EXECUTIVE SUMMARY

INTRODUCTION

The Barry M. Goldwater Range (BMGR) in southwestern Arizona is a major U.S. military installation encompassing 1,733,921 acres (2,709 square miles) that is used by the U.S. Air Force and U.S. Marine Corps (hereinafter Air Force and Marine Corps), and other aviation components of the U.S. Armed Forces, primarily to train military aircrews to fly air combat missions. To a lesser extent, the range is also used to support some other types of national defense purposes, most of which support or are associated with air combat training. This Environmental Impact Statement (EIS) for a proposed Integrated Natural Resources Management Plan (INRMP) for the BMGR was prepared through an interagency partnership composed of the Air Force, Marine Corps, U.S. Fish and Wildlife Service (USFWS), U.S. Bureau of Land Management (BLM), and Arizona Game and Fish Department (AGFD). These agencies formed an INRMP Core Planning Team early on in the EIS and proposed INRMP planning process to promote interagency coordination and collaboration in the development of the EIS and subsequent INRMP document.

The BMGR has been one of the nation's finest and most productive reservations for training military aircrews in aerial air-to-ground combat since 1941. Initially established on approximately 1.1 million acres but incorporating over 2.77 million acres by the close of World War II, the range varied slightly in size over the years with subsequent land withdrawals and deletions to generally encompass about 2.7 million acres until the Military Lands Withdrawal Act (MLWA) of 1999 reduced the land area of the BMGR to its current size. Although the range land area was reduced, the extent of the overlying restricted airspace available to support military aviation activities, which has a surface footprint of 2,776,720 acres, was unchanged by the MLWA of 1999. This Act also reconfirmed that national defense activities continue to be the primary land use purpose of the BMGR.

Parallel to its continuing value as an essential national defense asset, the BMGR is also nationally significant as a critical component in the largest remaining tract of relatively unfragmented Sonoran Desert in the United States that, with the exception of State Route 85, is free of major developments that may disrupt ecological connectivity. This tract currently totals about 5,000 square miles and, in addition to the BMGR, includes the adjacent, ecologically linked areas of Organ Pipe Cactus National Monument (NM), Cabeza Prieta National Wildlife Refuge (NWR), and Sonoran Desert NM and other BLM-administered lands. Within this contiguous complex, the BMGR contributes almost 55 percent of the land area and is more than twice the size of any other component.

The BMGR encompasses a dramatic landscape of rugged mountain ranges and broad alluvial valleys that have experienced only scattered settlement since late prehistoric times. The location is central in the most tropical of the three North America warm deserts, with a diverse and well-adapted assemblage of plant and animal life. The BMGR encompasses significant east to west ecological gradients that define the interface between the Arizona Upland and Lower Colorado River Valley subdivisions of the Sonoran Desert. The eastern extent of the range harbors some of the most extensive and healthy saguaro cactus-mixed cactus-paloverde forests in the Arizona Upland Subdivision while its western extreme, 130 miles away, is within the dune fields of the Gran Desierto, which lies around the head of the Gulf of California. The BMGR incorporates

much of the diversity of landforms, rainfall, and elevation gradients that are present within the Sonoran Desert in Arizona and that contribute to the biodiversity of this ecoregion.

Federally listed endangered or threatened wildlife species that are present or have the potential to be present on the BMGR include the Sonoran pronghorn, lesser long-nosed bat, and cactus ferruginous pygmy-owl. Of these, only the Sonoran pronghorn appears to be dependent upon habitats within the range for its continued survival. It is estimated that about 42 percent of the suitable terrain within the current distribution of Sonoran pronghorn is located within the BMGR. Other wildlife of special concern in Arizona present on the range includes the California leaf-nosed bat, flat-tailed horned lizard, Cowles fringe-toed lizard, and Sonoran population of desert tortoise. Peirson's milkvetch, a federally threatened plant, and the acuña cactus, a federal candidate, also occur in small isolated areas of the BMGR. Many plants protected by the Arizona Native Plant Law are present on the range, including sand food and individual crested saguaros.

PURPOSE OF AND NEED FOR THE PROPOSED INRMP

The MLWA of 1999 requires that the Secretaries of the Air Force, Navy, and Interior jointly prepare an INRMP for the BMGR[ES-1] in accordance with the Sikes Act.[ES-2] The Sikes Act in turn requires that the INRMP be cooperatively prepared by these same parties together with the head of the state fish and wildlife agency in the affected state, which, in Arizona, is the Director of the AGFD.[ES-3] As stipulated by the MLWA of 1999, the purposes of the INRMP must be to provide for the "proper management and protection of the natural and cultural resources of [the range], and for sustainable use by the public of such resources to the extent consistent with the military purposes [of the BMGR]."[ES-4]

As indicated, the MLWA of 1999 also directs that the INRMP must be prepared and implemented in accordance with the Sikes Act.[ES-5] The Sikes Act sets forth the Nation's resource management policies and guidance for U.S. military installations and requires the preparation of INRMPs for all installations with significant natural resources, including those (such as the BMGR) composed of withdrawn lands. The Sikes Act provides that the "… Secretary of Defense shall carry out a program to provide for the conservation and rehabilitation of natural resources on military installations…" and that an INRMP is to be prepared to facilitate implementation of that program.[ES-6] The Sikes Act specifies that:

> Consistent with the use of military installations to ensure the preparedness of the Armed Forces, the Secretaries of the military departments shall carry out [the aforementioned program] to provide for—
>
> (A) the conservation and rehabilitation of natural resources on military installations;

[ES-1] Public Law [P.L.] 106-65 §3031(b)(3)(A)
[ES-2] 16 U.S. Code (U.S.C.) 670a et seq.
[ES-3] 16 U.S.C. 670a (a)(2)
[ES-4] P.L. 106-65 §3031(b)(3)(E)(i)
[ES-5] P.L. 106-65 §3031(b)(3)(D)
ES-6 16 U.S.C. 670a (a)(1)(A) and (B)

(B) the sustainable multipurpose use of the resources, which shall include hunting, fishing, trapping and non-consumptive uses; and

(C) subject to safety requirements and military security, public access to [the BMGR] to facilitate the use.[ES-7]

This EIS was prepared to support development of the proposed INRMP for the BMGR. Five alternative strategies, including the proposed action, for managing natural and cultural resources and public access within the BMGR are addressed in this EIS. Each of these alternative management strategies represents a potential resource management program, or an INRMP, for the range. The alternative selected in the Record of Decision (ROD) for this EIS from among the range of reasonable alternatives considered in the EIS will constitute the management strategy that will form the framework for the proposed INRMP and will be implemented for the BMGR. The EIS was prepared pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969 (NEPA), as implemented by the Council on Environmental Quality regulations (40 Code of Federal Regulations 1500 to 1508), which require federal agencies to consider potential environmental concerns as early as possible in the development of proposed programs, projects, and activities.

Beyond the statutory requirements of the MLWA of 1999 and Sikes Act, development of a new management plan is also needed to address changes in current and future military mission requirements, Department of Defense (DoD) management policies, and BMGR resource and public use conditions that have changed since the most recent previous resource management plan was prepared for the range. The most recent resource management plan for the range is the Lower Gila South Resource Management Plan (RMP) Goldwater Amendment (hereinafter Goldwater Amendment) that was prepared by the BLM. The Goldwater Amendment, which was placed into effect in 1990, was prepared under the purviews of the MLWA of 1986[ES-8] and the Federal Land Policy Management Act (FLPMA) of 1976 (43 U.S.C. 1701 et seq.). The Goldwater Amendment is based on management planning and environmental assessments that were completed during the early to late 1980s.

The resource conservation components of the pending INRMP for the BMGR in many ways will be comparable to those developed for many other federal land management plans including existing or pending plans for the nearby Organ Pipe Cactus NM and the adjacent Cabeza Prieta NWR and BLM lands. The feature of the pending INRMP that will distinguish it most sharply from most other federal land management plans, however, is that implementation and control of the primary land use of the BMGR—which is the support of designated military purposes—is not subject to review or modification through the development of the INRMP. Decisions regarding current and future military land use at installations subject to Sikes Act planning are assessed through other processes, which may include planning under the auspices of NEPA or other applicable environmental laws, but are not reviewed through the preparation of an INRMP. Rather, land management on a military installation must be consistent with the military purposes of the installation.

[ES-7] 16 U.S.C. 670a (a)(3)

[ES-8] P.L. 99-606

In the case of the BMGR, Congress previously determined, through the MLWA of 1999, that this range would be used first and foremost for specific national defense purposes.[ES-9] Management of natural and cultural resources and public access within the BMGR must be consistent with these specified national defense purposes. The national defense mandate for the BMGR, however, does not preclude implementing a management plan that provides for effective conservation, protection, and rehabilitation of natural resources; protection of cultural resources; and opportunities for sustainable public use. Given the character of the military mission at the BMGR, there are opportunities to use, protect, and conserve resources within the range and latitude available to incorporate effective management methods.

An INRMP document will be extracted from the final EIS following the signing of the ROD. The INRMP will be based on the alternative management strategy selected in the ROD and will be used to implement that alternative. Consistent with the MLWA of 1999; the Sikes Act; and DoD, Air Force, and Marine Corps guidance for preparing INRMPs, the major features of the final INRMP will include:

- purpose, authority, and development history of the INRMP
- future review and amendment procedures for the INRMP
- location and mission of the BMGR
- a brief land use and management history of the BMGR
- current and foreseeable future military missions and land-use
- non-military agency missions and land use
- incorporation of the Integrated Cultural Resources Management Plan (ICRMP) for the BMGR by reference
- provisions for meeting trust responsibilities and access and consultation requirements relative to affected Indian tribes
- public access opportunities and conditions
- overview of the BMGR environment
- resource management goals
- selected resource management alternative
- projects and schedule planned to implement the selected management alternative
- follow-on requirements under the NEPA, or other regulatory laws, to implement specific planned management projects.

STUDY AREA AND TIME HORIZON

The area studied during preparation of the EIS for the proposed INRMP differed among the various resource elements assessed. This allowed for the adequate examination of both the local and regional factors that may influence the BMGR environment as well as those that may, in turn, be affected by the proposed management actions. The time horizon, or functional period, of the INRMP extends to 2024, when the current land withdrawal authorization is scheduled to expire. In order to provide for effective resource management over the course of the next 19 years, the BMGR INRMP must address both long- and short-term planning horizons. The Sikes Act provides that INRMPs are to be reviewed on a regular basis, but not less than every five years. This requirement reflects the fact that military activities; natural resource protection, conservation, and

[ES-9] P.L. 106-65 §3031(a)(2)

rehabilitation needs; and public access opportunities and patterns are likely to change over time and that there must be a mechanism for adapting an INRMP to changing conditions if the plan is to provide for effective management.

RELATIONSHIP OF THE INRMP AND ICRMP

The MLWA of 1999 directs that the INRMP for the BMGR be prepared and implemented in accordance with the Sikes Act[ES-10] and include provisions for the proper management and protection of both cultural and natural resources.[ES-11] The provision to manage both natural and cultural resources in the INRMP is not specifically required by the Sikes Act. The scope of the Sikes Act is limited to the conservation and management of natural resources on DoD lands and does not include guidance for the management and protection of cultural resources. More than 30 individual federal laws, federal regulations, executive orders, and memoranda, federal guidelines, and military requirements provide authority and guidance for cultural resources management on DoD lands. In view of these legal instruments, DoD has implemented policies that direct the preparation of ICRMPs for all lands and waters under its control that contain cultural resources.[ES12] DoD has, thus, adopted a dual planning and management track for natural and cultural resources under its jurisdiction. As a result, INRMPs and ICRMPs typically serve as companion documents that direct natural and cultural resources management at DoD installations.

Preparation of an ICRMP for the BMGR was under way before the MLWA of 1999 directed that the INRMP must include provisions for both natural and cultural resources management. As a consequence, the Air Force and Marine Corps have taken two steps to meet their cultural resources management responsibilities under the MLWA of 1999 and other applicable statutory and regulatory requirements. First, they decided to complete their joint effort to prepare an ICRMP for the range. Second, they determined that the proposed INRMP would adopt and support the cultural resources management goals of the ICRMP and would incorporate the protocols and procedures prescribed in the ICRMP for managing culture resources by reference. At the time of this EIS, the ICRMP is pending final adoption by the Air Force and Marine Corps. However, cultural resources management goals for the BMGR have been developed and will be incorporated in the proposed INRMP. The natural resources management goals developed through the EIS planning process for the proposed INRMP are compatible with these cultural resources management goals and also with the alternative management strategies studied in the draft EIS that would implement those natural resources management goals.

RESPONSIBILITIES TO INDIAN TRIBES

The MLWA of 1999 requires that the INRMP for the BMGR:

> be developed in consultation with affected Indian tribes and include provisions that address how the Secretary of the Navy and the Secretary of the Air Force intend to—

[ES-10] P.L. 106-65 Section §3031(b)(3)(D)
[ES-11] P.L. 106-65 Section §3031(b)(3)(E)(i)
[ES-12] DoD Instruction 4715.3

(I) meet the trust responsibilities of the United States with respect to Indian tribes, lands, and rights reserved by treaty or Federal law affected by the withdrawal and reservation;

(II) allow access to and ceremonial use of sacred sites to the extent consistent with the military purposes for which such lands are withdrawn and reserved; and

(III) provide for timely consultation with affected Indian tribes.[ES-13]

Steps for consulting with Indian tribes on the development of the INRMP have been pursued in accordance with this provision of the MLWA of 1999.

PUBLIC INVOLVEMENT AND ISSUES

Public scoping meetings were held in the Arizona communities of Phoenix, Tucson, Yuma, Gila Bend, Ajo, and Sells. A total of 125 public participants from several southern Arizona communities attended the meetings. More than 70 individuals provided feedback during the scoping phase. Potentially interested Native American tribes and groups throughout Arizona, as well as tribes in California and New Mexico with a stated interest in the BMGR, were given information about the proposed INRMP development process and invited to participate. The scoping meeting in Sells was on the Tohono O'odham Nation. Tribal leaders were invited to attend or send representatives to workshops and also were asked to identify other avenues, such as briefings to tribal councils or other bodies or field visits to places of interest or concern on BMGR, that would facilitate their participation in the process. Tribes were further queried by letter as to issues of concern regarding plants, animals, topographic features, water sources, or other aspects of the natural environment within the BMGR that may have cultural value for the native people of the region. These letters also invited tribes to comment on the management of these resources and identify needs for access to places of cultural importance on the BMGR.

The most frequently cited issue of concern raised during public scoping related to motorized access within the BMGR. Two public workshops were conducted after the formal scoping period had closed to obtain further public input into the continuing development of the INRMP and EIS. These workshops were attended by 62 members of the public together with 33 individuals affiliated with the INRMP Core Planning Team agencies and their consultants. The first workshop focused on whether the draft management strategies addressed a full range of reasonable alternatives. The second workshop included an interactive exercise to obtain input from the public attendees concerning public road access within the BMGR and the implications of roads within the range for resource protection, conservation, and rehabilitation.

The draft EIS for the proposed INRMP for the BMGR was distributed to the public at the end of February 2003. The Notice of Availability was published in the Federal Register on 7 March 2003 and six public hearings were held from 31 March through 5 April 2003. During the 60-day public comment period, which concluded 7 May 2003, oral or written comments were received from two federal agencies, two state agencies and one state agency representative, four local agencies and

[ES-13] P.L. 106-65 §3031(b)(3)(E)(ii)

two local government representatives, four Native American tribes, ten non-governmental organizations, and 104 individuals.

BMGR MILITARY MISSION AND RESOURCE MANAGEMENT SETTING

Current BMGR Military Mission and Resource Management Responsibilities

BMGR lands are made available for military purposes by virtue of the MLWA of 1999 for use as (1) an armament and high-hazard testing area; (2) training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support; and (3) other defense related purposes.[ES-14] The current primary mission of both BMGR—East and BMGR—West is military aircrew training. The range has been used periodically for testing and some other defense related purposes, but, since its inception, non-training activities have been secondary to the primary training mission of the BMGR. For the Air Force, Marine Corps, Navy, Air National Guard, Army National Guard, and Air Force Reserve, the BMGR is an essential component of the national defense training base that is indispensable to their abilities to produce the combat-ready aircrews needed to defend the nation and its interests. As the nation's third largest military reservation, the BMGR has the training capabilities, capacities, and military air base support that provide the flexibility needed to sustain a major share of the country's aircrew training requirements now as well as into the foreseeable future. The value of the BMGR for supporting high-quality aircrew training stems from a combination of restricted land and airspace, extensive land and airspace size, ten nearby supporting air bases, electronic training instrumentation, nearby supporting military airspace, year-round flying weather, and varied natural terrain. The primacy of the aircrew training mission at the BMGR is expected to continue into the foreseeable future.

