



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Tucson Field Office  
12661 East Broadway  
Tucson, AZ 85748

In Reply Refer To:  
1610 (AZ430)

September 2011

Dear Reader:

Enclosed is the Proposed Resource Management Plan (PRMP) and Final Environmental Impact Statement (FEIS) for the Ironwood Forest National Monument. The Bureau of Land Management (BLM) prepared the PRMP/FEIS in consultation with cooperating agencies, taking into account public comments received during this planning effort. The PRMP provides a framework for the future management direction and appropriate use of the Ironwood Forest National Monument, located in Pima and Pinal counties, Arizona. The document contains both land use planning decisions and implementation decisions to guide the BLM's management of the Ironwood Forest National Monument.

This PRMP and FEIS have been developed in accordance with the National Environmental Policy Act of 1969, as amended, and the Federal Land Policy and Management Act of 1976, as amended. The PRMP is largely based on Alternative C, the preferred alternative in the Draft Resource Management Plan/Environmental Impact Statement (DRMP/DEIS), which was released on March 2, 2007. The PRMP/FEIS contains the Proposed Plan, a summary of changes made between the DRMP/DEIS and PRMP/FEIS, impacts of the Proposed Plan, a summary of the written and verbal comments received during the public review period for the DRMP/DEIS, and responses to the comments.

Pursuant to BLM's planning regulations at 43 CFR §1610.5-2, any person who participated in the planning process for this PRMP and has an interest which is or may be adversely affected by the planning decisions may protest approval of the planning decisions within 30 days from date the Environmental Protection Agency (EPA) publishes the Notice of Availability in the *Federal Register*. For further information on filing a protest, please see the accompanying protest regulations in the pages that follow (labeled as Attachment #1). The regulations specify the required elements of your protest. Take care to document all relevant facts. As much as possible, reference or cite the planning documents or available planning records (e.g., meeting minutes or summaries, correspondence, etc.).

Emailed and faxed protests will not be accepted as valid protests unless the protesting party also provides the original letter by either regular or overnight mail postmarked by the close of the protest period. Under these conditions, the BLM will consider the emailed or faxed protest as an advance copy and will afford it full consideration. If you wish to provide the BLM with such advance notification, please direct faxed protests to the attention of Brenda Hudgens-Williams, BLM protest coordinator at 202-452-5112, and emailed protests to: [Brenda\\_Hudgens-Williams@blm.gov](mailto:Brenda_Hudgens-Williams@blm.gov). All protests, including the follow-up letter to emails or faxes, must be in writing and mailed to one of the following addresses:

**Regular Mail: Overnight Mail:** Director (210) Director (210) Attn: Brenda Hudgens-Williams  
Attn: Brenda Hudgens-Williams  
P.O. Box 71383 20 M Street SE, Room 2134LM Washington, D.C. 20024-1383 Washington,  
D.C. 20003

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

The BLM Director will make every attempt to promptly render a decision on each protest. The decision will be in writing and will be sent to the protesting party by certified mail, return receipt requested. The decision of the BLM Director shall be the final decision of the Department of the Interior. Responses to protest issues will be compiled and formalized in a Director's Protest Decision Report made available following issuance of the decisions.

Upon resolution of all land use plan protests, the BLM will issue an Approved RMP and Record of Decision (ROD). The Approved RMP and ROD will be mailed or made available electronically to all who participated in the planning process and will be available to all parties through the "Planning" page of the BLM national website (<http://www.blm.gov/planning>), or by mail upon request.

Unlike land use planning decisions, implementation decisions included in this PRMP/FEIS are not subject to protest under the BLM planning regulations, but are subject to an administrative review process, through appeals to the Office of Hearings and Appeals (OHA), Interior Board of Land Appeals (IBLA) pursuant to 43 CFR, Part 4 Subpart E. Implementation decisions generally constitute the BLM's final approval allowing on-the-ground actions to proceed. Where implementation decisions are made as part of the land use planning process, they are still subject to the appeals process or other administrative review as prescribed by specific resource program regulations once the BLM resolves the protests to land use planning decisions and issues an Approved RMP and ROD. The Approved RMP and ROD will therefore identify the implementation decisions made in the plan that may be appealed to the Office of Hearing and Appeals.

Sincerely,



Brian B. Bellew Field Manager, Tucson Field Office

*Attachment 1*

**Protest Regulations**

[CITE: 43CFR1610.5-2]

TITLE 43--PUBLIC LANDS: INTERIOR CHAPTER II--BUREAU OF LAND MANAGEMENT,  
DEPARTMENT OF THE INTERIOR PART 1600--PLANNING, PROGRAMMING, BUDGETING--  
Table of Contents Subpart 1610--Resource Management Planning Sec. 1610.5-2 Protest procedures.

(a) Any person who participated in the planning process and has an interest which is or may be adversely affected by the approval or amendment of a resource management plan may protest such approval or amendment. A protest may raise only those issues which were submitted for the record during the planning process.

(1) The protest shall be in writing and shall be filed with the Director. The protest shall be filed within 30 days of the date the Environmental Protection Agency published the notice of receipt of the final environmental impact statement containing the plan or amendment in the Federal Register. For an amendment not requiring the preparation of an environmental impact statement, the protest shall be filed within 30 days of the publication of the notice of its effective date.

(2) The protest shall contain:

(i) The name, mailing address, telephone number and interest of the person filing the protest;

(ii) A statement of the issue or issues being protested;

(iii) A statement of the part or parts of the plan or amendment being protested;

(iv) A copy of all documents addressing the issue or issues that were submitted during the planning process by the protesting party or an indication of the date the issue or issues were discussed for the record; and

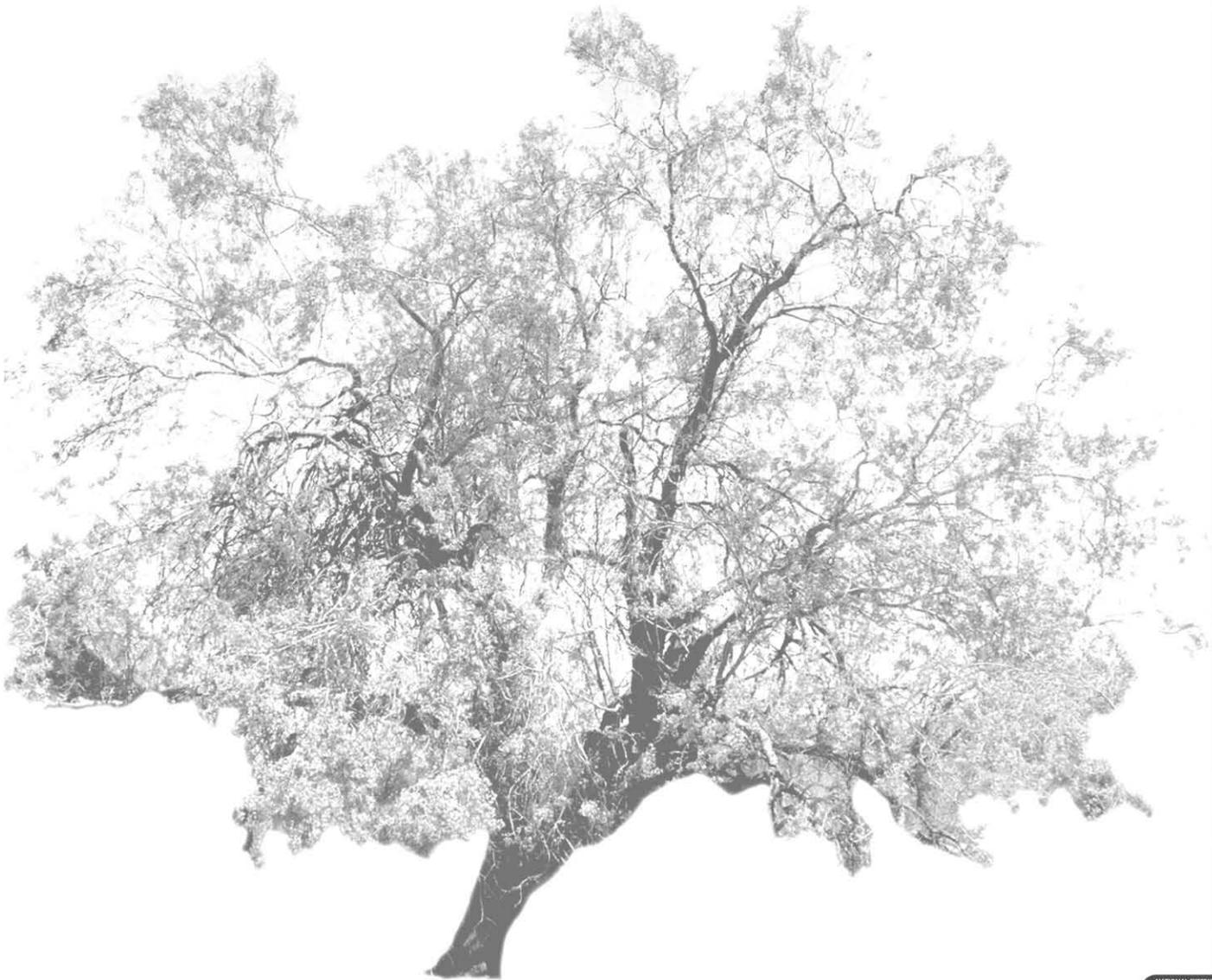
(v) A concise statement explaining why the State Director's decision is believed to be wrong.

