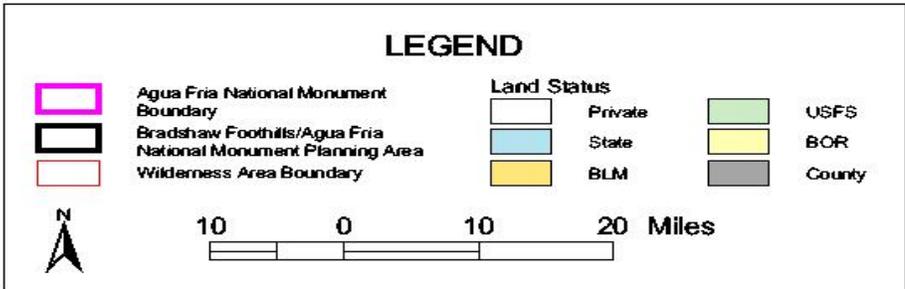
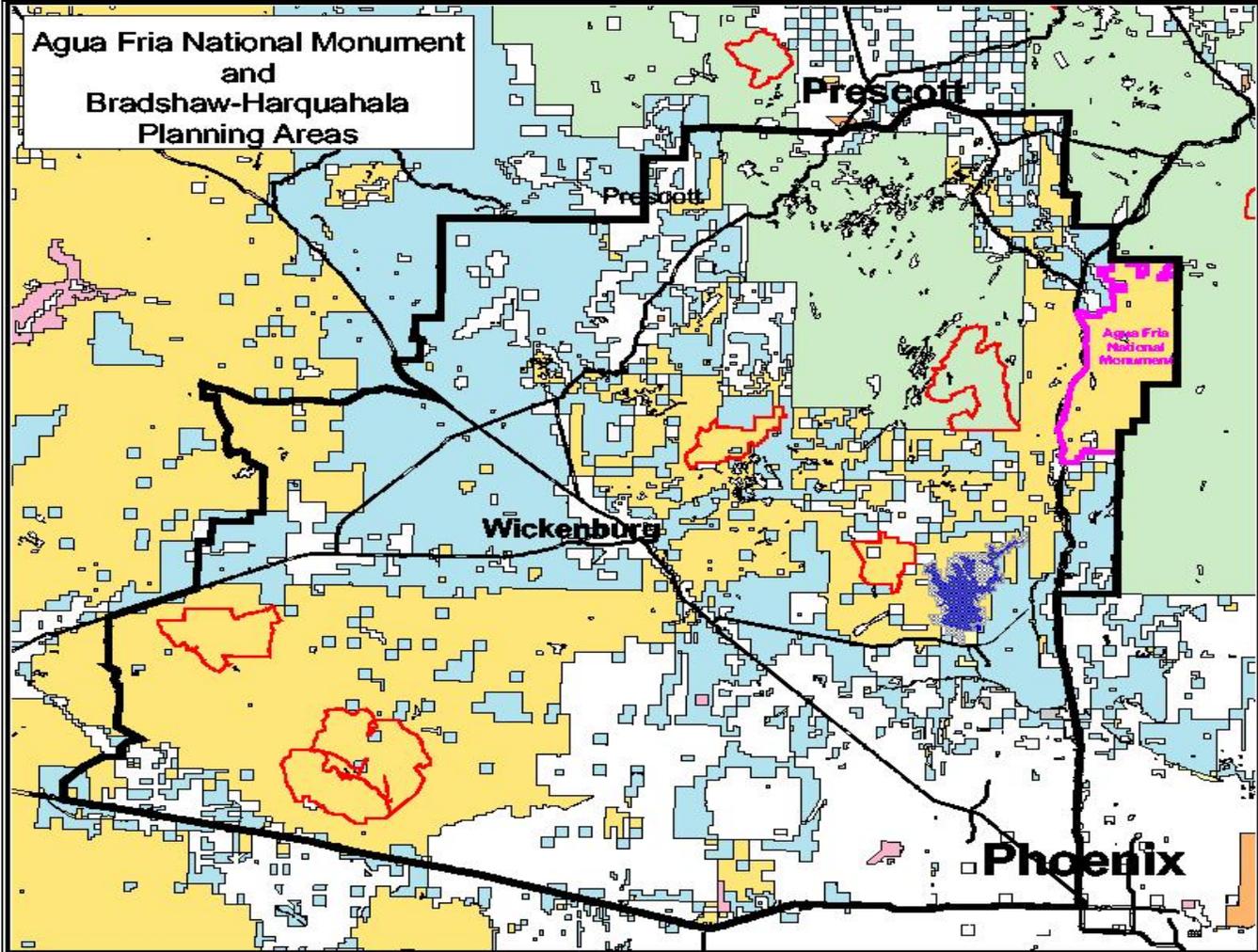


EXECUTIVE SUMMARY

Introduction

The *Agua Fria National Monument and Bradshaw-Harquahala Resource Management Plan and Environmental Impact Statement* (RMP/EIS) is being prepared to provide guidance on current and future management decisions for the BLM's Phoenix Field Office (PFO). These plans will represent the culmination of many months of concerted planning efforts on the part of BLM PFO staff, BLM Arizona State Office staff, representatives of communities located within the planning areas, cooperating and collaborating government agencies, special interest and user groups, and many hundreds of concerned citizens. Any of the proposed action alternatives outlined in the tables that follow, as a distillation of the combined thought, effort, and research from all those involved, will enable BLM to manage both the newly designated Agua Fria National Monument (AFNM) as well as consolidate management of several existing areas adjacent to the Phoenix metropolitan area into a comprehensive plan that will guide BLM management actions for years to come.

