United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Kingman Field Office
2755 Mission Boulevard
Kingman, Arizona 86401
www.az.blm.gov

TAKE PRIDE IN AMERICA

December 14, 2005

In Reply Refer To:
AZA-25492

Dear Reader:

The document accompanying this letter contains the ***Final Upper Burro Creek Wilderness Management Plan and Environmental Assessment*** and ***Finding of No Significant Impact/ Decision Record.*** The plan will enable the Bureau of Land Management (BLM) to improve its management of the Upper Burro Creek Wilderness. The *Environmental Assessment* analyzes the impacts expected from implementing the Plan. Based on this analysis, the *Finding of No Significant Impact* determines that impacts are not expected to be significant. The *Decision Record* documents the BLM's final decision.

The ***Proposed Upper Burro Creek Wilderness Management Plan and Environmental Assessment*** was released for public review and comment on July 20, 2005. Comments on the proposed Plan were given consideration in preparation of the final document. Public involvement in the planning process are described in "*Part X-Consultation and Coordination*" on page 45 of the document.

The Decision is subject to appeal in accordance with procedures contained in 43 Code of Federal Regulations, Part 4. Implementation of this plan will not begin until 30 days after the date of this letter.

Special thanks are due to all who participated in this planning process and contributed to the development of the final document.

Sincerely,

Wayne King
Field Manager

Enclosures

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

Kingman Field Office September 2005

Final

Upper Burro Creek Wilderness Management Plan and Environmental Assessment

Goodwin Mesa

The Bureau of Land Management is responsible for the balanced management of the public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield; a combination of uses that take into account the long term needs of future generations for renewable and non-renewable resources. These resources include recreation, range, timber, minerals, watershed, fish and wildlife, wilderness and natural, scenic, scientific and cultural values.

Final

Upper Burro Creek

Wilderness Management Plan

And

Environmental Assessment

EA Number: EA-AZ-030-2003-0039

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

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PLAN SUMMARY

This plan covers the management of the Upper Burro Creek Wilderness. Designated by the Arizona Desert Wilderness Act of 1990, the area comprises 27,440 acres and is located about eight miles northwest of Bagdad, Arizona, straddling the line between Mohave and Yavapai Counties.

Bureau of Land Management policy requires the development of a management plan that will:

- Protect wilderness values,
- Allow for visitor use and enjoyment,
- Allow for the minimum tool to be used to accomplish resource objectives inside the wilderness, and
- Allow legislatively accepted uses, such as livestock grazing and mining.

Main Features of this Wilderness Management Plan

Three objectives are established:

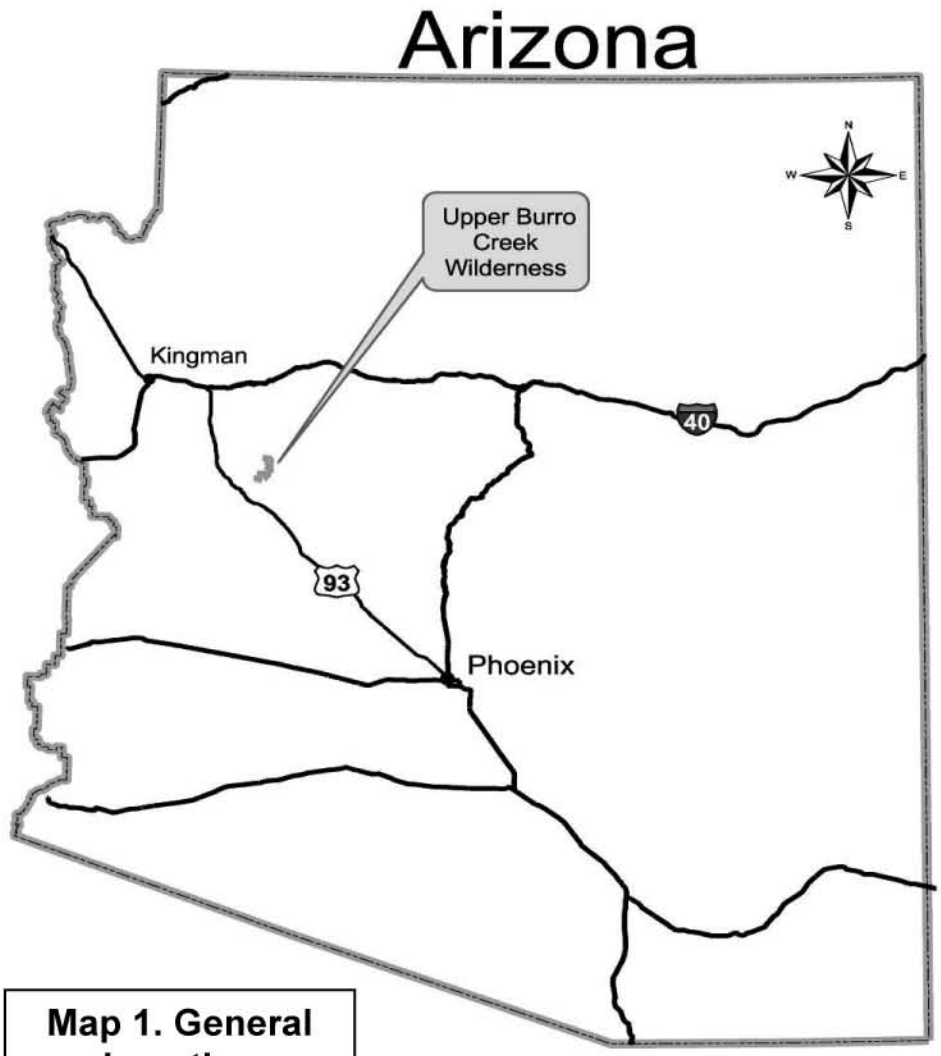
1. Preserve wilderness values by maintaining or enhancing natural conditions throughout the wilderness, including ecosystem structure and function, visual appearances and opportunities for solitude and natural quiet.
2. Allowing dispersed recreation use without incurring substantial costs and personnel time by providing visitor use information and not constructing campgrounds, restrooms, parking lots or trails in or around the wilderness.
3. Maintaining or improving ecological condition of plant communities, while allowing for variability due to natural processes.

Specific actions to meet the objectives include:

- The use of aircraft by Arizona Game and Fish Department (AGFD) to conduct population census of bighorn sheep, raptors, mule deer, javelina, and pronghorn will continue.
- Periodic electro-fishing by BLM and AGFD in Francis and Burro Creeks to determine population distribution and relative abundance of fish species.
- Constructing three supplemental water facilities for pronghorn use on Goodwin Mesa.
- Utilizing low-level helicopter flights by BLM contractors to periodically to census and capture wild burros.
- Conducting fire suppression efforts, where appropriate, utilizing procedures that have the least impact on resources.
- Managing wilderness boundaries by posting signs, constructing physical barriers to deter motor vehicles, constructing visitor kiosks and periodic patrolling by BLM personnel.
- Establishing standards for managing visitor use in wilderness. The standards address inter-party contacts, the presence of campsites or campfire rings, and the presence of litter or human waste. Standards would be measured through public opportunity to register complaints and by periodic monitoring of the wilderness by BLM personnel.
- Establishing restrictions on group size and use of pack/riding stock.
- Establishing corrective actions to mitigate unacceptable impacts caused by visitor use.
- Prescribing cultural surveys and periodic site monitoring to identify and protect cultural resources.
- Removing a weather station, two exclosure fences and an obsolete water pumping station. A defunct suspension fence over Burro Creek would be removed with a helicopter, and a vehicle way near Pinky Tank would be permitted to reclaim naturally, or may be assisted by hand reclamation with volunteers.
- Monitoring various water quality parameters of Burro Creek and Francis Creek (classified as Unique Waters).
- Inventorying undeveloped springs within wilderness and applying for Federal Reserve water rights.
- Resolving an existing protest to BLM's instream flow application for Burro and Francis Creeks.
- Carrying forward the range improvement maintenance actions described in the 1993 *Range Improvement Maintenance Plan*. This would include bulldozer use to maintain a stock pond, the use of a chain saw to clear an existing stock trail, the use of motorized equipment or mechanized transport in emergency situations, and the potential use of a helicopter to ferry

supplies to remote improvements needing major maintenance or reconstruction.

- Constructing a fence around Lower Hosey Tank on Goodwin Mesa to allow better livestock control and to allow re-vegetation to occur.
- Preparing visitor use information for this wilderness.
- Purchasing legal public access to the south wilderness boundary, providing there is a willing seller.
- Controlling noxious weed infestations where practical. Manual, mechanical or pesticide application treatment methods may be considered.
- Preparing a Fire Use Plan that would allow the application of management-ignited fire to the semi-desert grasslands on Goodwin Mesa. Activities associated with this treatment could include low-level helicopter flights, the presence of large numbers of firefighters, post-burn seeding with native species, and construction of temporary fencing to exclude livestock from burn areas.



Map 1. General Location

Part I - Introduction

Background

The Wilderness Act of 1964 laid the foundation for the National Wilderness Preservation System. On November 28, 1990, the Arizona Desert Wilderness Act, Public Law 101-628, designated 39 areas in Arizona, including Upper Burro Creek, as wilderness and added them to the system. BLM Manual 8561 establishes that BLM will manage wilderness with the guidance of a wilderness plan. This environmental assessment analyzes the environmental and social impacts of the proposed Wilderness Management Plan (WMP) and one alternative, a "no-action" alternative.

Plan Purpose and Need

This plan will provide direction for managing the Upper Burro Creek Wilderness (UBCW). Management direction will be guided by: The Federal Land Policy and Management Act of 1976, the Wilderness Act of 1964; the Arizona Desert Wilderness Act of 1990; Title 43, Code of Federal Regulations, Part 6300 (43 CFR 6300); and BLM Manual 8560.

The purpose of the proposed action is to preserve and enhance wilderness values while also providing opportunities for solitude and primitive recreation, as well as managing other land uses and activities provided for by wilderness legislation. The plan is designed to respond to management issues identified for the area by BLM staff, other agencies and the public. Additional environmental assessments will be completed when site-specific projects not included in the attached plan are proposed.

Conformance with Land Use Plan

The proposed action and no-action alternatives addressed in this environmental assessment are in conformance with the Kingman Resource Management Plan (BLM, 1995). Specific decisions that apply to this plan are:

- Prepare Wilderness Management Plans for all designated wilderness areas within the Kingman Resource Area (page 27).
- Provide immediate and long-term in situ preservation and protection of selected cultural resources threatened by agents of deterioration (page 569).
- BLM will manage for conservation of candidate and BLM-sensitive species and their habitats. BLM will ensure that actions authorized will not contribute to the need to list any of these species as threatened or endangered (page 29).
- Manage for a viable population of wild and free-roaming horses and burros to achieve, maintain a thriving, natural ecological balance in herd management areas and maintain and enhance the habitat in a desirable condition for continued multiple use (page 55).
- Eligible stream segments will be managed so as to not impair their suitability for inclusion into the Wild and Scenic River System. Outstandingly remarkable values must be protected and the free-flowing character of the stream segments cannot be modified (page 79).
- Continue implementation and revision of Habitat Management Plans in coordination and cooperation with the state wildlife agency and interested publics (page 79, Objectives and Planned Actions section).
- Pronghorn antelope habitat would be managed to support viable populations of pronghorn antelope (page 84).
- Maintain instream flows to support habitat to supply aquatic, terrestrial, and threatened and endangered wildlife and dependant riparian vegetation on public lands in Burro, Francis (page 84).
- The Kingman RMP was amended by the Plan Amendment of Land Use Plans in AZ for Implementation of AZ Standards for

Rangeland Health and Guidelines for Grazing Administration, approved April 18, 1997. This amendment specified three standards pertaining to upland sites, riparian/wetland sites and desired resource conditions.

- The Kingman RMP was also amended by the Arizona Statewide Land Use Plan Amendment for Fire, Fuels and Air Quality Management, approved September 28, 2004. This amendment establishes desired future conditions, land use allocations, and management actions pertaining to fire, fuels and air quality management. The acreage within UBCW has been placed into one of two allocations. "Allocation 1 – Wildland Fire Use" means that a wildland fire (natural ignition) could be used in the same manner as a prescribed fire (management-ignited fire) after preparation of a Fire Use Plan which outlines the environmental conditions under which fire can be managed safely to meet natural resource objectives. "Allocation 2 – Non-Wildland Fire Use" means that appropriate suppression activities would be implemented.