(3) The Director shall promptly render a decision on the protest.

(b) The decision shall be in writing and shall set forth the reasons for the decision. The decision shall be sent to the protesting party by certified mail, return receipt requested. The decision of the Director shall be the final decision of the Department of the Interior.

IRONWOOD FOREST NATIONAL MONUMENT

# **Proposed Resource Management Plan and Final Environmental Impact Statement**



Tucson Field Office

**September 2011**



The Ironwood Forest National Monument Proposed Resource Management Plan and Environmental Impact Statement (RMP/EIS) describes and analyzes four alternatives for managing approximately 128,400 acres of public land in southern Arizona, north and west of Tucson, Arizona. Information provided by the public, other agencies and organizations, and BLM personnel have been used to develop and analyze the Alternatives in this plan. *Alternative A* is the No Action alternative and represents continuation of current management. *Alternative B* emphasizes preservation of monument objects through restrictions on uses. *Alternative C* is BLM's Proposed Plan except for utility corridors. The Proposed Plan for utility corridors is Alternative B. *Alternative C* provides greater opportunities for human uses than Alternative B and fewer restrictions than Alternative D, while still protecting monument objects—with the greatest restrictions in localized areas. *Alternative D* emphasizes the maintenance of existing public access to monument lands and provides for continuing uses, to the extent possible with continued protection of monument objects. Issues addressed in the plan include management of vegetation, wildlife habitat, cultural resources, recreation and public access (including motorized and non-motorized routes), areas having wilderness characteristics, and visual resources.

BLM/AZ/PL-11/001

# Ironwood Forest National Monument Proposed Resource Management Plan and Final Environmental Impact Statement

Prepared by

U.S. Department of the Interior  
Bureau of Land Management  
Tucson Field Office  
Arizona

September 2011



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Raymond Suazo  
Acting Arizona State Director

# SUMMARY

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## INTRODUCTION

The Ironwood Forest National Monument (IFNM) was established on June 9, 2000, with the signing of Presidential Proclamation 7320 (Proclamation) to protect objects of scientific interest, including geological, biological, and archaeological resources. The IFNM encompasses approximately 189,600 acres of land. Approximately 128,400 acres within the monument boundaries are public land administered by the Bureau of Land Management (BLM); the balance of the land consists of approximately 54,700 acres of State Trust land (administered by the Arizona State Land Department) and approximately 6,000 acres that are privately owned.

The BLM Tucson Field Office has prepared this Proposed Resource Management Plan and Final Environmental Impact Statement (PRMP/FEIS) to identify four alternative management approaches for public land in the IFNM and analyze the potential effects of implementing each alternative. The management goals and objectives of each alternative are designed to protect the objects of the monument on a broad scale, although it is recognized that public uses of the monument's resources may result in localized impacts that could degrade monument objects at the individual scale (such as injury to or loss of a plant or animal). Where possible, the plan also identifies appropriate measures to mitigate potential impacts on natural resources, cultural resources, public uses, and social or economic conditions so that even the localized impacts are minimized. The EIS has been developed in compliance with the National Environmental Policy Act (NEPA) of 1969, Council on Environmental Quality regulations implementing NEPA, Federal Land Policy and Management Act (FLPMA) of 1976, and other associated regulations. Together, the RMP and EIS analyze and establish BLM's management practices for these lands in response to the Presidential Proclamation, current legislation and policies, and the demand to use public land and its resources.

## AREA DESCRIPTION

The IFNM lies in the heart of the Sonoran Desert ecosystem in southern Arizona, and is a unique scenic area of rolling desert and ironwood woodlands including the Silver Bell, Waterman, Sawtooth, and Roskrige Mountains. Much of the vegetation in the area is classic Sonoran Desert upland habitat dominated by cacti such as saguaro, Bigelow's cholla, and staghorn cholla. Other common plants include ironwood, paloverde, creosote, brittlebush, triangle-leaf bursage, ocotillo, and white thorn acacia. The upper slopes of the Silver Bell Mountains possess a chaparral community dominated by jojoba. The lower bajadas contain interbraided streambeds that carry water after heavy rains. These desert wash habitats are characterized by large ironwood, blue paloverde, and mesquite trees. Within these natural environments, the IFNM contains habitat for two endangered species, including the lesser long-nosed bat and Nichol Turk's head cactus, as well as several other species of concern.

In addition to the natural environment, abundant cultural resources occur within the IFNM. The IFNM includes a site listed in the National Register of Historic Places (National Register), two archaeological districts listed in the National Register, historic mining camps, and other cultural resources that are eligible for listing in the National Register.

Public lands within the IFNM provide for various uses including grazing, land use authorizations (such as rights-of-way for utilities), and dispersed recreational opportunities.

## **PURPOSE AND NEED**

The purposes of the RMP are (1) to specifically address management of lands within the IFNM consistent with the monument designation to protect objects of scientific interest; and (2) to implement BLM's policy to prepare a stand-alone RMP for all National Landscape Conservation System (NLCS) units, which includes the IFNM. Presently, the land within the IFNM is managed under the 1989 Phoenix Resource Area RMP (Phoenix RMP) as amended by the Arizona Standards for Rangeland Health and Guidelines for Grazing Administration and the Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management, and the 1987 Eastern Arizona Grazing EIS, when decisions in these documents are consistent with the Proclamation. Wildlife habitat plans, such as the Silver Bell Habitat Management Plan, and allotment management plans provide specific management direction and actions for wildlife and range programs on lands within and immediately adjacent to the IFNM. In addition, BLM has been following an interim guidance document for managing public land within the IFNM until the new RMP is completed and approved.

An RMP is needed for the IFNM due to the numerous changes that have occurred requiring reconsideration of existing management decisions since the Phoenix RMP and Eastern Arizona Grazing EIS were developed. The most significant change in relation to this RMP is the establishment of the IFNM, but other changes are also relevant. For example, the continuing urban growth of the Tucson and Marana metropolitan areas has increased the demand for public land to accommodate many forms of recreational activity, and these pressures demand increased consideration of management for the protection of monument resources and values.

## **PLANNING ISSUES**

Key planning issues considered for developing alternatives in this plan included protection of monument objects—particularly related to vegetation, wildlife and wildlife habitat, special status species, cultural resources, visual resources, and geologic resources. Additional issues considered included concerns for wilderness characteristics, energy and mineral resources, grazing and livestock management, recreation, lands and realty, and travel management. Most issues focused on how BLM should protect natural, cultural, and visual resources while managing current and increasing numbers of visitors and increased uses resulting from nearby development of lands (e.g., State Trust lands). The planning issues used for developing alternatives were derived from the Proclamation, as well as the public scoping process, during which BLM solicited input from agencies and the public about opportunities, conflicts, or problems with the management and use of public lands within the IFNM. Additional public input gathered at numerous public meetings, as well as from letters and e-mails, was considered throughout the development of the plan.

## **ALTERNATIVES**

BLM developed four alternative management strategies for managing public lands within the IFNM in accordance with NEPA and BLM regulations that require development of a reasonable range of alternatives to address the planning issues. Alternative A is a “No Action Alternative”; that is, it proposes no new plan. Under this alternative, management of public land within the IFNM would continue under existing planning documents, as modified by the Proclamation and additionally guided by BLM's Interim Management Policy. Alternatives B, C, and D (the “action alternatives”) would each effect more change in management—each includes proactive responses to existing conditions and circumstances, which in many cases may have changed since the existing planning document now in force was written. Establishment of the monument is, of course, the best example of this.

Each alternative has a management emphasis that reflects a different response to the Federal mandate to balance use and conservation of resources on public lands. All four alternatives comply with the Proclamation, including the protection of the objects of the monument, and with all other applicable laws, regulations, and policies. Uses of land and resources that are not permitted by the Proclamation have been excluded from consideration.

### **Alternative A, No Action**

Alternative A, the “No Action Alternative,” would continue management of public land within the IFNM according to the management prescriptions of the 1989 Phoenix RMP and the Eastern Arizona Grazing EIS, as amended by the Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management and the Arizona Standards for Rangeland Health and Guidelines for Grazing Administration. Alternative A would include modifications to management mandated by the Proclamation, which BLM has already implemented with current management guidance for the IFNM.