Combined, the Agua Fria National Monument and Bradshaw-Harquahala Planning Areas encompass more than 3,000,000 acres in a complex mosaic of land ownerships and jurisdictions. BLM manages the resources on approximately 967,000 surface acres within these planning boundaries, including the entire 70,900 acres of the Agua Fria National Monument, and retains subsurface (mineral) rights to an additional 725,100 acres. The Agua Fria National Monument and Bradshaw-Harquahala RMP/EIS are vital to creating a framework for future planning and decision-making efforts within the context of such complex ownership. These lands are unique. Located within these planning boundaries are archaeological sites and artifacts found nowhere else on earth, providing researchers with critical insights into the lifestyles of the peoples who first settled this region of the Southwest. The lands are home to pronghorn antelope, mule deer, white-tailed deer, bighorn sheep, mountain lion, black bear, javelina, countless native songbirds, migratory waterfowl, and endangered and special-status species such as bald eagle, southwestern willow flycatcher, Sonoran desert tortoise, and native fish species such as Gila chub and desert pupfish. Vegetation throughout the area ranges from creosotebush in the desert flats to ponderosa pine at higher elevations. The varied panorama of mountains, mesas, grasslands, high and low desert vistas provides many thousands of residents and visitors each year with unparalleled recreational opportunities, and many thousands more rely on these lands for their livelihood through mining, grazing, and tourism. As the population of the Phoenix metropolitan area continues to grow, the BLM-administered lands located within the Agua Fria National Monument and Bradshaw-Harquahala Planning Areas will undoubtedly receive increasing pressure. The management decisions set forth in these plans, after considerable deliberation on the part of BLM and its partners are believed to provide the broadest possible consensus to wisely guide management of these very valuable resources.



Purpose and Need

The purpose of preparing the Agua Fria National Monument and Bradshaw-Harquahala RMP is to provide plans that will guide future land management actions within the planning areas. These documents must provide not only adequate guidance for management actions but also show that actions taken were supported by the appropriate National Environmental Policy Act (NEPA) and Federal Land Policy and Management Act (FLPMA) processes.

The need for the preparation of the RMP has been established by three principal factors: the Presidential Proclamation creating the monument as a discrete management unit, the degree of urban expansion and population growth in the planning areas and vicinity, and the time that has elapsed (approximately 15 years) since the last major planning efforts that encompassed the Agua Fria National Monument and Bradshaw-Harquahala Planning Area occurred.

Planning Issues and Management Concerns Identified during Scoping

The most important step in developing an RMP is to identify relevant issues and concerns. An issue is defined as an opportunity, conflict, or problem regarding the use or management of public lands. All comments received for this scoping effort were assigned, based on content, to one of 12 designated issue categories. Comments were further divided into various sub-issues within each category. All comments were read, evaluated, and manually entered into an analytic database. Figures 1 and 2 depict the most frequently mentioned issues for each planning area.

Agua Fria National Monument

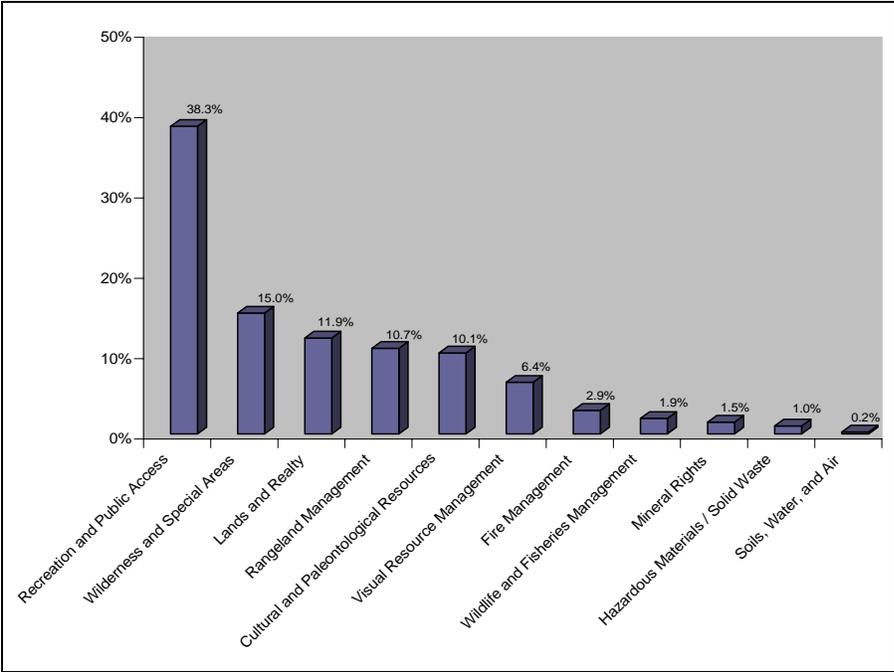


Figure 1. Public Response by Issue – Agua Fria National Monument Planning Area

Recreation and Public Access

Management of, and continued access for recreation use of the monument, while protecting the resources it was created to protect, is a major issue in the plan. The EIS explores options to allow and manage recreation uses.

