section in a given time. Sediment load consists of sediment suspended in water and sediment that moves by sliding, rolling, or bounding on or near the streambed.

SEDIMENT TRANSPORT: The movement of mineral and organic solid materials in a stream.

SEDIMENT YIELD: The amount of sediment removed from a watershed over a specified period, usually expressed as tons, acre-feet, or cubic yards of sediment per unit of drainage area per year.

SEEPS: Wet areas, normally not flowing, arising from an underground water source.

SENSITIVE SOILS: Soil types prone to erosion, such as from surface disturbing activities and vehicle use, and have a low soil loss tolerance rate. A tolerable soil loss is the maximum annual amount of soil, which can be removed before the long term natural soil productivity is adversely affected based on the Universal Soil Loss Equation (USLE) (Ontario Ministry of Agriculture, Food and Rural Affairs web site, http://www.omafra.gov.on.ca/english/engineer/facts/00-001.htm last visited 2/21/2012).

SHOULDER: The portion of the roadway contiguous to the travel way for accommodation of stopped vehicles.

SIKES ACT OF 1974: A federal law that promoted federal-state cooperation in managing wildlife habitats on both BLM and Forest Service lands. The act requires BLM to work with state wildlife agencies to plan the development and maintenance of wildlife habitats and has as its main tool the habitat management plan.

SOIL ERODIBILITY: The predisposition of a particular soil to be transported by wind or water if it is disturbed and exposed to the elements.

SOIL INFILTRATION: The ability of soil to absorb moisture that falls on it as precipitation.

SOIL MOISTURE STORAGE: The water content stored in a soil.

SOIL PRODUCTIVITY: The capacity of a soil in its normal environment to produce a specified plant or sequence of plants under a specified system of management.

SOIL STABILITY: A qualitative term used to describe a soil's resistance to change. Soil stability is determined by intrinsic properties such as aspect, depth, elevation, organic matter content, parent material, slope, structure, texture, and vegetation.

SOIL STRUCTURE: The physical constitution of soil material as expressed by size, shape, and the degree of development of primary soil particles and voids into naturally or artificially formed structural units.

SPECIAL CULTURAL RESOURCE MANAGEMENT AREA (SCRMA): An area containing cultural resources that are of special importance for public use, scientific use, traditional use or other uses as defined in BLM Manual 8110.4.

SPECIAL RECREATION MANAGEMENT AREAS (SRMAs): A public lands unit identified in land use plans to direct recreation funding and personnel to fulfill commitments made to provide specific, structured recreation opportunities (i.e., activity, experience, and benefit opportunities). Both land use plan decisions and subsequent implementing actions for recreation in each special recreation management area are geared to a strategically identified primary market: destination, community, or are undeveloped.

SPECIAL RECREATION PERMIT (SRP): An authorization that allows for specific nonexclusive permitted recreational uses of the public lands and related waters. SRPs are issued to control visitor use, protect recreational and natural resources, provide for the health and safety of visitors, and accommodate commercial recreational uses.

SRP TYPES AND DEFINITIONS:

Commercial Use: The activity, service, or use is commercial if:

- Any person, group, or organization makes or attempts to make a profit, receive money, amortize equipment, or obtain goods or services, as compensation from participants in recreational activities occurring on public lands led, sponsored, or organized by that person, group, or organization;
- Anyone collects a fee or receives other compensation that is not strictly a sharing of actual expenses, or exceeds actual expenses, incurred for the purposes of the activity, service, or use;
- There is paid public advertising to seek participants; or
- Participants pay for a duty of care or an expectation of safety.

Competitive Use: Any organized, sanctioned, or structured use, event, or activity on public land in which two or more contestants compete and either or both of the following elements apply:

- Participants register, enter, or complete an application for the event;
- A predetermined course or area is designated;
- Or, one or more individuals contesting an established record such as for speed or endurance.