There is a beneficial relationship between the military reservation and resource conservation, which has contributed importantly to the past protection of much of the BMGR environment. In large part, the ecological health of the BMGR has been maintained or restored over the last 64 years because (1) most land uses that would be severely disruptive to the environment have been excluded from the range in order to protect the safety of the public and military personnel and to prevent disruption of the military training operations, and (2) only a small percentage of the restricted land area is disturbed by military training activities. Safety requirements restrict both habitation and economic development of the range and specify that public visitation be directly controlled. Activities such as livestock grazing; mining; agricultural crop production; and residential, commercial, or industrial development—which have caused significant ecological damage elsewhere within the BMGR region—have been legally excluded from the range since the World War II era.

As a result of the MLWA of 1999 and other enabling legal instruments, three federal agencies and one state agency—Air Force, Marine Corps, USFWS, and AGFD—currently hold primary responsibilities for managing natural resources within the BMGR. A fifth agency, BLM, has reserve oversight roles but no longer has direct resource management responsibilities. The Air Force and Marine Corps now have primary surface management responsibility for BMGR lands, and hence its natural and cultural resources. The MLWA of 1999[ES-15] directs the Secretaries of the

[ES-14] P.L. 106-65 §3031(a)(2)

Navy, Air Force, and Interior to jointly prepare the INRMP. Thus, the Secretary of the Interior remains involved in the management of natural, and to a lesser extent, cultural resources within the BMGR. The Sikes Act[ES-16] clarifies that the Secretary of the Interior will act through the Director of the USFWS when participating in the preparation and implementation of INRMPs. Further, USFWS responsibilities for administering compliance with the Endangered Species Act of 1973[ES17] and Migratory Bird Treaty Act of 1918[ES-18] within the BMGR are neither diminished nor expanded by the MLWA of 1999 or Sikes Act.

The State of Arizona has primary jurisdiction over resident wildlife management within the BMGR, except where pre-empted by federal law. This jurisdiction is implemented on behalf of the State by the AGFD, which acts under the guidance of the Arizona Game and Fish Commission. Nothing in the MLWA of 1999 or Sikes Act either diminishes or expands the jurisdiction of the State with respect to resident wildlife management. In addition, AGFD is responsible for providing safe off-highway vehicle recreation for Arizona. The BLM serves limited roles within the BMGR under the MLWA of 1999 including: (1) consulting in the resolution of disagreements on the contents of the INRMP or its subsequent amendments, (2) resuming management of BMGR lands should resource management authority be returned to the Secretary of the Interior, (3) consulting on any non-emergency closures of the BMGR that are not specified in the forthcoming INRMP, and (4) consulting prior to using the withdrawn and reserved lands for any purposes other than specified defense-related purposes.[ES-19] The dispute resolution responsibility of the Secretary of the Interior is limited to consultation.

Safety and Security, Public Access, and BMGR Management Units

Safety hazards or security concerns are present on a near continuous basis within approximately 62 percent of the BMGR. These areas must be restricted from public access because of ongoing hazards associated with munitions delivery training, known or suspected high concentrations of unexploded ordnance on the ground surface, laser use hazards, airfield safety and security, or other safety or security requirements at training or support sites. Safety hazards or security concerns are present within the other 38 percent of the BMGR only at selected times or in selected confined locations, such as an electronic instrument site. These areas of the BMGR can generally accommodate public visitation on a regular basis as long as certain necessary restrictions regarding access to local electronic instrument, training, support, or resource protection sites are observed. Access to all areas of the range is regulated by permit at all times. Approximately 80 percent of all range areas open to public visitation are in BMGR—West. The area of BMGR—West open to general public access encompasses about 521,000 acres, which is about 75 percent of the BMGR—West land area. Public access to BMGR—East is limited to about 133,000 acres, which is almost 13 percent of the BMGR—East land area.

Seven land management units have been identified within the BMGR; three, Units 1 through 3, within BMGR—West and four, Units 4 through 7, within BMGR—East to facilitate the planning

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[ES-15] P.L. 106-65 §3031(b)(3)(A), (D), and (E)
[ES-16] 16 U.S.C. 670a (a)(2)
[ES-17] 16 U.S.C. 1531 et seq.
[ES-18] 16 U.S.C. 703 et seq.
[ES-19] P.L. 106-65 §3031(b)(3)(C), §3031(b)(1)(C) and (b)(7), §3031(b)(2)(C), and §3031(a)(5)

and implementation of natural and cultural resources management activities. Numbered one through seven from west to east, the surface areas of these units include:

- Management Unit 1 - approximately 230,000 acres
- Management Unit 2 - approximately 265,000 acres
- Management Unit 3 - approximately 195,000 acres
- Management Unit 4 - approximately 280,000 acres
- Management Unit 5 - approximately 440,000 acres
- Management Unit 6 - approximately 138,000 acres
- Management Unit 7 - approximately 188,000 acres

Planning and Management Philosophy

The DoD approach to integrated resource management planning and the application of ecosystem management concepts are central to the proposed INRMP. Ecosystem management incorporates the concepts of biological diversity and ecological integrity in a process that considers the environment as a complex system functioning as a whole, not merely as a collection of parts, and recognizes that people and their social and economic needs are a part of the whole. In its application, a goal-driven approach is used to manage natural and cultural resources in a manner that supports present and future mission requirements; preserves ecosystem integrity; is at a scale compatible with natural processes; is cognizant of nature's timeframes; recognizes social and economic viability within functioning ecosystems; is adaptable to complex and changing requirements; and is realized through effective partnerships among private, local, state, tribal, and federal interests. Because ecosystem management is based on an emerging understanding of ecology, biological diversity, and resources management, and because ecosystems are open, changing, and complex systems, this planning and management philosophy requires flexibility. Provisions to allow for adaptive management include monitoring, assessment, reassessment, and adjustment as necessary.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This EIS addresses five alternative strategies, including the proposed action and no-action alternative, for managing natural and cultural resources and public access within the BMGR. The five alternative management strategies were developed in accordance with NEPA. The management strategy framework for the BMGR will be chosen after a rigorous analysis has identified and assessed the potential environmental impacts of reasonable alternatives for managing the resources of the range in comparative form. Selection of reasonable management alternatives for the proposed INRMP was guided by criteria that included statutory and regulatory guidance and BMGR resource management goals developed during the EIS-based planning process. The resource management goals were developed in view of applicable statutory and regulatory guidance; the needs of the military mission of the range; public and tribal viewpoints gathered through scoping, workshops, and other avenues of participation; and input regarding the management missions and needs of the USFWS, AGFD, and U.S. Border Patrol. (The U.S. Border Patrol has a critical law-enforcement mission on the BMGR related to international border security, control of illegal immigration, and life-saving rescue of immigrants stranded in the desert of the range.) In accordance with the MLWA of 1999 and Sikes Act, the minimum qualifying requirements of each resource management alternative studied in the development of the EIS for the proposed INRMP are to (1) support the use of the BMGR to ensure the preparedness of the

armed forces, (2) provide for proper management and protection of its natural and cultural resources (which is to include natural resource conservation and rehabilitation), and (3) provide for sustainable multipurpose public access and use of the range consistent with the requirements of its military purposes. Alternatives that were inconsistent with these overall requirements were eliminated from detailed study.

In accordance with these overall parameters, four alternative management strategies were developed during the public scoping and workshop phases of the EIS planning process for the proposed INRMP. These four strategies, identified as A through D, were designed to represent the relative range of management requirements and issues identified during these early planning phases. Each alternative outlines resource management guidance for 17 separate management elements. Following the scoping and workshop phases, a proposed management strategy for the long-term management of natural and cultural resources within the BMGR was identified as the proposed action. This proposed action combines various management elements from each of the initial four management strategies to form a fifth, separate, composite management alternative. Although additional composite variations in the management prescriptions defined by the initial four alternative management strategies could be developed, the alternatives presented represent the relative range of actions that are both needed for the BMGR and are appropriate to the special statutory guidance that governs resource management on military installations.

Because a considerable proportion of the public comments on the draft EIS regarded motorized access and unroaded area management (one of the 17 management elements), the Core Planning Team re-evaluated the proposed action and decided to propose the retention of 42 additional miles of road. Consequently, the proposed action presented in this final EIS retains 2.8 percent more total miles of existing roads in the designated BMGR road system than would have been retained with the proposed action presented in the draft EIS. The revised proposed action remains consistent with the provisions of the MLWA of 1999 and Sikes Act and the management goals established for the proposed INRMP. The proposed action for the other 16 management elements provided in this final EIS is unchanged from those elements identified for the proposed action in the draft EIS.

Resource management goals were developed on both a policy and resource-specific basis. As an initial step in the INRMP planning process, the Core Planning Team developed five overarching policy goals that are non-resource specific and are in support of and consistent with the military mission; conservation, rehabilitation, and protection of natural and cultural resources; and sustainable public access. In no implied order of importance, the five management policy goals include:

1. Maintain and enhance the natural resources to ensure that these resources are sustained in a healthy condition for compatible uses (for example, low-impact recreation) by future generations, while supporting the existing and future military purposes of the BMGR.
2. Manage cultural resources in accordance with the BMGR Integrated Cultural Resources Management Plan.
3. Allow for public access to BMGR resources for sustainable multipurpose use, consistent with the military purposes of the range (including security and safety requirements) and ecosystem sustainability.

4. Apply ecosystem management principles through a goal- and objective-driven approach that recognizes social and economic values; is adaptable to complex, changing requirements; and is realized through effective partnerships among private, local, state, tribal, and federal interests.
5. Meet or exceed the statutory requirements of the MLWA of 1999, Sikes Act, and other applicable resource management regulatory requirements.

The resource-specific goals address earth, water, vegetation, wildlife, and visual resources; transportation; recreation; Native American access; non-military and perimeter land use; and special natural/interest areas. Each of the resource-specific management goals are consistent with the over arching policy goals. Resource-specific management goals for the range are shown in Table S-1.

TABLE S-1
RESOURCE-SPECIFIC MANAGEMENT GOALS

Resource Management Category	Management Goal(s)
Earth Resources	• Implement best management practices to control and prevent excessive soil erosion, implement soil conservation measures, and restore or rehabilitate degraded landscapes wherever practicable, subject to budgetary constraints.
Water Resources	• Manage water resources to protect, maintain, and improve water quality; to conserve water to prevent lowering of the water table levels; and to ensure compliance with regulatory requirements while maintaining unrestricted access for military purposes.
Vegetation Resources	• Protect and conserve plant communities and species diversity. • Identify, protect, conserve, manage, and comply with regulatory requirements for threatened and endangered plant species or otherwise important or sensitive plant species. • Inventory the range for occurrence and distribution of exotic plant species and implement management measures for their removal or control. • Restore or rehabilitate altered or degraded plant communities wherever practicable, subject to budgetary constraints. • Incorporate the principles of ecosystem management and promote biodiversity.
Wildlife Resources	• Protect and conserve wildlife habitat, species diversity, and viable populations. • Identify, protect, conserve, manage, and comply with regulatory requirements for federally threatened and endangered wildlife species or otherwise significant or sensitive species. • Restore or rehabilitate human-altered or degraded wildlife habitats wherever practicable, subject to budgetary constraints. • Incorporate the principles of ecosystem management and promote biodiversity. • Control trespass livestock.
Visual Resources	• Protect or enhance the integrity and diversity of visual resources (including scenic qualities of the landscape) on the BMGR.
Transportation	• Develop a BMGR transportation plan that addresses continued land-based access to the BMGR for military training and testing; provides access for wildlife research and wildlife habitat management, land management, and law enforcement by federal and state agencies; and provides access for wildlife-oriented recreation and sustainable multipurpose use by the public. • Establish policies and provide procedures that ensure that the use of vehicles on the BMGR will be controlled and directed so as to protect resources, promote safety, and minimize conflicts among the various uses of the BMGR.

TABLE S-1
RESOURCE-SPECIFIC MANAGEMENT GOALS

Resource Management Category	Management Goal(s)
Recreation	• Provide for public access and use of natural resources/BMGR lands for sustainable multi-purposes when such activities are compatible with mission activities and other considerations such as security, safety, and resource sensitivity. • Assess the continuing applicability of Special Recreation Management Area (SRMA) designations in consideration of their incompatibility with military operations. • Manage all activities in accordance with the ICRMP for the BMGR.
Native American Access	• Provide for Native American access to Traditional Cultural Places and sacred sites, consistent with the military mission and natural resource management goals.
Non-Military Land Use	• Develop a program for addressing rights-of-way on the BMGR. • Participate in local initiatives to advance ecoregional planning and biodiversity goals.
Perimeter Land Use	• Cooperate with land managers of adjoining property for conservation, public relations, and compliance benefits. • Develop strategies, in coordination with ranchers when feasible, to reduce trespass livestock occurrences.
Special Natural/Interest Areas	• Recognize and review existing special resource management areas, such as Areas of Critical Environmental Concern (ACECs) and the backcountry byway, and assess the continuing applicability of special management provisions for the protection of these areas.

Each of the alternative management strategies for the proposed INRMP was developed in context of the policy and resource-specific goals. Each of these strategies addresses 17 resource management elements, as shown in Table S-2.

TABLE S-2
PROPOSED INRMP RESOURCE MANAGEMENT ELEMENTS

1.	Resource Inventory and Monitoring
2.	Special Natural/Interest Areas
3.	Motorized Access and Unroaded Area Management
4.	Camping and Visitor Stay Limits
5.	Recreation Services and Use Supervision
6.	Rockhounding
7.	Wood Cutting, Gathering, and Firewood Use, and Collection of Native Plants
8.	Hunting
9.	Recreational Shooting
10.	Utility/Transportation Corridors
11.	General Vegetation, Wildlife, Wildlife Habitat, and Wildlife Waters
12.	Special Status Species
13.	Soil and Water Resources
14.	Air Resources
15.	Visual Resources
16.	Wildfire Management
17.	Perimeter Land Use, Encroachment, and Regional Planning

Alternative Management Strategy A (No-action Alternative)

Alternative Management Strategy A, the no-action alternative, would continue the ongoing management practices of the Goldwater Amendment. The scope of the Goldwater Amendment

established overall natural and cultural resource management direction for the range and prescribed that a series of component subplans be prepared including habitat management plans (HMPs) and a transportation plan. An HMP titled *Lechuguilla-Mohawk Habitat Management Plan and Environmental Assessment* was finalized in 1997and partially implemented for BMGR—West. A draft HMP titled *Draft Barry M. Goldwater East Habitat Management Plan and Environmental Assessment* has been developed, but has not been finalized or implemented for BMGR—East. Development of the transportation plan included an extensive multiple-year inventory of roads within the BMGR but did not reach the actual plan preparation stage because Congress passed the MLWA of 1999 two years earlier than anticipated, effectively cutting the BLM's management tenure short.

The Goldwater Amendment and HMPs would be adopted and continued through the proposed INRMP under Alternative Management Strategy A. This alternative is reasonable as it is required by NEPA as the no-action alternative and it is consistent with the MLWA of 1999, which supports incorporating existing plans in the proposed INRMP. The existing plans are also compatible with the military mission of the BMGR, provide measures for resource protection and conservation, and support public use that is both compatible with the military mission and the prescribed resource protection and conservation measures. Some components of the existing plans, which were prepared pursuant to the FLPMA, would need to be modified before they could be implemented under the Sikes Act. One example is that three ACECs, two SRMAs, and a Backcountry Byway that were designated under the Goldwater Amendment, but have since expired, would have to be redesignated as special natural/interest areas under the Sikes Act.

Existing wildlife management practices would continue under Alternative Management Strategy A and there would be no defined shift in emphasis toward ecosystem management methods. Strategy A would include the construction of up to two new waters (seven were planned, five have been constructed) plus the repair, redesign, and/or redevelopment of three existing wildlife waters within BMGR—West and the development of 15 new waters and the repair, redesign, and/or redevelopment of 13 existing waters within BMGR—East.