Special Area Designations

The EIS discusses the possibility of Areas of Critical Environmental Concern (ACEC) and the segments of the Agua Fria River found to be eligible for Wild and Scenic River consideration.

Wilderness Characteristics

A citizen based wilderness study area proposal was submitted. Much of the monument was not previously inventoried for resource values associated with wilderness characteristics because it was not within BLM jurisdiction when the last round of inventories was done. BLM conducted an inventory as directed by section 201 of FLPMA and found some areas to have wilderness character. The EIS explores alternative ways to manage these areas.

Lands and Realty

Lands within the monument must be retained, but private lands within the boundary could be acquired. In addition, alternative options for management of a utility corridor along the western boundary of the monument are discussed in the EIS.

Rangeland Management

Grazing within sensitive riparian habitat is a concern within the monument. In addition, fences used to manage livestock are a potential barrier to pronghorn movement.

Use of native species and diligence in preventing infestations of invasive species was an issue among some citizen groups.

Cultural and Paleontological Resources

The Agua Fria National Monument was created to preserve the outstanding cultural resources within its boundaries, both historic and prehistoric. The recreational and scientific use of the resources, along with the preservation of the sites is of major interest. Alternatives in the EIS explore varying scenarios for achieving this balance.

Visual Resource Management

Preservation of the natural appearance of the landscape is of concern within the monument. In addition, maintaining the historic views in some areas is also of interest.

Fire Management

Most of the monument is within a fire dependent ecosystem. Prescribed fire is currently used to maintain the high desert grasslands. There is an interest in re-establishing natural fire cycles, but the monument is also adjacent to a couple of small communities that could be vulnerable to wildfires.

Wildlife and Fisheries Management

The monument contains several listed or candidate species, including the Gila Topminnow. In addition, several sensitive wildlife species are on the monument, including a small isolated population of pronghorn that are dependent on the monument for their survival.

Minerals

Though the monument is withdrawn from the mining laws, two active mining claims continue to operate. These claims are held by prospecting clubs who hold club events on the claims several times a year.

Hazardous Materials and Solid Waste

Though there is one abandoned mine within the monument known to have hazardous material problems, it is on a patented mining claim and currently poses no hazard to BLM lands or users. The greater issue is with trash dumping on and around the monument. Besides the unsightliness of the dumping, the potential exists for household or other hazardous waste.

Water

The proclamation awarded BLM a Federal reserved water right within the Agua Fria National Monument. Water, and the riparian vegetation it supports, contributes considerably to the values described in the proclamation. The question of how we will quantify and protect the water right is of concern.