Relationship to Statutes, Regulations or Other Plans

- This is an interdisciplinary plan that supersedes the Wildlife Operations and Maintenance Plan for Upper Burro Creek Wilderness (1996), and the Upper Burro Creek Wilderness Area Range Improvement Maintenance Plan (1993).

- The *Phoenix District Interim Guidance for Fire Suppression in Wilderness* (1991) is superseded by the decisions contained within the *Arizona Statewide Land Use Plan Amendment for Fire, Fuels and Air Quality Management* and the implementation actions within this document.

- The Wilderness Act of 1964 (Public Law 88-577) defined wilderness as "an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions." Under the Act, the BLM must manage wilderness within its jurisdiction to protect wilderness values.

- Actions from the following plans have been analyzed within this EA because the actions were proposed prior to wilderness designation:

  - Aquarius Habitat Management Plan (1983)
  - Big Sandy Herd Management Area Plan (1982)

- Wilderness preservation became one of the BLM's multiple-use mandates with the signing of the Federal Land Policy and Management Act of 1976 (FLPMA) (Public Law 94-579). The Arizona Desert Wilderness Act of 1990 established the UBCW.

- Regulations governing wilderness management by BLM are found at 43 CFR 6300. BLM Manual 8560, "Management of Designated Wilderness Areas," provides additional guidance.

- This environmental assessment complies with the National Environmental Policy Act of 1969 (Public Law 91-190) by providing the decision-maker with appropriate alternatives for managing this wilderness and describing the environmental impacts of implementing each of the alternatives. A 45-day comment period is provided for public review and input to the environmental assessment.

- Where the environmental impacts of actions proposed in these alternatives have been assessed in previous environmental assessment documentation in land use or activity plans, the impacts are summarized in this document.

Management Guidance Common to all Alternatives

Actions found in the Programmatic Environmental Assessment, EA#AZ-030-2001-0035, for the Reintroduction and Supplemental Releases of Desert Bighorn Sheep in Mohave, Yavapai, Coconino and La Paz Counties would be implemented in accordance with the Decision Record signed by the BLM on March 24, 2004 (BLM 2003), summarized in Appendix D of the plan. The decisions made in this document are currently under appeal at the Interior Board of Land Appeals (IBLA). Should the appeal be upheld, the actions would not be implemented.

Wilderness Overview (General Setting)

Location and Access

UBCW straddles the boundary line between Mohave County and Yavapai County, Arizona, about eight miles northwest of Bagdad, AZ. This unit encompasses about 27,440 acres of public land in Townships 15 and 16 North, Ranges 10 and 11 West, Gila and Salt River Meridian.

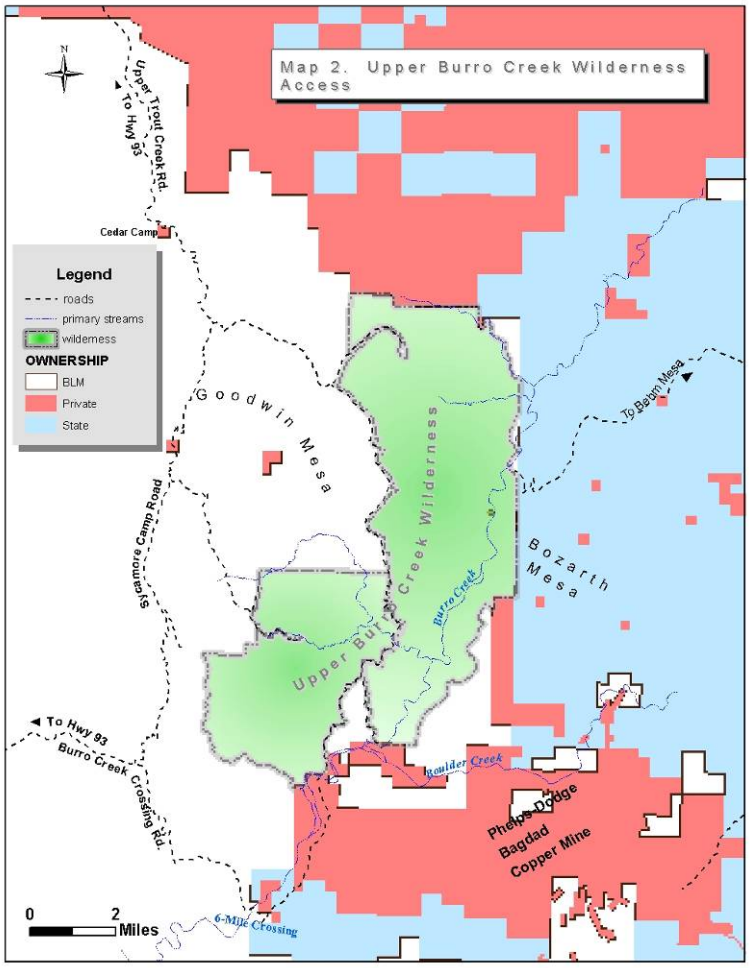
Access from the south is gained via the county-maintained Burro Creek Crossing Road from U.S. Highway 93 at milepost 132. This route leads to Six-Mile Crossing on Burro Creek. From this point, jeep roads leading north across private and State Trust lands reach the south wilderness boundary.

Access to the east wilderness boundary is gained by following county and jeep roads north and east from the Phelps - Dodge Bagdad Copper Mine, crossing private and State Trust lands on Behm and Bozarth Mesas.

Access to the west boundary of the wilderness is made using the county-maintained Sycamore Camp Road, or by following Upper Trout Creek Road to Cedar Camp. Both routes eventually lead onto Goodwin Mesa.

Though the described roads are commonly used by the public, it is illegal to use or cross State Trust property unless, (1) you hold a valid Arizona hunting or fishing license (and are in pursuit of those activities), (2) you have obtained an Arizona State Land Recreational Use Permit, or (3) the road lies within a legal public easement.

Roads crossing private lands are mostly unsecured by easements or rights-of-way. The continued use of these roads by the general public may be jeopardized if landowners desire to close them.



Wilderness Boundary

The wilderness is bounded on the north by a utility right-of-way in Francis Creek and by private land; on the east by State Trust land and the west edge of Bozarth Mesa; on the south by Cornwall Canyon and jeep roads (30-foot offset); and on the west by jeep roads on public land (also with a 30-foot offset). The wilderness is actually composed of two distinct parts, separated by a 60-foot wide travel corridor.

BLM Cadastral Survey crews have not yet formally surveyed the boundaries of this wilderness unit. Boundaries of the wilderness are currently marked with flexible fiberglass markers. Minimum spacing of these signs is one-half mile apart. Additional signs are placed at locations that have the potential or are prone to vehicular travel, such as sandy desert washes that penetrate from the boundary into the wilderness. Despite the presence of the signs, vehicular intrusions continue to occur at some locations.

Ownership/Land Use

The BLM administers all surface and sub-surface land within the wilderness. A large block of state land is found to the east and private and state lands form parts of the north and south boundaries. Private parcels bordering the wilderness are currently uninhabited.

Topography & Climate

The planning area lies in west-central Arizona within the Basin and Range, and Transition Zone physiographic province. The wilderness encompasses the east half of Goodwin Mesa, parts of Burro Creek and Francis Creek drainages, and granitic hills around Negro Ed Mountain.

The planning area's climate is influenced by tropical Atlantic and Pacific air masses during the warm weather months and by middle latitude storms from the north during the cooler months. Temperatures may reach as low as 20° F during December and January to highs up to 120° F in June through August. Annual precipitation generally ranges from 13 to 17 inches per year in the higher elevations and 10 to 13 inches in the lower areas with 40 percent falling from December through March, and the remainder coming during thunderstorms July through September.

Air Quality

The area is classified under the Clean Air Act as Class II. No site-specific air quality data exists for the UBCW.

Military Aircraft Overflight

Though the AZ Desert Wilderness Act of 1990 specifically provides for continuing military overflight above wilderness, little noise disturbance from this type of activity has been observed from UBCW.

Mineral Resources

The UBCW was withdrawn from mineral entry upon wilderness designation. There are no mining claims and no mineral leases within the area. No significant mining disturbances are known to exist within the boundaries of UBCW.

Recreational prospecting has not been documented as a common activity within this wilderness.

General Management Situation (Affected Environment) *This section describes the current activities or resources found within the wilderness area that may be affected by the proposed action or alternatives.*

Wilderness Values & Unique Attributes (Wilderness Character)

UBCW contains outstanding values of naturalness and opportunities for solitude. The rugged and scenic Burro Creek Canyon is the most unique and popular attribute of this wilderness unit. Averaging about 1,000 feet in depth, the canyon runs for about 10 miles through the wilderness and contains lush riparian vegetation, including mature cottonwood “gallery” forests and mesquite bosques. A variety of wildlife calls this canyon home. Considerable evidence of habitation by ancient Native American Indian cultures can be found here. A walk through this canyon can be a challenging adventure due to the lack of trails and difficult footing created by expanses of river cobble along the drainage. Riparian zones such as this are rare and very important in desert environments.

An entirely different scenario can be found on Goodwin Mesa on the west rim of Burro Creek Canyon. Goodwin Mesa is an expansive flat area covered by semi-desert grassland of tobosa grass and shrub live-oak. Long views

can be had here because of the lack of tall vegetation and topographic screening, yet the opportunity for a sense of solitude is high because of the distances from jeep roads.

Ecosystem structure and function within this wilderness is relatively intact. Some human-caused changes are present and are discussed under the specific resource category to which the change applies. One of the more notable deviations to natural structure includes changes to vegetation composition caused by livestock grazing, fire suppression and accidental introduction of exotic plant species. Altered vegetation composition may affect ecosystem function on several levels, including nutrient cycling, wildlife habitat needs, species diversity, and the ability of fire to play a natural role in the environment.

Wildlife

Wildlife species in the planning area are those commonly associated with the Sonoran desert scrub, semi-desert grasslands, perennial streams, and Arizona interior chaparral habitat types. Wildlife species include mule deer, pronghorn antelope, javelina, coyote, mountain lion, grey fox, badger, bobcat, black-tailed jackrabbit, desert cottontail, turkey vulture, raven, red-tailed hawk, mourning dove, Gambel's quail, western diamondback and Mohave rattlesnakes as well as numerous invertebrate species. Native fish found in the wilderness are discussed below.

Goodwin Mesa supports important habitat for pronghorn (AGFD 2003). The edges of the mesa were historically inhabited by desert bighorn sheep.

No wildlife-specific water developments are located within the planning area. Three new water developments are planned for wildlife (BLM 1983a). Arizona Game and Fish Department (AGFD) currently conducts annual aerial fixed-wing or helicopter census, monitoring, or inspection flights over the wilderness at less than 2,000 feet above ground level (AGL), for mule deer, javelina, bighorn and pronghorn.

Low-level helicopter flights for the purposes of habitat and population inventory for the bald eagle and peregrine falcon are conducted by AGFD approximately one to three times per year. Census and monitoring flights for other species occur as needed.

Special-status Species (Federally Listed or Proposed Threatened, and Endangered Wildlife and Plants; State-listed, and BLM Sensitive)

Federally **Listed and/or Proposed Species:** These are animal or plant species listed by the U.S Fish and Wildlife Service/National Marine Fisheries Service as threatened or endangered. Proposed species are those proposed for listing. It is BLM policy to conserve listed species and species proposed for listing, and the ecosystems upon which they depend (Manual 6840).

The bald eagle, a federally threatened species, is known to occur within the wilderness. Wintering habitat and potential nesting habitat occurs in Burro and Francis Creeks. Bald eagle nests have not been documented within the wilderness; however, one nest (currently inactive) has been documented within ½ mile of the wilderness boundary in Burro Creek.

Habitat for the southwestern willow flycatcher, Yuma clapper rail, desert pupfish, Gila topminnow, yellow-billed cuckoo, and Arizona cliffrose does not occur within the wilderness.

State Listed Species: These species are listed by the Arizona Game and Fish Department as *Wildlife of Special Concern in Arizona*. It is BLM policy (Manual 6840) for BLM to carry out management for the conservation of State listed plants and animals.