Existing public access and recreation opportunities would be retained under Alternative Management Strategy A, which would keep the entire existing road network within the range (consisting of 2,222 miles of inventoried roads) open for vehicular use; the public would continue to have access to that portion of the network that is currently open to public use (Table S-3). A total of 981 miles, or 44 percent, of the existing BMGR roads are currently available for general public access, with 78 percent (767 miles) of these roads located within BMGR—West.

A determination of the number of existing unroaded areas with surface areas in 20 various size categories from 1 to 120,000+ acres, including 3,000 acres or less and 3,001 acres or more as one of the category dividing points, was performed through a geographic information system (GIS) analysis. A 50-foot buffer was added to each side of the roads to represent the distance that vehicles currently may be pulled off of the road for parking. Excluded in the analysis of unroaded areas were 172,700 acres of established military vehicle-use areas and other developed military use areas. The GIS analysis results show that under Alternative Management Strategy A, the existing condition, there are 526 areas of 3,000 acres or less within the BMGR and 121 existing unroaded areas of 3,001 acres or more. Given the existing road network, the largest unroaded area is about 95,000 acres located in BMGR—East.

TABLE S-3
MILES AND AREA OF ROADS WITHIN THE BMGR UNDER THE PROPOSED ACTION AND EACH ALTERNATIVE MANAGEMENT STRATEGY

Access Status of Roads for Government and Public Access	No-Action Alternative (Alternative Management Strategy A)	Alternative Management Strategy B	Proposed Action (Alternative Management Strategy C)	Alternative Management Strategy D
1. Miles of road within BMGR—West restricted military use areas that are not open to general public access	189	189	136	124
2. Miles of road within BMGR—East restricted military use areas that are not open to general public access	977	977	741	715
3. Total miles of roads in BMGR restricted areas (Lines 1+2)	**1,166**	**1,166**	**877**	**839**
4. Miles of road within BMGR—West outside of restricted areas but restricted to government use only	63	63	39	48
5. Miles of road within BMGR—East outside of restricted areas but restricted to government use only	12	12	12	12
6. Total miles of roads in BMGR outside of restricted areas but restricted to government use only (Lines 4+5)	**75**	**75**	**51**	**60**
7. Miles of BMGR—West roads outside of restricted military use areas that are generally open to public access [1]	767	774	490	383
8. Miles of BMGR—East roads outside of restricted military use areas that are generally open to public access [1]	214	214	188	171
9. Total miles of BMGR roads outside of restricted military use areas that are generally open to public access[1] (Lines 7+8)	**981**	**988**	**678**	**562**
10. Total miles of roads in BMGR—West of all types (Lines 1+4+7)	**1,019**	**1,026**	**665**	**555**
11. Total miles of roads in BMGR— East of all types (Lines 2+5+8)	**1,203**	**1,203**	**941**	**906**
12. Total miles of BMGR roads of all types (Lines 3+6+9)	**2,222**	**2,229**	**1,606**	**1,461**
Approximate surface area (acres) of all BMGR roads based on a 30-foot road width [2]	**8,080**	**8,105**	**5,840**	**5,313**

[1] Roads are subject to future temporary or permanent closures for safety, security, or resource protection purposes.
[2] Widths of improved and unimproved roadways vary on the BMGR from 6 to 60 feet; 30 feet is a conservative width index that represents a potential upper limit of the aggregate area occupied by roads and associated shoulder areas.

Alternative Management Strategy A would allow for the construction of the Yuma Area Service Highway (ASH) in the northwest corner of BMGR—West as currently proposed by the Arizona Department of Transportation and being analyzed in separate NEPA documentation.

Proposed Action and Preferred Alternative

The proposed action, which is also the preferred alternative, is a composite of 17 resource management elements borrowed from Alternative Management Strategies A, B, C, and D (Table S-4). On overall balance, the proposed action is weighted toward resource management elements selected from Alternative Management Strategies C and D. The weighting of the proposed action shows the Core Planning Team's decision to select a blend of resource management elements that would support continued public access and recreation opportunities within the BMGR while also affording increased emphasis on resource conservation, rehabilitation, and protection.

TABLE S-4
PROPOSED ACTION
SELECTED RESOURCE MANAGEMENT STRATEGY ELEMENTS

	Resource Management Element	Selected Resource Management Strategy							
		Range-wide Application	Management Unit Application						
			Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7
1	Resource Inventory and Monitoring	D							
2	Special Natural/Interest Areas	C							
3	Motorized Access and Unroaded Area Management	C							
4	Camping and Visitor Stay Limits	C							
5	Recreation Services and Use Supervision		D	C	D	D	D	D	D
6	Rockhounding		D	C	C	D	D	D	D
7	Wood Cutting, Gathering, and Firewood Use, and Collection of Native Plants		D	C	C	C	C	C	C
8	Hunting	B							
9	Recreational Shooting	C							
10	Utility/Transportation Corridors	C							
11	General Vegetation, Wildlife, Wildlife Habitat, and Wildlife Waters	C							
12	Special Status Species	C							
13	Soil and Water Resources	D							
14	Air Resources	A							
15	Visual Resources	B							
16	Wildfire Management	B							
17	Perimeter Land Use, Encroachment, and Regional Planning	D							

The differences between the proposed action and the existing conditions under Alternative Management Strategy A, the no-action alternative are summarized in Table S-5.

TABLE S-5
PROPOSED ACTION RESOURCE MANAGEMENT ELEMENTS COMPARED TO THE EXISTING CONDITION

Resource Inventory and Monitoring

- The extent and intensity of resource monitoring and survey would increase (new action).
- Additional vegetation and wildlife surveys, in particular, would be conducted to monitor the ecosystem health and biodiversity (new action).
- Limits of acceptable change monitoring would be used to track key indicators of environmental **impacts** resulting from recreation use. Adaptive responses, based on monitoring results, would redirect management measures as necessary to ensure that resource conservation, rehabilitation, and protection goals are met and that recreation use continues to be sustainable (new action).

Special Natural/Interest Areas

- The Flat-tailed Horned Lizard Habitat Management Area and the three previously designated ACECs would be redesignated as special natural/interest areas (no change).
- The two SRMAs and El Camino del Diablo Backcountry Byway would not be redesignated (new action).
- Special geological, scenic, cultural, or other resource areas could be evaluated in the future to determine the appropriateness of establishing additional special natural/interest areas as conservation, rehabilitation, or protection tools (new action).

Motorized Access and Unroaded Area Management

- Of the 2,222 miles of roads within the BMGR, approximately 30 percent (616 miles) would be closed under the proposed action (new action). Of these 616 miles, approximately 303 miles would be closed in areas of the BMGR that are generally accessible for public use, reducing the extent of public use roads from 981 miles to 678 miles. The other 313 miles of road to be closed are roads that are currently available for use only by the military or other agencies, resulting in 928 miles remaining from the 1,241 miles of road currently available for government use only. Approximately 91 percent of the reduction in available general public access road mileage would occur in BMGR—West, where 277 miles of the 767 miles currently available would be closed. In BMGR—East, 26 of the 214 miles of road currently available for general public access would be closed. Most of the roads that would be closed are redundant; that is, other nearby roads provide access to the same area. However, some roads that would be closed would reduce access within localized areas.
- Site-specific planning would begin for two bypass roads (totaling approximately 7 miles) to reroute primarily Border Patrol traffic around rather than through the Cabeza Prieta NWR/Wilderness (new action).
- In some areas, closed roads may be actively restored to remediate a degraded ecological process or to enhance wildlife usage. Other closed roads would be allowed to revegetate naturally (new action).
- Unroaded areas of 3,000 acres or more would be conserved to the extent that such conservation is compatible with military or agency missions (new action). Assuming that the roads closed under the proposed action are revegetated over the long term, the range-wide elimination of 616 miles of road would reduce the number of unroaded areas in the BMGR of 3,000 acres or less by 65 percent from 526 to 185. In addition, there would be 43 fewer unroaded areas of 3,001 acres or more with the proposed action because smaller areas would be combined into larger blocks of unroaded areas. The largest unroaded area would be slightly more than 102,000 acres located within BMGR—East.

Camping and Visitor Stay Limits

- Dispersed, self-contained camping (non-vehicle based) would continue to be allowed in all areas open to the public (no change).
- Vehicle-based camping would continue to be allowed along most roads designated as open to public use (no change), although some road segments and specific areas would be closed to protect resources that are sensitive to human-induced disturbances (new action). Vehicles would continue to be allowed to pull up to 50 feet off the road, although campsites could be located farther from the road (no change).
- An assessment would be completed to determine the appropriateness of establishing designated camping areas (new action).
- Vehicle-based camping stays would continue to be limited to 14 consecutive days within a 28-day period except by special use permit (no change).
- Rules would be prescribed to ensure that the disposal of human sewage and solid waste is in accordance with applicable federal, state, and local regulations (new action).

TABLE S-5
PROPOSED ACTION RESOURCE MANAGEMENT ELEMENTS COMPARED TO THE EXISTING CONDITION

Recreation Services and Use Supervision
• Public off-road vehicle travel and also on- and off-road racing would continue to be prohibited (no change). • Motorized public travel in washes would be prohibited except where the wash is a designated part of the road system open to the public and is dry (no change). • In most areas (except Management Unit 2), a special use permit would be required for any single party with 10 or more vehicles. In Management Unit 2, a special use permit would be required for any single party with 20 or more vehicles (new action). • All vehicles and operators would continue to be required to comply with general vehicle operating rules, including being licensed for highway driving under Arizona laws and regulations (no change). • Visitors would continue to need a permit to access the BMGR (no change). • New public education and recreation use programs would be developed and implemented to inform the public about road restrictions and resource sensitivities (new action). • A minimum of six law enforcement officers would be retained and dedicated to the BMGR (new action). • The effects of recreation use on natural and cultural resources would be monitored. If damage occurs that exceeds pre-determined limits of acceptable change, management actions would be taken to reduce and/or remediate the damage (new action). • Signs, gates, and fences would be installed based on a needs assessment. Roads that are open to public use would be marked as open (new action). If a road does not have a sign that indicates that it is open, drivers would have to consider it closed (new action). • Recreation use records and statistics would be developed and maintained (new action). • Recreational use of metal detectors and entry to mines would be prohibited (new action).
Rockhounding
• Rockhounding for personal use (removing up to 25 pounds of rock) would be allowed in portions of BMGR—West (Management Units 2 and 3) except within special natural/interest areas and other designated areas where resources are sensitive to human-induced disturbances. Rockhounding would be prohibited in other parts of the BMGR (new action).
Wood Cutting, Gathering, and Firewood Use, and Collection of Native Plants
• The use of dead and downed wood for campfires would continue to be allowed in most areas that are open to the public (that is, in Management Units 2, 3, and 6). Wood cutting, gathering, and native wood campfires would be prohibited in Management Unit 1 (which includes most of the former Tinajas Altas Mountains ACEC). If wood supplies become depleted in high-use areas, additional restrictions could be implemented (new action). • Wood cutting and wood gathering for purposes other than campfires would be prohibited throughout the range. Removal of wood from the range would also be prohibited (no change). • Collection or salvage of native plants would continue to be prohibited in accordance with the Arizona Native Plant Law (no change). Collection of native plants would be allowed for protected Native American purposes (new action).
Hunting
• Existing game management programs would continue (no change). • An assessment would be conducted to determine if it would be appropriate to establish a special hunting permit program that requires payment of a nominal fee to be used for the protection, conservation, and management of wildlife, including habitat improvement (new action). • The effects of non-game species collection on wildlife, habitat, and other resources would be evaluated and, if warranted, such collection would be limited or restricted within the authority of state law (new action).
Recreational (Target) Shooting
• Recreational shooting would continue to be allowed under existing regulations as long as it is compatible with military use, public safety, and no significant resource issues are identified (no change). • A special use permit would be required to shoot between sunset and sunrise or to use automatic weapons (new action). • An assessment would be conducted on the appropriateness of recreational shooting on the BMGR, including the potential for designating specific shooting areas (new action).

TABLE S-5
PROPOSED ACTION RESOURCE MANAGEMENT ELEMENTS COMPARED TO THE EXISTING CONDITION

Utility/Transportation Corridors
• Construction of the Yuma ASH within a right-of-way that passes through the northwestern corner of BMGR—West would be allowed (no change). • Non-military utilities would continue to be restricted to the established utility corridor along State Route 85 and the Tucson Cornelia and Gila Bend Railroad (no change).
General Vegetation, Wildlife, Wildlife Habitat, and Wildlife Waters
• Procedures would be developed to control all trespass grazing by livestock (new action). • Actions would be taken to prevent, control, and eradicate the spread of invasive species commensurate with the threats these species pose to natural resources (new action). • Restrictions on activities would be implemented in key areas if needed to protect and conserve habitat, ecosystems, or biodiversity (new action). • Areas damaged by a discontinued military, agency, or extensive public use would be restored (new action). • New wildlife water developments would be limited to six high-priority developments in the first five years of the INRMP. Concurrently, an assessment of the beneficial and adverse effects of water developments would be conducted and used to determine whether the programs should be continued or permanently suspended on the BMGR (new action).
Special Status Species
• Surveys for special status species would be conducted on an as-needed basis and used to update lists of species that occur on the BMGR as well as species distribution and abundance (no change). • Habitat improvements would be made in support of endangered species recovery plans (no change). • Resources would be provided, as necessary, for predator control to protect a special status species (new action).
Soil and Water Resources
• Measures would be taken to continue to prevent soil erosion, water pollution, and groundwater depletion (no change). • A range-wide soil survey using Natural Resource Conservation Service standards would be conducted to provide information on soil types, erosion risks, and soil vulnerability to disturbances (new action). • Vehicular and construction activities would be restricted when soils are susceptible to a heightened risk of erosion, and areas of excessive surface damage from past activities would be restored (new action).
Air Resources
• Actions would continue to be taken to control fugitive dust at construction sites and to prevent non-point source air pollution (no change).
Visual Resources
• The effects of new actions on visual resources would continue to be considered with a focus on minimizing degradation of scenic views (no change).
Wildfire Management
• A range-wide fire management plan would be prepared to establish fire prevention and suppression protocols to minimize threats to human life, property, and natural and cultural resources (new action).
Perimeter Land Use, Encroachment, and Regional Planning
• Actions would be taken to improve coordination and communication with off-range managers and authorities to address issues of a regional concern and to provide input so that off-range actions result in few, if any, adverse effects on the BMGR (new action).

Alternative Management Strategy B

In contrast to the other alternatives, Management Strategy B would support the greatest degree of motorized access to the BMGR, including potentially expanding the road network available for public use. Strategy B provisions would still have to remain compatible with the military mission and the maintenance of a functioning natural ecosystem. For example, Strategy B would allow for driving in designated dry washes and vehicle-based camping within 100 feet (rather than the

current 50 feet required under Strategies A, C, and D and the proposed action) of public use roads. It would also potentially allow for the establishment of designated off-road vehicle use areas and public entry to designated mines. However, all motorized access and recreation use would have to remain compatible with the military mission and the maintenance of a functioning natural ecosystem. Strategy B would keep the entire existing road network open for vehicular use. Strategy B would also allow for the potential development of additional roads on a case-by-case basis, but the only identified proposed difference between the Alternative Management Strategies A and B road networks is that Strategy B would authorize planning for the two new Cabeza Prieta NWR/Wilderness bypass roads totaling approximately 7 miles. Unroaded areas and unroaded area management would be the same as described for Strategy A, with the exception of areas bisected by these bypass roads and any future roads.

Alternative Management Strategy B would provide for the application of resource protection and conservation measures, but its focus would be on resource-specific monitoring, targeted wildlife management actions (such as continued development and maintenance of wildlife waters), and basic compliance with regulatory requirements. In most other ways, Strategy B is similar to Strategy A, the no-action alternative. The key remaining difference is that Strategy B would allow the existing special management area designations for ACECs, SRMAs, and the Camino del Diablo Backcountry byway to expire in favor of managing these areas in the same manner as other BMGR locations.