Organized Group Activity and Event Use: A structured, ordered, consolidated, or scheduled event on, or occupation of, public lands for the purpose of recreational use that is not commercial or competitive.

Vending: The sale of goods or services, not from a permanent structure, associated with recreation on the public lands or related waters, such as food, beverages, clothing, firewood, souvenirs, filming or photographs (video or still), or equipment repairs.

SPECIAL STATUS SPECIES: Plant or animal species listed as threatened, endangered, candidate, or sensitive by federal or state governments. By policy, the BLM has certain responsibilities for all special status species. BLM sensitive species are not covered by any other "safety net" of status designation; therefore, the Arizona BLM Sensitive Species List does not include species that are already federally listed or state listed.

SPLIT-ESTATE: Land whose surface rights and mineral rights are owned by different entities.

STABILIZATION (CULTURAL RESOURCE): Protective techniques usually applied to structures and ruins to keep them in their existing condition, prevent further deterioration, and provide structural safety without significant rebuilding. Capping mud-mortared masonry walls with concrete mortar is an example of a stabilization technique. Also see RESTORATION (CULTURAL RESOURCE).

STABILIZATION (SOIL): Chemical or mechanical treatment to increase or maintain the stability of a mass of soil or otherwise improve its engineering properties.

STAGING AREA: An area where participants in an activity gather and make final preparations for the activity.

STANDARDS AND GUIDELINES FOR RANGELAND HEALTH: See ARIZONA STANDARDS FOR RANGELAND HEALTH AND GUIDELINES FOR GRAZING ADMINISTRATION.

STANDARD TERMS AND CONDITIONS: Areas may be open to leasing or available for permitted uses with no specific management decisions defined in a Resource Management Plan; however, these areas are subject to lease or permit terms and conditions as defined on the lease form (Form 3100-11, Offer to Lease and Lease for Oil and Gas; and Form 3200-24, Offer to Lease and Lease for Geothermal Resources) or land use authorization permit.

STATE HISTORIC PRESERVATION OFFICER (SHPO): The official within and authorized by each state at the request of the Secretary of the Interior to act as liaison for the National Historic Preservation Act. Also see NATIONAL HISTORIC PRESERVATION ACT OF 1966, AS AMENDED (NHPA).

STIPULATION: A condition of lease or permit issuance that provides a level of protection for other resource values or land uses by restricting surface disturbing activities during certain times or locations or to avoid unacceptable impacts, to an extent greater than standard lease terms or regulations. A stipulation is an enforceable term of the lease contract or land use authorization, supersedes any inconsistent provisions of the standard lease form, and is attached to and made a part of the lease or permit. Stipulations further implement BLM's regulatory authority to protect resources or resource values. Stipulations are developed through the land use planning process.

STOCKING RATE: The number of specific kinds and classes of animals grazing or using a unit of land for a specific time period. Stocking rates may be expressed as a ratio, such as of animal units/section, acres/animal unit, or acres/animal unit month.

STOCK TANK (POND): A water impoundment created by building a dam, digging a depression, or both, to provide water for livestock or wildlife.

STREAM BANK: The portion of a stream channel that restricts the sideward movement of water at normal water levels. The stream bank's gradient often exceeds 45° and exhibits a distinct break in slope from the stream bottom.

STREAM BANK STABILITY: A stream bank's relative resistance to erosion, which is measured as a percentage of alteration to stream banks.

STRUCTURAL DIVERSITY: The diversity of the composition, abundance, spacing, and other attributes of plants in a community.

SUBSURFACE: Of or pertaining to rock or mineral deposits which generally are found below the ground surface.

SUCCESSION: See PLANT SUCCESSION.

SUPPLEMENTAL WILDERNESS VALUES: Resources not required for an area to be designated a wilderness but that are considered in assessing an area's wilderness potential. Such values include ecological, geologic, and other features of scientific, educational, scenic, or historical value.