The following State-listed species occur or potentially occur within the UBCW: Sonoran desert tortoise, lowland leopard frog, greater western mastiff bat, common black-hawk, peregrine falcon, and the roundtail chub.

BLM Sensitive Species: are species undergoing status review by the Fish and Wildlife Service/National Marine Fisheries Service; or whose numbers are declining so rapidly that federal listing may become necessary; or species with typically small and widely dispersed populations; or those inhabiting ecological refugia or other specialized or unique habitats. It is BLM policy (Manual 6840) for BLM to carry out management for the conservation of BLM Sensitive Species.

Some bats that were only identified with roost site protection problems were not included on the Sensitive Species List. All roost sites are considered very sensitive and require special habitat management or special consideration by Field Offices, regardless of the species that occupy them.

BLM sensitive species that occur or are likely to occur within UBCW include the rosy boa, loggerhead shrike, western burrowing owl, chuckwalla, small-footed myotis, fringed myotis, cave myotis, long-legged myotis, and the long-eared myotis.

The following species are unlikely but potentially occur within the wilderness: California leaf-nosed bat (State listed), spotted bat (State listed), Underwood's mastiff bat (BLM sensitive), and the big free-tailed bat (BLM sensitive).

The entire wilderness contains low densities of tortoise and is designated as Category III desert tortoise habitat (BLM 1995).

Five species of native fish occur in UBCW. They are found in Burro and Francis Creeks and in some tributaries to these drainages. BLM sensitive species include the longfin dace, speckled dace, desert sucker, and Sonoran sucker. State-listed species include the round-tail chub.

UBCW and especially Burro and Francis Creeks support a high diversity of native raptors including the bald eagle, golden eagle, peregrine falcon, common black hawk, zone-tailed hawk, red tail hawk, Cooper's hawk, sharp-shinned hawk, prairie falcon, American kestrel, northern harrier, merlin, barn owl, northern pygmy owl, elf owl, western screech owl, great horned owl, long-eared owl, and the short-eared owl.

Wild Burros

Approximately 5,700 acres of the Big Sandy Herd Management Area (HMA) lie within the southwestern boundaries of this wilderness. The Big Sandy HMA encompasses 243,885 acres and is managed to sustain a healthy, viable herd of 139 wild burros in a thriving ecological balance with their environment. A 2001 census of this HMA found no burros in the wilderness. It is expected that this situation would continue into the future. The management of wild burros includes aerial population census flights every three years and periodic capture and removal of excess animals.

Vegetation

There are four major vegetation communities found within this wilderness:

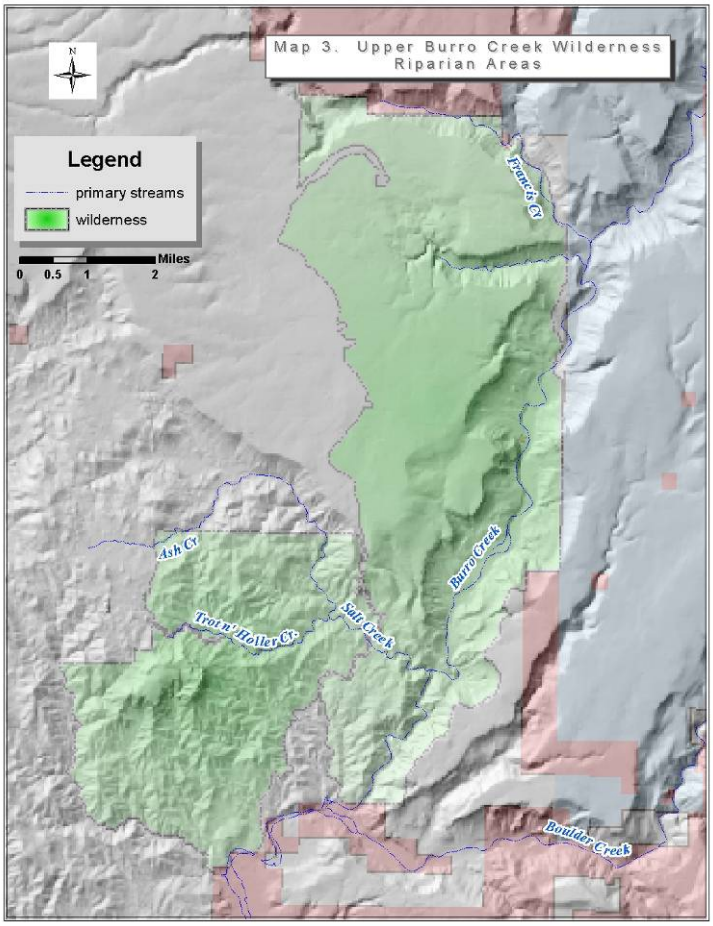
Sonoran Desert: The Arizona Upland Subdivision of the Sonoran Desert is found throughout the lower elevations of the wilderness. Vegetation varieties of the Sonoran Desertshrub formations are characterized by woody species such as creosote, foothill paloverde, and saguaros. The abundance and distribution of annual vegetation is dependant upon adequate winter or summer precipitation. Common native annual species include indian wheat, lupine and fiddleneck. There are also well-established introduced annual species found in this area, including red brome, filaree, and Mediterranean grass. These species are the primary vehicle for carrying wildfire through this vegetation type, an unnatural occurrence that causes high mortality in Sonoran desert plant species.

Arizona Interior Chaparral: This community is located at the elevations between 3,500 and 6,500 feet depending upon slope exposure, soils, and climate. Arizona interior chaparral is considered a true climax community that persists after recurrent fires (Carmichael et al. 1978). Major vegetation species include scrub or turbinella oak, mountain mahogany, Wright silktassel, sugar sumac, manzanita, desert ceanothus, and wait-a-minute bush. Grass species include sideoats grama, blue grama, and threeawn.

Semi-desert Grassland: The top of Goodwin Mesa (approximately 11,230 acres) consists of this vegetative community. Major species include tobosa grass, sideoats grama, and snakeweed. Drainages in this area are vegetated with thick stands of wait-a-minute bush and shrub liveoak. A long history of intensive livestock grazing and suppression of natural fire has caused changes in this plant community. Changes include a higher percentage of snakeweed, mesquite, catclaw and prickly pear.

Interior Riparian Deciduous Forest: Segments of five creeks are found within the boundaries of this wilderness. They are:

Burro Creek (9.4 miles)
Trot 'n Holler Creek (2.2 miles)
Salt Creek (2.2 miles)
Ash Creek (0.5 miles)
Francis Creek (1.0 miles)



Major vegetation species found along these creeks include Fremont cottonwood, ash, Goodings' willow, sycamore, and Arizona alder. Other riparian/wetland species found include seep willow, honey mesquite and screwbean mesquite. Herbaceous species include cattail, threestem bulrush, and spikerush. Non-native species, including salt cedar, giant reed grass, cocklebur and bermudagrass, are found scattered throughout riparian corridors. Natural flood events have kept these non-native species from becoming a serious problem in these areas.

All five of these creeks are managed under a fall-winter or deferred livestock grazing system. They are recovering from past yearlong grazing effects. Condition assessments of most of these areas are on file at the Kingman Field Office**.**

Water Resources

UBCW is located within the Bill Williams River Watershed and contains portions of two perennial streams - Francis Creek and Burro Creek. BLM has filed for instream flow water rights on both Burro Creek and Francis Creek with the Arizona Department of Water Resources (ADWR). This filing was protested and requires resolution. On October 23, 1985, Burro Creek (above its confluence with Boulder Creek) and the lower five miles of Francis Creek were designated as a "Unique Waters of Exceptional Recreational and Ecological Significance and Critical Habitat for Threatened or Endangered Species". The designation was made by the Arizona Water Quality Control Council because the waters met criteria for high water quality, manageability (water can be managed to maintain high water quality), recreation opportunities (due to the pristine beauty of its vegetation and geology), special status species habitat, and ecological and scientific values. Detailed descriptions of these attributes are provided in a document entitled "Unique Waters Nomination for Burro Creek and Francis Creek – Yavapai County, Arizona" prepared by the Arizona Department of Health Services (ADHS) and BLM.

Many of the ecological features that justify the unique water classification of Burro Creek-Francis Creek are fragile. Changes in vegetative cover due to grazing or climate, changes in upstream mining activity, including increased withdrawal of water from Francis Creek by Phelps-Dodge Mining Co., or changes in intensity of recreational use could all be readily reflected in water quality. Any degradation of water quality would constitute a violation of water quality standards.

BLM initiated water quality monitoring on these stream reaches in 1986, and submitted results of those studies to ADHS on a biennial basis. Water quality monitoring was discontinued in recent years due to staff shortages.

The following parameters of water quality are of concern:

Parameter	Current State Standard
Ag (Silver)	7000 µg/L T (for PBC) NNS (AgL) (see state standards publication for warm water fisheries standards)
As (Arsenic)	420 µg/L T (for partial body contact) 200 µg/L T (livestock use) 190 µg/L D (A&Ww- chronic)
E. coli	126 cfu/100ml (PBC)
Cd (Cadmium)	700 µg/L T (PBC) 70 µg/L T (AgL) (see state standards publication for warm water fisheries standards)
Cr (Chromium)	Varies depending on valance –see state standards publication
Cu (Copper)	1300 µg/L T (PBC) 500 µg/L T (AgL) (see state standards publication for warm water fisheries standards)
Hg (Mercury)	420 µg/L T (PBC) 10 µg/L T (AgL) 0.2 µg/L D (A&Ww)
Mn (Manganese)	500 µg/L T
Dissolved Oxygen	6.0 mg/L (A&Ww)
Pb (Lead)	15 µg/L (PBC) 100 µg/L T (AgL) (see state standards publication for warm water fisheries standards)
pH	9.0 max, 6.5 min (PBC, AgL, all fish)
Se (Selenium)	7000 µg/L T (PBC) 50 µg/L T (AgL) 2.0 µg/L T (A&Ww)
Zn (Zinc)	420,000 µg/L T (PBC) 25,000 µg/L T (AgL) (see state standards publication for warm water fisheries standards)
Suspended Sediment Conc.	80 mg/L Geo.mean of 4 samples (A&Ww)

T =Total recoverable
PBC= partial body contact
AgL = livestock use
A&Ww = warm water fishery – All values in this table are for chronic (persistent) concentrations; see published standards for acute values, which are higher
NNS= No numeric standard
D= Dissolved
Cfu/100ml = colony forming units per 100 milliliters of water taking the geometric mean of 4 samples
References to state standards publication are inserted for standards for wildlife uses that are calculated by taking the logarithmic constant, e, to a variety of complex exponents.

With the passage of the Arizona Desert Wilderness Act of 1990 (Public Law 101-628), Congress reserved a quantity of water for each wilderness area sufficient to fulfill the purposes of the Act, with a priority date established as the date of the Act's passage (November 28, 1990). BLM must identify and quantify its water needs and submit notification of its Federal Reserved water rights for wilderness to the ADWR.

BLM is in the process of inventorying and quantifying the water sources within the wilderness area. There are no wells, three developed springs, four stock ponds and fifteen undeveloped springs/seeps within the wilderness boundary. See the table below:

SOURCE NAME	LOCATION
Lion Spring	T.15N., R.10W., Sec 06 SENWNE
Woodpecker Spring Development	T.15N., R.10W., Sec 06 SWNWNE
Cub Spring	T.15N., R.10W., Sec 06 NWNENE
Mandible Spring	T.15N., R.10W., Sec 07 NESENW
Shovel Head Spring	T.15N., R.10W., Sec 07 NWSENE
Salt Creek Spring Development	T.15N., R.10W., Sec 10 SESENW
Amsl Spring	T.15N., R.10W., Sec 10 SESWNW
Negro Ed Spring	T.15N., R.10W., Sec 17 SESWNW
Upper Negro Ed Spring Development	T.15N., R.10W., Sec 17 NWSWNW
Upper Hackberry Spring	T.15N., R.10W., Sec 18 SWSENW
Middle Hackberry Spring	T.15N., R.10W., Sec 18 SWNWSE
Hackberry Spring Southwest	T.15N., R.10W., Sec 18 SESESW
Hackberry Spring Southeast	T.15N., R.10W., Sec 18 SESESW
Intrepid Trekker Spring	T.15N., R.10W., Sec 20 SENWNW
Karen Spring	T.16N., R.10W., Sec 24 SWNESE
Three Trees Spring	T.16N., R.10W., Sec 24 NWSWNE
Big Tree Spring	T.16N., R.10W., Sec 36 NENWSE
Yellow Bluff Tank	T.15N., R.11W., Sec 24 SESWNE
Pinky Dam	T.16N., R.10W., Sec 10 SWSENE
Grapevine Trap Spring	T.16N., R.10W., Sec 24 NESESE
Poco Reservoir	T.16N., R.10W., Sec 11 SENWNW
North Hosey Tank	T.16N., R.10W., Sec 16 E1/2SE

Wild and Scenic Rivers

Arizona BLM began considering Wild and Scenic River classifications as early as 1985. The Arizona Statewide Wild and Scenic River (WSR) Legislative Environmental Impact Statement was prepared in 1994, and the subsequent Record of Decision issued in 1996 recommended to Congress that various river segments throughout the state be designated as components of the National Wild and Scenic Rivers System. Included in this recommendation was Segment B of Burro Creek, which is the segment of the creek that lies within UBCW. BLM recommended that this section of Burro Creek be classified as a “Wild” river, based on the “Outstandingly Remarkable” scenic, recreational, fish and wildlife habitat, and cultural resource values.