### **Alternative B**

The management theme of Alternative B is preservation—it is the most restrictive strategy, designed to protect the monument’s resources by limiting use of the area’s resources to an allowable minimum. This alternative places more restrictions on motorized travel throughout the monument and favors dispersed, non-motorized recreational activities over motorized recreational activities. The types of allowable uses and the intensity of those uses are restricted to provide the strongest reasonable protection for objects of historic, scientific, and aesthetic interest within the monument – largely through preservation.

### **Alternative C**

With the exception that the Proposed Plan would not establish utility corridors, Alternative C is BLM’s Proposed Plan. It incorporates elements from each of the other alternatives to strike a balance between long-term conservation of public land and resources within the IFNM and uses that have traditionally taken place on the land within the monument, such as grazing and recreation. As a result, under Alternative C, the protection of monument objects can be achieved at or near the level of protection afforded under Alternative B, while allowing for increased public uses in the monument. Specifically, in sensitive resource areas, Alternative C would provide a higher level of resource protection and less public use; however, greater opportunities for public use would be allowed outside those areas.

### **Alternative D**

The management theme of Alternative D is access—it emphasizes the maintenance of existing public access to monument lands and resources. It identifies areas that are most appropriate to accommodate various uses—especially those identified as desirable during public scoping—and emphasizes those uses, particularly with respect to transportation and recreation. It includes the most miles of routes designated for motorized use, would allow for the establishment of more recreational sites (e.g., campsites), and would make the entire monument available for grazing. Though this alternative also protects monument objects, additional mitigation efforts would be likely to achieve the level of protection that would be afforded under Alternatives B and C.

## **AFFECTED ENVIRONMENT**

The affected environment documents the existing conditions and establishes a baseline for evaluating impacts within the IFNM. The current resources and land uses and their conditions are introduced below.

## **Air Quality**

A portion of the IFNM is located within the Rillito particulate matter (PM<sub>10</sub>) nonattainment area, where nearby air quality monitors indicate that National Ambient Air Quality Standards (NAAQS) are not being met. The remainder of the IFNM lies within attainment areas for PM<sub>10</sub>, as well as other pollutants regulated by the NAAQS. Within the IFNM, there are no major stationary sources of emissions, and vehicle travel (on-road) represents the largest single air-pollutant-source category.

## **Geology and Cave Resources**

The IFNM is located within the Basin and Range physiographic province, which is characterized by long, narrow, block-faulted mountain ranges oriented northwest-southeast that are separated by broad, relatively flat valleys containing several thousand feet of alluvial sediments.

The jagged mountaintops and steep cliffs (considered objects of the monument warranting protection), such as Ragged Top and Wildcat Peak, are composed of resistant Cretaceous to Tertiary volcanic plugs or necks, while the Samaniego Hills and Sawtooth Mountains consist of thick sequences of volcanic flows and sediments. The Silver Bell Mountains are formed from Laramide-age granitic and volcanic rocks that host a major porphyry-copper deposit.

No caves have been reported in the IFNM, but several have been noted in other portions of southern and eastern Arizona. There are two caves, Silver Bell and Rattlesnake, in the Waterman Peak area, that are located within the vicinity of the IFNM; however, these are not located on public land.

## **Soil and Water Resources**

More than half of the soils in the IFNM are composed of fan terraces that have been incised by drainages. The soils in fan terraces are used primarily for rangeland and the IFNM does not contain soils that qualify as prime farmland soils. Biological soil crust occurrence in the IFNM has been noted; however, detailed information on the location and extent of these biological soil crusts has not been compiled. In addition, small patches of weakly varnished youthful desert pavement occur in the IFNM. Varnished pavements occur in two areas: (1) on the bajada on the south side of the West Silver Bell Mountains and (2) on the west side of the Sawtooth Mountains, where the most extensive and interesting varnished pavements occur.

Within the IFNM, there are no wells that are monitored routinely for water quantity or quality. However, groundwater within and around the IFNM provides a variety of beneficial uses, including domestic, wildlife, commercial, agricultural, and industrial uses. Surface water flows within the IFNM are entirely ephemeral.

## **Vegetation**

Vegetation within the IFNM generally is classified within two upland plant communities. The paloverde-cacti-mixed scrub community is dominated by foothill paloverde with scattered cacti, mostly saguaro, and contains other associated species such as mesquite and ironwood (i.e., the ancient legume and cactus forest, which is an object of the monument). The creosotebush-white bursage community is dominated by creosotebush and white bursage, with scattered triangle-leaf bursage, ocotillo, and prickly pear cactus. In addition, a minor plant community of jojoba chaparral, dominated by the jojoba plant, is found near the summit of Silver Bell Peak. Xeroriparian communities also occur throughout the IFNM along dry washes.

Approximately 54 non-native plant species occur in IFNM. These plants have special adaptations that allow them to quickly invade and out-compete many native species. Species that pose the greatest threats include buffelgrass, Sahara mustard, and Bermuda grass.

### **Wildlife and Wildlife Habitat**

The fauna of the IFNM include a diversity of game and nongame wildlife species, as well as migratory birds, typically found in the Sonoran Desert. Several species are restricted to certain locales while others occur widely in suitable habitats. The ironwood-bursage habitat in the Silver Bell Mountains is associated with more than 674 species, including 64 mammalian and 57 bird species (BLM 2001). Additional species not specifically noted below also may occur within the IFNM.

Big game species known to occur in the planning area include desert bighorn sheep (an object of the monument), mule deer, and javelina. Small game species that occur in the planning area include desert cottontails, jackrabbits, and quail. Non-game species, including songbirds, raptors, reptiles and one amphibian, are also found within the IFNM.

Land use patterns on the IFNM influence wildlife habitat connectivity. Factors contributing to fragmentation of wildlife habitats within the IFNM include roads, residential development, mines, undocumented immigrant (UDI) traffic, and off-road driving. Wildlife corridors could connect habitats between the Silver Bell Mountains, West Silver Bell Mountains, and Sawtooth Mountains. The primary function of wildlife corridors is to connect fragmented habitat areas. All washes in the IFNM serve as corridors for wildlife. These corridors facilitate dispersal of individuals between patches of remaining habitat.

### **Special Status Species**

Special status species include the following: (1) species currently listed or considered for listing as threatened or endangered by U.S. Fish and Wildlife Service (USFWS); (2) species listed as sensitive by BLM; (3) species listed as Wildlife of Special Concern in Arizona by Arizona Game and Fish Department (AGFD); (4) Priority Vulnerable Species in Pima County; and (5) plants that have special protection under the Arizona Native Plant Law.

As identified by BLM, USFWS, AGFD, and Pima County's Sonoran Desert Conservation Plan, 122 special status species occur in Pima and Pinal Counties. Of this total, two species with Federal status are known to occur in the planning area and are considered to be objects of the monument: lesser long-nosed bat and Nichol Turk's head cactus. Of those special status species that are not federally listed, 36 have the potential to occur in the IFNM and three of these are known to occur: Sonoran desert tortoise, cactus ferruginous pygmy owl (both wildlife species of concern in Arizona), and Tucson shovel-nosed snake (priority vulnerable under Pima County's Sonoran Desert Conservation Plan).

### **Fire Ecology and Management**

All of the lands within the IFNM are designated as current condition Class 1, where vegetation species, composition, and structure are intact and functioning within historic range. The BLM's Arizona Statewide Land Use Plan Amendment for Fire, Fuels and Air Quality Management provides general direction for fire management to meet statewide goals (USDI, BLM 2003a). The IFNM is considered a full suppression area. Fuels treatments could occur on a case-by-case basis, generally in areas where treatments would be necessary for removal of invasive or exotic species.

## **Cultural Resources**

The primary motivation for protecting and preserving cultural resources is to enhance public and professional interpretation and appreciation of our cultural heritage. Public interpretation within the IFNM has been limited primarily to occasional guided tours of Hohokam petroglyph sites (which are objects of the monument described in the Proclamation). Future opportunities for public interpretation include heritage publications, other media products, interpretive signs and kiosks, and visitor centers.

Archaeological sites reflecting both prehistoric and historic-era occupation of the region are so abundant that only a small percentage of the sites have been recorded. Twenty-one documented surveys have, in the aggregate, inventoried approximately 21,194 acres (33.1 square miles) for cultural resources within the IFNM. The surveys encompass about 13 percent of the public land and about 9 percent of the nonpublic lands within the IFNM. A total of 279 archaeological and historical sites have been recorded on BLM land within the IFNM, 175 of which have been recommended eligible for the National Register of Historic Places. Survey data suggest there could be approximately 2,300 sites on the BLM surface estate within the IFNM.