SURFACE-DISTURBING ACTIVITY: Surface-disturbing activities are those that normally result in more than negligible disturbance to public lands and accelerate the natural erosive process. Surface disturbance may, but does not always, require reclamation. These activities normally involve use or occupancy of the surface, cause disturbance to soils and vegetation, and are usually caused by motorized or mechanical actions. They include, but are not limited to: the use of mechanized earth-moving equipment; truck-mounted drilling and seismic exploration equipment; off-road vehicle travel in areas designated as limited or closed to off-road vehicle use; vegetation treatments; construction of facilities such as power lines, pipelines, oil and gas wells; recreation sites, improvements for range and wildlife; new road construction; and use of pyrotechnics and explosives. Surface disturbance is not normally caused by casual-use activities. Activities that are not considered surface-disturbing include, but are not limited to: livestock grazing, cross-country hiking, minimum impact filming, and vehicular travel on designated routes.

TAKE: As defined by the ESA, "to harass, harm, pursue, hunt, shoot, wound, kill, capture, or collect, or attempt to engage in any such conduct."

TARGET SPECIES: Plant species to be reduced or eliminated by a vegetation treatment.

TEMPORARY NON-USE: The authorized withholding, on an annual basis, of all or a portion of permitted livestock use in response to a request of the permittee or lessee.

TERMS AND CONDITIONS: Stipulations contained in livestock grazing permits and leases as determined by the authorized officer to be appropriate to achieve management and resource condition objectives for the public lands and other lands administered by BLM and to achieve standards for rangeland health and ensure conformance with guidelines for grazing administration. See also STANDARD TERMS AND CONDITIONS.

THREATENED SPECIES: Any plant or animal species likely to become endangered within the foreseeable future throughout all or a part of its range and designated by the U.S. Fish and Wildlife Service under the ESA. Also see ENDANGERED SPECIES.

TINAJA: A small pool in a rocky hollow, usually along an ephemeral water course where it runs through exposed bedrock that holds water into the dry season.

TRAIL: (Interagency definition) Linear route managed for human powered, stock, or off highway vehicle forms of recreation or for historic or heritage values. Trails are not generally managed for use by four wheel drive or high clearance vehicles.

Sonoran Desert National Monument Trail Definition: Linear route managed for foot, horseback, and pack stock. Motorized and mechanized forms of travel are prohibited, except for wheeled game carriers and handcarts.

Designated Wilderness Area Trail Definition: Linear route managed for travel by foot, horseback and, pack stock. Mechanized forms of travel (e.g. mountain bikes, wheeled game carriers, handcarts, and hang gliders) are prohibited in wilderness areas. Motorized travel is prohibited.

TRAILHEAD: The terminus of a hiking, horse, or bicycle trail accessible by motor vehicle and sometimes having parking, signs, a visitor register, and camping and sanitary facilities.

TRANSPORTATION SYSTEM: Represents the sum of the BLM's recognized inventory of linear features (roads, primitive roads, and trails) formally recognized, designated, and approved.

TRAVEL MANAGEMENT AREAS (TMA): The TMAs are polygons or delineated areas where travel management (either motorized or non-motorized) needs particular focus. These areas may be designated as open, closed, or limited to motorized use and will typically have an identified or designated network of roads, trails, ways, and other routes that provide for public access and travel across the planning area. All designated travel routes within TMAs should have a clearly identified need and purpose as well as clearly defined activity types, modes of travel, and seasons or times for allowable access or other limitations.

TREAD LIGHTLY!™: A not-for-profit organization whose mission is to increase awareness of ways to enjoy the great outdoors while minimizing human impacts.

TREND: The direction of change, over time, either toward or away from desired management objectives.

UNAUTHORIZED USE: Any use of the public lands not authorized or permitted.

UNDERSTORY: Plants growing under the canopy of other plants. Understory usually refers to grasses, forbs, and low shrubs under a tree or brush canopy.