Congress has not yet acted upon this recommendation. In the interim, BLM is directed to provide protective management for recommended rivers to keep WSR values intact. Wilderness management guidelines are adequate to provide such protection.

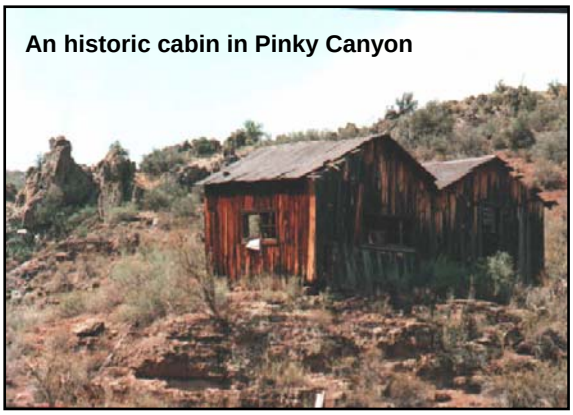
Visual Resources

The UBCW is classified as Visual Resource Management (VRM) Class 1 in accordance with BLM policy. The objective for VRM Class 1 is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and should not attract attention. The characteristic landscape within UBCW is predominantly natural in appearance, with scattered manmade structures, developments and modifications to the landscape. These are itemized in the section “Existing Developments” and in Table II, below.

Cultural Resources

The UBCW is located along the border between the Hualapai and Yavapai aboriginal lands. Hopi clans may have migrated through the area as well. All three tribes would like to be consulted if any actions are proposed within the wilderness. There are no known Traditional Cultural Properties in the wilderness.

Although the area has not been systematically inventoried and no sites have been formally recorded, there are known archaeological sites in the wilderness. Arizona Site Stewards monitor one such site to protect it from vandalism.



An historic cabin in Pinky Canyon

Based on what is known about the surrounding area, UBCW probably contains archaeological sites that represent the full range of prehistoric settlement. These sites likely include village sites, temporary camps, resource procurement sites, lithic quarries, and rock art sites.

Prehistoric people probably occupied the area from the late archaic (500 A.D.) to the Spanish contact period (1500 A.D.).

During prehistoric times upper Burro Creek formed the border between the Cerbat and Prescott cultures, two Patayan sub-groups. Little is known about these cultures and their relationship to each other.

Later, during historic times, cattle ranching became the primary economic activity occurring along upper Burro Creek. Historic family ranches and line camps dot the Burro Creek watershed, conveying the region's rich ranching history.

Upper Burro Creek's long and diverse culture history make it an important area for scientific study. The area also has high social value for Native American tribes and local ranching families.

Recreation

The Kingman BLM office gets many inquiries from the public regarding access to UBCW. Most inquiries are related to travel within Burro Creek Canyon. Current recreation use includes backpacking, hiking, and hunting for quail, mule deer and antelope. The Upper Sonoran Final Wilderness EIS estimated that visitor use would be about 900 visitor days once the area was designated as wilderness. No formal effort has been undertaken to assess actual visitor use numbers.

This wilderness offers visitors a fairly high degree of solitude, due to the remoteness of the area. A large part of this wilderness is located on Goodwin Mesa, which provides limited topographic screening from other people. However, the wide expanse of the mesa makes the activities of others relatively unnoticeable when viewed from a distance. Natural quiet is typically in abundance throughout the wilderness.

No visitor use conflicts have been documented for this wilderness. There is potential for visitor use conflict if the popularity of Burro Creek Canyon increases, as this is a very narrow corridor with little chance of avoiding others and limited opportunity for camping space. It is unlikely that much equine use of Burro Creek Canyon will ever occur. This is due to the rugged nature (almost impassible to equines) of the lower end of Burro Creek Canyon and the difficulty of motor vehicle access to the upper end of the canyon.

Existing Developments

A Remote Automated Weather Station

The wilderness is natural in appearance, with the exception of several developments, some which have a "moderate" degree of contrast under the BLM's Visual Contrast Rating System, are present. These imprints include a number of developments that support livestock grazing, and these are listed in Table II.

Other developments not related to grazing include two barbed-wire fence exclosures, four jeep trail segments, and a Remote Automated Weather Station (RAWS).

Law Enforcement and Emergency Services

Law enforcement activities are carried out by BLM Rangers and by the Mohave and Yavapai County Sheriff's Departments. BLM officers are responsible for investigating resource protection violations and the Sheriff has jurisdiction regarding crimes against persons and property. Due to the remoteness of this wilderness, response time to an incident may be as long as two to three hours. The Sheriff's Office with jurisdiction assumes the lead for search and rescue incidents in the wilderness.

Unauthorized motor vehicle use in the wilderness has been only a minor problem since designation. Evidence of ATV use has been observed on one vehicle way and in some washes. Boundary definition is also difficult to manage around Hosey Tanks on Goodwin Mesa because of the flat terrain, lack of rock, and lack of vegetation.

Fire

Several fires have occurred within the planning area since 1980 when record keeping began. Fire potential varies from year to year depending on the amount of winter rain, non-native annual vegetation and other factors. Several small natural fires of less than 100 acres have occurred in the region. Although fire has not influenced the Sonoran Desert vegetative community to any great extent, there is a concern that large fires could significantly affect the native vegetation. Plant species native to the Sonoran Desert are not fire adapted and therefore recover very slowly following a wildfire. This often results in an increase in non-native fire adapted annual species that increase the size and frequency of wild land fires. Large fires in the Sonoran Desert vegetative community were quite rare prior to the introduction of these exotic plants. Wildfires are becoming more frequent in Sonoran Desert habitats as these exotics invade new areas.

Unlike the Sonoran desert plant community, the semi-desert grassland on Goodwin Mesa is an area that benefits from periodic fire. Grasslands on Goodwin Mesa were naturally maintained by lightning-ignited wildfires that typically occurred with the onset of the summer monsoon season. Fires reduced invading woody and half-shrub plant species, while summer rains following the fire(s) allowed for native annual and perennial grasses to quickly reestablish in the burned area. The Lunch Fire burned 620 acres on Goodwin Mesa in June of 1986. Monitoring of the burned area showed a substantial increase in native grasses following the fire.

Grazing practices and fire suppression have resulted in fewer fires affecting Goodwin Mesa than what occurred in pre-settlement times. This lack of fire has led to an increase in unwanted species such as snakeweed, devil cholla, and catclaw on large portions of Goodwin Mesa. An approved plan is in place to use management-ignited fire on Goodwin Mesa to reduce invading plant species and increase native perennial grass cover.

Livestock Grazing

Portions of the Bagdad, Francis Creek, Burro Creek and YOLO Ranch Allotments are located within the UBCW. (See Map 4a)

Bagdad Grazing Allotment [Map 4(b)]:

An Allotment Management Plan (AMP) is in place for this allotment. The main goal of the management plan is to reduce grazing pressure on Burro Creek during both the early and late growing seasons. Periods of spring/summer rest of riparian habitats are deemed beneficial, especially following spring flooding, to allow for seedling establishment, development of an herbaceous understory, and to allow sufficient growth by woody species to get their main stems above the browse line.

In February 1992, construction of a pasture division fence was completed, creating two pastures, the Agate Pasture (containing only upland vegetation) and the Burro Creek Pasture (containing the entire riparian habitat along Burro Creek in the allotment, plus some upland pasture). The creation of these pastures allows for the opportunity to defer livestock grazing in Burro Creek. The portion of the Bagdad

Allotment containing wilderness is located entirely within the Burro Creek Pasture.

In an effort to improve vegetation condition within Burro Creek, the permittee has agreed to only graze the Burro Creek pasture between October 1and March 31 (per grazing permit issued July 18, 1990). This grazing management practice improves riparian vegetation by providing opportunities for riparian plants to reproduce and gain vigor during the growing season, and has resulted in the achievement of the AMP management objectives stated above.

In addition to growing season deferment the class of livestock has also been changed from a cow/calf operation only to add yearlings to the management plan. Grazing of yearlings has improved the distribution of grazing in this pasture, because yearlings use remote areas within the allotment that a cow and her calf will not. This has helped take some grazing pressure off the Burro Creek riparian zone. Forage utilization studies conducted by BLM indicate that browsing of apical stems of young cottonwood trees in Burro Creek by livestock was reduced from an average of 65 percent in 1988 to an average of 5 percent over the years 1992 through 1998.

Cattle are put on the allotment in the upland areas close to existing water and away from Burro Creek. This also helps to keep livestock from concentrating on Burro Creek and improves livestock distribution on the uplands.

Following designation of the UBCW in 1990, a *Range Improvement Maintenance Plan* was prepared, which discussed the means by which existing range improvements would be maintained within wilderness. All Bagdad Allotment range improvements identified in this plan were to be maintained without the use of motorized equipment or mechanized transport, with one exception. Yellow Bluff Reservoir (#4418), located on the west side of UBCW, was to be maintained as stated below:

"...Cleaning out the sediment within the reservoir will be accomplished using a D-8 bulldozer. The dozer will be walked in along an existing trail from the wilderness boundary to the site, a distance of about one mile. Sediment removed would be spread above the high water line, and contoured to simulate the natural terrain. Disturbance would be confined to previously disturbed area. The dozer work would require about two days to complete. BLM will determine the suitability of reseeding the disturbed area with native species, and if appropriate, will require this of the permittee. Reseeding would be accomplished without the use of motorized/mechanized equipment. Work will be scheduled to reduce conflict with wilderness recreational users by restricting it to midweek in the hot summer season when use is relatively lower than at other times. This maintenance activity will be repeated approximately one time every ten years."

To date, no dozer maintenance has been undertaken, and a recent inspection of the pond revealed that sedimentation is not threatening the functionality of the improvement.

Burro Creek Grazing Allotment [Map 4(d)]:

The riparian corridor in the Burro Creek allotment was separated into four pastures that contained both riparian and upland habitat. In each pasture riparian habitat comprised about 30 percent and upland habitat made up the remaining 70 percent of the surface acres. Two of these riparian pastures are rested during the growing season from April until October and remaining two riparian pastures receive late summer grazing usually starting in August each year.

The remaining pastures are mostly on Arizona State Land located on Burro, Ike Harris and Bozarth Mesa. These areas are grazed during the growing season.

Following designation of the UBCW in 1990, a *Range Improvement Maintenance Plan* was prepared, which discussed the means by which existing range improvements would be maintained within wilderness. All Burro Creek Allotment range improvements identified in this plan were to be maintained without the use of motorized equipment or mechanized transport, with one exception. Burro Creek Stock Trail, located in the bottom of Burro Creek Canyon, was to be maintained as described below:

"...A chain saw will be permitted for a one-day period each year in the month of June. The saw will be used only to remove large mesquite branches (exceeding 4 inches in diameter) that impede travel along the trail by a rider on horseback. All other trail clearing efforts will be

done with non-motorized hand tools. The permittee will notify the BLM at least two weeks in advance of any known need to use a chain saw or will report any necessary emergency use within two days following use of a chain saw."

To date, only one instance of chain saw use was reported by the permittee, which occurred in 1994.