To date, no specific places within the IFNM have been identified as having traditional cultural significance, but an inventory study has not been conducted. Tribes with traditional cultural affiliations with the region are known to have concerns about treatment of human remains, funerary objects, sacred objects, and objects of cultural patrimony that are sometimes present within archaeological sites. Information gathered through tribal consultation efforts has revealed that members of the Tohono O'odham Nation, which borders the IFNM, also might consider some places within the IFNM that were used traditionally, such as stands of saguaro where fruit was collected, as having cultural significance.

## **Paleontological Resources**

Paleontological resources in southern Arizona are typically found in the Quaternary deposits. There are a few limited known occurrences of paleontological resources on the IFNM; however, no significant fossils are known to occur within the IFNM. Several neotoma (packrat) middens located in late Pleistocene and subrecent deposits have yielded various animal and plant species in the Wolcott Peak area of the IFNM.

With respect to fossil sensitivity or the potential for discovering fossils, the IFNM is mainly Class 1 (low sensitivity) and Class 2 (moderate sensitivity), though there are a few Class 3 areas (also moderate sensitivity). Class 1 includes igneous and metamorphic geologic units and sedimentary geologic units where vertebrate fossils or uncommon nonvertebrate fossils are unlikely to occur, and Class 2 includes sedimentary geologic units that are known to contain or have unknown potential to contain fossils that vary in significance, abundance, and predictable occurrence. A few Class 3 areas also occur, which are areas where geologic units are known to contain fossils but have little or no risk of human-caused adverse impacts and/or low risk of natural degradation.

## **Scenic and Visual Resources**

Visual resources on IFNM lands are an important part of the landscape viewed from public travel routes and populated areas, including the Avra and Santa Cruz valleys, I-10, Tucson, Marana, Oro Valley, Casa Grande, and other nearby communities. The landscape in the IFNM exhibits outstanding examples of the Basin and Range, Sonoran Desert Section (which is an object of the monument described in the Proclamation), with visual resources in largely natural appearing condition. The scenic quality has many outstanding landform, vegetation and special features that attract sightseeing activities, and define the surrounding area's landscape setting. Visual sensitivity is high, and viewing distance is in the foreground-middle ground from important viewing areas within and outside the Monument. Its rugged, steep-sloped

mountains form the background and skyline defining the broad, flat valleys where agricultural, rural and urban development exists. Due to landform, vegetation and visibility characteristics, IFNM lands are vulnerable to visual impacts from activities that involve vegetation clearing, earthwork disturbance, and placement of structures, which can cause strong visual contrasts noticeable in foreground to background views.

Under the current management, visual resources in the Monument are under Visual Resource Management (VRM) Class III objectives to partially retain the existing character of the landscape. Under this Class, changes to the landscape are limited to a moderate level, with land use and management activities that may attract attention but not dominate the view of the casual observer; changes in the landscape should repeat the basic elements found in the predominant natural features of the characteristic landscape.

### **Wilderness Characteristics**

As part of the land use planning process and in response to input received during scoping, the BLM assessed the planning area for wilderness characteristics. The BLM Land Use Planning Handbook (H-1601-1) provides the following guidance:

Identify decisions to protect or preserve wilderness characteristics (naturalness, outstanding opportunities for solitude, and outstanding opportunities for primitive and unconfined recreation). Include goals and objectives to protect the resource and management actions necessary to achieve these goals and objectives. For authorized activities, include conditions of use that would avoid or minimize impacts to wilderness characteristics.

The assessment utilized data gathered for the plan in the visual, recreation, vegetation, ecological site, and wildlife habitat resource inventories.

The wilderness characteristics assessment confirmed the presence of wilderness characteristics on approximately 36,990 acres of BLM-administered land, including areas of the Sawtooth, West Silver Bell, Silver Bell, and Roskrige Mountains.

### **Energy and Mineral Resources**

BLM manages approximately 149,360 acres of Federal mineral estate within the IFNM boundaries. The Federal mineral estate lies under surface areas administered by the BLM, as well as areas of State Trust land (14,680 acres) and private land (3,220 acres). As a result of the Proclamation, all of the lands and interests in lands, including minerals, within the IFNM boundaries have been withdrawn from location, entry, and patent under the mining laws and from disposition under all laws relating to mineral and geothermal leasing.

BLM is responsible for managing leasable, locatable, and salable minerals within the IFNM. There are no known leasable minerals (oil, gas, or geothermal resources) within the IFNM. Locatable minerals, which include metallic and nonmetallic minerals have been reported in the IFNM. As of 2005, there were 225 existing claims for metallic minerals, though no active mining of metallic or nonmetallic minerals presently is occurring on public land. Salable minerals, which include sand, gravel, aggregate, and other building stone, have historically been extracted from public lands in the IFNM; however, no mineral removal operations presently are occurring.

## **Livestock Grazing**

The entire IFNM is available for grazing, which includes approximately 128,400 acres of public land. Currently, grazing leases are held for 11 allotments.

## **Recreation**

The IFNM is easily accessible from both Tucson and Phoenix, and small towns and communities in between. IFNM lands provide outstanding recreational opportunities in a semi-primitive undeveloped setting. Visitors engage in a variety of dispersed recreational activities, including hiking/walking/running, sightseeing, wildlife viewing, camping, vehicle touring, picnicking, target shooting, hunting, and horseback riding. Universal access is not available to recreation opportunities in the IFNM due to barriers imposed by terrain and vegetation, but some opportunities are accessible to persons with mobility impairments where accessible by motorized or mechanized vehicles. The Ragged Top Mountain area is the primary destination within the IFNM for sightseeing and wildlife viewing.

Under current management, recreation resources and use in the IFNM are managed for basic custodial resource and visitor management. Use of IFNM lands in connection with commercial and/or organized recreational activities is managed under special recreation permits issued according to regulations in 43CFR2930.

## **Lands and Realty**

BLM administers approximately 128,400 acres of public land (surface estate) in the IFNM. Adjustments to land tenure within the IFNM boundaries can occur under a variety of realty actions. However, under the Proclamation, all land and interests in land (i.e., surface and subsurface estate) within the IFNM boundaries will remain under BLM's administration unless an exchange would further the protective purposes of the monument.

In addition to land tenure adjustments, BLM manages utility corridors to accommodate rights-of-way for major facilities and communication sites. There are three utility corridors, where rights-of-way for pipelines and electrical transmission lines have been issued. Rights-of-way for other utilities and facilities also are present in the IFNM, including two communication sites: Pan Quemado and Confidence Peak. Presently, there are 27 rights-of-way authorized by BLM within the IFNM.

## **Travel Management**

There are approximately 346 miles of routes of varying condition on public lands within the IFNM; the vast majority of these routes are dirt roads. These are typically single-lane roads that are passable by two-wheel-drive, high-clearance vehicles, but not by passenger vehicles or larger vehicles, and that show no evidence of improvement or regular maintenance. Vehicle travel is limited to these existing routes and county-maintained routes through the IFNM, including Sasco, Avra Valley, Silverbell, Manville, Mile Wide, El Tiro, and Pump Station Roads.

## **Special Designations**

The Waterman Mountains area of critical environmental concern (ACEC), which includes 2,240 acres of public land, is the only special designation within the IFNM. It was established in the 1989 Phoenix RMP primarily for the protection of the Nichol Turk's head cactus, and is one of the most popular destinations within the monument.

## **Social and Economic Conditions**

Overall, long-term (30-year, 1970 to 2000) social and economic trends for the study area indicate a shift among the dominant employment sectors and the major sources of personal income. In Pima and Pinal counties, the long-term trend has been a large increase in jobs in the services and professional sector, which generally pays less than other sectors. This trend is statewide; the services and professional sector has provided approximately 75 percent of new jobs in Arizona between 1970 and 2000. Conversely, employment in the mining sector during this same time frame declined (although beginning in 2003, there has been a resurgence in the copper industry). New job growth in the government sector has occurred over this 30-year timeframe in both counties. The farm and agricultural services sector remained flat in Pima County, but declined in Pinal County.

## **ENVIRONMENTAL CONSEQUENCES**

The predicted consequences, or potential effects, on the environment that would result from the implementation of the alternative management strategies were identified. An impact, or effect, is defined as a modification to the environment as it presently exists, that is brought about by an outside action. The following sections summarize the results of the impact analysis for each alternative.

### **Impacts on Air Quality**

Under all alternatives, surface-disturbing activities—including vehicle travel, recreational uses, land use authorizations, and livestock grazing (at least until leases expire under Alternative B)—would result in localized degradation of air quality. Under Alternative B, surface-disturbing activities in fragile or sensitive soils would be prohibited and fewer miles of routes would be designated for motorized use compared to other alternatives, resulting in greater protection of air quality. Under Alternatives A, C, and D, BLM would allow increased surface disturbance compared to Alternative B; however, erosion prevention and/or control, and site-specific mitigation of impacts from surface disturbance in fragile or sensitive soils would minimize the potential for impacts on air quality under these alternatives. Alternatives B, C, and D would all reduce air quality impacts compared to current management (Alternative A).