UNDEVELOPED RECREATION-TOURISM MARKET: National, regional, and/or local recreation-tourism visitors, communities, or other constituents who value public lands for the distinctive kinds of dispersed recreation produced by the vast size and largely open, undeveloped character of their recreation settings. Major investments in facilities are excluded within special recreation management areas where the BLM's strategy is to target demonstrated undeveloped recreation-tourism market demand. Here, recreation management actions are geared toward meeting primary recreation-tourism market demand to sustain distinctive recreation setting characteristics; however, major investments in visitor services are authorized both to sustain those distinctive setting characteristics and to maintain visitor freedom to choose where to go and what to do—all in response to demonstrated demand for undeveloped recreation.

UPLANDS: Lands at higher elevations than the alluvial plain or low stream terrace; all lands outside the riparian-wetland and aquatic zones.

URBAN INTERFACE (WILDLAND-URBAN INTERFACE): The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetation. This interface creates conflicts and complicates fighting wildfires and conducting prescribed burns, as well as all other natural resource management activities.

USABLE FORAGE: That portion of the forage that can be grazed without damage to the basic resources; may vary with season of use, species, and associated species.

UTILITY CORRIDOR: The BLM's preferred route for placing land use authorizations for major linear utilities (i.e. pipelines and power lines). See also DESIGNATED MULTIUSE UTILITY CORRIDOR.

UTILITY-SCALE RENEWABLE ENERGY DEVELOPMENT: Utility-scale renewable energy facilities (managed as a land use authorization), where the proponent has signed a purchase power agreement with a utility company to sell power. These facilities typically produce more than 100 MW.

UTILIZATION (FORAGE): The proportion of the current year's forage consumed or destroyed by grazing animals. Utilization is usually expressed as a percentage.

VALID EXISTING RIGHTS: Locatable mineral development rights or land use authorizations that existed when the Federal Land Policy and Management Act (FLPMA) was enacted on October 21, 1976. Some areas are segregated from entry and location under the Mining Law to protect certain values or allow certain uses. Mining claims that existed as of the effective date of the segregation may still be valid if they can meet the test of discovery of a valuable mineral required under the Mining Law. Determining the validity of mining claims located on segregated lands requires BLM to conduct a valid existing rights determination.

VANDALISM (CULTURAL RESOURCE): Malicious damage or the unauthorized collecting, excavating, or defacing of cultural resources. Section 6 of the Archaeological Resources Protection Act states that "no person may excavate, remove, damage, or otherwise alter or deface any archaeological resource located on public lands or Indian lands…unless such activity is pursuant to a permit issued under section 4 of this Act."

VEGETATION STRUCTURE: The composition of an area's vegetation--plant species, growth forms, abundance, vegetation types, and spatial arrangement.

VEGETATION TREATMENTS: Treatments that improve vegetation condition or production. Such treatments may include seedings; prescribed burning; or chemical, mechanical, and biological plant control.

VEGETATION TYPE: A plant community with distinguishable characteristics.

VIABILITY: The capability of living, developing, growing, or germinating under favorable conditions.

VIEWSHED: The entire area visible from a viewpoint.

VISITOR DAY: 12 visitor hours, which may be aggregated continuously, intermittently, or simultaneously by one or more people.

VISUAL ASPECT: The visual first impression of vegetation at a particular time or seen from a specific point.

VISUAL RESOURCE MANAGEMENT (VRM): The planning, design, and implementing of management objectives to provide acceptable levels of visual impacts for all BLM resource management activities.

VISUAL RESOURCE MANAGEMENT (VRM) CLASSES: Categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. There are four classes. Each class has an objective which prescribes the amount of change allowed in the characteristic landscape.

Class I: (Preservation) provides for natural, ecological changes only. This class includes wilderness areas, some natural areas, some wild and scenic rivers, and other similar sites where landscape modification should be restricted.

Class II: (Retention of the landscape character) includes areas where changes in any of the basic elements (form, line, color, or texture) caused by management activities should not be evident in the characteristic landscape.