Alternative Management Strategy C

Alternative Management Strategy C is similar to the proposed action because many of the resource management elements of Strategy C, including those for the range road network and wildlife management, were incorporated in the proposed action (see Table S-4). Strategy C represents all of the public access and recreation management elements of the proposed action except that Strategy C would: (1) set the single party vehicle limit without a special use permit at 19 vehicles range-wide compared to the proposed action, which would set this limit at 9 vehicles in Management Units 1, 3, 4, 5, 6, and 7, and 19 vehicles in Management Unit 2; (2) permit recreational rockhounding where the range is open to public access, whereas the proposed action would limit this activity to Management Units 2 and 3; and (3) permit the use of dead and downed wood for campfires throughout the range, whereas the proposed action would prohibit this activity in Management Unit 1. Strategy C would also promote the use of dust palliatives to control fugitive dust, while the proposed action would use best management practices to control non-point source pollution and the use of dust palliatives would be optional. Visual resource management criteria would be established and applied to new projects on the BMGR, whereas under the proposed action visual resource impacts of new projects would be limited to NEPA-based requirements.

Alternative Management Strategy D

Alternative Management Strategy D represents the opposite end of the spectrum from Strategies A and B by proposing the most limits on motorized access and public use activities, no Cabeza Prieta NWR/Wilderness bypass roads, conservation of unroaded blocks of land of 3,000 acres or more, and the greatest emphasis on adaptive management methods that incorporate feedback from ecosystem monitoring. The development of new permanent wildlife waters would be immediately suspended under this strategy pending the outcome of a detailed review of the beneficial and adverse effects of water developments on the BMGR. New permanent waters may be developed in

the future if the results of this review indicate that beneficial effects outweigh adverse outcomes. Maintenance and repair of existing waters would continue pending the findings of the review.

Alternative Management Strategy D would reduce the total inventory of active roads by 761 miles to 1,461 miles, which would be about 34 percent less than the existing network (see Table S-3). Under Strategy D, 562 miles of roads would be available for general public access, which is about 43 percent less than that available under existing conditions with most of the reduction occurring in BMGR—West. There would be little difference in the effects of Alternative Management Strategy D and the proposed action on the road mileage available for general public access in BMGR—East. Strategy D would close 35 miles of public access roads in BMGR—East compared to 26 miles under the proposed action. This strategy would not allow for the proposed construction of the Yuma ASH.

With revegetation of closed roadbeds occurring over time, the number of unroaded areas in the BMGR of 3,000 acres or less would be reduced from 526 to 145 by Strategy D, a reduction of about 72 percent. Under Strategy D, there would be eight unroaded areas of more than 50,000 acres, with the largest unroaded area consisting of about 102,000 acres in BMGR—East.

ENVIRONMENTAL ANALYSIS

The existing environment of the BMGR and area of potential effect outside the BMGR was described so that the effects of the INRMP alternatives could be assessed for their effect on the environment. The discussion of each resource or management issue (Chapter 4) includes a description of the existing conditions; the relationship of the resource or management issue to the military mission; current regulatory and statutory requirements and management plans and actions that are applicable to the resource or management issue; and management information not currently available for resource management, where applicable. A total of 20 resource impact assessment categories were addressed including: earth resources, water resources, climate and air resources, vegetation, wildlife and wildlife habitat, protected species, wildfire management, grounds maintenance, public utility and transportation corridors, special management areas, outdoor recreation, public health and safety, law enforcement, transboundary and domestic perimeter land use, cultural resources, visual resources, hazardous materials and waste, socioeconomics, noise, and environmental justice.

Comparison of the Alternatives

The potential environmental consequences of implementing the proposed management action, alternative management actions (Strategies B, C, and D), and no-action alternative (Strategy A) were compared to the baseline environmental conditions and to each other (Chapter 5). Table S-6 compares the predicted individual aggregate effects of the proposed action and Alternative Management Strategies A, B, C, and D on each of the 20 resource impact assessment categories evaluated. Table S-7 provides a summary of these aggregate effects in terms of the overall beneficial or adverse impacts the proposed action and each alternative would have on each resource impact assessment category.

In general, the aggregate effects of the proposed action and Alternative Management Strategies C and D would be beneficial for the natural and cultural resources of the range and provide mixed effects for outdoor recreation. All three of these alternatives provide for public access, but each

TABLE S-6
COMPARISON OF ALTERNATIVES

Proposed Action	Strategy A	Strategy B	Strategy C	Strategy D
Earth Resources				
• Restricts or limits some uses that can cause physical disturbance and associated soil erosion (e.g., ORV travel, motorized public access, vehicle-based camping, utility/transportation corridor development), which would generally reduce physical soil impacts compared to current conditions at low levels range wide, with greater levels of improvement possible in localized areas. Includes reduced effects to soils from road network and associated uses (e.g., vehicle-based camping) by closing 616 miles of roads. The estimated upper limit of the total BMGR surface area occupied by roads and shoulder areas would be reduced from 0.47 percent to 0.34 percent.	• Some of the same impacts as the proposed action, but cumulative physical disturbance to soils would likely be slightly greater because of fewer restrictions or limitations on some uses that can disturb soils and cause accelerated rates of erosion (e.g., ORV travel, motorized public access, vehicle-based camping, utility/transportation corridor development). Includes continued effects to soils from the existing 2,222-mile road network and associated uses in short term. Future development of a transportation plan could decrease physical disturbance from roads and shoulder areas by an unquantified amount in long term.	• Some of the same impacts as the proposed action, but cumulative physical disturbance to soils would potentially be greater because of fewer restrictions or limitations on some uses (e.g., ORV travel, motorized public access, vehicle-based camping, utility/transportation corridor development) and potential for new uses that can disturb soils and cause accelerated rates of erosion (e.g., designated ORV use areas, vehicle-based camping within 100 feet instead of 50 feet of open roads). Includes continued effects to soils from an estimated 2,229-mile road network (includes 7-mile Cabeza Prieta NWR bypass roads) and associated uses and potentially by new roads. The estimated upper limit of the total BMGR surface area occupied by roads and shoulder areas would continue to be about 0.47 percent to the total range acreage.	• Differs minimally from the proposed action in terms of restrictions or limitations on uses that could cause physical disturbance and associated soil erosion. As with the proposed action, includes reduced effects to soils from road network and associated uses (e.g., vehicle-based camping) by closing 616 miles of roads. The estimated upper limit of the total BMGR surface area occupied by roads and shoulder areas would be reduced from 0.47 percent to 0.34 percent.	• Proposes greater restrictions/limitations on some uses (e.g., motorized public access, utility/transportation corridor development) and would result in slightly less physical disturbance on a range-wide basis than proposed action, correlating to slightly lower intensity effects on soil resources. Includes reduced effects to soils from road network and associated uses by closing about 761 miles of road. The estimated upper limit of the total BMGR surface area occupied by roads would be reduced from 0.47 percent to 0.31 percent.
• Limits of acceptable change monitoring would provide data needed to trigger adaptive management responses that could benefit soil resources (e.g., to curtail illicit off-road driving)	• No monitoring-related soil resources management	• Monitoring limited to compliance actions, with fewer benefits to soil resources expected than with the proposed action	• Limits of acceptable change monitoring would provide data needed to trigger adaptive management responses that could benefit soil resources (e.g., to curtail illicit off-road driving)	• Limits of acceptable change monitoring would provide data needed to trigger adaptive management responses that could benefit soil resources (e.g., to curtail illicit off-road driving)
• Continues existing earth resources management objectives, *plus* implements new management objectives for soil and water resources management that would provide better information to be used in management	• Retains existing earth resources management provisions, which includes fewer earth resources management objectives than the proposed action	• Focuses on complying with statutory requirements and preventing erosion in areas of cultural resource sensitivity, a lower level of management of earth resources than the proposed action	• Similar to the proposed action, but slightly less comprehensive monitoring and perimeter land use coordination than with the proposed action and slightly higher management standards for air and visual resources would potentially have minor mixed effects on earth resources	• Similar to the proposed action, but with higher management standards for air resources and visual resources that could indirectly lessen indirect effects on earth resources to a minor degree
• Includes a range-wide soil survey	• Does not include a range-wide soil survey	• Does not include a range-wide soil survey	• Does not include a range-wide soil survey	• Includes a range-wide soil survey
• Areas of excessive surface damage would be restored where feasible and prudent, reducing effects to soils in affected areas	• No prescribed restoration efforts	• No prescribed restoration efforts	• No prescribed restoration efforts	• Closed roads and areas of excessive surface damage would be restored where feasible, reducing effects on soils in localized areas
Water Resources				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Reductions in physical surface disturbance (as described under earth resources for this strategy) would potentially decrease associated effects to water resources, such as disruption of natural stormwater runoff patterns and increased sediment in water courses	• Slightly higher levels of physical surface disturbance than under the proposed action (as described under earth resources for this strategy) would potentially result in greater effects to water resources, such as disruption of natural stormwater runoff patterns and increased sediment in water courses. Future development of a transportation plan could lead to reductions in road-related surface disturbance of an unquantified amount.	• Slightly higher levels of cumulative physical surface disturbance than under the proposed action (as described under earth resources for this strategy) would likely result in slightly greater effects to water resources, such as disruption of natural stormwater runoff patterns and increased sediment in water courses	• Reductions in physical disturbance (as described under earth resources for this strategy) would potentially decrease any associated effects to water resources, such as disruption of natural stormwater runoff patterns and increased sediment in water courses	• Reductions in physical disturbance as described under earth resources for this strategy) would potentially decrease any associated effects to water resources, such as disruption of natural stormwater runoff patterns and increased sediment in water courses
• Additional resource inventory and monitoring objectives and a shift to adaptive management with regard to all resource management objectives could potentially identify and lessen impacts to water resources	• Continued management under existing guidance and fewer resource inventory and monitoring objectives would have less potential for reducing impacts to water resources than the proposed action	• Less extensive inventory and monitoring and soil and water resources management programs would have less potential for reducing impacts to water resources than the proposed action	• Similar to the proposed action, but excludes ecosystem-wide efforts for resource inventory and monitoring and includes air and visual resource objectives that could indirectly lessen impacts on water resources	• Same level of resource inventory and monitoring as proposed action, but includes higher management standards for air resources and visual resources that could indirectly lessen impacts on water resources
Climate and Air Resources				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Not expected to have any measurable or long-term impact on range-wide air quality	• Not expected to have any measurable or long-term impact on range-wide air quality	• Not expected to have any measurable or long-term impact on range-wide air quality	• Not expected to have any measurable or long-term impact on range-wide air quality	• Not expected to have any measurable or long-term impact on range-wide air quality
• Proposed changes in vehicular use and other activities that may influence air quality, including continuing existing management objectives for air resources management, would potentially have minor, short-term and localized, mixed effects on air resources	• Future development of a transportation plan and continued limitations or restrictions on other activities that may influence air quality, including continuing existing management objectives for air resources, would potentially have minor, short-term and localized, mixed effects on air resources	• Less restrictive measures on vehicle use and recreational activities (including potential designation of ORV use areas) and no special management objectives to avoid air quality degradation could have greater impacts on short-term and localized air quality than proposed action	• Mixed effects to air quality similar to the proposed action, but potential use of dust palliatives on heavily traveled roads could result in greater localized reductions in fugitive dust emissions	• Mixed effects to air quality similar to the proposed action, but potential use of dust palliatives on heavily traveled roads could result in greater localized reductions in fugitive dust emissions

TABLE S-6
COMPARISON OF ALTERNATIVES

General Vegetation

Proposed Action	Strategy A	Strategy B	Strategy C	Strategy D
• Continued and new limitations or restrictions on motorized access, visitor camping, and public use would generally reduce low-level, dispersed impacts to vegetation range-wide, with greater reductions possible in some localized areas. Includes: – 616 miles of road closures (resulting in a 1,606-mile total road network), which would not only result in reduced impacts from the roads, but also other associated activities; the majority of road closures (530 miles) would be within the creosotebush-bursage desertscrub natural community – continuing to prohibit visitor off-road driving, retaining a minimum of six law enforcement personnel, and increased user education – restrictions on camping and visitor stay limits (including decreased vehicle-based camping locations as a result of road closures and restrictions in areas with sensitive resources), rockhounding, recreational shooting, wood cutting and gathering, native wood campfires in Unit 1, collection of native plants, and further possible restrictions based on assessments of special hunting program, non-game species collection, recreational shooting, and designated camping areas	• Continuing the current limitations or restrictions on motorized access, visitor camping, and public use would not change the existing potential for low-level, dispersed impacts to vegetation at low levels range-wide or more intense impacts in some localized areas. Includes: – keeping entire 2,222-mile road network open to vehicle use and associated activities – continuing to prohibit visitor off-road driving, not requiring a minimum number of law enforcement personnel, and providing user education – restrictions on camping and visitor stay limits, rockhounding, wood cutting and gathering (the continued prohibition of use and collection of dead and downed wood within the expired ACECs and within 150 feet of the expired Backcountry Byway), and collection of native plants	• Continuing the current limitations or restrictions on motorized access, visitor camping, and public use would not reduce the existing potential for low-level, dispersed impacts to vegetation range-wide or more intense impacts in some localized areas. Includes: – retaining entire 2,222-mile road network open to existing vehicle use and associated activities – continuing to prohibit off-road driving, requiring a minimum of two law enforcement personnel, and providing user education – restrictions on camping and visitor stay limits, rockhounding, wood cutting and gathering (the continued prohibition of use and collection of dead and downed wood within the expired ACECs and within 150 feet of the Backcountry Byway), and collection of native plants • Potential for some increased impacts to vegetation as compared to the proposed action and existing conditions from retaining current 2,222-mile road network, plus potentially the 7-mile Cabeza Prieta NWR bypass roads and other new public use roads, and extending vehicle use to designated washes	• Continued and new vegetation based on limitations or restrictions on motorized access, visitor camping, and public use would generally reduce the level or extent of human-induced impacts low-level, dispersed impacts to vegetation range-wide, with greater levels of reduction possible in some localized areas. Includes: – 616 miles of road closures (resulting in a 1,606-mile total road network), which would not only result in reduced impacts from the roads, but also other associated activities; the majority of road closures (530 miles) would be within the creosotebush-bursage desertscrub natural community – continuing to prohibit visitor off-road driving, requiring a minimum of four law enforcement personnel, and increased user education – restrictions on camping and visitor stay limits (including decreased vehicle-based camping from road closures and restrictions in areas with sensitive resources), rockhounding, recreational shooting, wood cutting and gathering, collection of native plants, and further possible restrictions based on assessments of special hunting program, non-game species collection, recreational shooting, and designated camping areas	• Continued and new limitations or restrictions on motorized access, visitor camping, and public use would generally reduce low-level, dispersed impacts to vegetation range-wide, with greater levels of reduction possible in some localized areas. Includes: – 761 miles of road closures (resulting in a 1,461-mile total road network), mostly within the creosotebush-bursage desertscrub natural community, wherein an estimated 625 miles of road would be closed, which would not only result in reduced impacts from the roads, but also other associated activities – recreation services and use supervision, including continuing to prohibit visitor off-road driving, requiring a minimum of six law enforcement personnel, and increased user education – restrictions on camping and visitor stay limits (including decreased vehicle-based camping from road closures and restrictions in areas with sensitive resources), collection of native plants, and further possible restrictions based on assessments of special hunting program, and designated camping areas – prohibiting rockhounding, recreational shooting, all wood cutting and gathering and native wood campfires, and non-game species collection (within the authority of state law)
• If general recreational shooting and/or camping areas were established, there may be more intense localized impacts to vegetation, but less dispersed impacts from these activities	• Effects on vegetation from recreational shooting/camping would continue to be dispersed as there would be no evaluation of establishing designated areas for these activities	• If designated camping areas were established, there may be more localized impacts to vegetation, but less dispersed impacts from camping; if a designated ORV use area were established, there could be localized destruction of vegetation	• If designated shooting and/or camping areas were established, there may be more intense localized impacts to vegetation, but less dispersed impacts from these activities	• If designated camping areas were established, there may be more intense localized impacts to vegetation, but less dispersed impacts from these activities
• General vegetative resources would be considered in a broader, regional context, and a more adaptive, ecosystem management approach would be taken towards stewardship, including improved coordination with other land owners/managers; maintenance of existing, or establishment of additional special management provisions for protection of vegetation; and increased monitoring, surveying and mapping efforts to provide reliable and up-to-date scientific information about vegetative resources and their response to ongoing military and civilian use on the BMGR and within the greater ecoregion. Redesignation of HMA and ACECs may promote enhanced protection of vegetation communities within these special natural/interest areas.	• Management of vegetative resources would be limited to the actions prescribed in the Goldwater Amendment, HMPs, or compliance-related requirements. Redesignation of all special management areas and applicable management provisions may promote enhanced protection of vegetation communities within areas.	• Management of vegetative resources would be somewhat expanded from existing programs to include means to monitor compliance action, invasive species management programs, and the restoration of areas damaged by discontinued use. Enhanced protection of vegetation communities associated with special natural/interest area designation would be limited to that associated with the HMA.	• Management of vegetative resources similar to the proposed action, but includes less coordination with other land owners/managers and additional visual and air resources management objectives that would have minor indirect mixed effects on vegetation management as compared to the proposed action. Redesignation of HMA and ACECs may promote enhanced protection of vegetation communities within these special natural/interest areas.	• General vegetative resources would be considered in the broadest, regional context, and a most adaptive, ecosystem management approach would be taken towards stewardship of the alternatives considered. Redesignation of all special management areas may promote enhanced protection of vegetation communities within an expanded aggregate area of special natural/interest areas.
• Unroaded areas greater than 3,000 acres would be conserved as compatible with military or agency missions, precluding or reducing impacts to plants and natural communities in these areas	• Unroaded areas would exist, but does not include an objective for unroaded area conservation	• Unroaded areas would exist, but does not include an objective for unroaded area conservation	• Unroaded areas greater than 3,000 acres would be conserved as compatible with military and agency missions, precluding or reducing impacts to plants and natural communities in these areas	• Unroaded areas greater than 3,000 acres would be conserved as compatible with military and agency missions, precluding or reducing impacts to plants and natural communities in these areas
• No augmented restoration of closed roads proposed, but vegetation restoration efforts would be implemented in areas that have been damaged by a discontinued military, agency, or intensive public use	• No roads proposed for closure in short term; no prescribed restoration	• No roads proposed for closure, vegetation restoration efforts would be implemented for areas that have been damaged by a discontinued military, agency, or intensive public use	• No augmented restoration of closed roads proposed, but vegetation restoration efforts would be implemented for areas that have been damaged by discontinued military, agency, or intensive public use	• Implementation of augmented restoration/remediation of closed roads (where feasible) and vegetation restoration efforts for areas that have been damaged by a discontinued military, agency, or intensive public use