### **Impacts on Geology and Caves Resources**

Under all alternatives, surface-disturbing activities—including vehicle travel, recreational uses, collection of paleontological resources, and land use authorizations—could degrade geological resources in localized areas (e.g., along travel routes). Because of the extent of the mountain ranges within IFNM that contain geologic resources, these localized impacts on geological objects of the monument would not reduce the contribution of those resources to the natural characteristics, processes, and scenic and wildlife values. Maintaining and improving soil cover and productivity through erosion preventative measures would indirectly help maintain geological resources. Under Alternative A, designating the IFNM as VRM Class III could allow for surface-disturbing activities that could degrade geological resources. Under Alternative B, designating 125,110 acres of VRM Class I and II, closing 38,040 acres to vehicle travel, and managing 36,990 acres for wilderness characteristics could limit surface-disturbing activities in these areas, subsequently protecting geological and cave resources throughout a majority of the IFNM. Under Alternative C, designating 124,900 acres of VRM Class II, closing 10,880 acres to vehicle travel, and managing 9,510 acres for wilderness characteristics could protect geological and cave resources similar to Alternative B, though across less area of the IFNM. Under Alternative D, designating 122,580 acres of VRM Class II would provide protection of geological and cave resources, similar to Alternatives B and C, though across less area of the IFNM. Under Alternatives A, C, and D, utility corridors (8,240, 241, and

2,660 acres, respectively) would provide opportunities for land use authorizations that could degrade geological resources.

### **Impacts on Soil and Water Resources**

Under all alternatives, surface-disturbing activities—including vehicle travel, recreational uses, collection of paleontological resources, and land use authorizations—could result in the loss of soil resources or degradation of water quality in localized areas. However, maintaining and improving soil cover and productivity through erosion preventative measures would indirectly help maintain soil and water resources. Under Alternative A, designating the IFNM as VRM Class III would allow for surface-disturbing activities that could degrade soil and water resources. Under Alternative B, designating 125,110 acres of VRM Class I and II, closing 38,040 acres to vehicle travel, and managing 36,990 acres for wilderness characteristics could limit surface-disturbing activities in these areas, subsequently protecting soil and water resources throughout a majority of the IFNM. Under Alternative C, designating 124,900 acres of VRM Class II, closing 10,880 acres to vehicle travel, and managing 9,510 acres for wilderness characteristics could protect soil and water resources similar to Alternative B, though across less area of the IFNM. Under Alternative D, designating 122,580 acres of VRM Class II would provide protection of soil and water resources, similar to Alternatives B and C, though across less area of the IFNM. Under Alternatives A, C, and D, utility corridors (8,240, 241, and 2,660 acres, respectively) would provide opportunities for land use authorizations that could result in surface-disturbing activities, resulting in degradation of soil and water resources in localized areas. Prohibiting recreational target shooting (under Alternatives B and C) and restricting target shooting to designated areas (Alternative D) would reduce the amount of lead shot within the IFNM, as well as the potential for lead to leach into the soil.

### **Impacts on Vegetation**

Under all alternatives, restrictions on surface-disturbing activities and measures to minimize soil erosion would help retain existing vegetation diversity, species composition, and successional states and patterns, providing protection for monument objects. Construction of facilities, vehicle travel, recreational uses, and land use authorizations could result in the loss of vegetation in localized areas. Under Alternative A, designating the IFNM as VRM Class III potentially would allow for surface-disturbing activities that could result in trampling or removal of vegetation. Under Alternative B, designating 125,110 acres of VRM Class I and II, closing 38,040 acres to vehicle travel, and managing 36,990 acres for wilderness characteristics could limit surface-disturbing activities in these areas, subsequently protecting vegetation and reducing the potential for the spread of invasive species compared to Alternative A. Under Alternative C, designating 124,900 acres of VRM Class II, closing 10,880 acres to vehicle travel, and managing 9,510 acres for wilderness characteristics could protect vegetation similar to Alternative B. In addition, allocating 2,240 acres as the Waterman Mountains Vegetation Habitat Management Area (VHA) and 6,780 acres as the Ragged Top VHA would limit surface-disturbing activities in these areas, resulting in protection of vegetation in these areas under both Alternatives B and C. Under Alternative D, designating 122,580 acres of VRM Class II would provide protection of vegetation, similar to Alternatives B and C, though across less area of the IFNM. In addition, allocating 2,240 acres as the Waterman Mountains VHA and 6,500 acres as the Ragged Top VHA would limit surface-disturbing activities in these areas, resulting in protection of vegetation in these areas. Under Alternatives A, C, and D, utility corridors (8,240, 241, and 2,660 acres, respectively) would provide opportunities for land use authorizations that could result in surface-disturbing activities, resulting in trampling or removal of vegetation in localized areas, as well as the potential for spreading of invasive species in disturbed areas. Recreational target shooting could result in dispersed damage to vegetation resources (Alternative A), little to no damage under Alternatives B or C (as target shooting would be prohibited), or potentially concentrated damage to vegetation near designated shooting areas (Alternative D). Compared to

Alternative B, Alternatives A, C, and D could result in increased disturbance to vegetation in localized areas from camping, rights-of-way (in designated corridors), vehicle travel on motorized routes, and other allowable uses. The localized disturbance to vegetation from such actions would not alter the viability of ironwood, palo verde, or saguaro populations, or their vegetative communities.

### **Impacts on Wildlife and Wildlife Habitat**

Under all alternatives, restrictions on surface-disturbing activities and measures to minimize soil erosion would help retain existing vegetation, subsequently retaining wildlife habitat and protecting monument objects. Vehicle travel and recreational uses could result in surface-disturbing activities that would degrade wildlife habitat in localized areas. Under Alternative A, designating the IFNM as VRM Class III would allow for surface-disturbing activities that could degrade wildlife habitat. Under Alternative B, designating 125,110 acres of VRM Class I and II, closing 38,040 acres to vehicle travel, and managing 36,990 acres for wilderness characteristics could limit surface-disturbing activities in these areas, subsequently protecting vegetation and reducing the potential for degradation of wildlife habitat compared to Alternative A. In addition, allocating 29,820 acres as the Desert Bighorn Sheep Wildlife Habitat Management Area (WHA) and 2,240 acres as the Waterman Mountains VHA would limit surface-disturbing activities in these areas, resulting in protection of wildlife habitat. Under Alternative C, designating 124,900 acres of VRM Class II, closing 10,880 acres to vehicle travel, and managing 9,510 acres for wilderness characteristics could protect wildlife habitat similar to Alternative B, though across less area of the IFNM. Alternative C would include protection of wildlife habitat in the Desert Bighorn Sheep Wildlife WHA and Waterman Mountains VHA similar to Alternative B. Under Alternative D, designating 122,580 acres of VRM Class II would provide protection of wildlife habitat, similar to Alternatives B and C, though across less area of the IFNM. Under Alternatives A, C, and D, utility corridors (8,240, 241, and 2,660 acres, respectively) would provide opportunities for land use authorizations that could result in surface-disturbing activities, resulting in trampling or removal of vegetation, which would degrade wildlife habitat in localized areas.

### **Impacts on Special Status Species**

Under all alternatives, surface-disturbing or disruptive activities could displace special status species, fragment habitat, or result in the loss of habitat. The impacts on special status species (objects of the monument) would not result in the loss of a population of a special status species. Under Alternative A, designating the IFNM as VRM Class III would allow for surface-disturbing activities that could degrade special status species habitat. Under Alternative B, designating 125,110 acres of VRM Class I and II, closing 38,040 acres to vehicle travel, and managing 36,990 acres for wilderness characteristics could limit surface-disturbing activities in these areas, subsequently protecting vegetation and reducing the potential for degradation of special status species habitat compared to Alternative A. In addition, allocating 29,820 acres as the Desert Bighorn Sheep WHA and 2,240 acres as the Waterman Mountains VHA would limit surface-disturbing activities in these areas, resulting in protection of special status species habitat in those areas. Under Alternative C, designating 124,900 acres of VRM Class II, closing 10,880 acres to vehicle travel, and managing 9,510 acres for wilderness characteristics could protect special status species habitat similar to Alternative B, though across less area of the IFNM. Alternative C would include protection of wildlife habitat in the Desert Bighorn Sheep Wildlife WHA and Waterman Mountains VHA similar to Alternative B. Under Alternative D, designating 122,580 acres of VRM Class II would provide protection of special status species habitat, similar to Alternatives B and C, though across less area of the IFNM. Under Alternatives A, C, and D, utility corridors (8,240, 241, and 2,660 acres, respectively) would provide opportunities for land use authorizations that could result in surface-disturbing activities, resulting in direct conflicts with special status species or the loss or potentially increased fragmentation of their habitat. Compared to Alternative B, Alternatives A, C, and D could result in increased impacts on special status species in localized areas, although the management

goals and objectives associated with each alternative would protect special status species populations as a whole. Mitigation measures would be implemented to reduce impacts on special status species to minimize impacts and to provide further protection of the monument objects.