Bradshaw-Harquahala Planning Area

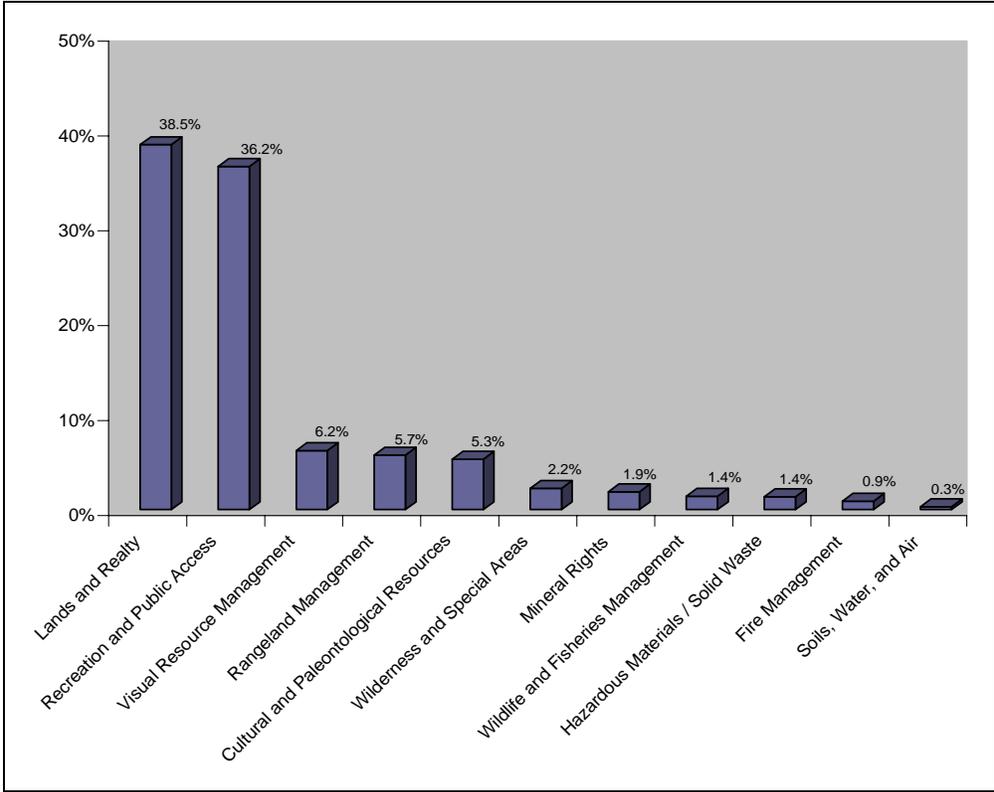


Figure 2. Public Response by Issue – Bradshaw-Harquahala Planning Area

Lands and Realty

The most common comment received regarding the Lands and Realty category was pertaining to land tenure. In general, the public wants the public lands to remain public. Transfer of land title to private land owners was generally considered undesirable.

Recreation and Public Access

In general, public sentiment expressed was in favor of maintaining public access to public lands, and to manage for diverse recreation experiences. Off Highway Vehicle (OHV) use is increasing, and owners of these vehicles want continued access to BLM land and some assurance they will have a place to enjoy their recreation pursuits in the future.

Visual Resources

Rapid urban growth in central Arizona has increased the publics' awareness of open space and scenic quality. Citizens have expressed an intense interest in keeping the landscapes on BLM land as natural appearing as possible.

Rangeland Management

Public sentiment generally supports continuation of grazing. Concern was expressed concerning the health of riparian areas and the opportunities for invasive species infestations.

Cultural and Paleontological Resources

Comments concerning this issue generally centered on increasing protection for sites and halting site vandalism. The potential for livestock damage to sites was also an item of comment.

Special Area Designations

Comments were received concerning sensitive resources and habitats. Several alternative methods for protecting these resources are explored in the EIS.

Wilderness

A number of comments were received concerning protecting lands that have wilderness values and characteristics.

Minerals

Mineral extraction within the planning areas is generally a minor activity. However, there is intense interest in the recreational pursuit of gold as evidenced in the large participation in clubs such as the Gold Prospectors Association of America and the Roadrunners Gold Prospectors Club. The two active mining claims still within the Agua Fria National Monument are held by prospecting clubs.

In addition, the rapid growth in the urban area is increasing demand for sand, gravel, and decorative rock. These saleable materials can often be found on non-Federal lands, but interest in extraction from Federal lands is increasing.

Wildlife and Fisheries Management

The preservation of land for both game and non-game wildlife is increasing. As the urban area expands, habitat is lost for many wildlife species. Development is also fragmenting habitat, reducing the viability of what remains. Many species in the Sonoran Desert require large land areas. Long term preservation of species, especially Sensitive, Threatened, and Endangered species, will require preservation of large areas of unfragmented habitat and focused management of sensitive and uncommon habitats such as riparian.

Hazardous Materials and Solid Waste

Illegal dumping of household waste is an increasing problem within both planning areas. Besides being unsightly, there is a potential for hazardous materials to be dumped as well. In addition, there are many abandoned mines within the Bradshaw-Harquahala Planning Area that pose the potential for containing hazardous materials.

Fire Management

Allowing natural fire cycles to reestablish on lands where it is appropriate is a concern. At the same time, the wildland-urban interface (WUI) is expanding as quickly as the population increase in central Arizona. Identifying and conducting the appropriate fire management for the specific location is a concern.

Water and Air

Protecting surface water from degradation of both quality and quantity is an issue. Also, since a large part of central Arizona is within a PM₁₀ nonattainment area, managing BLM lands to not contribute to increased air pollution is also of interest.

Wild Burros

Management of a wild burro herd in the Harquahala and Bighorn Mountains area was of concern to the Arizona Game and Fish Department (AGFD).

Alternatives

The basic goal of developing Alternatives is to prepare different combinations of management to address issues and to resolve conflicts among uses. Alternatives must meet the purpose and need; must be reasonable; must provide a mix of resource protection, use, and development; must be responsive to the issues; and must meet the established planning criteria. Each Alternative is a complete land use plan that provides a framework for multiple use management of the full spectrum of resources, resource uses, and programs present in the planning area. Under all Alternatives the BLM will manage the public lands in accordance with all applicable laws, regulations, and BLM policy and guidance.

Alternative A is the current management situation for both the monument and the Bradshaw-Harquahala Planning Area. *Alternative A* serves as a baseline for most resource and land-use allocations. Description of current management in a manner equivalent to the future management *Alternatives B, C, and D* permits the baseline to be compared with possible futures.

Alternative B plans for increased public use and includes more recreation-related development, consistent with protection of monument resources. It also allows visitation and development within the Bradshaw-Harquahala Planning Area while ensuring resource protection is not compromised.

Alternative C provides visitors with opportunities to experience the natural landscapes and cultural resource setting of the monument and is generally managed with more restrictive decisions than *Alternative B*. In the Bradshaw-Harquahala Planning Area, there is greater emphasis under *Alternative C* on identifying and protecting undeveloped landscapes than in *Alternative B*.