Francis Creek Grazing Allotment [Map 4(c)]:

An Allotment Management Plan is in place for this allotment. It is managed as a two-pasture deferred rotation grazing system with some variation. Approximately 200-300 replacement cows are left in small sub-pastures on Goodwin Mesa during the winter months. These small sub-pastures are then rested from grazing during the subsequent growing season (spring and summer). This system allows several sub-pastures, or about 1/3 of the Goodwin Mesa pasture, to be deferred during the critical growing season, which is very important to the physiological condition and health of the plant community.

Historically, cattle were moved onto the Goodwin Mesa Pasture in the spring and summer months and then all cattle completely moved in to Sycamore Pasture for the fall and winter months.

The portion of the Francis Creek Allotment containing wilderness is located entirely within the Goodwin Mesa Pasture.

Following designation of the UBCW in 1990, a *Range Improvement Maintenance Plan* was prepared, which discussed the means by which existing range improvements would be maintained within wilderness. All Francis Creek Allotment range improvements identified in this plan were to be maintained without the use of motorized equipment or mechanized transport.

The current grazing permittee on the Francis Creek Allotment has expressed a need to construct a fence around North and South Hosey Tanks on Goodwin Mesa, for the purpose of improving livestock distribution on that mesa. Authorization of such a structure would impact wilderness naturalness.

YOLO Ranch Grazing Allotment:

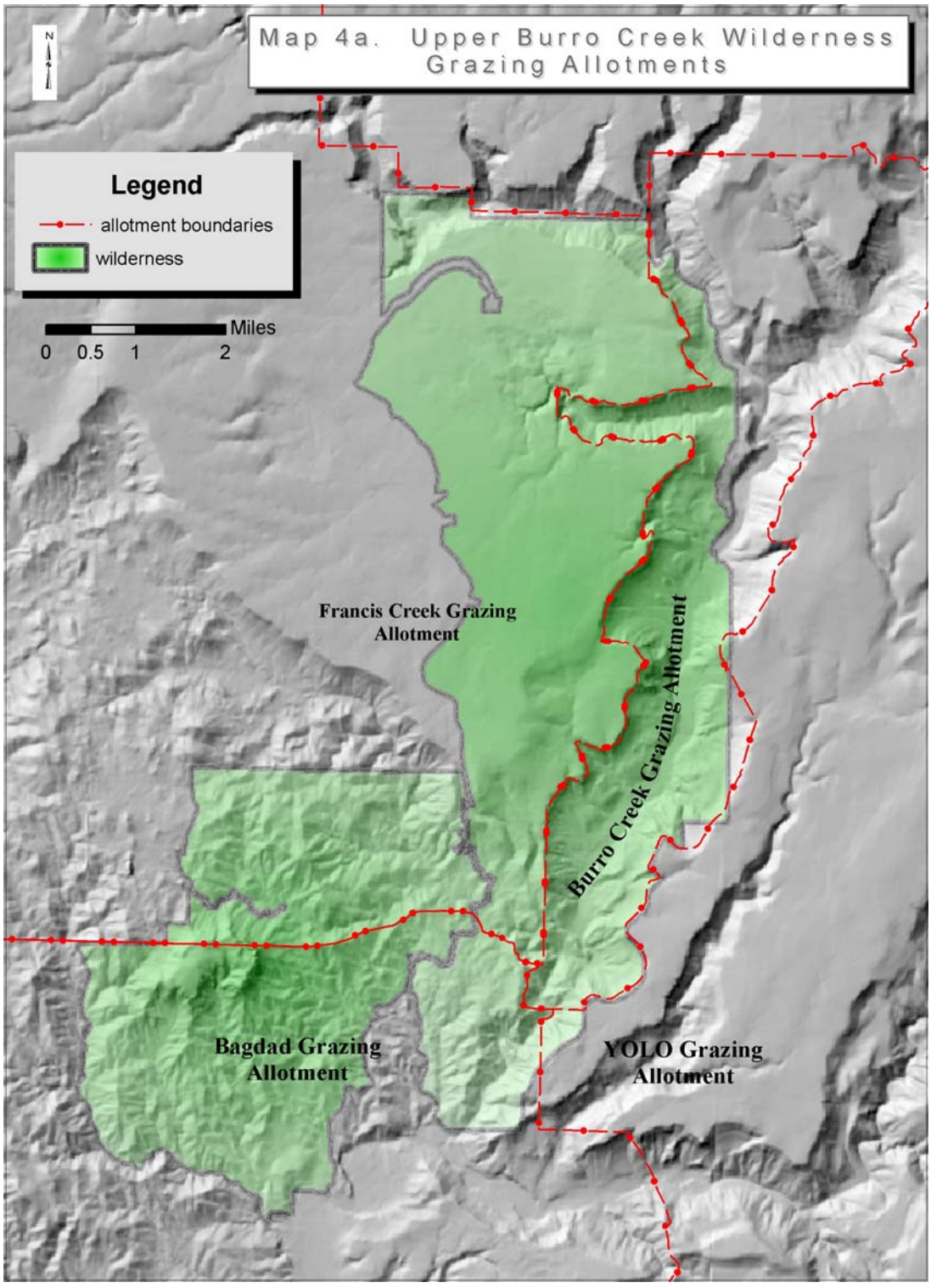
The portion of this grazing allotment that lies within the UBCW is down off of the rim of Bozarth Mesa, and is essentially unusable by livestock.

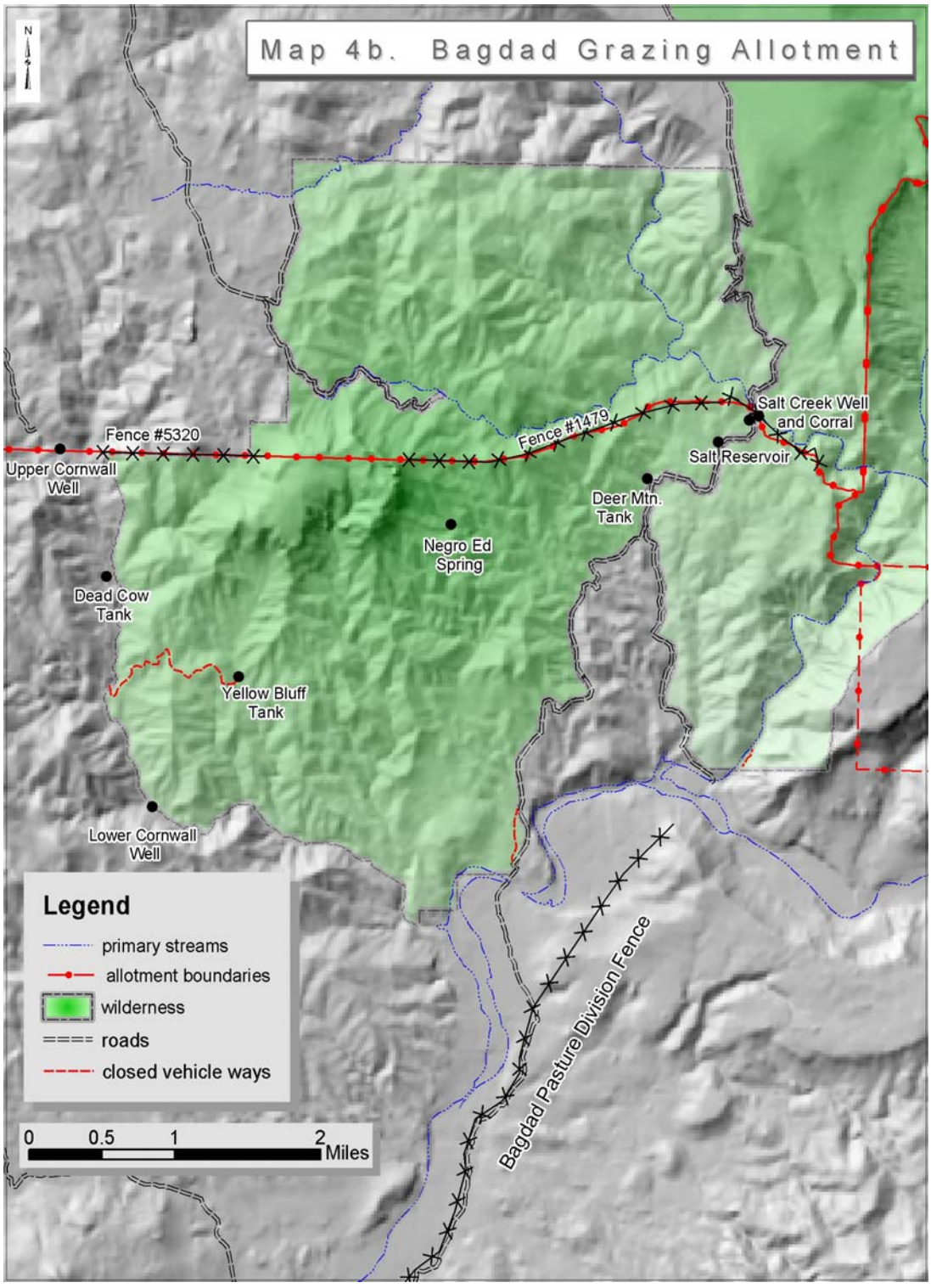
Table 1. Grazing Allotments in the Upper Burro Creek Wilderness

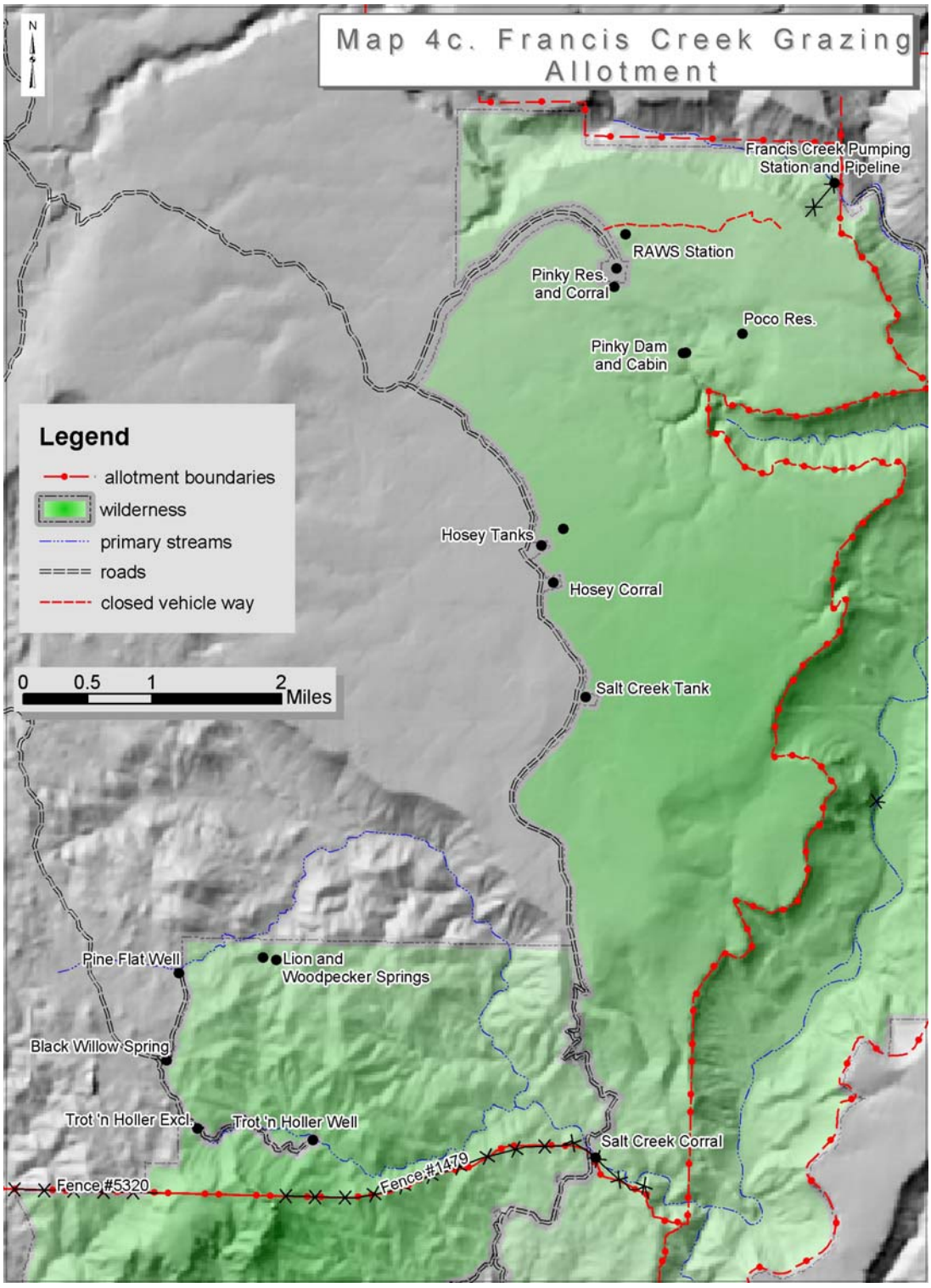
Allotment Name	Pasture Name	Total BLM animal unit months (AUMs)	% Public Land	Acres of BLM Public Lands in the allotment*	Acres of BLM Public Land in the allotment falling within wilderness*
BAGDAD	Burro Creek	1,508	90	25,865	7,096 (all in the *Burro Creek Pasture*)
	Agate	233	30		
BURRO CREEK	All pastures	880	47	6,153	5,602
FRANCIS CREEK	Goodwin Mesa	7,322	100	113,005	14,584 (all in the *Goodwin Mesa Pasture*)
	Sycamore	8,462	100		
YOLO RANCH	---	144	100	3,704	144