### **Impacts on Fire Ecology and Management**

Under all alternatives, management actions to limit surface disturbance would reduce opportunities for the establishment of noxious weeds and invasive species, which would indirectly help retain the existing fire regime. Under Alternative A, the potential for ignitions would be minimized on the 820 acres closed to motorized vehicle travel. Under Alternative B, 38,040 acres would be closed to motorized vehicle travel, reducing the potential for ignitions in those areas. However, managing 36,990 acres for wilderness characteristics could preclude some types of fuel reduction treatments in those areas. Under Alternative C, 10,880 acres would be closed to motorized vehicle travel, reducing the potential for ignitions in those areas. However, managing 9,510 acres for wilderness characteristics could preclude some types of fuel reduction treatments in those areas. Under Alternative D, no areas would be closed to motorized travel (though motorized travel would be limited to designated routes), resulting in the potential for ignitions along roads.

### **Impacts on Cultural Resources**

Under all alternatives, surface-disturbing activities—including vehicle travel, recreational uses, land use authorizations, and livestock grazing (at least until leases expire under Alternative B)—could result in disturbance of cultural resources. However, management objectives and decisions for management actions, allowable use, and use allocations would protect the cultural objects of the monument through the careful definition of scientific and public use of cultural resources. Furthermore, mitigation measures (such as closing access to site, establishing barriers to restrict access, recovering data through excavation and documentation) also would provide for protection of cultural resources. Under Alternative A, closing 820 acres to motorized vehicles and allocating the 2,720-acre Avra Valley Cultural Resource Management Area would help protect cultural resources by reducing surface disturbance in those areas. In addition, limiting the amount of human access helps to protect cultural resources by minimizing the potential for looting, pothunting, vandalism, illegal immigration traffic, and inadvertent damage. Under Alternative B, surface-disturbing activities in fragile or sensitive soils would be prohibited, 38,040 acres would be closed to motorized travel, and fewer miles of routes would be designated for motorized use compared to other alternatives, resulting in greater protection of cultural resources in those areas. In addition, surface disturbance for research would not be permitted. Under Alternatives A, C, and D, BLM would allow increased surface disturbance compared to Alternative B, including surface disturbance for research; however, erosion prevention and/or control, and site-specific mitigation of impacts from surface disturbance in fragile or sensitive soils would minimize the potential for impacts on cultural resources (monument objects) under these alternatives.

### **Impacts on Paleontological Resources**

Under all alternatives, surface-disturbing activities—including vehicle travel, recreational uses, land use authorizations, and livestock grazing (at least until leases expire under Alternative B)—could result in disturbance of paleontological resources. Under Alternative A, closing 820 acres to motorized vehicles would provide limited protection for paleontological resources by reducing surface disturbance in those areas. Under Alternative B, surface-disturbing activities in fragile or sensitive soils would be prohibited, 38,040 acres would be closed to motorized travel, and fewer miles of routes would be designated for motorized use compared to other alternatives, resulting in greater protection of paleontological resources in those areas. Under Alternatives A, C, and D, BLM would allow increased surface disturbance compared to Alternative B; however, erosion prevention and/or control and site-specific mitigation of

impacts from surface disturbance in fragile or sensitive soils would minimize the potential for impacts on paleontological resources under these alternatives.

### **Impacts on Scenic and Visual Resources**

Under Alternative A, BLM would allow for the greatest modification of the visual environment, as the IFNM would be managed under objectives for VRM Class III; mitigation could be necessary for projects to protect scenic values. Under Alternatives B, C, and D, much less modification to the scenic and visual environment would be anticipated as a majority of the IFNM under these alternatives would be managed such that changes to the landscape should not be noticeable. Alternative B would include 36,990 acres of public land managed as VRM Class I, and 88,120 acres of public land managed as VRM Class II. Alternatives C and D would not include any VRM Class I, but would include 124,900 or 122,580 acres, respectively, managed as VRM Class II, which would maintain and protect the views of public land within the monument.

### **Impacts on Wilderness Characteristics**

Under Alternatives A, B and C, wilderness characteristics would be protected in areas that are closed to OHV travel; however, the area closed under Alternative B would be greater than under any other alternative. Under Alternative B, 36,990 acres of public land would be managed to maintain wilderness characteristics, and these areas would be managed as VRM Class I, resulting in few if any surface-disturbing activities. In addition, surface-disturbing activities in fragile or sensitive soils would be prohibited and fewer miles of routes would be designated for motorized use compared to other alternatives, resulting in greater protection of wilderness characteristics in those areas. Under Alternative C, 9,510 acres of public land would be managed to maintain wilderness characteristics, and these areas would be managed as VRM Class II, resulting in coincidental protection of wilderness characteristics in those areas. Though no areas would be managed to maintain wilderness characteristics under Alternative D, increased protection of such characteristics would occur compared to Alternative A as a result of VRM class designations (mainly VRM Class II under Alternative D), which would limit surface disturbance, and as a result of the designation of routes for motorized or non-motorized travel (fewer miles would be designated for motorized travel compared to Alternative A).

### **Impacts on Energy and Mineral Resources**

The Proclamation designating the IFNM withdrew the area from mineral material disposal, location, entry and patent under mining laws and from disposition under all laws relating to mineral and geothermal leasing, subject to valid existing rights. Under the locatable mining laws for all alternatives, before any exploration or mining activity could occur, BLM would need to determine mining claim validity. Valid mining claims can be developed pursuant to current regulations. With the exception of any valid existing rights, because the subject lands are withdrawn, any known or undiscovered mineral deposits will not be developed. Impacts to renewable energy resources are discussed under land use authorizations in the lands and realty section.

### **Impacts on Livestock Grazing**

Under all alternatives livestock grazing would be adjusted when necessary to continue to comply with Arizona Standards for Rangeland Health. Although these adjustments would help enhance rangeland conditions and increase long-term forage production, animal unit month (AUM) use could decrease for some livestock operators. Managing vegetation and wildlife habitat, and implementing programs to reduce wildfire ignitions, would enhance vegetation community conditions and could increase forage. Recreation, mining activities, and activities associated with cultural resource management could either

disrupt livestock or result in surface disturbance that removes vegetation, including livestock forage, from localized areas. Under Alternative A, designating 128,400 acres of BLM-administered lands in the IFNM to meet VRM Class III, providing 8,240 acres for utility corridors, and continuing custodial management of recreation could result in surface disturbance removing vegetation and forage. Under Alternative B, designating 125,110 acres as VRM Class I and II, managing 36,990 acres for wilderness characteristics, and managing 60,000 acres as Semi-Primitive Non-Motorized could help retain vegetation resources by reducing surface disturbance activities. However, this could restrict the type or location of rangeland improvement projects. Under Alternative B, making BLM-administered lands unavailable for livestock grazing after existing leases expire could reduce the number of livestock operators in the area. Impacts on livestock grazing until leases expire from closing 36,990 acres to motorized use, and managing the IFNM as an exclusion area for right-of-way could help maintain forage available for livestock grazing. Under Alternatives C and D, managing 124,900 and 122,580 acres, respectively, as VRM Class II could reduce surface-disturbing activities, retaining vegetation and forage. Under Alternative C, managing 9,510 acres for wilderness characteristics could restrict rangeland improvement projects.

### **Impacts on Recreation**

Under all alternatives, retaining all public lands within the IFNM and acquiring non-Federal lands could provide continued recreation opportunities in the IFNM. Managing the IFNM for full suppression of fires and maintaining or improving soil productivity could help maintain the recreation setting. Under Alternative A, continued custodial management of recreation could provide opportunities for vehicle-based recreation throughout the IFNM. However, this dispersed use could result in increased surface disturbance in localized areas and may diminish recreational settings over time. Managing 127,580 acres as limited to designated or existing routes would provide opportunities for motorized recreation. Designating the IFNM (128,400 acres) as VRM Class III and managing 8,240 acres as utility corridors would allow surface-disturbing activities that could reduce naturalness and degrade recreational settings. Closing 820 acres to OHV use could help preserve naturalness and maintain the recreational setting. Under Alternative B, C, and D, managing the IFNM using recreation management zones (RMZs) could help maintain the recreational setting over time by reducing surface disturbance in localized areas. Under Alternative B, managing 36,990 acres for wilderness characteristics, managing 60,000 acres as a Semi-Primitive Non-Motorized recreation zone, and managing 38,040 acres as closed to motorized use would maintain primitive and non-motorized recreational opportunities. Under Alternative C, managing 117,520 acres as limited to designated routes would maintain opportunities for motorized recreation throughout a majority of the IFNM. Closing 10,880 acres to motorized use, managing 57,450 acres as Semi-Primitive Non-Motorized recreation zone, and managing 9,510 acres for wilderness characteristics would maintain primitive and non-motorized recreational opportunities. Under Alternative D, managing the IFNM (128,400 acres) as limited to designated routes would maintain opportunities for motorized recreation. Managing 43,770 acres for Semi-Primitive Non-Motorized recreation use would provide opportunities for non-motorized recreation. Alternative D would provide for two designated areas for recreational target shooting, whereas Alternative A would continue opportunities for dispersed recreational shooting and Alternatives B and C would prohibit recreational shooting within IFNM.