TABLE S-6
COMPARISON OF ALTERNATIVES

General Wildlife and Wildlife Habitats

Proposed Action	Strategy A	Strategy B	Strategy C	Strategy D
• Continued and new limitations or restrictions on motorized access, visitor camping, and public use would generally reduce low-level, dispersed impacts on general wildlife and wildlife habitat range-wide, with greater reductions possible in some localized areas. Additionally: – prohibiting recreational entry to mines would protect roosting bats from disturbance – minor direct effects, such as injury or disturbance, to wildlife species from vehicle use, noise, camping, and wood collection would be reduced, particularly for valley bottom-dwelling and foraging species, as roads and associated activities would be most limited/reduced in these areas – potential elimination of non-game species collection could reduce impacts on the target species and collateral damage to non-target species	• Continuing the current limitations or restrictions on motorized access, visitor camping, and public use would leave the existing potential for low-level dispersed impacts on general wildlife and wildlife habitats unchanged. Additionally: – continuing to prohibit recreational entry to mines would protect roosting bats from disturbance – wildlife species would continue to be subject to existing minor levels of harm and/or disturbance from vehicle use, noise, camping, and wood collection – no assessments called for that might add to or change use limitations or restrictions on non-game species collection	• Continuing the current limitations on restrictions on public/government motorized access would leave the existing potential for low-level dispersed impacts on general wildlife and wildlife habitats unchanged. Additionally: – the evaluation of the feasibility for allowing public entry to mines could potentially impact bats, if such entry were approved – wildlife would continue to be subject to at least existing levels of minor harm and/or disturbance from vehicle use, noise, camping, wood cutting and collection; levels of harm could potentially increase if the public access road network is expanded	• Continued and new limitations on public/government motorized access and recreation use would generally reduce low-level, dispersed impacts on general wildlife and wildlife habitat range-wide, but higher levels of impacts may occur from concentrated use in some localized areas. Additionally: – prohibiting recreational entry to mines would protect roosting bats from disturbance – minor direct effects, such as injury or disturbance, to wildlife species from vehicle use, noise, camping, and wood collection, may be reduced, particularly for valley bottom-dwelling and foraging species as roads and associated activities would be most limited/reduced in these areas – change in types or intensity of impacts could result from the evaluation of non-game species collection and any restrictions (within the authority of state law)	• Continued and new limitations on public/government motorized access would generally reduce low-level, dispersed impacts on general wildlife and wildlife habitat range-wide, but higher levels if impacts may occur from concentrated use in some localized areas. Additionally: – prohibiting recreational entry to mines would protect roosting bats from disturbance – minor direct effects, such as injury or disturbance to wildlife species from vehicle use, noise, camping, and wood collection may be reduced to a slightly greater degree than with the proposed action, particularly for valley bottom-dwelling and foraging species as roads and associated activities would be most limited/reduced in these areas – minor effects that could be reduced or eliminated through the prohibition of recreational shooting, rockhounding, and non-game species collection (within the authority of state law)
• If designated recreational shooting and/or camping areas were established, there may be more intense localized impacts to wildlife and wildlife habitat, but less dispersed impacts from these activities	• Effects on wildlife and wildlife habitat from recreational shooting/camping would continue to be dispersed as there would be no evaluation of establishing designated areas for these activities	• If designated camping areas were established, there may be more intense localized impacts to wildlife and wildlife habitat, but less dispersed impacts from camping • If a designated ORV use area were established, there could be localized destruction of wildlife habitat and injury/death of individual animals	• If designated shooting and/or camping areas were established, there may be more intense localized impacts to wildlife and wildlife habitat, but less dispersed impacts from these activities	• If designated camping areas were established, there may be more intense localized impacts to wildlife and wildlife habitat, but less dispersed impacts from these activities
• The shift toward ecosystem management approaches, as described for General Vegetation for this strategy, may result in management based on a broader range of wildlife species, including the species conservation elements that are intended to serve as indicators of biodiversity and ecosystem health	• Continued management based largely on special status and game species programs would not include an increased emphasis on ecosystem management principals and biodiversity conservation, as compared to the proposed action	• Management based largely on compliance requirements would be largely limited to special status species programs, rather than overall ecosystem management principals and biodiversity conservation, as with the proposed action	• The shift toward ecosystem management approaches, as described for General Vegetation for this strategy, may result in management based on a broader range of wildlife species, including the species conservation elements that are intended to serve as indicators of biodiversity and ecosystem health	• The shift toward ecosystem management approaches, as described for General Vegetation for this strategy, may result in management based on a broader range of wildlife species, including the species conservation elements that are intended to serve as indicators of biodiversity and ecosystem health
• The approach to wildlife water developments would limit new developments in the first five years of the INRMP to six high-priority waters (of the 17 developments proposed in the HMPs and not yet implemented, 14 are primarily for the benefit of desert bighorn sheep, two are primarily for the benefit of mule deer, and one is primarily for the benefit of Sonoran pronghorn); concurrently, literature research and studies would be conducted to further understand the beneficial and adverse effects of wildlife water developments; future management of wildlife waters would be dependent upon findings	• Up to 17 new wildlife waters could be developed during the term of the INRMP, but it is unlikely that more than six would be developed during the first five years of the INRMP; thus, during the near term, the difference between this strategy in the proposed action is that literature review and studies (called for under the proposed action) would not be conducted	• More than 17 new wildlife waters could be developed during the term of the INRMP, but it is unlikely that more than six would be developed during the first five years of the INRMP; thus, during the near term, the difference between this strategy in the proposed action is that the literature review and studies called for under the proposed action) would not be conducted	• The approach to wildlife water developments would be the same as the proposed action; wildlife water developments would be limited to six high-priority waters during the first five years of the INRMP; concurrently, literature research and studies would be conducted to further understand the beneficial and adverse effects of wildlife water developments; future management of wildlife waters would be dependent upon findings	• New wildlife water developments would be suspended for the first five years of the INRMP and, during that time period, literature research and studies would be conductedon the beneficial and adverse effects of wildlife water developments; future management of wildlife waters would be dependent upon findings
• Conservation of unroaded areas would preclude or reduce impacts to resident and transient wildlife in these areas	• There would be no objective for conservation of unroaded areas	• There would be no objective for conservation of unroaded areas	• Conservation of unroaded areas would potentially preclude or reduce impacts to resident and transient wildlife in these areas	• Conservation of unroaded areas would potentially preclude or reduce impacts to resident and transient wildlife in these areas
• No augmented restoration of closed roads proposed, but wildlife habitat restoration efforts would be implemented for areas that have been damaged by a discontinued military, agency, or intensive public use	• No roads proposed for closure in short term; no prescribed restoration	• No roads proposed for closure, vegetation restoration efforts would be implemented for areas that have been damaged by a discontinued military, agency, or intensive public use	• No augmented restoration of closed roads proposed, but wildlife habitat restoration efforts would be implemented for areas that have been damaged by a discontinued military, agency, or intensive public use	• Implementation of augmented restoration/remediation of closed roads (where feasible) and wildlife habitat restoration efforts for areas that have been damaged by a discontinued military, agency, or intensive public use

TABLE S-6
COMPARISON OF ALTERNATIVES

Protected Species				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Continued and new limitations on motorized access, visitor camping, and public use would generally reduce the potential for low-level, dispersed impacts on protected/special status animal or plant species and, for wildlife habitat; potential extent of these reductions would vary depending on the distribution of the individual species relative to the specific areas affected by the proposed road closures or other access limitations	• Continuing the current limitations on motorized access, visitor camping, and public use would leave the existing potentials for low-level dispersed impacts on protected/special status species unchanged	• Continuing the current limitations on motorized access, visitor camping, and public use would leave the existing potentials for low-level dispersed impacts on protected/special status species unchanged	• Continued and new limitations on motorized access, visitor camping, and public use would generally reduce the potential for low-level, dispersed impacts on protected/special status animal or plant species and, for wildlife habitat; potential extent of these reductions would vary depending on the distribution of the individual species relative to the specific areas affected by the proposed road closures or other access limitations	• Continued and new limitations on motorized access, visitor camping, and public use would generally reduce the potential for low-level, dispersed impacts on protected/special status animal or plant species and, for wildlife habitat; potential extent of these reductions would vary depending on the distribution of the individual species relative to the specific areas affected by the proposed road closures or other access limitations
• The application of ecosystem management principals would favor conservation of BMGR natural communities in which protected/special status species are components and upon which they depend for survival	• Protected/special status species management would not be augmented by an increased emphasis on ecosystem management principals or transboundary management coordination	• Protected/special status species management would not be augmented by an increased emphasis on ecosystem management principals or transboundary management coordination	• The application of ecosystem management principals would favor conservation of BMGR natural communities in which protected/special status species are components and upon which they depend for survival	• The application of ecosystem management principals would favor conservation of BMGR natural communities in which protected/special status species are components and upon which they depend for survival
• Improved transboundary coordination with land managers/owners outside the BMGR would facilitate ecoregional management efforts and enhance protected/special status species management			• Improved transboundary coordination with land managers/owners outside the BMGR would facilitate ecoregional management efforts and enhance protected/special status species management	• Improved transboundary coordination with land managers/owners outside the BMGR would facilitate ecoregional management efforts and enhance protected/special status species management
• An estimated 112 miles of roads within the current active range of the Sonoran pronghorn would be closed, which is consistent with the current Marine Corps and Air Force biological opinions for Sonoran pronghorn	• No road closures proposed within the current active range of the Sonoran pronghorn, which is inconsistent with the current Marine Corps and Air Force biological opinions and would leave the potential for vehicle use to affect these animals or their habitat unchanged	• No road closures proposed within the current active range of the Sonoran pronghorn, which is inconsistent with the current Marine Corps and Air Force biological opinions and would leave the potential for vehicle use to affect these animals or their habitat unchanged	• An estimated 112 miles of roads within the current active range of the Sonoran pronghorn would be closed, which is consistent with the current Marine Corps and Air Force biological opinions for Sonoran pronghorn	• An estimated 155 miles of roads within the current active range of the Sonoran pronghorn would be closed, which is consistent with the current Marine Corps and Air Force biological opinions for Sonoran pronghorn
• An estimated 67 miles of roads within flat-tailed horned lizard habitat would be closed which would reduce the potential for these animals to be killed by vehicle use	• No road closures within flat-tailed horned lizard habitat would have potential for these animals to be killed by vehicle use unchanged	• No road closures proposed within flat-tailed horned lizard habitat would have potential for these animals to be killed by vehicle use unchanged	• An estimated 67 miles of roads within flat-tailed horned lizard habitat would be closed, which would reduce the potential for these animals to be killed by vehicle use	• An estimated 69 miles of roads within flat-tailed horned lizard habitat would be closed, which would reduce the potential for these animals to be killed by vehicle use
• Continuing to prohibit recreational entry to mines would continue to protect California leaf-nosed and lesser long-nosed bats from disturbance	• Continuing to prohibit recreational entry to mines would continue to protect lesser long-nosed and California long-nosed bats from disturbance	• Continuing to prohibit recreational entry to mines would continue to protect lesser long-nosed and California leaf-nosed bats from disturbance; potential impacts to these species from public use of mine shafts could occur if sanctioned in the future, although sites would be evaluated for compatibility with public entry	• Continuing to prohibit recreational entry to mines would continue to protect California leaf-nosed and lesser long-nosed bats from disturbance	• Continued prohibited entry to mines would continue to protect California leaf-nosed and lesser long-nosed bats from disturbance
• Implementing site-specific actions (e.g., designating camping or recreational shooting areas, creating the Cabeza Prieta NWR bypass road, etc.) could have potential impacts on protected species, which would be evaluated and mitigated as appropriate in site-specific NEPA evaluation/ Endangered Species Act compliance	• Implementing site-specific actions could have potential impacts on protected/special status species, which would be evaluated and mitigated as appropriate in site-specific NEPA evaluation/ Endangered Species Act compliance	• Implementing site-specific actions (e.g., creating the Cabeza Prieta NWR bypass road, etc.) could have potential impacts on protected/special status species, which would be evaluated and mitigated as appropriate in site-specific NEPA evaluation/ Endangered Species Act compliance	• Implementing site-specific actions (e.g., designating camping or recreational shooting areas, creating the Cabeza Prieta NWR bypass road, etc.) could have potential impacts on protected/special status species, which would be evaluated and mitigated as appropriate in site-specific NEPA evaluation/ Endangered Species Act compliance	• Implementing site-specific actions (e.g., designating camping areas) could have potential impacts on protected/special status species, which would be evaluated and mitigated as appropriate in site-specific NEPA evaluation/ Endangered Species Act compliance
Wildfire Management				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Increased surveys/studies, plans, and coordination would provide up-to-date information about ecological conditions that could be used in wildfire management planning	• Fewer studies, evaluations, and actions than proposed action, resulting in less information for wildfire management	• Fewer studies, evaluations, and actions for understanding ecological conditions than the proposed action, but includes vegetation surveys, which would be useful for wildfire management	• Slightly fewer resource monitoring activities than the proposed action, but would provide improved information on vegetation community conditions, which would be useful for wildfire management planning	• Increased surveys/studies, plans, and coordination would provide up-to-date information about ecological conditions that could be used in wildfire management planning
• Development of a wildfire management plan would facilitate fire hazard management	• No prescribed wildfire management plan	• Wildfire management plan would facilitate fire hazard management	• Development of a wildfire management plan would facilitate fire hazard management	• Development of a wildfire management plan would improve interagency coordination and facilitate fire hazard management