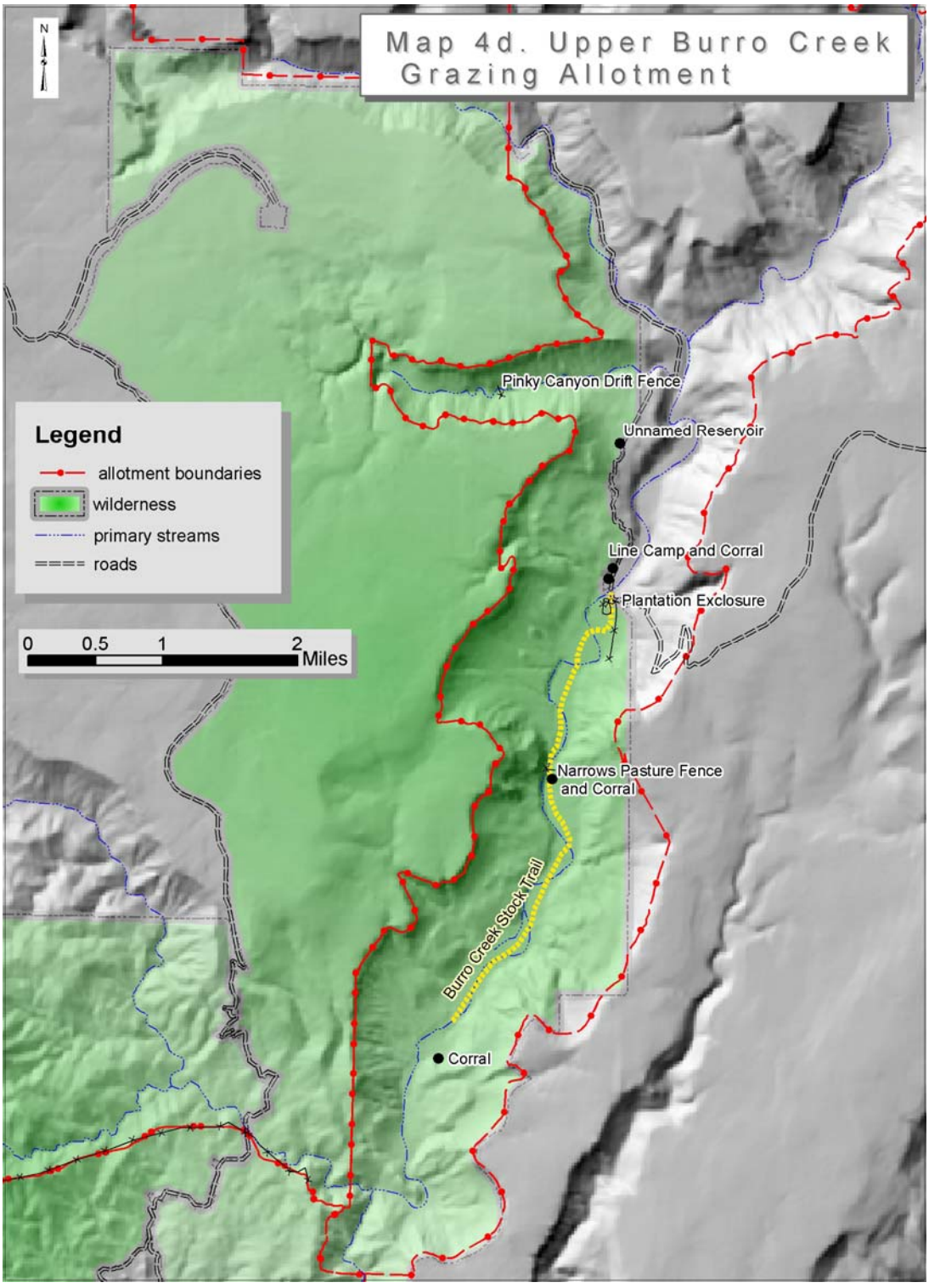
*Figures derived from ArcView, 2002

Table 2. Range Developments - Upper Burro Creek Wilderness					
Development	**Number**	**Location**	**Access/Need for Motorized or Mechanized Equipment (MME)**	**Allotment**	**Condition**
Burro Cr. Allotment West Bdry Fence	1479	T.15N., R.10W., Sections 7,8,9 and 10	Foot/horse No **MME** needs	Francis Creek/Bagdad	Functional
Bagdad Allotment N. Bdry Fence	5320	T.15N., R.11W., Sections 11 and 12	Foot/horse No **MME** needs	Francis Creek/Bagdad	Functional
Various Burro Creek Allotment Pasture Fences	n/a	various	Foot/horse No **MME** needs	Burro Creek	Functional
Negro Ed Spring Development	5321	T.15N., R.10W., Sec 17 SWNW	Foot/horse No **MME** needs	Bagdad	Poor
Yellow Bluff Reservoir	4418	T.15N., R.11W., Sec 24 SWNE	Foot/horse Use of bulldozer to repair/maintain tank one time every ten years	Bagdad	Good
Poco Reservoir	5563	T.16N., R.10W., Sec 11 NWNW	Foot/horse No **MME** needs	Francis Creek	Fair
Pinky Dam	n/a	T.16N., R.10W., Sec 10 SENE	Foot/horse No **MME** needs	Francis Creek	Good
Burro Creek Stock Trail	n/a	T.15N., R.10W., Sect 1& 2 T.16N, R.10W., Sect 24, 25 & 26	Foot/horse Use of chain saw to cut large limbs on trail. Use limited to a one-day period in June of each year.	Burro Creek	Functional
North (Lower) Hosey Tank	5525	T.16N., R.10W., Sec 16 E1/2SE	Foot/horse No **MME** needs	Francis Creek	Fair
Woodpecker Spring	5547	T.15N., R.10W., Sec 6 NWNE	Foot/horse No **MME** needs	Francis Creek	Poor


Map 4a. Upper Burro Creek Wilderness Grazing Allotments
N
Legend
allotment boundaries
wilderness
Miles
0 0.5 1 2
Francis Creek Grazing Allotment
Burro Creek Grazing Allotment
Bagdad Grazing Allotment
YOLO Grazing Allotment


Map 4b. Bagdad Grazing Allotment
N
Fence #5320
Upper Cornwall Well
Fence #1479
Salt Creek Well and Corral
Salt Reservoir
Deer Mtn. Tank
Negro Ed Spring
Dead Cow Tank
Yellow Bluff Tank
Lower Cornwall Well
Bagdad Pasture Division Fence
Legend
primary streams
allotment boundaries
wilderness
roads
closed vehicle ways
0 0.5 1 2 Miles


Map 4c. Francis Creek Grazing Allotment
N
Francis Creek Pumping Station and Pipeline
RAWS Station
Pinky Res. and Corral
Poco Res.
Pinky Dam and Cabin
Legend
allotment boundaries
wilderness
primary streams
roads
closed vehicle way
Hosey Tanks
Hosey Corral
0 0.5 1 2 Miles
Salt Creek Tank
Pine Flat Well
Lion and Woodpecker Springs
Black Willow Spring
Trot 'n Holler Excl.
Trot 'n Holler Well
Salt Creek Corral
Fence #1479
Fence #5320


Map 4d. Upper Burro Creek Grazing Allotment
N
Legend
allotment boundaries
wilderness
primary streams
roads
0 0.5 1 2 Miles
Pinky Canyon Drift Fence
Unnamed Reservoir
Line Camp and Corral
Plantation Exclosure
Narrows Pasture Fence and Corral
Burro Creek Stock Trail
Corral

Part II - National Wilderness Management Goals

Four standard management goals have been established by the BLM for its designated wilderness areas. The goals are as follows:

1. To provide for the long-term protection and preservation of the area's wilderness character under a principle of non-degradation. The area's natural condition, opportunities for solitude, opportunities for primitive and unconfined types of recreation, and any ecological, geological, or other features of scientific, educational, scenic, or historical value present will be managed so that they will remain unimpaired.

2. To manage the wilderness area for the use and enjoyment of visitors in a manner that will leave the area unimpaired for future use and enjoyment as wilderness. The wilderness resource will be dominant in all management decisions where a choice must be made between preservation of wilderness and visitor use.

3. To manage the area using the minimum tool, equipment, or structure necessary to successfully, safely, and economically accomplish the objective. The chosen tool, equipment, or structure should be the one that least degrades wilderness values temporarily or permanently. Management will seek to preserve spontaneity of use and as much freedom from regulation as possible.

4. To manage nonconforming but accepted uses (i.e. grazing) permitted by the Wilderness Act and subsequent laws in a manner that will prevent unnecessary or undue degradation of the area's wilderness character. Accepted uses are the exception rather than the rule; therefore, emphasis is placed on maintaining wilderness character.

Part III - Issues

Issue identification was done with reference to the designation and subsequent management of this area as wilderness. The issues were identified and then categorized into three types: (1) issues addressed by this plan; (2) issues resolved by policy; and (3) issues beyond the scope of the plan. The paramount concern expressed during public scoping was how people, wildlife, grazing, mining, recreation, etc. would be affected by the designation of this area as wilderness. Throughout scoping it became apparent that although the public saw value in wilderness naturalness, it needed to be considered along with management of other resources.

Wilderness naturalness is an issue and is also the common theme that binds all other issues. How resources are managed in wilderness will affect naturalness and conversely, the degree to which naturalness is protected will affect management of other resources.

Issues Addressed In This Plan

1. Naturalness.

- Are the critical components of the ecosystem present and structured in such a way that ecological processes function within normal limits?
- Can naturalness be retained while still allowing for management of other uses in the wilderness? Such as:
  - Flights for wildlife surveys, inspections, captures, transplants, inventory, etc.
  - Removal or maintenance of existing water developments, fences, corrals, etc. If maintained, what will be the minimum tools needed, what changes to design might be necessary, and what is the type of access needed?
  - Development of new facilities
  - Reintroduction and supplemental releases of bighorn sheep adjacent to wilderness and subsequent monitoring adjacent to and within wilderness.
  - Census and capture/removal of wild burros
- Can vehicle intrusions into wilderness be stopped without impacting wilderness character or other resource values?
- Can/should the RAWS station located in the wilderness on Goodwin Mesa be moved to a site outside of wilderness?
- How can we ensure that the water quality of Burro and Francis Creeks remains high to retain the State's "Unique Waters" designation?
- How can the instream flow protest for Burro and Francis Creeks be resolved?

2. Public Availability.

- What monitoring of visitor use is needed?
- What restrictions on use would be imposed?
- What types of visitor use information can be made available (access, hiking routes, signs, brochures, etc.)
- Should campgrounds be developed outside of wilderness?
- Should cherrystem roads or other access routes be maintained?
- How will commercial recreation use be managed?
- How does public use affect cultural resource values?
- How can public access to wilderness be assured across private and State Trust land?