### **Impacts on Lands and Realty**

Under all alternatives, BLM could acquire land and incorporate those lands into the IFNM. Acquisitions would be dependent upon having a willing seller. In accordance with the Proclamation, no lands would be transferred out of Federal ownership. Under Alternative A, land tenure adjustments would focus on the acquisition of non-Federal land in the Waterman Mountains, Sawtooth Mountains, Agua Blanca Ranch area, Cocoraque Butte area, Silver Bell Mountains and three sections of land in the West Silver Bell Mountains. Closing 820 acres to OHV travel could restrict land use authorizations in these areas as a result of access limitations that would be enforced as part of the OHV closure. Under Alternatives B, C

and D, land tenure adjustments would focus on acquisition of non-Federal land throughout the IFNM, on an opportunistic basis, rather than within specific areas. This would provide greater flexibility for BLM in prioritizing land for acquisition and would account for changing conditions in and around the IFNM. Under Alternative B, allocating the IFNM as an exclusion area without identifying any utility corridors would result in considering land use authorizations for rights-of-way only when required by law. This would exclude the potential for new rights-of-way for electric generating facilities (including renewables), transmission lines, pipelines, and other utilities, but would best protect the objects of the monument. Closing 38,040 acres to OHV travel could restrict land use authorizations in these areas as a result of access limitations that could be enforced as part of the OHV closure. Under Alternative C, closing 10,880 acres to OHV travel could restrict land use authorizations in these areas as a result of access limitations that could be enforced as part of the OHV closure. Allocating the IFNM as an avoidance area (except for 241 acres that are identified as utility corridors) would limit opportunities for rights-of-way (including renewable energy projects) unless no other viable alternatives exist to avoiding placement of facilities within the IFNM. Corridors on 241 acres would provide limited opportunities for major utilities. Under Alternative D, allocating the IFNM as an avoidance area (except for identified utility corridors) would limit opportunities for rights-of-way unless no other viable alternatives exist to avoiding placement of facilities within the IFNM. The three corridors on 2,660 acres would provide limited opportunities for major utilities.

### **Impacts on Travel Management**

Under all alternatives, fire suppression activities could require emergency access that may not be accommodated by the travel route system. Mining activity at valid existing claims could require additional access that may not be accommodated by the travel route system and could require additional routes be established for the specific purpose of a valid mining claim. Erosion prevention and land treatments to maintain or improve soil cover and productivity could improve road conditions. Acquiring lands would protect and potentially expand public travel and access within the IFNM because additional travel routes and access points could become available for public use. Under Alternative A, closing 820 acres to OHV travel and limiting motorized vehicle travel to existing or designated routes on approximately 127,580 acres would provide an extensive travel network on 346 miles throughout the IFNM. Under Alternative B, closing 38,040 acres to OHV travel and limiting motorized vehicle use to designated routes on the remaining 90,360 acres would provide a 63-mile travel network (plus County-administered and State Trust lands) throughout the IFNM. Under Alternative C, closing 10,880 acres to OHV travel and limiting motorized vehicle travel to designated routes on 124 miles would provide a travel network throughout the IFNM. Under Alternative D, limiting motorized vehicle travel to designated routes on 128,400 acres would provide a 226-mile travel network throughout the IFNM.

### **Impacts on Special Designations**

Under Alternative A, only decisions for special status species and special designations would affect the Waterman Mountain ACEC. The approximately 2,240 acres of BLM-administered lands would continue to be designated for the protection of the Nichol Turk's head cactus. Under Alternatives B, C, and D, the 2,240 acres of BLM-administered lands in the Waterman Mountain ACEC would not continue because the IFNM designation and management proposed for the IFNM would provide protection of the special status species for which the ACEC was established.

### **Impacts on Social and Economic Conditions**

Under all alternatives, management of the IFNM would protect monument objects, recognizing the social value of resource preservation and conservation; this would include minor expenditures and earning associated with BLM management. Mining claims that predate the establishment of the IFNM could

potentially be developed and economic gains would be realized commensurate with the scale of the development. Under Alternative A, livestock grazing would continue to generate economic gains from operators, depending upon stocking rates which would vary. Social values of ranching would continue under Alternatives A, C, and D. Under Alternative A, continuing custodial management of recreation would result in minor economic impacts (generally fees for permits); however, social conflicts would continue and possibly escalate over time if use of the IFNM increases. After existing grazing leases expire, under Alternative B, there would be a loss of economic activity associated with livestock grazing as well as a loss of the social value of ranching within the IFNM. Under Alternatives B, C, and D, opportunities for recreation would vary based on the differing allocation of RMZs, but all would provide for a variety of motorized and non-motorized recreational settings and opportunities. Under Alternative B, managing 36,990 acres for wilderness characteristics would recognize the social and non-market values of these areas; however, opportunities for uses that generate economic returns could be limited in these areas. Allocating the IFNM as an exclusion area for rights-of-way and not identifying any utility corridors would preclude opportunities for such facilities and the economic impacts. Under Alternative C, managing 9,510 acres for wilderness characteristics would recognize the social and non-market values of these areas; however, opportunities for uses that generate economic returns could be limited in these areas. Allocating the IFNM as an avoidance area for rights-of-way, except on 241 acres for identified utility corridors, would limit, but not preclude, opportunities for such facilities and the associated economic impacts. Under Alternative D, allocating the IFNM as an avoidance area for rights-of-way except for 2,660 acres of identified utility corridors would limit, but not preclude, opportunities for such facilities and the associated economic impacts.

### **Impacts on Public Safety**

Under all alternatives safety risks and hazards would exist to some degree. Emergency and rescue operations would be available on an as-needed basis regardless of the level of risk allowed under any of the alternatives. BLM's framework for hazardous materials management policies as provided in Manual Section 1703 (MS-1703) would be applicable to all alternatives. Implementing programs to reduce ignitions and maintaining full fire suppression would reduce risks and hazards. However, the use of hazardous materials, vehicles, or aircraft in association with these management activities could result in unintended spill or release of hazardous materials. Under Alternative A, allowing vehicle travel on 346 miles of existing or designated routes within the 127,580 acres open to motorized vehicles would present risks to public safety from vehicle-based accidents. Under Alternatives A and D, allowing recreational shooting could present risks of exposure to hazardous materials and injuries in areas of intense recreational use. Under Alternatives B and C, prohibiting recreational shooting except for permitted hunting would limit risks of exposure to hazardous materials and minimize risks to public safety from shooting activities. Under Alternative B, allowing vehicle travel on 63 miles of designated routes within the 90,360 acres available for vehicle travel would present risks to public safety from vehicle-based accidents. Under Alternative C, allowing vehicle travel on 124 miles of designated routes within the 117,520 acres available for vehicle travel would present risks to public safety from vehicle-based accidents. Under Alternative D, allowing vehicle travel on 226 miles of designated routes within the IFNM would present risks to public safety from vehicle-based accidents.

### **CUMULATIVE IMPACTS**

Potential cumulative impacts, projects, and actions in or near the IFNM were determined by examination of other plans in the region, discussions with local governments and State and Federal land managers, and from information provided by BLM. The timeframe for this cumulative impact analysis encompasses past activities in the planning area since as early as 1860, but generally focuses on activities that occurred in the 1900s, present-day activities, and future activities that may extend 20 years into the future.

Cumulative impact on air quality could result in areas where direct impacts from different activities overlap. This could increase the amount of inhalable particulate matter such as PM<sub>10</sub> concentrations, which could contribute to continued PM<sub>10</sub> nonattainment status for air quality in portions of the IFNM and surrounding area.

Cumulative impacts on soil and water resources, and vegetation could occur from BLM management combined with proposed construction of additional urban and residential development, increased roads and highways, projects authorized as a result of the West-wide Energy Corridors, and the Southwest Transmission Company's Sandario Project could increase localized removal of or disturbance to vegetation. Comprehensive management plans as well as the IFNM RMP would restrict surface-disturbing activities, resulting in some mitigation of surface disturbance and vegetation removal.

The cumulative impact boundaries and impacts for wildlife and wildlife habitat vary by species. Cumulative impacts on the wildlife and wildlife habitat would result from surface disturbance and disruptive activities in and near the IFNM. Cumulative impacts from surface-disturbing activities could include habitat fragmentation, including some important movement corridors. State, county, and city comprehensive management plans would restrict surface-disturbing activities, resulting in some mitigation of habitat degradation.