Wildfire Management (continued)				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Wildfire prevention would be enhanced by management activities that decrease invasive plant proliferation; provide the highest minimum law enforcement positions (six), which increases patrol activities with the associated potential to detect fire hazards; and emphasize transboundary land management/ownership coordination, which could reduce fire hazards	• Continues existing wildfire management focus on the suppression of wildfires with the lowest acreage loss and in the most cost-efficient manner	• Provides for minimal perimeter land use coordination and minimum of two law enforcement positions, potentially reducing opportunities to prevent wildfire compared to proposed action	• Wildfire prevention would be somewhat enhanced by management activities that would decrease invasive plant proliferation; provide a minimum of four law enforcement positions, which would increase patrol activities with the associated potential to detect fire hazards; and increase emphasis on transboundary land management/ownership coordination, which could reduce fire hazards	• Wildfire prevention would be enhanced by management activities that decrease invasive plant proliferation; provide the highest minimum law enforcement positions (six), which increases patrol activities with the associated potential to detect fire hazards; and emphasize transboundary land management/ownership coordination which could reduce fire hazards
Grounds Maintenance				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Could potentially change grounds maintenance procedures as a result of implementing a fire management plan, developing invasive species control procedures, determining that a change is needed to reduce impacts on sensitive biological resource (such as pest management activities affecting flat-tailed horned lizards)	• Could potentially change grounds maintenance procedures if pest management activities were determined to be affecting the flat-tailed horned lizards, another sensitive species; lack of monitoring could mean potential problem areas would not be identified	• Could potentially change grounds maintenance procedures as a result of implementing a fire management plan, developing invasive species control procedures, determining that a change is needed to reduce impact on sensitive biological resource (such as pest management activities affecting flat-tailed horned lizards)	• Could potentially change grounds maintenance procedures as a result of implementing a fire management plan, developing invasive species control procedures, determining that a change is needed to reduce impact on sensitive biological resource (such as pest management activities affecting flat-tailed horned lizards)	• Could potentially change grounds maintenance procedures as a result of implementing a fire management plan, developing invasive species control procedures, determining that a change is needed to control impact on sensitive biological resource (such as pest management activities affecting flat-tailed horned lizards)
Public Utilities and Transportation Corridors				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Allows development of Yuma Area Service Highway, but no other new corridors • Future transportation projects would be restricted to the existing State Route 85 corridor or the Yuma Area Service Highway corridor, if constructed • Restricts future utility projects to the existing State Route 85 corridor	• Requires field review and/or environmental assessments for corridor proposals (would likely allow development of Yuma Area Service Highway) • Restricts future utility projects to the existing State Route 85 corridor	• Provides for consideration of new utility/transportation corridors on a case-by-case basis, if compatible with military mission (would likely allow development of Yuma Area Service Highway) • Does not restrict future utility projects to the existing State Route 85 corridor, but requires regulatory review prior to approval	• Allows development of Yuma Area Service Highway, but no other new corridors • Future transportation projects would be restricted to the existing State Route 85 corridor or the Yuma Area Service Highway corridor, if constructed • Restricts future utility projects to the existing State Route 85 corridor	• Future transportation projects would be restricted to the existing State Route 85 corridor or the Yuma Area Service Highway corridor, if constructed • Restricts future utility projects to the existing State Route 85 corridor
Special Management Areas				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Redesignates ACECs and HMA as special natural/interest areas, but allows the SRMAs and Backcountry Byway to expire • Existing management provisions would be retained for the HMA; management of the redesignated ACECs as special natural/interest areas and the former SRMAs and Backcountry Byway would be affected by other 16 resource management elements. Additional management provisions could be implemented for the redesig-nated special natural/interest areas. The potential for altering existing or establishing additional special natural/interest areas would be evaluated.	• Redesignates existing designations for ACECs, HMA, SRMAs, and the Backcountry Byway as special natural/interest areas • Existing management provisions would be retained for all existing special management areas	• Redesignates HMA as a special natural/interest area, but allows ACECs, SRMAs, and Backcountry Byway to expire • Existing management provisions would be retained for the HMA; management of the former ACECs, SRMAs, and Backcountry Byway would be affected by other 16 resource management elements. No prescribed evaluation of altering existing or establishing additional special natural/interest areas.	• Redesignates ACECs and HMA as special natural/interest areas, but allows the SRMAs and Backcountry Byway to expire • Existing management provisions would be retained for the HMA; management of the redesignated ACECs as special natural/interest areas and former SRMAs and Backcountry Byway would be affected by other 16 resource management elements. Additional management provisions could be implemented for the redesig-nated special natural/interest areas. The potential for altering existing or establishing additional special natural/interest areas would be evaluated.	• Redesignates ACECs, HMA, SRMAs, and Backcountry Byway as special natural/interest areas • Existing management provisions would be retained for the HMA; management of the other redesignated special natural/interest areas would be affected by other 16 resource management elements. Additional management provisions could be implemented for the redesignated special natural/interest areas. The potential for altering existing or establishing additional special natural/interest areas would be evaluated.
• Key changes in existing management of special management areas and effects thereof include: – allowing use of dead and downed wood in some portions of redesignated ACECs and within 150 feet of the former Backcountry Byway where this activity is currently prohibited, which could affect wildlife and wildlife habitat in these areas – 32 percent reduction of road networks within redesignated ACEC special natural/interest areas, which would reduce impacts from vehicles and vehicle-associated activities and over time would rehabilitate larger unroaded areas	• Existing management of special management areas and effects thereof would continue, including: – Existing prohibition on collecting dead and downed wood for campfire use in the ACECs and within 150 feet of the Backcountry Byway – Retaining existing road network and low-level dispersed impacts associated with vehicle use of these roads and other connected activities such as vehicle-based camping within redesignated special natural/interest areas	• Potential decreased management of former special management areas, particularly with regard to road management, use of dead and downed wood, vehicle-based camping; potential increased management from other resource elements (e.g., resource monitoring, waste disposal rules and regulations, erosion control, etc.)	• Key changes in existing management of special management areas and effects thereof include: – allowing use of dead and downed wood in some portions redesignated ACECs and within 150 feet of the former Backcountry Byway where this activity is currently prohibited, which could affect wildlife and wildlife habitat in these areas – 32 percent reduction of road networks within redesignated ACEC special natural/interest areas, which would reduce impacts from vehicles and vehicle-associated activities and over time would rehabilitate larger unroaded areas	• Potential for the same or increased management provisions for special natural/interest areas, including: – prohibiting use of dead and downed wood and native campfires within and outside of special management areas – 42 percent reduction of road networks within redesignated ACEC special natural/interest areas, which would reduce impacts from vehicles and vehicle-associated activities and over time would rehabilitate larger unroaded areas

Outdoor Recreation				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Affects BMGR recreational opportunities as follows: – Recreational driving: includes continued prohibition of off-road driving, reduction of the road network available to the public by 31 percent (mostly redundant roads in localized areas), prohibition of driving in washes unless they are part of the designated road system open to the public and are dry, and a special use permit for single parties with more than 10 vehicles (20 within Management Unit 2) required – Camping: vehicle-based camping would continue to be allowed within 50 feet of public use roads with a 14-day consecutive stay limit, but this would be further limited by the closure of roads and localized restrictions along road segments and within ¼-mile of sensitive resources in addition to wildlife waters – Wood gathering and firewood use: use of dead and downed wood for campfires allowed except for within Unit 1, new prohibition of native wood fires within Unit 1 (Tinajas Altas area) – Rockhounding: limited to Management Units 2 and 3 (which includes BMGR-West area open to public access outside of Tinajas Altas area) and 25 pounds per person per day and 250 pounds per year, and restricted from redesignated ACECs; prohibited in Units 1, 4, 5, 6, and 7 (which includes Tinajas Altas area of BMGR-West and all of BMGR-East) – Metal detectors: prohibited range-wide because of buried unexploded ordnance hazards – Mine exploration: prohibited range-wide because of extreme safety hazards and bat roosting habitat – Recreation shooting: not restricted except that a special use permit is required for shooting automatic weapons and at night – Potential for additional effects based on the findings of assessments including a nominal fee for hunting on the BMGR, restrictions or limitations on non-game species collection, and establishment of designated camping and/or recreational shooting areas	• Affects BMGR recreational opportunities as follows: – Recreational driving: includes continued prohibition of off-road driving, no reduction of the road network available to the public (totaling 981 miles), potential driving in some washes subject to the finalization of the Barry M. Goldwater East HMP, special use permit for single parties with more than 50 vehicles required – Camping: no change from current conditions (vehicle-based camping must be within 50 feet of existing public use roads with a 14-day consecutive stay limit, no camping within ¼-mile of a wildlife water) – Wood gathering and firewood use: collection of dead and downed wood would continue to be prohibited within ACECs and within 150 feet of Backcountry Byway – Rockhounding: approved in all BMGR areas open to public access but limited to 24 pounds plus one piece per person per day and 250 pounds per year – Metal detectors: not restricted – Mine exploration: all mines are off-limits to public entry – Recreational shooting: may occur if compatible with military activities and public safety	• Affects BMGR recreational opportunities as follows: – Recreational driving: includes continued prohibition of off-road driving, consideration of future designated off-road vehicle use area, no reduction of the road network available to the public (totaling 981 miles) potential establishment or opening of new roads for public use, public driving in designated washes, and a special use permit for single parties with more than 30 vehicles required – Camping: would allow vehicle based camping within 100 feet of existing public use roads with a 14-day consecutive stay limit, but not within ¼-mile of a wildlife water – Wood cutting and gathering and firewood use: no restrictions on any of these activities unless a regulatory compliance issue arises (except for prohibiting removal of wood from the range) – Rockhounding: approved in all BMGR areas open to public access but limited to 24 pounds plus one piece per person per day and 250 pounds per year – Metal detectors: not restricted – Mine exploration: all mines are off-limits to public entry – Recreational shooting: may occur if compatible with military activities and public safety – Potential for additional effects based on the findings of assessments including a nominal fee for hunting on the BMGR, restrictions or limitations on-game species collection, and establishment of designated recreational shooting and camping areas	• Affects on BMGR recreational opportunities as follows: – Recreational driving: includes continued prohibition of off-road driving, reduction of the road network available to the public by 31 percent (mostly redundant roads in localized areas), prohibition of driving in washes unless they are part of the designated road system open to the public and are dry, and a special use permit for single parties with more than 20 vehicles required – Camping: vehicle-based camping would continue to be allowed within 50 feet of public use roads with a 14-day consecutive stay limit, but this would be further limited by the closure of roads and localized restrictions along road segments and within ¼-mile of sensitive resources in addition to wildlife waters – Wood gathering and firewood use: use of dead and downed wood for campfires allowed, all other forms of wood cutting or wood collection prohibited – Rockhounding: limited to Management Units 2 and 3 (which includes BMGR-West area open to public access outside of Tinajas Altas area) and 25 pounds per person per day and 250 pounds per year, and restricted from redesignated ACECs; prohibited in Units 1, 4, 5, 6, and 7 (which includes Tinajas Altas area of BMGR-West and all of BMGR-East) – Metal detectors: prohibited range-wide because of buried unexploded ordnance hazards – Mine exploration: prohibited range-wide because of extreme safety hazards and bat roosting habitat – Recreational shooting: not restricted except that a special use permit is required for shooting automatic weapons and at night – Potential for additional effects based on the findings of assessments including a nominal fee for hunting on the BMGR, restrictions on non-game species collection, and establishment of designated camping areas	• Affects on BMGR recreational opportunities as follows: – Recreational driving: includes continued prohibition of off-road driving, the reduction of the road network available to the public by 43 percent (mostly redundant roads in localized areas but also includes some cross regional routes), prohibition of driving in washes unless they are part of the designated road system open to the public and are dry, and special use permit for single parties with more than 10 vehicles required – Camping: vehicle-based camping would continue to be allowed within 50-feet of public use roads with a 7-day consecutive stay limit, but this would be further limited by the closure of roads and localized restrictions along road segments and within ¼-mile of sensitive resources in addition to wildlife waters – Wood gathering and firewood use: wood cutting and gathering prohibited, use of native wood for campfires prohibited – Rockhounding, recreational shooting, use of metal detectors, and entry to mines all prohibited – Potential for additional effects based on the findings of assessments including a nominal fee for hunting on the BMGR and establishment of designated camping areas. A request would be submitted to Arizona Game and Fish Commission to close BMGR to non-game species collection.
• Effects on BMGR recreational setting (i.e., appearance and character) would be mixed. Over time, road closures and enforcement of prohibitions on off-road driving would lead to a generally more natural and less intensively used appearing environment, but there may be increased evidence of other recreational users in some areas (e.g., along popular remaining open road corridors and at possible designated camping and recreational shooting areas and from land management/recreation use supervision)	• Little change to existing BMGR recreational setting would be expected, but some further and more widely distributed low-level deterioration of this setting would be likely over the long term in the absence of road closures or other use limitations. Implementation of the transportation plan could eventually lead to changes similar to the proposed action relative to road closures and reduced area for vehicle-based camping.	• Little change to existing BMGR recreational setting, less evidence of other recreational users and land management/recreation use supervision, additional seclusion for vehicle-based campers; ORV use areas were established, recreational setting would be affected within localized area	• Effects on BMGR recreational setting (i.e., appearance and character) would be mixed. Over time, road closures and enforcement of prohibitions on off-road driving would lead to a generally more natural and less intensively used appearing environment, but where there may be increased evidence of other recreational users in some areas (e.g., along popular remaining open road corridors, at possible designated camping and recreational shooting areas, and from land management/recreation use supervision)	• Effects on BMGR recreational setting would be mixed with the most dominant natural environmental conditions of all alternatives, but evidence of other recreational users (from road closures and reduced area for vehicle-based camping and possible designated camping and recreational shooting areas) and land management/recreation use supervision would be slightly greater than with the proposed action

Outdoor Recreation (continued)				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Road closures and other use limitations may deter some members of the public from visiting the BMGR but the long-term trend in recreation use of the range is expected to show a steady increase in visitation	• Long-term trend of increased recreation use would be expected although some members of the public looking for a natural setting less effected by roads and vehicle-based activities may be deterred from visiting	• There would be potential for decreases in BMGR recreation use patterns based on proposed assessments (e.g. a potential fee for hunting); however, if an ORV use area were established, recreation use might increase; the long-term trend would likely be for the increased use but possibly at the expense of visitors desiring a natural setting less dominated by roads and vehicle-based activities	• Effects on BMGR recreation use would be mixed, with a greater potential for decreased use than increased use, but overall trend of increased visitation would be predominant	• Effects on BMGR recreation use would be mixed, with the greatest potential for decreased use of all the alternatives, but overall trend of increased visitation would be predominant
• Would result in a fundamental change to a limits of acceptable change approach to recreational management, which would directly link recreation management decision-making with resource conservation, rehabilitation, and protection of objectives. If the findings of the inventory and monitoring reveal that deleterious effects are occurring as a result of recreation use, adaptive management responses could modify, limit, or restrict recreational access or activities to address identified resource conservation and protection problem. Potential negative or limiting effects on public access/recreation may be offset by enhanced visitor education or law enforcement to reduce potential for exceeding limits of acceptable change thresholds	• No management tools providing effects-based linkages between decision-making for resource conservation, rehabilitation, or protection and regulation of public access and recreation activities would be established; rather, recreation management would remain on a reactionary, regulatory compliance-based footing • Some types of recreation management would continue to be somewhat defined by the redesignated ACECs, SRMAs, and Backcountry Byway rather than by the INRMP management units; there would be no additional or revised rules or prohibitions to implement nor a minimum required number of law enforcement officers	• For the most part, recreation management would occur based on current programs without a change to a limits of acceptable change and adaptive management approach; no special management provisions would be continued for the expired ACECs, SRMAs, and Backcountry Byway and no other special natural/interest areas would be established other than the flat-tailed horned lizard HMA, so nearly all recreation management would be based on either a range-wide or a unit-by-unit basis; a minimum of two law enforcement officers would be required	• Would result in a fundamental change to a limits of acceptable change approach to recreational management, which would directly link recreation management decision-making with resource conservation, rehabilitation, and protection of objectives. If the findings of the inventory and monitoring reveal that deleterious effects are occurring as a result of recreation use, adaptive management responses could modify, limit, or restrict recreational access or activities to address identified resource conservation and protection problem. Potential negative or limiting effects on public access/recreation may be offset by enhanced visitor education or law enforcement to reduce potential for exceeding limits of acceptable change thresholds	• Would result in a fundamental change to a limits of acceptable change approach to recreational management, which would directly link recreation management decision-making with resource conservation, rehabilitation, and protection of objectives. If the findings of the inventory and monitoring reveal that deleterious effects are occurring as a result of recreation use, adaptive management responses could modify, limit, or restrict recreational access or activities to address identified resource conservation and protection problem. Potential negative or limiting effects on public access/recreation may be offset by enhanced visitor education or law enforcement to reduce potential for exceeding limits of acceptable change thresholds
• Other minor proposed changes to recreation management would include use of INRMP management units and objectives related to record keeping system, minimum number of law enforcement officers, gates and fencing, and coordinating with adjacent land managers. Based on new or revised rules or prohibitions, there would be an increased recreation management workload			• Other minor proposed changes to recreation management would include use of INRMP management units and objectives related to record keeping system, minimum number of law enforcement officers, gates and fencing, and coordinating with adjacent land managers. Based on new or revised rules or prohibitions, there would be an increased recreation management workload	• Other minor proposed changes to recreation management would include use of INRMP management units and objectives related to record keeping system, minimum number of law enforcement officers, gates and fencing, and coordinating with adjacent land managers. Based on new or revised rules or prohibitions, there would be an increased recreation management workload
• Minor effects on recreation outside of the BMGR may occur if recreational users visit non-BMGR locations for outdoor recreation opportunities that would no longer be available or more strictly controlled on the BGMR, plus any impacts to recreationalists from agency use of roads within the northwest Cabeza Prieta NWR Wilderness would be eliminated (if refuge bypass roads were established)	• No change in recreation use in the vicinity of the BMGR as a result of management changes within the range would be expected, at least in the short term; future management planning including future transportation planning could divert recreational use from the BMGR to off-range locations	• No change in recreation use in the vicinity of the BMGR as a result of use limitations within the range would be expected, at least in the short term; however, minor decreased uses of off-range lands may occur if new on-range opportunities are established (an ORV use area, entry to mine[s]) and increases may occur if there are new restrictions (e.g., fee for hunting); would have the same effects as the proposed action with the refuge bypass roads	• Minor effects on recreation outside of the BMGR may occur if recreational users visit non-BMGR locations for outdoor recreation opportunities that would no longer be available or more strictly controlled on the BGMR, plus any impacts to recreationists from agency use of roads within the northwest Cabeza Prieta NWR Wilderness would be eliminated (if refuge bypass roads were established)	• More minor effects on recreation outside of the BMGR may occur as compared to the proposed action if recreational users visit non-BMGR locations for outdoor recreation opportunities that would no longer be available or more strictly controlled on the BGMR, plus any impacts to recreationists from agency use of roads within northwest Cabeza Prieta NWR Wilderness would continue (as no refuge bypass roads would be established)
Public Health and Safety				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• New rules of conduct would slightly reduce the risks associated with visitor activities. These include implementing sewage and waste disposal rules, prohibiting wood cutting, prohibiting metal detectors; all safety requirements associated with military activities would continue to be implemented	• No additional public health and safety objectives would be implemented; all safety requirements associated with military activities would continue to be implemented	• New sewage and waste disposal rules would be implemented; all safety requirements associated with military activities would continue to be implemented. Potential for new risks if public entry to mines is allowed or designated ORV use areas are established.	• New rules of conduct would slightly reduce the risks associated with visitor activities. These include implementing sewage and waste disposal rules, prohibiting wood cutting, prohibiting metal detectors; all safety requirements associated with military activities would continue to be implemented	• New rules of conduct would reduce the risks associated with visitor activities. These include implementing sewage and waste disposal rules, prohibiting wood cutting, prohibiting metal detectors, and prohibiting recreational shooting; all safety requirements associated with military activities would continue to be implemented
Law Enforcement				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Closure of approximately 36 percent of public access road mileage would increase law enforcement workload in the short term (to keep visitors off of closed roads), but would decrease the miles of road to patrol	• Retention of existing road network would result in same number of miles of road to patrol, but would not increase workload associated with enforcing road closures	• Retention of existing road network and potential addition of new roads could increase the number of miles of road to patrol, but would not increase workload associated with enforcing road closures	• Closure of approximately 36 percent of public access road mileage would increase law enforcement work load in the short term (to keep visitors off of closed roads), but would decrease the miles of road to patrol	• Closure of approximately 43% of public access road mileage would increase law enforcement workload in the short term (to keep visitors off closed roads), but would decrease the miles of road to patrol in the long term after roads revegetate