3. Vegetation Management.

- What are the fire effects on the different vegetation communities?
- How should fire suppression be conducted?
- Should prescribed fire be employed on some wilderness lands?
- Are rehabilitation efforts needed following natural fire?
- Is riparian area rehabilitation needed?
- How should noxious and invasive vegetation species be dealt with?

Issues Solved Through Policy or Administrative Action

1. Wilderness Designation. Wilderness areas were designated through the Arizona Desert Wilderness Act of 1990. The boundaries

of the wilderness were set through the passing of the Act and are not open to review through this planning process.

2. Wild Horse and Burro Management. The Wild Horse and Burro Management Act of 1971 directs the BLM to maintain these animals in a wild, free-roaming state and in a thriving ecological balance with their environment. This wilderness area is only a small portion of the Big Sandy Herd Management Area therefore this plan will not address overall burro management. The plan will address burros in the context of their effect on wilderness character (primarily vegetation), and the impacts of their management (i.e. census and capture operations.)

3. Water Rights. The Arizona Desert Wilderness Act of 1990 does not affect existing State-based water rights in the wilderness.

4. Livestock Grazing and Allotment Management Plans. Designation of wilderness does not affect grazing preference nor does it affect the development of Allotment Management Plans. These items are administered according to the regulations in 43 CFR 4100. The designation of wilderness may affect some of the methods used to care for range improvements and these things are discussed in this plan.

In accordance with existing Bureau policy, periodic interdisciplinary allotment evaluations assess the appropriateness of grazing use by cattle and other animals on vegetation and a determination of ecological health is made. Based on this analysis, an action plan is recommended (if needed) to assure that ecosystem structure and function is protected.

5. Law Enforcement and Emergency Services. Wilderness management policy and regulations (BLM Manual 8560 and 43 CFR 6300) provide for emergency law enforcement access to pursue suspects or to address health and safety concerns during emergencies. Search and Rescue (SAR) operations are the responsibility of the county Sheriff. In the event of a SAR operation, BLM would coordinate with the involved agencies to assist as needed and to minimize impacts to wilderness character. Historically, there have been no law enforcement problems in the UBCW that required mechanized or motorized access. In the event of a problem, existing policy guidance is adequate.

6. Threatened, Endangered, or Special Status Species. All habitats of special status species will be managed under existing policy in BLM Manual 8560 and 6840. Wildlife and/or plant species that become federally listed in the future will be managed under the Endangered Species Act of 1973, as amended.

7. Noxious and Invasive Vegetation. With current technology, removal of well-established invasive species (such as salt cedar, filaree, and red brome) is not ecologically or economically feasible. Within the Burro Creek drainage, native vegetation is well adapted to fluvial processes and has established and maintained itself in the presence of salt cedar. Under current livestock management, the need for salt cedar control for riparian vegetation management has not occurred. Noxious weeds are those species specifically identified by federal, state, or county governments as to be injurious to public health, agriculture, wildlife, recreation or any public or private property. New infestations of invasive or noxious plants will be addressed in this plan.

8. Minerals Management. The Arizona Desert Wilderness Act of 1990 withdrew the area from mineral entry. Recreational collection (rockhounding) of minerals is allowed in the wilderness. Collection (for non-commercial purposes) must be done in a manner that preserves the wilderness environment, uses no more than non-motorized hand tools and causes only minimal surface disturbance. Metal detectors/Geiger counters would be acceptable tools.

9. Hunting and Fishing. Hunting and fishing regulations are written and enforced by the State. Activities must be conducted without the use of motorized equipment or mechanized transport in the wilderness.

10. Military Overflights. Military flight restrictions are addressed in the Arizona Desert Wilderness Act of 1990. The Act states: "Nothing in this title shall preclude low level overflights of military aircraft, the designation of new units of special airspace, or the use or establishment of military flight training routes over wilderness areas designated by this title." The BLM will continue to cooperate with the military in seeking mutually beneficial opportunities to protect the integrity of wilderness airspace, and the natural quiet of this area.

11. Access for the Physically Challenged. Special facilities to accommodate wilderness use by those with disabilities are not required by the Americans with Disabilities Act of 1990. Wheelchairs are allowed in wilderness by individuals whose disability requires the use of a wheelchair. Wheelchairs suitable for use in wilderness are those that would be suitable for use in an indoor pedestrian area.

12. Management of Traditional Cultural Properties. There are no known Traditional Cultural Properties in the wilderness, and BLM knows of no current use of the area for Native American religious or traditional purposes. If such use is identified in the future, the BLM will act in accordance with Public Law 95-341 and applicable Federal policy.

13. Car-camping and Parking on Wilderness Boundaries. Car camping and parking are permitted between access roads and the congressionally designated wilderness boundaries. Where the wilderness boundary parallels existing roads, the boundary is posted at a standard setback of 30 feet from the centerline of the road.

Issues Beyond the Scope of This Plan

1. Sights and Sounds from Outside Land Uses on Private, State and Federal Lands. Some public comments have expressed concern about the potential for short-term, temporary impacts to solitude and naturalness caused by off-site land uses like mining, grazing or rights-of-way use. Senate Report 101-359 in the Section-by-Section Analysis addressed the issue of outside sights and sounds as follows:

"Subsection (d) clarifies that the designation of wilderness areas does not imply the creation of 'protective perimeters' or buffer zones around any of the areas."

2. Public Notification Process. The public expressed concern that the process Federal agencies use to notify the public of major environmental actions is not adequate. This issue does not require a plan for resolution. Public outreach is being addressed in the Customer Service Initiative and other BLM programs.

3. Wild Burro Management Numbers. A concern was raised as to whether the burro population in the area was within the parameters of a "thriving ecological balance". The issue of thriving ecological balance was addresses in the Big Sandy Herd Management Area Plan (1982) where the Appropriate Management Level (AML) of 139 wild burros was established. This question is best answered in the Herd Management Area Plan.

Part IV - Management Strategy

This plan has been designed to serve as the management guidance for the UBCW. Implementation will commence following public review and final approval.

An interdisciplinary team developed three general management objectives for meeting the National Wilderness Management Goals (see Part II). The objectives and associated management actions were designed to help meet the goals of preserving the wilderness and vegetative characteristics of the area while providing protection of cultural resources, primitive recreational opportunities, solitude and the continuation of accepted uses permitted by the Wilderness Act.

The planned actions and monitoring of their effectiveness are designed to ensure that the characteristics that define the wilderness remain stable or actually improve.

Future issues, actions or opportunities will be considered on a case-by-case basis. If, through evaluation, actions are determined to be consistent and compatible with the goals and objectives, they will be incorporated into the plan without amendment of the plan. Inconsistent or incompatible actions will be further evaluated and be subject to public review and comment.

Management objectives will be re-evaluated periodically maintained, and updated as needed.

Part V - Wilderness Management (Proposed Action)

Introduction

In this section, objectives are established to address activity plan issues. Management actions to meet national wilderness management goals and plan objectives are outlined. Monitoring will be conducted to gauge the effectiveness of outlined management actions and to determine if plan objectives are being met.

A rationale is included immediately below certain items in this section when needed to provide additional clarification.

OBJECTIVE 1. Preserve Wilderness Values.

This objective and associated management actions have been developed to address Issue #1, Naturalness.

Maintain or enhance natural conditions throughout the wilderness, including ecosystem structure and function, visual appearances and opportunities for solitude and natural quiet in the UBCW by:

- Managing existing and proposed operations and facilities so that naturalness is maintained.
- Ensuring long-term (>100 years) viability of all indigenous species (plant and animal)
- Re-designing or removing existing improvements if necessary to improve operations and/or minimize visual contrast.
- Managing cultural resources to allow for zero degradation from human activity
- Managing wilderness boundaries to eliminate unauthorized vehicle use.
- Reducing the degree of contrast of all closed vehicle routes and unneeded/abandoned range developments from the baseline ratings (established during first year of monitoring) to "weak" or none."
- Ensuring compliance with standards for the “unique waters” designation. When standards are threatened, take appropriate protective action.
- Ensuring that instream flow in Burro and Francis Creeks is secured and protected.
- Managing visitor use and monitoring associated impacts. When impacts exceed standards, action will be taken to alleviate the impact. The standards are as follows:

Factor	Indicator	Standard
Inter-party contacts	Number of complaints per year received by office	Not to exceed 5 complaints per year
Evidence of human use	Presence of fire rings or campsites	No closer than ½-mile apart
	Presence of non-historic litter or human waste	None observable

Management Actions to Accomplish Objective 1

Wildlife and Special-Status Species (BLM Sensitive/State Listed/Threatened/Endangered Species)

Actions described in Action 1(A) are anticipated to be annual events unless otherwise stated. The Arizona Game and Fish Department will give BLM two weeks advance notice orally, or in writing, of planned flights. Flights will be conducted on weekdays.

Emergency situations involving imminent danger to animals may warrant the landing of a helicopter in wilderness without the opportunity to notify BLM in advance. In these rare instances, BLM will be notified of the activity on the next regular workday.

Action 1(A) - Conduct population survey (census), inventory and monitoring of wildlife populations. These actions are conducted by the Arizona Game and Fish Department. The following descriptions of flight timing, duration, and rationale for specific surveys meet the criteria for requiring advance approval as described in the Master Memorandum of Understanding between the Arizona Game and Fish Commission and the Bureau of Land Management (A.G. Contract No. KR87-0249-CIV dated March 18 1987).

All flights for wildlife survey, inventory and telemetry, other than raptor survey, would avoid known breeding peregrine falcon and bald eagle nesting areas from February 1 to May 15 (peregrine falcon) and December 15 to May 31 (bald eagle) and fly 2000 feet above ground level within one mile of an active bald eagle or peregrine falcon nest. The nesting area is considered to be a one-mile radius from the nest. See *Raptors* section below for raptor inventory and monitoring flight information.

Bighorn Sheep - An aerial population survey would be conducted by helicopter or fixed-wing aircraft for desert bighorn sheep if bighorn become re-established within the wilderness.

Survey flights are typically flown once every three years. Bighorn surveys are flown between late September and November. Dates are approximate, as flexibility is required due to weather conditions and aircraft availability. The surveys may total 1-3 days, but actual flight time per day is typically less than five hours. The altitude of the flights will normally be at 100 to 200 feet above ground. The flight may descend to twenty-five feet to classify an animal. The surveys are flown following the landscape contour. Wildlife population survey for bighorn sheep would include an occasional landing by the helicopter so that sick or dead sheep could be inspected. Monitoring collar retrieval will be done on foot or by horseback.

Raptors - Aerial habitat inventory and population monitoring of the bald eagle may be conducted by low-level helicopter flight. The purposes of these flights are to inventory new nesting territories, to check for nest occupancy and success, and to monitor wintering bald eagle populations. Once an active nest is located more intensive monitoring is initiated including monthly aerial reconnaissance, ground surveys and potentially daily ground nest monitoring. These flights and monitoring activities would occur between January and June. Actual flight time in the wilderness is typically less than one hour per flight for up to six days per year. For specific description of these activities see Appendix B.

Monitoring of peregrine nesting activities may occur separately or concurrently with bald eagle survey flights described above.

Temporary seasonal closure of portions of Burro Creek Canyon to recreation activities could be implemented to reduce disturbance to nesting bald eagles.

Mule Deer and Javelina - An aerial population survey (census) would be conducted by low-level helicopter or fixed-wing aircraft on Goodwin Mesa. Dates are approximate, as flexibility is required due to weather conditions and aircraft availability. These surveys are typically flown between October and January.

Pronghorn - Pronghorn surveys on Goodwin Mesa would be flown between May and July. The surveys may total 1 to 3 days. Actual flight time per day is typically less than five hours in the wilderness. The altitude of the flights would normally be at 100 to 200 feet above the ground. The flights may descend to twenty-five feet to classify an animal. The surveys are flown following the landscape contour.

Unforeseen Flight Needs All planned flights have been listed. Other flights could be requested and would be analyzed on a case-by-case basis and a determination of minimum tool would be done.

Native Fish Surveys BLM (1979) and AGFD (1996) have conducted native fish surveys in Burro and Francis Creeks. Several sampling stations are located in wilderness portions of Francis and Burro Creeks. A backpack electro-fishing unit and nets are used to determine native and non-native fish distribution and relative abundance. This method would continue to be used to allow population trends to be compared and analyzed in the future. The AGFD has recommended continuing these surveys at 10-year intervals.