The cumulative impact boundaries for special status plant and wildlife vary by species. Cumulative impacts on the special status species habitat would result from surface disturbance and disruptive activities in and near the IFNM. Cumulative impacts from surface-disturbing activities could include habitat fragmentation, including some important movement corridors. State, county, and city comprehensive management plans would restrict surface-disturbing activities, resulting in some mitigation of habitat degradation.

With respect to fire ecology and management, increased residential development on private lands adjacent to the IFNM would increase the amount of wildland-urban interface (WUI) areas over the long term. Residential development and increasing recreational use would increase the potential for accidental human-caused ignitions, which could spread into or out of the IFNM.

The proposed construction and additional residential development and infrastructure and/or utility improvements and expansions could disturb paleontological and/or cultural resources. These developments in conjunction with continued urban growth and recreational and other uses on public land also could disturb paleontological and cultural resources. The loss of cultural resources resulting from development on non-public land adjacent to the IFNM and potential degradation of cultural resources could occur with increased visitation. Comprehensive management plans, including city and county plans, may include provisions to protect and conserve paleontological and/or cultural resources.

Visual resources would continue to be affected by projects and activities that occur on lands that are not administered by the BLM, but which could be visible from public lands due to proximity and topography. Road construction, farming, mining, utility lines, and residential development tend to create visual contrasts along the borders of the IFNM. These types of activities combined with past actions have resulted in contrasts of texture, form, line, and color that are often visible to the casual observer at varying distances. Future projects likely would involve increased residential development and road construction which would continue to create visual contrasts with the landscape. However, Pima County's Buffer Overlay Zone Ordinance, if applicable to the IFNM could require projects to "provide for an aesthetic visual appearance from and to Pima County's public preserves," resulting in some mitigation of the cumulative impacts on scenic and visual resources.

Major mining complexes and vehicle traffic associated with these facilities could diminish wilderness characteristics if these operations were in direct view from localized portions of the IFNM. Projects outside of the planning area could impact wilderness characteristics due to the visibility of the projects from within the IFNM. The development of residential housing to the north and east of the IFNM could be visible from higher elevations within the IFNM, such as the Sawtooth Mountains and the Samaniego Hills. However, wilderness characteristics in designated wilderness within 50 miles of the IFNM would be protected in perpetuity and cumulative impacts on these values would be very limited regionally.

Removal of vegetation as a result of surface-disturbing activities, the presence and abundance of grazing wildlife, and general human disturbance (including illegal undocumented immigrant travel) would result in diminished potential for livestock grazing within and outside of the IFNM. Increased recreation use, urban development, and the conversion of private or Arizona State Trust land to other uses could reduce forage and livestock numbers. Under Alternative B, managing BLM-administered lands as unavailable for livestock grazing after existing leases expire, in conjunction with increased population growth and recreation demands, could reduce the number of livestock operators. This could reduce the demand for livestock grazing on Arizona State Trust land and private land in the IFNM.

Various past, present, and reasonably foreseeable future actions affect, or could affect, the supply and/or demand for recreational opportunities within the IFNM. The existence of other publicly accessible lands, including State and county parks, various State and regional trails, and the Sonoran Desert National Monument, provide various recreational opportunities. Increased vehicle-based recreation, closure of shooting ranges, and the growing urban and residential development, all would contribute to increased demand for recreational opportunities in the region.

Restrictions on rights-of-way and utilities near the IFNM could result from implementation of comprehensive plans, including habitat conservation plans (HCPs), the Sonoran Desert Conservation Plan, and Pima County Conservation Lands System. These plans, combined with areas protected as open space such as Saguaro National Park and other State and county parks, could concentrate rights-of-way in areas around, but outside of, the IFNM. The West-wide Energy Corridor Programmatic EIS would not establish additional corridors within the IFNM, but could result in major utilities being located outside of the IFNM. Sales (or exchanges, if permitted in the future) of Arizona State Trust land could result in extensive change to surface management within the IFNM boundaries. If BLM acquired non-Federal lands, the demand for major and smaller-scale distribution facilities could decrease. However, BLM likely would need to increase rights-of-way issued if State Trust land within the IFNM boundaries was sold to private parties for future development.

Urban development patterns and areas protected from development have guided the location and development of many highways and roads near and within the IFNM. The continuing growth of vehicle-based recreation, urban development, planned road and highway projects, and population growth are expected to increase demand and construction of transportation routes near the IFNM. Restrictions on the development of travel routes within the IFNM could increase the concentration of vehicles within the IFNM.

Trends such as population growth, increasing non-labor income, and the increasing importance of open space and preserved lands to the regional economy, are largely independent of the alternatives. However, as statewide and local economies shift towards the services sector and non-labor sources of income, BLM-administered lands take on a greater role in community economic development because they provide recreational opportunities and open space preservation to some extent. The small magnitude of socioeconomic impact of BLM's proposed actions relative to the increasing development of Pima and Pinal Counties are unlikely to impact tax revenues, employment, population growth, and development of the area overall. The presence of the IFNM may cause long-term increases in property values for adjacent landowners.

## **SUMMARY OF CHANGES MADE SINCE THE DRAFT RMP/EIS**

This PRMP/FEIS includes changes to the Draft RMP/EIS that resulted from public comments on the draft, policy changes, and additional studies or other information. The key changes are described below. Comment responses in Appendix J provide additional details regarding changes made to the plan.

Information has been added to the PRMP/FEIS to explain the objects of the monument that are specifically identified for protection in the Proclamation. This information is included in Section 1.3.1, with clarification also provided in appropriate sections of Chapter 4 (i.e., applicable resource management categories) related to the impacts on “objects” of the monument. This information has been included to further explain selection of Alternative C and Alternative B for utility corridors as the management that would provide protection of monument objects, without extensive restrictions on public uses and access within the IFNM.

A detailed study was conducted to determine if it was practical to designate specific areas within IFNM for recreational shooting. Based on the analysis, which is included as Appendix I of this plan, only two sites were determined to be potentially suitable. Alternative D evaluates the effects of designating these two sites for recreational shooting while prohibiting dispersed recreational shooting in the remainder of IFNM.

The preferred alternative (Alternative C) in the Draft RMP/EIS proposed that two grazing allotments, Tejon Pass and Morning Star, be reclassified as perennial allotments from their current status as ephemeral allotments. This reclassification requires that forage capacity be identified, which was not done or analyzed in the Draft RMP/EIS. BLM is conducting additional monitoring to determine appropriate forage capacity; therefore, the decision to reclassify these allotments is being deferred until BLM can collect the data necessary to support and identify an appropriate forage capacity level and conduct an associated environmental analysis. As a result of this deferral, the proposed plan incorporates the “no action” alternative for these two allotments, meaning they will continue to be classified as ephemeral at this time.

The preferred alternative (Alternative C) in the Draft RMP/EIS proposed that native plants be used as the first priority for all restoration projects, and that non-intrusive, non-native plants would be used in limited, emergency situations where they may be necessary to protect the resources or when taking no action would further degrade the resources. The Proposed Plan (Alternative C) has been revised and proposes that only native plants be used in restoration activities.

Cultural resource surveys were conducted along roads that would be open for motorized use based on the Proposed RMP. Survey findings have been added to Section 3.1.8.1 and impacts for each alternative are included in Section 4.3.8.

Cocoraque Butte will not be allocated to public use because of the significance of the resources identified in this area and the need to protect those objects of the monument.

Primarily in response to public comments on the Draft RMP/EIS, some minor changes have been made to the alternatives to close certain routes to motorized use and open others to motorized use. This resulted in minor changes to the number of miles of routes designated for various uses. In addition, it should be noted that the policy on bicycle and other mechanized use within IFNM has been clarified. Except where specifically restricted, mechanized use would be allowed on all designated routes except those designated as trails. Maps in Appendix G illustrate this clarification.

The Proposed Plan would not provide for utility corridors, which is consistent with Alternative B; this differs from the preferred alternative in the Draft RMP/EIS, which included Alternative C for utility corridors.

The preferred alternative (Alternative C) in the Draft RMP/EIS proposed that acquisition of mineral estate not be a factor in surface estate acquisitions within the IFNM. The proposed plan (Alternative C) has been revised and proposes that BLM will not acquire surface estate unless mineral estate can be acquired concurrently (or is already federally owned).

Several management goals and objectives for the various resources and resource uses presented in Tables 2-1 through 2-17 were revised based on external comments and internal review to provide clarity and quantification where appropriate. These tables were also revised to correctly categorize a number of actions listed under “Implementation-Level Decisions” in the Draft RMP/EIS; these actions were either moved under “Decisions for Management Actions, Allowable Uses, and Use Allocations,” in the same table or moved to Appendix D: Administrative Action by Resource.

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