Alternative D emphasizes the preservation of undeveloped, primitive landscapes on the monument, resulting in limited public use and the withdrawal of authorized grazing. The Bradshaw-Harquahala Planning Area emphasizes natural landscapes and non-motorized recreation, with more management dedicated to maintaining primitive recreation opportunities than under the other Alternatives.

Alternative E is an amalgam of elements selected from the other Alternatives that have subsequently been studied and further refined. *Alternative E* is BLM's preferred RMP Alternative. This Alternative is designed to respond in the most comprehensive manner possible to each of the issues and management concerns identified throughout the planning process. BLM has determined that the management actions presented in *Alternative E* will provide the optimal balance between authorized resource use and the protection and long-term sustainability of sensitive resources within each of the planning areas.

Table E-1 Comparison of Key Alternative Components

	Alternative A Acres	Alternative B Acres	Alternative C Acres	Alternative D Acres	Alternative E Acres
Land Tenure	15,274 acres for Sale, 39,100 acres for Exchange, 54,370 acres total.	58,400 acres for Sale or Exchange	49,100 acres for Sale or Exchange	None	29,230 acres for Sale, 9,525 for Exchange, 38,755 acres total
Areas of Critical Environmental Concern (ACEC)	Two for 9,660 acres	One for 640 acres	Ten areas for 56,520 acres	Nine areas for 205,870 acres	Four areas for 89,970 acres
Congressionally Designated Wilderness	Five Areas for 96,820 acres				
Lands allocated to maintain or enhance wilderness characteristics	None	One area for 56,040 acres	Five areas for 107,510 acres	Six areas for 91,480 acres	Seven areas for 96,420 acres
Special Recreation Management Areas and Recreation Management Zones (SRMA and RMZ)	None	Nine areas for 149,760 acres	Nine areas for 182,800 acres	Seven areas for 56,240 acres	Fifteen areas for 678,835 acres
Mineral Withdrawal or Closure	Closed to: Location – 171,680 acres Lease – 171,680 acres Sale – 172,510 acres	Closed to: Location – 171,680 acres Lease – 171,680 acres Sale – 268,260 acres	Closed to: Location – 188,450 acres Lease – 188,190 acres Sale – 325,970 acres	Closed to: Location – 446,440 acres Lease – 453,550 acres Sale – 469,680 acres	Closed to: Location – 171,940 acres Lease – 171,680 acres Sale – 172,780 acres

Public Involvement

The Bureau of Land Management (BLM) decision-making process is conducted in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969, U.S. Council on Environmental Quality (CEQ) regulations, and Department of the Interior (DOI) and BLM policies and procedures implementing NEPA. NEPA and the associated regulatory and policy framework requires that all Federal agencies involve interested groups of the public in their decision-making, consider reasonable alternatives to proposed actions, and prepare environmental documents that disclose the potential impacts of proposed actions and alternatives.

BLM holds as a priority, collaborative management. This includes what Interior Secretary Gale Norton refers to as “The Four Cs:” consultation, cooperation, and communication -- all in the service of conservation. The Four Cs are the basis for this Administration's new environmentalism, one that looks to those closest to the land -- rather than Washington, D.C. for answers to public land issues." Public involvement, consultation, and coordination have been at the heart of the planning process leading to this Proposed Resource Management Plan (RMP) and Draft Environmental Impact Statement (EIS). This was accomplished through public meetings, informal meetings, individual contacts, news releases, planning bulletins, a planning Web site, and *Federal Register* notices.

BLM PFO contracted with James Kent Associates (JKA) to work with residents and community groups in the planning areas regarding their issues and concerns. JKA’s staff visited the communities of Wickenburg, Yarnell, Buckeye, Tonopah, Castle Hot Springs, New River, Black Canyon City, Cordes Junction, Mayer, Dewey, Humboldt, and Prescott Valley. They have also been in Phoenix, Flagstaff and Prescott, talking with environmental and recreation groups. Citizens have discussed their concerns with BLM land use management in their areas, as well as suggested ideas for improving current land management practices. Residents in some areas have even conducted community surveys in order to provide input and guidance to BLM in the planning process.

Ten scoping meetings were held in Arizona communities. The meetings were structured to have both an open house period, followed by a meeting/presentation where speakers could voice their concerns. BLM specialists were available to provide information and responses to questions. During the scoping meetings, 564 people registered their attendance with 169 offering to speak. Comments from the public were collected during the scoping meetings and throughout the scoping period through a variety of methods including mail, fax, and email.

BLM continued collaboration efforts by including communities in the formulation of Alternatives. Workshops were held throughout the planning area to give citizens the opportunity to refine issues, discuss visions for BLM’s lands, and begin exploring alternative ways to manage BLM’s lands and resources. Input received from citizens—both groups and individuals—were considered in developing the Alternatives. Citizens were also able to submit formulated alternatives, as well as vision statements, for specific community areas or resources. These were also considered in the range of alternatives and analyzed in the EIS, as required by NEPA.

When the Preliminary Draft Alternatives had been developed, BLM distributed the Alternatives to the public and held four additional public meetings. The public responded with nearly 2,000 comments concerning the measures developed in those alternatives.