Class III: (Partial retention of the landscape character) includes areas where changes in the basic elements caused by management activities may be evident in the characteristic landscape. But the changes should remain subordinate to the existing landscape character.

Class IV: (Modification of the landscape character) includes areas where changes may subordinate the original composition and character. But the changes should reflect what could be a natural occurrence in the characteristic landscape.

WATER DEVELOPMENTS: Construction of artificial, or modification of natural water sources to provide reliable, accessible water for livestock, wildlife, or people.

WATER QUALITY: Term used to describe the chemical, physical, and biological characteristics of water in respect to its suitability for a particular purpose.

WATER RIGHT: The right to use a specific quantity of water occurring in a water supply, on a specific time schedule, at a specific place and putting it to a specific beneficial use.

WATERSHED (CATCHMENT): A topographically delineated area that is drained by a stream system, that is, the total land area above some point on a stream or river that drains water past that point. The watershed is a hydrologic unit often used as a physical-biological unit and a socioeconomic-political unit for planning and managing natural resources.

WATERSHED CONDITION (WATERSHED HEALTH): The comparison of watershed processes to normal or expected measurements of properties such as soil cover, erosion rate, runoff rate, and groundwater table elevation; an assessment or categorization of an area by erosion conditions, erosion hazards, and the soil moisture/temperature regime.

WATERSHED FUNCTION: The combination of processes attributed to watersheds as part of the hydrologic cycle, including interception of rain by plants, rocks, and litter; surface storage by the soil; groundwater storage; stream channel storage; soil evaporation; plant transpiration; and runoff. These processes affect the following properties of the watershed: runoff rate, water infiltration rate, soil building rate, soil erosion rate, groundwater recharge rate, groundwater discharge rate, water table elevation, and surface water discharge. These properties in turn affect plant communities through soil attributes, including soil parent material, soil moisture, and nutrients; stream and rivers through flooding

duration and magnitude, as well as sediment load, which structures the dimension, pattern, and profile of channels; and lakes and reservoirs through sedimentation and nutrient input.

WEED: Any plant that interferes with management objectives. A weed may be native or non-native, invasive or passive, or non-noxious.

WETLANDS: An area that is inundated or saturated by surface or ground water often and long enough to support and that under normal circumstances supports a prevalence of vegetation typically adapted for life in saturated soil. Wetlands include marshes, shallows, swamps, lake shores, bogs, muskegs, wet meadows, estuaries, cienegas, and riparian areas.

WILD AND SCENIC RIVER CORRIDOR: See NATIONAL WILD AND SCENIC RIVERS SYSTEM.

WILDCAT DUMPSITE: A non-permitted dumping on federally managed land.

WILDERNESS CHARACTERISTICS: Attributes defined in Section 2(c) of the Wilderness Act, including the area's size, its apparent naturalness, and its outstanding opportunities for solitude or a primitive and unconfined type of recreation. Wilderness characteristics may also include supplemental values such as ecological, geological, or other features of scientific, educational, scenic, or historical value that may be present but are not required.

Naturalness: The degree to which an area generally appears to have been affected primarily by the forces of nature with the imprint of people's work substantially unnoticeable.

Solitude: The state of being alone or remote from others; isolation. A lonely or secluded place.

Primitive and Unconfined Recreation: Non-motorized, non-mechanized (except as provided by law), and undeveloped types of recreation activities.

WILDFIRE: The unplanned ignition of a wildland fire (such as a fire caused by lightning, volcanoes, unauthorized and accidental human-caused fires) and escaped prescribed fires.

WILD FREE-ROAMING HORSES AND BURROS: Wild horses and burros are managed in a manner that ensures significant progress is made toward achieving the Land Health Standards for upland vegetation and riparian plant communities, watershed function, and habitat quality for animal populations, as well as other site-specific or landscape-level objectives, including those necessary to protect and manage Threatened, Endangered, and Sensitive Species.