Law Enforcement (continued)

Proposed Action	Strategy A	Strategy B	Strategy C	Strategy D
• Management provisions for the following resource management elements could create additional law enforcement requirements on the range: – motorized access and unroaded area management – wood collection and firewood use restrictions (in Unit 1) – recreational shooting limitations – single-party vehicle limits	• Law enforcement requirements would not increase relative to existing conditions	• Management provisions for the following resource management elements could create additional law enforcement responsibilities on the range, although not to the degree of the proposed action: – camping and visitor stay limits	• Management provisions for the following resource management elements could create additional law enforcement requirements on the range: – motorized access and unroaded area management – recreational shooting limitations – single-party vehicle limits – rockhounding limitations	• Management provisions for the following resource management elements could create the greatest amount of law enforcement requirements on the range: – motorized access and unroaded area management – 7-day camping and visitor stay limits – rockhounding prohibition – wood collection and native firewood use – recreational shooting prohibition – soil and water resources
• Increased responsibilities would be alleviated by the retention of a minimum of six full-time law enforcement positions on the range	• No minimum number of law enforcement positions required	• Although additional burden would be placed on DoD law enforcement, there would be a minimum of two full-time law enforcement positions	• Increased responsibilities would be alleviated by the retention of a minimum of four full-time law enforcement positions on the range	• Increased responsibilities would be alleviated by the retention of a minimum of six full-time law enforcement positions on the range

Transboundary and Domestic Perimeter Land Use

Proposed Action	Strategy A	Strategy B	Strategy C	Strategy D
• Changes in management could potentially result in a minor shift in recreation use away from the BMGR to adjacent lands because of new limitations on recreational opportunities	• No change in visitation patterns to the BMGR or other locations within the BMGR region are anticipated as a result of new creation use limitations within the BMGR	• Potential new recreation opportunities could potentially attract a minor amount of recreational use to the BMGR and away from adjacent lands (change would be expected to be small)	• Changes in management could potentially cause a minor shift in recreation use away from the BMGR to adjacent lands because of new limitations on recreational opportunities	• Changes in management could potentially cause a minor shift in recreation use away from the BMGR to adjacent lands because of new limitations on recreational opportunities
• Land management decisions based on shared data and increased coordination between BMGR land managers and adjacent land managers would occur under objectives for: – resource inventory and monitoring – wildlife water development research – surveys for special status species – soil surveys – perimeter land management coordination and regional planning	• No increased emphasis in coordination or information sharing between the BMGR and adjacent land managers would be promoted	• Although it would occur to a lesser degree than the proposed action, land management decisions based on shared data between BMGR land managers and adjacent land managers would occur under management objectives for: – surveys for special status species – perimeter land manager coordination and regional planning	• Land management decisions based on shared data and increased coordination between BMGR land managers and adjacent land managers would occur under objectives for: – resource inventory and monitoring – wildlife water development research – surveys for special status species – perimeter land manager coordination and regional planning	• Land management decisions based on shared data and increased coordination between BMGR land managers and adjacent land managers would occur under objectives for: – resource inventory and monitoring – wildlife water development research – surveys for special status species – soil surveys – perimeter land manager coordination and regional planning

Cultural Resources

Proposed Action	Strategy A	Strategy B	Strategy C	Strategy D
• Resource survey and monitoring in support of ICRMP objectives would emphasize increased focus on identifying sources and extent of actual and potential impacts as a result of public access and government activities	• Resource surveys and compliance monitoring and survey, in accordance with the ICRMP, would identify some sources of impacts on cultural resources resulting from public access and government activities but less effectively than the proposed action	• Resource survey and compliance monitoring would function as for Strategy A but additional emphasis on compliance may improve cultural resources protection effects	• Resource survey and monitoring in support of ICRMP objectives would emphasize increased focus on identifying sources and extent of actual and potential impacts as a result of public access and government activities	• Resource survey and monitoring in support of ICRMP objectives would emphasize increased focus on identifying sources and extent of actual and potential impacts as a result of public access and government activities
• Redesignation of the expired Tinajas Altas Mountains ACEC as a special natural/interest area would promote continuing protection of sensitive cultural resources	• Redesignating ACECs, SRMA, HMA, and Backcountry Byway as special natural/interest areas and continuing the management provisions for these special management areas would continue to provide some protection of cultural resources within these locations	• Not redesignating special management areas as special natural/interest areas could potentially reduce protection of cultural resources	• Redesignation of the expired Tinajas Altas Mountains ACEC as a special natural/interest area would promote continuing protection of sensitive cultural resources	• Redesignation of the expired Tinaja Altas Mountains ACEC as a special natural/interest area would promote continuing protection of sensitive cultural resources
• Reducing the road network would likely reduce intentional and unintentional impacts on cultural resources in areas where roads are closed	• Retaining the current road network would likely result in more unintentional and intentional greater cultural resource impacts as compared to the reduced road network under the proposed action	• Potential increase in road network beyond current conditions could increase impacts to cultural resources in areas that were previously inaccessible by vehicles • Establishing public off-road driving areas would likely conflict with ICRMP goal to preserve cultural resources in place to the extent compatible with military missions	• Reducing the road network would likely reduce intentional and unintentional impacts on cultural resources in areas where roads are closed	• Reducing the road network would likely reduce intentional and unintentional impacts on cultural resources in areas where roads are closed

Cultural Resources (continued)				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Provisions to close selected road segments (if effective alternative protective measures are not available) to protect sensitive cultural resources, restrict camping within ¼ mile of designated sensitive cultural resources, conserve unroaded areas, reduce single-party vehicle limit to 19 (vs. the current limit of 49) without a special use permit, prohibit the use of metal detectors, prohibit recreational shooting with automatic weapons without a special use permit, restrict rockhounding in Units 2 and 3 from special natural/interest areas or other designated locations, and prohibit rockhounding in Units 1, 4, 5, 6, and 7, would reduce the potential for intentional and unintentional impacts on cultural resources • Increasing the emphasis on educating visitors about cultural resource values, sensitivities, and legal protections and increasing the law enforcement presence on the range would reduce the risks of both unintentional and intentional damage/theft of these resources	• Continuing the existing limits and restrictions on recreation activities would leave the potential unintentional and intentional impacts on cultural resources unchanged compared to existing conditions	• Impacts could increase by extending the allowance for vehicle-based camping along road margins to 100 feet	• Provision to restrict camping within ¼-mile of designated sensitive cultural resources could reduce potential for adverse impacts and intentional vandalism • Increasing the emphasis on educating visitors about cultural resource values, sensitivities, and legal protections and increasing the law enforcement presence on the range would reduce the risks of both unintentional and intentional damage/theft of these resources • Provisions to regulate or prohibit recreational activities would have the same potential to protect cultural resources as the proposed action except that rockhounding would be allowed range-wide and restricted only from special natural/interest areas or other specially designated locations which would slightly increase the potential for cultural resource damage from this activity compared to the proposed action	• Provision to restrict camping within ¼-mile of designated sensitive cultural resources could reduce potential for adverse impacts and intentional vandalism • Increasing the emphasis on educating visitors about cultural resource values, sensitivities, and legal protections and increasing the law enforcement presence on the range would reduce the risks of both unintentional and intentional damage/theft of these resources • Provisions to regulate or prohibit recreational activities would have the same potential to protect cultural resources as the proposed action except that rockhounding and recreational shooting would be prohibited everywhere on the range, which would eliminate potential cultural resource damage from these activities, and the single-party vehicle limit would be further reduced to 9 and the visitor stay limit per 28 day period would be reduced to 7 consecutive days, which would also slightly further reduce the potential of cultural resources damage from recreational activities
Visual Resources				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Road closures and recreation use management would result in a shift in the visual setting over time from a more semi-primitive setting towards a more primitive condition, where there are larger unmodified appearing areas; plus, active restoration in areas that have been damaged by a discontinued military, agency, or intensive public use could eliminate some visual scars	• Existing road network and semi-primitive setting would be retained, does not include objectives for restoration of closed roads or discontinued use areas	• Due to potential creation of new roads and increased public access and use opportunities, manmade modification would be more predominant than under the current conditions; although restoration in areas that have been damaged by a discontinued military, agency, or intensive public use could eliminate some visual scars	• Road closures and recreation use management would result in a shift in the visual setting over time from a more semi-primitive setting towards a more primitive condition, where there are larger areas that are unmodified appearing areas, plus, active restoration in areas that have been damaged by a discontinued military, agency, or intensive public use could eliminate some visual scars	• More road closures and resource protection than the proposed action, plus active restoration of closed roads (where feasible) and in areas that have been damaged by a discontinued military, agency, or intensive public use could eliminate some visual scars
• Developing up to six new wildlife waters during first five years of the INRMP (could be more depending on the results of studies) would create new minor manmade modifications to the near- to middle-ground landscape, however, waters can now be developed that are unobtrusive unless a new access road is required	• Developing up to 17 new wildlife waters would create new minor manmade modifications to the landscape (up to six would be implemented during the first five years of the INRMP); site-specific impacts would be dependent on the location and type of development	• Developing up to 17 or more new wildlife waters would create new minor manmade modifications to the landscape (up to six would be implemented during the first five years of the INRMP); site-specific impacts would be dependent on the location and type of development	• Developing up to six new wildlife waters in first five years of the INRMP (could be more depending on the results of studies) would create new minor manmade modifications to the near- to middle-ground landscape, however, waters can now be developed that are unobtrusive unless a new access road is required	• Suspending wildlife water developments during the first five years of the plan (and potentially longer) would eliminate this minor source of visual modification (at least in the first five years of the INRMP)
• Potential to concentrate recreation use areas (such as designated camping areas) could detract from the natural conditions in local areas, but would be offset by a change in viewer expectations	• Recreation use would remain dispersed and therefore there would be no change in the visual setting	• Recreation use would remain dispersed and therefore there would be no change in the visual setting	• Potential to concentrate recreation use areas (such as designated camping areas) could detract from the natural conditions in local areas, but could be offset somewhat by a change in viewer expectations	• Potential to concentrate recreation use areas (such as designated camping areas) could detract from the natural conditions in local areas to a slightly greater extent than the proposed action, but could be offset somewhat by a change in viewer expectations
• Potential development of Yuma Area Service Highway would be a new modification in the westernmost portion of the BMGR and create new viewpoints within the BMGR	• Any future utility/transportation corridors projects would create manmade modifications	• Potential development of Yuma Area Service Highway would be a new modification in the westernmost portion of the BMGR and create new viewpoints within the BMGR; additional corridor projects could have similar visual effects	• Potential development of Yuma Area Service Highway would be a new modification in the westernmost portion of the BMGR and create new viewpoints within the BMGR	• Yuma Area Service Highway and all other future corridor projects would be prohibited, which would preclude related impacts to visual resources
• Continues existing visual resource management objectives; site-specific projects would be assessed for visual resource impacts through regulatory compliance process and needed management or mitigation actions would be implemented	• Continued visual resource management policies would extend existing visual resource effects, does not include an objective to assess the visual effects of new actions	• Continues existing visual resource management objectives; site-specific projects would be assessed for visual resource impacts through regulatory compliance process, and needed management or mitigation actions would be implemented	• Visual resource management objectives include those of the proposed action, plus the visual effects of new actions would be assessed using BLM's visual resource management objectives	• Provide a greater extent of BMGR visual resources management objectives than the proposed action; effects of new actions would be assessed using BLM's visual resource management objectives and additional measures for visual resource management in unroaded areas are included