Affected Environment

Special Area Designations

Within the planning area there are five designated wilderness areas totaling 96,820 acres, one Back Country Byway, two Areas of Critical Environmental Concern (totaling 9,060 acres), and three segments of the Agua Fria River determined to be eligible for Wild (2,970 acres) or Scenic (3,060 acres) designation.

Lands and Realty

Eight utility corridors criss-cross the planning area, providing available locations for current and future energy delivery to the urbanizing Phoenix Metropolitan area. Meetings with the public and energy utilities indicated the existing corridor system was sufficient to meet future demands.

Though Central Arizona is one of the fastest growing population centers in the United States, there is no need for BLM's lands to support continued urban expansion. Adequate land for community growth exists in both Arizona State Trust and private ownership

Soil Resources

Soils in the planning areas tend to be shallow and of various textures. Surface disturbances are slow to recover in the desert environments, leaving exposed soil to accelerated wind and water erosion.

Air Quality

EPA has designated three nonattainment areas in Central Arizona, one for particulate matter up to 10 microns (PM₁₀), one for ozone, and one for carbon-monoxide (CO). The primary contribution to air quality problems from BLM's lands are tailpipe emissions of motorized vehicles, which contributes to ozone and CO pollution; and dust, which contributes to PM₁₀ problems. Though any surface disturbance can increase production of dust from BLM lands, motorized vehicles on unpaved roads are the primary source. The nonattainment areas generally encompass the urbanized zone with only a few thousand acres of BLM land within them. Maricopa County has developed standards for implementing the Arizona State Implementation Plan (SIP) for achieving attainment and BLM must comply with county standards on lands within the nonattainment areas.

Water Resources

The planning areas lie within the drainages of two major river systems, the Hassayampa River in the west and the Agua Fria River in the east. In the Sonoran Desert, surface water, and especially reliable perennial surface water is a rare and particularly valuable resource. Most of the historical locations of reliable surface water have been lost to urbanization and the remaining locations serve as the most important wildlife habitats in the region. Groundwater pumping in the region may be affecting surface water availability by lowering water tables that support spring production and aquifers that occasionally

emerge in river bottoms. Surface water quality, where it remains, has been determined by the Arizona Department of Environmental Quality (ADEQ) in most cases to be “limited”, containing pollutants above Environmental Protection Agency (EPA) standards. The most common pollutants contributing to these “limited” streams are fecal coliforms, arsenic, and turbidity.

Biological Resources

The planning areas contain primarily Sonoran Desert, Desert Grassland, and Interior Chaparral vegetation communities and animals associated with them. Of all habitats within the planning areas, the 140 miles of riparian corridors are most important, supporting a variety of rare plants, vertebrates, invertebrates, and native fishes; including listed and candidate threatened and endangered species. The list of known species includes the bald eagle (*Haliaeetus leucocephalus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), southwestern willow flycatcher (*Empidonax traillii extimus*), desert pupfish (*Cyprinodon macularius*), Gila topminnow (*Poeciliopsis occidentalis*), and Gila chub (*Gila intermedia*).

Upland areas contain some of the finest examples of Sonoran Desert vegetation communities, including paloverde-saguaro cactus, easily accessible to residents of Central Arizona. The most sensitive wildlife species dependent on these uplands is desert tortoise. The planning areas contain 93,600 acres of desert tortoise habitat classified as Category I, 429,400 acres classified as Category II and 136,980 acres classified as Category III.

Cultural Resources

The Agua Fria National Monument was created primarily to preserve the outstanding cultural resources within its boundary. Over 400 sites, including prehistoric pueblo ruins and spectacular rock art, are known within the monument. Thousands of undiscovered sites may also be there. Outside the monument, there is an abundance of both prehistoric and historic cultural resources including archaic hunter-gatherer sites 6,000 years old, and mining and ranching sites from the late 1800's. Sites both on and off the monument are recognized on the National Register of Historic Places (NRHR), including the Perry Mesa Archaeological District and the Harquahala Peak Smithsonian Observatory.

Paleontological Resources

The planning areas contain no known fossil locations.

Recreation

The planning areas are on the northern and western fringes of the rapidly urbanizing Phoenix Metropolitan area. Population growth from 1990 to 2000 exceeded 40 percent in the region. As the population grows, recreation demand grows as well. Studies indicate the rate of growth in recreation demand exceeds the rate of population growth. As the planning effort began, demand for motorized recreation in the forms of four-wheel-drive vehicles (like jeeps and Humvees), ATVs, and motorcycles had been increasing rapidly. These recreation uses are expected to continue to increase disproportionate to population growth. As urban development gets closer and closer to public lands, unmanaged indiscriminate recreation use creates conflict with natural resources and traditional public land users.

Visual Resources

Visual Resource Management (VRM) provides a basic tool for BLM to manage a major component of Open Space. VRM inventory has discovered that, as natural landscapes are converted to rural and urban development, the public sensitivity to visual change on public lands increases. The public desires open natural appearing landscapes on BLM's managed lands and equates poorly designed activities that create large visual intrusions with BLM's mismanagement.