WILDLAND FIRE: A general term describing any non-structure fire, other than prescribed fire, that occurs in the wildland. Wildland fires are categorized into two distinct types:

Wildfires- unplanned ignitions or prescribed fires that are declared wildfires.

Prescribed Fires- Planned ignitions.

WILDLAND-URBAN INTERFACE (WUI): Areas where human structures and natural fuels interface or intermix with each other. This interface occurs mainly within 66 to 200 feet of houses, where fire most directly threatens houses and where a defensible zone can be developed.

WILDLIFE: A broad term that includes birds, reptiles, amphibians, and non-domesticated mammals.

WILDLIFE HABITAT AREAS (WHAs): An area that offers feeding, roosting, breeding, nesting, and refuge areas for a variety of wildlife species native to an area. Referred to as Wildlife Management Areas in prior plans.

WITHDRAWAL: Withholding an area of federal land from settlement, sale, location, or entry under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program; or transferring jurisdiction over an area of federal land, other than property governed by the Federal Property and Administrative Services Act, from one department, bureau, or agency to another department, bureau, or agency. See also SEGREGATION.

XERORIPARIAN: An area in a drainage that supports plant species more characteristic of uplands than wetlands, but that is more densely vegetated than areas removed from the drainage. Any flows in these channels are characteristically ephemeral but water may also be subsurface and the drainage may not flow.

4. LIST OF PREPARERS

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4. LIST OF PREPARERS

Table 4-1
List of Preparers

Name	Degree	Role
Preparers: 2011 DRMP/EIS and 2012 PRMP/FEIS		
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Bureau of Land Management, Interdisciplinary Team		
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Environmental Management and Planning Solutions, Inc., Interdisciplinary Team **2012 PRMP/FEIS and RODs/Approved RMPs**		
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URS Corporation, Interdisciplinary Team		
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Dave Palmer	M.A., Geology; B.S., Geology	Minerals, Geological and Paleontological Resources, Cave Resources
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Patty Renter	Geography, Visual Basic, Introduction to ArcView, Computer information Systems	Geographic Information Systems
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Brock Tunnicliff	Ph.D., Natural Resource Management; M.S., Watershed Hydrology; B.S., Forest Ecology	Wilderness Characteristics, Travel Management, Special Designations, Recreation
Leslie Watson	B.S., Zoology	Biological Resources
Sandy Weir	B.S., Geography	Socioeconomics
Jessica Wellmeyer	M.S., Geology; B.S., Geology	Water Resources and Soils
Jen Wennerlund	M.S., Geography; B.S., Geography, Cartography, Remote Sensing, Land Use Planning	Geographic Information Systems Manager

ABBREVIATIONS

ACEC	Areas of Critical Environmental Concern
AGFD	Arizona Game and Fish Department
AUM	animal unit month
BLM	Bureau of Land Management
BGR	Barry M. Goldwater Range
DEIS	draft environmental impact statement
DRMP	Draft Resource Management Plan
EIS	environmental impact statement
ERMA	extensive recreation management area
ESA	Endangered Species Act
FEIS	final environmental impact statement
FLPMA	Federal Land Policy and Management Act
I-8	Interstate 8
I-10	Interstate 10
IM	instruction memorandum
LUA	land use authorization
MOU	memorandum of understanding
NEPA	National Environmental Policy Act
NHT	National Historic Trail
NPS	National Park Service
OHV	off-highway vehicle
PEIS	programmatic environmental impact statement
PM_{10}	particulate matter 10 microns in diameter or less
$PM_{2.5}$	particulate matter 2.5 microns in diameter or less
PRMP	Proposed Resource Management Plan
RMA	recreation management area
RMP	resource management plan
RMZ	recreation management zone
ROD	record of decision
ROW	right-of-way
SCRMA	special cultural resource management area
SDNM	Sonoran Desert National Monument
SRP	special recreation permit
TMA	travel management area
US	United States
USFWS	United States Fish and Wildlife Service
VRM	visual resource management
WSA	wilderness study area
WUI	wildland-urban interface