Hazardous Materials and Waste				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Decreases the potential area in which a release of hazardous materials or wastes transported by vehicles might occur by reducing the road network by about 30 percent; potential designated recreational shooting and camping areas, if established, would introduce areas of concentrated sources of human sewage, trash, vehicle fluids, and lead bullets	• No change in potential areas in which a release of hazardous materials or wastes release might occur,	• Increases the potential area in which a release of hazardous materials or wastes might occur by retaining the existing road network and providing opportunities to expand the road network	• Decreases the potential area in which a release of hazardous materials or wastes transported by vehicles might occur by reducing the road network by about 30 percent; potential designated recreational shooting and camping areas. if established, would introduce areas of concentrated sources of human sewage, trash, vehicle fluids, and lead bullets	• Decreases the potential area in which a release of hazardous materials or wastes transported by vehicle might occur by reducing the road network by about 34 percent; potential designated camping areas, if established, would introduce areas of concentrated sources of human sewage, trash, and vehicle fluids, prohibiting recreational shooting would eliminate the need for designated shooting areas and associated hazardous materials and waste issues.
• Limiting visitor stays to 14 days and limiting party sizes to 9 (Units 1, 3, 6, 7) or 19 (Unit 2) vehicles (except by special use permit) for the majority of the range, could minimize the potential for hazardous materials or waste dumping on the BMGR • Increased emphasis on visitor education and law enforcement patrols would increase deterrence of unintentional and intentional disposal of hazardous materials or wastes	• Allowing large party sizes (up to 49 vehicles) without a special use permit and lack of a minimum number of law enforcement positions reduces potential to minimize illegal disposal compared to the proposed action	• Increasing recreational opportunities on the BMGR (which could attract larger numbers of visitors), allowing larger party sizes (up to 29 vehicles without a special use permit) than proposed action, and retaining a minimum to two law enforcement positions to patrol a large area reduces the potential to prevent hazardous material and waste disposal compared to the proposed action	• Limiting visitor stays to 14 days, limiting party sizes to 19 vehicles (except by special use permit) could minimize quantity of waste on BMGR, but not as effectively as proposed action • Increased emphasis on visitor education and law enforcement patrols would increase deterrence of unintentional and intentional disposal of hazardous materials or wastes	• Limiting visitor stays to 7 days, limiting party sizes to nine vehicles (except by special use permit) could minimize quantity of waste on BMGR; effect would be similar to, but slightly better than, the proposed action • Increased emphasis on visitor education and law enforcement patrols would increase deterrence of unintentional and intentional disposal of hazardous materials or wastes
Socioeconomic Resources				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Increases work and/or expenditures within the socioeconomic study area with implementation of additional inventory, monitoring, surveying, and studies; retaining at least six law enforcement officers; expanding public education programs; and implementing program objectives	• Does not introduce new activities that would generate additional work and/or result in expenditures	• Slightly increases work and/or expenditures, but fewer work opportunities than with proposed action	• Increases work and/or expenditures within the socioeconomic study area with implementation of additional inventory, monitoring, surveying, and studies; retaining at least four law enforcement officers; expanding public education programs; and implementing program objectives; somewhat less work generated than the proposed action	• Increases work and/or expenditures within the socioeconomic study area with implementation of additional inventory, monitoring, surveying, and studies; retaining at least six law enforcement officers; expanding public education programs; and implementing program objectives; somewhat more work generated than the proposed action
• Potentially decreases range visitation and recreation use by reducing the existing road network and recreational opportunities; could reduce visitor purchase of goods, services, and sundries from nearby communities (although amounts would likely be negligible and overall increase in visitation would be predominant in the long term)	• Would not promote change in existing visitation patterns so visitor purchases in nearby communities would remain unchanged by this alternative	• Potentially increases range visitation and recreation use because of increased recreational opportunities; could potentially increase visitor purchases in nearby communities (although amounts would likely be negligible and overall increase in visitation would be predominant in the long-term)	• Potentially decreases range visitation and recreation use by reducing the existing road network and recreational opportunities; could reduce visitor purchase of goods, services, and sundries from nearby communities (although amounts would likely be negligible and overall increase in visitation would be predominant in the long-term)	• Potentially decreases range visitation and recreation use by reducing the existing road network and recreational opportunities; could reduce visitor purchase of goods, services, and sundries from nearby communities (while amounts would likely be negligible, the decreases could be greater than with the proposed action, but an overall increase in visitation would be predominant in the long-term)
• Complements those public attitudes and values that favor a balance of public access and use opportunities and resource protection and conservation	• Public concerns about the shortcomings of management under the Goldwater Amendment would likely remain	• Supports the contingent whose attitudes and values favor public access and use opportunities	• Complements those public attitudes and values that favor a balance of public access and use opportunities and resource protection and conservation	• Supports the contingent whose attitudes and values favor resource protection and conservation
• Allows for Yuma Area Service Highway, which would support the local economy; prohibits any other future utility/transportation corridors, which could hinder utility company developments	• Would likely allow for Yuma Area Service Highway, which would support the local economy; restricts utilities to existing corridors, which could negatively hinder other potential utility developments in the region	• Allows for Yuma Area Service Highway and allows for consideration of additional utility/transportation corridors if compatible with the military mission, which would support the local economy and potentially other public utility/highway developments in the region	• Allows for Yuma Area Service Highway, which would be positive for the local economy; prohibits any other future utility/transportation corridors, which could negatively hinder other potential utility developments in the region	• Prohibits Yuma Area Service Highway, delaying project schedule and impacting the local economy; prohibits any other future in the utility/transportation corridors, which could hinder potential utility/transportation developments in the region

Noise				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• Potentially decreases average environmental noise in localized settings by minor amounts, compared to existing conditions, as a result of reducing size of road network, limiting single parties to 9 (in Units 1, 3, 6, 7) or 19 (Unit 2) vehicles, without a special use permit, and restricting recreational shooting to daylight hours and prohibiting any use of automatic weapons without a special use permit	• No reduction in road network, single-party sizes of up to 49 vehicles without a special use permit, and no restrictions on recreational shooting at night or with automatic weapons would leave existing environmental noise conditions unchanged	• Potential expansion of road network and designation of public off-road vehicle areas could result in local increases in environmental noise conditions compared to the existing conditions	• Same environmental noise effects as proposed action except the single-party limit on vehicles, without a special use permit, would be 19 in all units which would have only a slight potential to increase noise above the proposed action level	• Includes about the same localized reduction in noise impacts range-wide as the proposed action; however, compared to the proposed action, decreases noise by also foreclosing the possibilities for Yuma Area Service Highway and all recreational shooting
Environmental Justice				
Proposed Action	**Strategy A**	**Strategy B**	**Strategy C**	**Strategy D**
• No environmental justice effect	• No environmental justice effect	• No environmental justice effect	• No environmental justice effect	• No environmental justice effect

TABLE S-7
SUMMARY OF AGGREGATE EFFECTS OF THE PROPOSED ACTION AND ALTERNATIVES ON INDIVIDUAL RESOURCES

Resource Impact Assessment Category	Area of Effect	Type of Effect				
		Proposed Action	Alternative Management Strategy A (No-Action)	Alternative Management Strategy B	Alternative Management Strategy C	Alternative Management Strategy D
Earth Resources	RW	◉$_B$	○$_B$	○$_B$	◉$_B$	●$_B$
Water Resources	RW	◉$_B$	○$_B$	○$_B$	◉$_B$	●$_B$
Climate and Air Resources	RW	ME	ME	□$_A$	ME	ME
General Vegetation	>RW	◉$_B$	ME	ME	◉$_B$	◉$_B$
General Wildlife and Wildlife Habitat	>RW	◉$_B$	ME	ME	◉$_B$	◉$_B$
Protected Species	>RW	◉$_B$	ME	ME	◉$_B$	◉$_B$
Wildfire Management	>RW	◉$_B$	NE	○$_B$	◉$_B$	●$_B$
Grounds Maintenance	<MU	ME	ME	ME	ME	ME
Public Utilities and Transportation Corridors	>RW	□$_A$	□$_A$	□$_A$	□$_A$	□$_A$
Special Management Areas	RW	ME	ME	□$_A$	ME	◉$_B$
Outdoor Recreation	MU	ME	ME	ME	ME	ME
Public Health and Safety	RW	◉$_B$	NE	□$_A$	◉$_B$	●$_B$
Law Enforcement	RW	ME	ME	○$_B$	ME	ME
Transboundary and Domestic Perimeter Land Use	>RW	ME	NE	ME	ME	ME
Cultural Resources	RW	◉$_B$	□$_A$	□$_A$	◉$_B$	●$_B$
Visual Resources	RW	○$_B$	○$_B$	○$_B$	◉$_B$	●$_B$
Hazardous Materials and Waste	RW	ME	NE	□$_A$	ME	○$_B$
Socioeconomics	>RW	○$_B$	○$_B$	○$_B$	○$_B$	○$_B$
Noise	MU	ME	□$_A$	□$_A$	ME	◉$_B$
Environmental Justice	>RW	NE	NE	NE	NE	NE

Type of Effect: Slightly Beneficial = ○$_B$ Beneficial = ◉$_B$ More Beneficial = ●$_B$
Slightly Adverse = □$_A$ Adverse = □$_A$ More Adverse = ■$_A$
Mixed Effect (Includes mixed beneficial and adverse effects with no clear beneficial or adverse aggregate effect) = ME
No Effect = NE

Area of Effect: Smaller Than Management Unit = <MU Management Unit = MU Range Wide = RW Larger than Range Wide = >RW

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strikes a balance between access and resource protection and conservation goals that favors the protection and conservation side of this management equation. The effects of these three alternatives on recreation are mixed because of the widely varying expectations that different groups of people have regarding desirable recreational experiences. Alternative Management Strategies A and B would be generally protective of range resources but would not offer the degree of road network management, public use controls, wildlife and habitat management provisions, and ecosystem and land use monitoring necessary to achieve the levels of natural and cultural resource protection, conservation, and rehabilitation that would be provided by the proposed action or Alternative Management Strategies C or D. Alternative Management Strategies A and B would be more supportive of public motorized vehicle access than the proposed action or Alternative Management Strategies C or D. Both considered as a whole and in consideration of specific effects on the environment, none of the alternatives were found to have significant adverse impacts on any resource and no mitigation measures[ES-20] were identified as appropriate for the proposed action, the no-action alternative (Management Strategy A), or Alternative Management Strategies B, C, or D.

Alternative Management Strategy D offers the most potential ecosystem management benefits at natural community and range-wide ecosystem scales. This alternative would also be expected to benefit most individual species through its focus on conserving wildlife habitat. The restriction proposed by this alternative on wildlife water developments for the first five-year period of the INRMP could, however, adversely limit opportunities to benefit both specific target species and a broad range of non-targets species through carefully placed and developed waters. While most effects on the human community are mixed, this strategy also offers the greatest benefits in terms of socioeconomics and public health and safety. One notable individual adverse effect on the human community, however, would result from the public utilities and transportation corridors management objectives in this strategy, which would preclude the development of new corridors, including the proposed Yuma ASH for which advanced planning and design efforts are currently underway. Also, regardless of management strategy, there is a potential for adverse effects on cultural resources within the BMGR as a result of recreation activities. The extent to which recreation use could be causing damage to cultural resources cannot be directly assessed until specific studies to address this issue are undertaken. However, Alternative Management Strategy D would establish parameters to control damage that vehicle use and other recreational activities may cause to off-road ground surfaces and vegetation communities, protect specific sensitive cultural resource sites, and minimize potential harm to cultural resources. Strategy D is the most restrictive of the alternatives in terms of limiting the extent and types of recreation use; consequently, this strategy would potentially be the most advantageous in terms of minimizing effects on cultural resources.

The proposed action would offer ecosystem management benefits of a similar but slightly less extensive nature. The proposed action includes some trade-offs that may be less beneficial to cultural resources as compared to Strategy D, but are less adverse in terms of some benefits for the human community. A key example is that the proposed action would support the development of the proposed Yuma ASH. Another tradeoff that may be regarded as a human community benefit is that the less extensive road closures of the proposed action would provide some additional motorized public access, particularly within Management Unit 2, for recreation. The proposed

[ES-20] As defined in 40 Code of Federal Regulations 1508.20 and 46 Federal Register 18026-18038.

action would also maintain a limited program for developing up to six high-priority water developments as wildlife management tools during the first five-year period of the proposed INRMP, an outcome that may be favorable for the wildlife for which the waters are developed as well as other species. There is little distinction in aggregate impacts between Alternative Management Strategy C and the proposed action, but as Strategy C is less limiting in terms of restricting public access, this strategy could have slightly greater impacts on some resources and slightly less impact on recreation opportunity and use.

In contrast to the proposed action or Alternative Management Strategies C or D, the overall focuses of Alternative Management Strategies A and B are shifted in the direction of maintaining existing motorized public access and, under Strategy B, possibly expanding these opportunities. Strategies A and B also lack the emphasis on ecosystem and public use monitoring and adaptive management that the other alternatives provide. As a result, Strategies A and B would not offer as great a potential for long-term conservation and rehabilitation of natural communities and ecosystem functions and cultural resources protection as the proposed action or Alternative Strategies C or D. The potential aggregate effects of the no-action alternative (Strategy A) and Strategy B were found to be of mixed value for vegetation, wildlife, wildlife habitat, and protected species. This conclusion was reached not because the provisions of this strategy would cause direct harm to these resources, but because these strategies would likely fall somewhat short of the long-term goal of facilitating restoration and improvements in the range ecosystem and biodiversity. Alternative Management Strategy B may be less beneficial as compared to the other actions as it allows for the careful consideration of some consumptive uses (e.g., off-road vehicle use areas, wood cutting, and public entry to mines) that previously have not been sanctioned on the range. Although Strategies A and B provide for more public access than the proposed action or Strategies C or D, the aggregate effect of Strategies A and B on outdoor recreation were also found to be mixed because of the continuing variances in the perspectives of different segments of the population regarding the appropriateness of various recreation activities and the desirable characteristics of environments in which to pursue activities of their choice.

Cumulative Effects

Cumulative effects are those additive or interactive effects that would result from the incremental impact of the proposed actions 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. The cumulative effects analysis provided in this EIS (Chapter 6) considers impacts that may occur at the individual resource, ecosystem, and human community scales. The discussion of cumulative effects in Chapter 6 as well as in this Executive Summary is at the rather broad-based ecosystem and human community scale, which is commensurate with the programmatic nature of the proposed INRMP and consistent with the Council on Environmental Quality guidance that cumulative effects need to be analyzed in terms of the specific resources, ecosystem, and human community that may be affected by the proposed action or alternatives (Council on Environmental Quality 1997).

The fact that the fundamental purposes of the proposed INRMP are to provide for the protection and conservation of natural and cultural resources of the BMGR and sustainable multipurpose public use, to the extent these objectives are consistent with the military purposes of the range, is directly relevant to the overall determination of the cumulative effects of the alternatives of this EIS when considered together with other past, present, and reasonably foreseeable future actions.

As demonstrated by the analysis presented in this EIS, the BMGR represents a fairly well-protected and expansive environment that harbors some of the largest and least disturbed remaining tracts of indigenous Sonoran Desert. Some of the natural communities present on the range are the best surviving representatives of these community types in the entire Sonoran Desert ecoregion. This is not to say that the cumulative effects of past and present actions, including military and non-military activities, have not adversely affected the range environment. For most resource categories, including those for vegetation, wildlife, wildlife habitat, and protected species, the additive or interactive effects of past, present, and reasonably foreseeable future actions have been adverse and in some cases, such as protected species, these effects have also been significant. The additive or interactive impact of past and present actions has been limited and the overall BMGR ecosystem remains relatively healthy and intact. However, the recent proliferation of illicit roads associated with increased drug smuggling and undocumented immigration traffic, as well as the corresponding Border Patrol interdiction traffic, will threaten ecosystem health if the border control measures being implemented and planned for implementation in the near term do not reduce the traffic to an environmentally manageable level.

The aggregate effects of the proposed action or Alternative Management Strategies C or D, when considered together with other past, present, and reasonably foreseeable future actions, would be beneficial for the greater BMGR ecosystem. Each of these alternatives emphasize ecosystem system management principals and would exert countervailing influences on the range ecosystem that would further the long-term restoration of the effects of past damage. Each of these alternatives would also enhance the management and regulation of ongoing use, and provide for management adaptation to respond to emerging threats to natural communities and the broader ecosystem.

The cumulative effects of the proposed action or Alternative Management Strategies C or D, when considered together with other past, present, and reasonably foreseeable future actions, on the human community would be mixed. None of these alternatives would be likely to have a cumulative economic effect of a measurable magnitude, but each would impact public use of the BMGR. The provisions of the proposed action or Alternative Management Strategies C or D would continue to provide public access to the range but would reduce some opportunities for recreational driving activities and impose some new limitations on recreational activities in favor of enhanced natural and cultural resources protection and conservation. Although these changes would not be individually significant within the BMGR, these new restrictions, when added to constraints on some types of vehicle-based use in other public lands locations outside of the range, would further diminish these types of recreational opportunities available in the BMGR region. In contrast, these restrictions would favor the cumulative regional availability of non-vehicle-based recreation.

On overall balance, the aggregate effects of Alternative Management Strategies A or B, when considered together with other past, present, and reasonably foreseeable future actions, would generally be protective of most range resources but would likely fall short of providing the long-term benefits for the greater BMGR ecosystem that are a goal of the proposed INRMP. In some respects, the fact that these alternatives would not reduce the current extent of vehicle travel within the BMGR or implement positive controls on the proliferation of additional wildcat roads could result in potentially negative long-term ecosystem effects.

The cumulative effects of Alternative Management Strategies A or B on the human community would also be mixed when considered together with other past, present, and reasonably foreseeable future actions. These alternatives would be favored by those who prefer vehicle-based recreational activities both within the BMGR and the region. Those members of the community who prefer recreational activities with less emphasis on recreational vehicle driving, however, would regard this effect as adverse.