Rangeland Management

Throughout the planning areas, there are 101 grazing allotments where leases or permits allow the annual grazing of 83,060 animal unit months (AUMs), or approximately 11,690 animals (cattle, horses and sheep). During seasons with extraordinary production of forage from annual grasses and forbs, additional AUMs are authorized for ephemeral use.

Mineral and Energy Resources

Mineral development, except mineral material sales, has been almost nonexistent for the last 15 to 20 years. Some areas of moderate mineral potential exist, but development beyond casual use has not occurred. The primary locatable mineral development has been by small miners conducting mainly prospecting activities. No leases for oil or gas drilling have been issued in over 15 years. As population growth and development continues, demand for building material also grows. Demand for mineral materials has grown, especially for decorative rock that is found more often on BLM's lands.

Fire and Fuel Resources

The Sonoran Desert biome presents few opportunities for fire use. The ecosystem is sensitive to fire and suppression of fires is generally considered desirable. Vegetation communities at higher elevations, interior chaparral and desert grasslands, do have some fire use potential and prescribed burning is currently conducted in some of these areas. Population growth and urban expansion is increasing the extent of Wildland Urban Interface, (WUI) which presents increased challenge in the protection of private property and public safety. Prior to this Draft Resource Management Plan/Draft Environmental Impact Statement, a statewide plan amendment and environmental assessment (Arizona Statewide Land Use Plan Amendment for Fire, Fuels and Air Quality Management) was conducted to address fire management issues.

Wild Horses and Burros

The Lake Pleasant burro herd is managed in accordance with provisions in the Lake Pleasant Herd Management Plan. That plan established an appropriate management level (AML) of 208 burros within the Lake Pleasant Herd Management Area. Burros are gathered as needed to maintain the AML or to remove nuisance animals. The Harquahala Herd Area, though large in extent, has few burros as determined by aerial count. These animals spend much of their time on private agricultural lands near BLM lands. Previous management plans have prescribed complete removal of these animals. A

manageability analysis of the herd determined the small number and frequent use of non-BLM land renders this herd not manageable as a sustained herd over the long term.

Transportation and Public Access

Route inventory has been undertaken in both planning areas. Inventory is complete in the national monument and 140 miles of motorized route have been detected. In the Bradshaw-Harquahala Planning Area, inventory is still underway with completion expected in early 2006. Based on the current inventory and other route sources, estimated motorized route mileage for the Bradshaw-Harquahala planning area is 2,240 miles.

Wilderness Characteristics

Inventories of BLM land to determine areas containing wilderness characteristics were conducted by BLM in 1981 and 2002. The Arizona Wilderness Act of 1992 set aside 96,820 acres within the Bradshaw-Harquahala Planning Area in five wilderness areas. For this planning effort, the inventories of 1981 for areas not added to the Wilderness Preservation System were reexamined to determine their current relevance. In addition, BLM received inventory conducted by private citizens and a proposal for protection of areas containing wilderness characteristics.

Social and Economic Conditions

Social and economic data suggest the region has seen a shift from rural communities with a cultural orientation to public lands and a dependency on public lands for economic stimulus, to urban communities with more industrial based economics. In the urban areas, public lands are more a source of recreation than a cultural orientation such as ranching or mining engenders. Many rural communities within the planning area cling desperately to their rural identities and continue to be dependent on public lands for economic stimulus. Many of these are shifting from mining and ranching towns to service providers for the recreation seeking urban dwellers. On a regional basis, the economic contribution from rural communities is only a small proportion of money generated. However, the economic contribution of public land use may be a large proportion of dollars flowing in many rural communities.

Environmental Justice

The planning area has several communities with minority populations exceeding county averages. In addition, several communities have above average numbers of households below the poverty level.

Environmental Consequences

Impacts on Special Area Designations

Proposed management will generally have little impact to existing Special Area Designations. Limiting motorized use to designated routes and allocations focused on managing rapidly increasing recreation demand will generally benefit resources within Special Area Designations.

Impacts on Lands and Realty

Sufficient utility and transportation corridors are proposed in all Alternatives to meet increasing energy demands for urban expansion in Central Arizona. Though several Alternatives for land disposal acres are analyzed, ample lands for development are available from sources other than disposal of BLM's land.

Impacts on Soil Resources

Management proposed in all Alternatives provides measures to reduce soil erosion and maintain or enhance soil productivity.

Impacts on Air Quality

Management practices generally improve air quality throughout the planning areas. Though BLM's contribution to air pollution in the region is negligible, proposals to limit motorized vehicles to designated routes and allocations or special area designations that limit expansion of route networks will result in production of target pollutants at or reduced from current levels.

Impacts on Water Resources

Management practices proposed in all Alternatives are designed to promote or improve water production and water quality. Most water related issues in Arizona are a result of rapid population growth on non-BLM's lands. Though BLM's management actions can have only limited affects, proposals to manage motorized vehicles, management actions designed to improve vegetation cover, and actions to protect or enhance riparian vegetation communities are expected to improve or maintain water production and quality.

Impacts on Biological Resources

Management of riparian areas is a priority in all Alternatives. Various management alternatives are explored to balance the demands on riparian habitats with maintaining or enhancing their productivity. In all alternatives, limitations to motorized vehicles, implementation of Arizona Land Health Standards (ALHS), and management of recreation resources are designed to reduce disturbance to riparian areas and improve their functioning condition.

Management of desert tortoise habitat is a priority and most management actions are common to all alternatives. Actions designed to maintain or improve conditions for desert tortoise should help their populations and avoid their listing as threatened or endangered.

Impacts on Cultural Resources

Management of both planning areas places a priority on preservation of cultural resources. Several alternatives are explored to allocate various sites or areas to public use for interpretation and development. In all alternatives, management actions provide sufficient protection for cultural resources and varying levels of impacts to sites developed for public use.

Impacts on Paleontological Resources

Management actions are designed in all alternatives to protect fossil sites if they are discovered in the course of normal management activities.

Impacts on Recreation

Conflicts between recreation uses and other public land resources, sometimes even between different types of recreation uses, constitutes the most pressing issue on public lands in central Arizona. Each alternative attempts to address recreation management in ways that allow a variety of recreation activities throughout the planning areas. However, each alternative places a different emphasis on the type of recreation activities, motorized versus primitive non-motorized, that are managed for. Continuing to manage as we are now (*Alternative A*) would lead to continuing degradation of natural resources. *Alternative B* would increase management emphasis on well designed motorized recreation areas, while retaining non-motorized opportunities in some areas. *Alternative D* creates large areas managed primarily for primitive recreation uses, while retaining some areas available for more intensive motorized use. *Alternatives C* and *E* explore various mixes that attempt to meet the long term variety of recreation demand while reducing conflict with other natural resources and traditional public land users.

Impacts on Visual Resources

All alternatives explore allocations that minimize visual impacts while meeting demand for public land resources.

Impacts on Rangeland Management

Changes in livestock grazing will primarily result from implementation of the Arizona Standards for Rangeland Health and the Guidelines for Grazing Management. These changes would result from individual allotment evaluations to determine if the standards are being met and adjustments designed to meet the standards. At the RMP level, some reduction in AUMs might be required to achieve riparian management goals in some alternatives. *Alternative D* explores complete cessation of grazing in the area, which would potentially put as many as 100 livestock operators out of business.

Impacts on Mineral and Energy Resources

Development of mineral and energy resources within the planning area has been minimal. The alternatives explore progressively larger closures to mineral development. Impacts are generally expressed as a progressive reduction in the potential for development should mineral prices increase and mineable minerals be discovered. Sales of mineral materials as sand and gravel, boulders, and decorative rock, could be severely limited by management for desert tortoise and varying allocations for primitive recreation use, but it is expected that regional demand could be met from non-BLM lands.

Impacts on Fire and Fuel Resources

Though the alternatives explore varying allocations for large undeveloped areas, few impacts to management of fire suppression or fire use are anticipated.

Impacts on Wild Horses and Burros

Management within the two areas containing wild burros is not expected to change from current management. Burros in the Lake Pleasant Herd Management Area would continue at current numbers with occasional removal of animals to maintain herd numbers and remove nuisance animals. Burros in the Harquahala Herd Area would eventually be removed from public lands.

Impacts on Transportation and Public Access

The alternatives explore progressively increasing restrictions to motorized recreation and access which would result in a progressively reduced motorized route network and reduced motorized access. Within the national monument, each alternative explored specific route networks that reduce miles of motorized routes from the current 140 miles to as few as 47 miles (a 66.4 % reduction). Within the Bradshaw-Harquahala Planning Area, route modeling developed to simulate route decisions by alternative estimated variability of routes by alternative ranging from the currently available 2,240 miles of motorized route to as few as 1,644 miles of available route (a reduction of 29.5%).

Impacts on Wilderness Characteristics

Current management is expected to allow progressive degradation of areas with wilderness characteristics not already protected by Congressional Wilderness designation. Designated Wilderness will continue to be protected. The alternatives explore shifting emphasis from current management to large areas allocated to maintain or enhance wilderness characteristics. All alternatives explore differing mixes of allocations devoted to both motorized and non-motorized recreation, with *Alternative B* emphasizing motorized use and *Alternative D* emphasizing allocations to maintain or enhance wilderness characteristics.

Impacts on Social and Economic Conditions

Impacts to social and economic conditions from BLM management actions on a regional basis are small. Impacts could be severe on a local basis and the potential for loss of nearly 100 ranch businesses from grazing cessation in *Alternative D* could be catastrophic to individual families. Changes in mineral closures would not result in loss of current jobs or reduction in current economic development, but may result in opportunity costs for future mining possibilities.

Environmental Justice

Implementation of any alternative would not result in a disproportionate impact to any minority or low income group.

Cumulative Impacts

Cumulative impacts of each alternative are discussed for Population Growth and Development, Recreation/Visitation, Air Quality, Soils, Water Resources, and Wild Horse and Burro Management. Generally, the cumulative affect of BLM management activities in addition to the rapid population growth and urban expansion of central Arizona indicates the contribution of public land management to change in the region is very small. It was determined that BLM management activities are not expected to result in a cumulatively significant impact to the environment.