Macro-invertebrate survey/sampling could be used to determine **aquatic** habitat conditions for fish. This could be done as often as four times annually. Sampling is conducted by hand using traditional methods such as using a net. Samplers would hike to the sampling sites.

Rationale for Action 1(A): Wildlife surveys are needed to monitor population health of big game and to allow the AGFD to balance wildlife hunting permits with available wildlife. Conducting census by non-aerial methods was evaluated in the Wildlife Operations and Maintenance Plan (1996) and found to be more difficult and would lead to a loss of quality information on which BLM and AGFD make decisions.

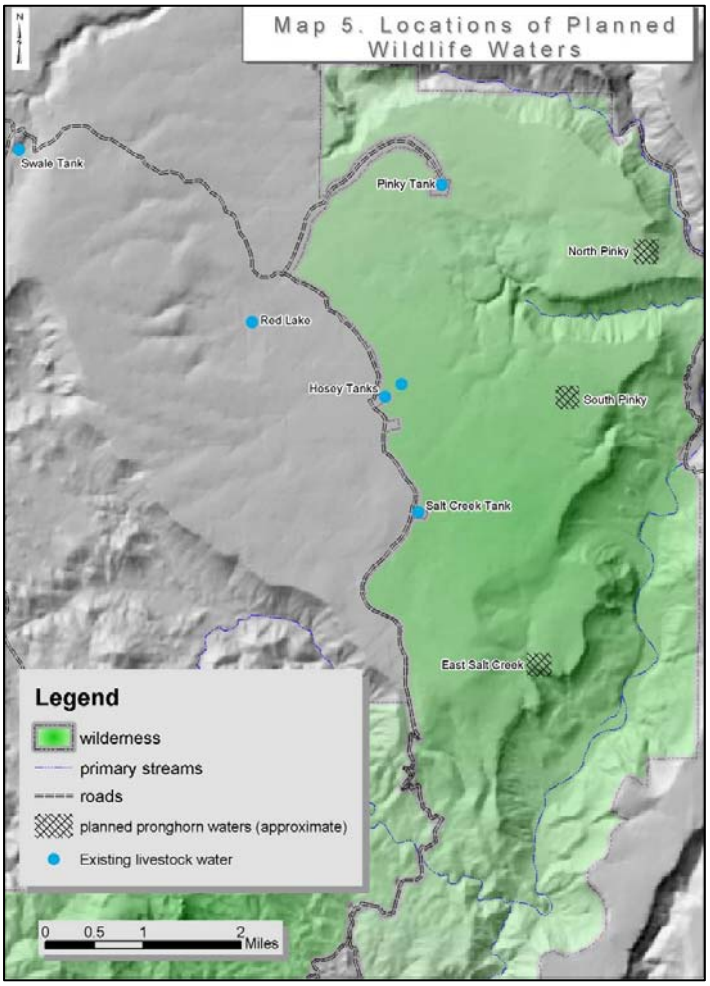
Surveys and monitoring for special-status species such as the bald eagle are needed to assess these species use of this area and their reproductive success.

Temporary closure of portions of Burro Creek Canyon may be needed in rare instances to reduce or eliminate human disturbance to nesting eagles. This canyon has never been closed for this purpose and it is unlikely that this action would occur.

Human alteration of streams and creeks has had significant adverse effects to native fishes in the southwest. Numerous native fish species in Arizona are designated as threatened or endangered. Burro and Francis Creeks have the highest native fish species diversity in northwestern Arizona. Major effects to native fish in these areas are the presence of non-native fishes. Monitoring of fish and macro-invertebrates is needed to continue to determine future effects of management on these fish populations.

Action 1 (B) – Develop and maintain three supplemental wildlife waters on Goodwin Mesa for pronghorn (BLM 1983a, Table 7). Proposed locations are in T. 16N. R. 10W: (see Map 5.)

- East Salt Creek (Section 35 NESW)
- South Pinky (Section 14 SWSE)
- North Pinky (Section 12 SWNW)



Refer to Appendix C for design and maintenance specifications.

Rationale for Action 1 (B): Existing waters are approximately two miles away from proposed water locations. The Aquarius HMP (BLM, 1983a) and the Kingman RMP (BLM, 1995) identified pronghorn antelope management actions on Goodwin Mesa,

including water development to increase perennial water distribution in available habitat and to increase the size of the antelope population, while at the same time avoiding forage competition with livestock. The addition of these water facilities would help to ensure long-term viability of the pronghorn population that makes use of this area.

Furthermore, the location of existing waters for pronghorn is also a critical issue. Location of livestock waters on Goodwin Mesa did not consider the likelihood of predation on pronghorn. Pronghorn are exposed to increased predation from mountain lions in areas of rugged terrain or sites with heavy woody plant densities. Some of the existing livestock waters on Goodwin Mesa, including Swale Tank, Red Lake and Pinky Tank, lie within such sites. Salt Creek and Hosey Tanks lie in more open areas. Placing waters in more open country on Goodwin Mesa may lessen the likelihood of predation, thereby decreasing adult or fawn mortality and improving population stability.

Wild Horse and Burro Management

Action 1 (C) - Conduct low-level helicopter census flights for wild burros every three years. These flights would occur during a three-day period between March and May. Census flights are conducted at 200 feet above ground level on North-South transect lines one half mile apart. Total flight time within wilderness during census operations would be less than two hours. This action was proposed and evaluated in BLM 2003.

Action 1 (D) - Conduct periodic capture and removal of excess wild burros. Capture operations would involve the use of a helicopter flying at extremely low altitude. Capture sites and equipment (portable corrals, trailers, vehicles, etc.) would be located outside wilderness. The helicopter would be used to herd animals to capture sites outside wilderness boundaries. Duration of this operation would be about two days and would occur every three or four years during the spring or summer months.

Rationale for Actions 1 (C) and 1 (D): The Wild and Free-Roaming Horse and Burro Act of 1971 (Public Law 92-195), as amended, requires BLM keep an up-to-date census for wild horse and burro populations and to capture animals as necessary to maintain a thriving ecological balance.

Fire Management

Action 1 (E) – Conduct wildfire suppression tactics (see also Objective 3, Action 3.C.). Suppression efforts would be implemented as described in Appendix A.

Rationale for Action 1 (E): Utilizing the decision-making process outlined in Appendix A will ensure that fire suppression tactics have the least amount of impact on the wilderness character, will minimize alterations to the landscape and will result in the least possible evidence of human activity.

Recreation Management

Action 1 (F) - Post wilderness boundary signs (flexible fiberglass posts) at approximate 0.5-mile intervals. Increase the density of signs at locations where the potential for vehicle intrusions exists.

Action 1 (G) - Construct physical barriers at wilderness boundary locations where signs are not effectively deterring vehicle traffic. As an alternative or enhancement where practical, pull rocks and soil from vehicle way berms into the traveled portion of the vehicle way, transplant native vegetation into disturbed areas, and scatter dead and down vegetation over the roadway to discourage vehicle usage.

Action 1 (H) - Conduct routine wilderness boundary patrols to check condition of boundary signs and to assess public compliance with vehicle restrictions.

Action 1 (I) - Provide information at strategically placed portal kiosks (see Objective 2, Action 2.C.), informing visitors of the layout of the wilderness and of user constraints.

Rationale for Actions 1 (F,G, H and I): Elimination of vehicle use within wilderness enhances natural conditions within wilderness by removing the sights, sounds and physical alterations to the ground created by such use.

Posting signs, constructing barriers, and providing public information are relatively inexpensive and effective methods for gaining compliance. Boundary patrols allow BLM to be aware of the degree of compliance, to react to instances of non-compliance, and to make public contact with visitors at the boundary.

Action 1 (J) - Conduct a baseline inventory of existing recreation impacts present in wilderness. (e.g. campsites, fire rings, litter) Maintain a Geographic Information System (GIS) record of impact sites. Conduct periodic monitoring to determine changes to baseline conditions.

Action 1 (K) - Install visitor registers at the strategically placed portal kiosks (See Objective 2, Action 2.C.). Allow the opportunity at these kiosks for visitors to register comments about wilderness conditions.

Rationale for Actions 1 (J and K):
Periodic monitoring for recreation impacts and soliciting public input regarding wilderness conditions will allow BLM to assess changes to wilderness naturalness caused by recreation use and to correct those changes when they exceed the standards of Objective 1.

Action 1 (L) - Establish the following recreation policy for both commercial and non-commercial recreation use:

- Base camps are not permitted in wilderness.
- Spike camps, defined as camps used for more than one night, are not permitted in Burro Creek Canyon between the Brimhall Line Camp and the south wilderness boundary.
- Feed for stock animals will be supplied and packed into wilderness.
- The use of hay for feed and/or bedding is prohibited within wilderness. Grain and pelleted feed are acceptable alternatives.
- Stock animals will be hobbled or restrained during lengthy rest stops (exceeding 15 minutes) and overnight stays. Animal restraint will be done so that vegetation will not be eaten, girdled, trampled or otherwise damaged by the animals or their restraints.

Rationale for Action 1 (L): Limiting length of stay at spike camps will help to alleviate potential visitor dissatisfaction with group encounters, especially in the confining Burro Creek Canyon. Prohibiting the use of hay and defining the methods for stock restraint will assure that excessive soil compaction, plant defoliation, accumulation of hay residue and introduction of non-native weed seeds is minimized.

Action 1 (M) – Implement the following actions, separately or in combination, to mitigate impacts where standards are exceeded for the indicators described in Objective 1:

- Dismantle campfire rings and rehabilitate campsites with hand tools when they exceed the "one per linear ½- mile" standard.
- Pick up litter when observed.
- Educate visitors about alternative areas that are less congested.
- Educate visitors on wilderness manners, "Leave No Trace" and "Tread Lightly" principles, and general land use ethics.
- Limit party size, including guides, camp workers and clients, to 6 persons within Burro Creek Canyon between Brimhall Line Camp and the south wilderness boundary.
- Limit party size, including guides, camp workers and clients, outside of Burro Creek Canyon to 10 persons.
- Limit pack stock and/or riding stock to no more than 2 animals per party within Burro Creek Canyon between Brimhall Line Camp and the south wilderness boundary.
- Limit pack stock and/or riding stock to no more than 6 animals per party outside of Burro Creek Canyon.

Rationale for Action 1 (M): Limiting party size and number of stock should minimize resource damage and the extent of campsite degradation at campsites, and should reduce visitor dissatisfaction with inter-party contacts. These actions will protect the natural values of wilderness while also accommodating recreation use. Primitive and unconfined recreation use is sought to the greatest degree possible until recreation use impacts force managers into taking stronger measures to protect wilderness character.

Cultural Resource Management

Action 1 (N) - Conduct archaeological surveys to collect baseline cultural resource data. Write archaeological site condition assessments to document site conditions, and prescribe management actions to preserve cultural resource values. Monitor archaeological sites for vandalism, natural deterioration, and wear and tear from visitor use.

Rationale for Action 1 (N): Inventory and monitoring will allow BLM to identify impacts to archaeological sites and formulate corrective actions, thereby protecting the special historical values of wilderness.

Wilderness Naturalness Management

Action 1 (O) - Take the following actions to reduce the evidence of human imprints in wilderness:

- Using only hand labor within wilderness, remove the RAWS station from wilderness and relocate it to a nearby non-wilderness location.
- Allow the vehicle way in T. 16 N., R. 10 W., sections 2 and 3, north and east of Pinky Tank (see Map 4c), to rehabilitate naturally. If the opportunity arises, utilize hand labor to scatter rock on the traveled portions of the vehicle way to discourage vehicle passage and speed plant establishment.
- Remove the non-functioning engine, pump and pipe from the Francis Creek Pumping Station. Within wilderness, utilize hand labor and equine transport only to accomplish.
- Remove the Plantation Exclosure Fence, located in the SE1/4 of Section 24, T. 16 N., R. 10 W. within wilderness, utilize hand labor and equine transport only to accomplish.
- Remove the remains of the suspension fence (located at the site of the Narrows Pasture Fence in T. 16 N., R. 10 W., Section 25) in Burro Creek. These remains consist of several hundred pounds of PVC pipe, reinforcement iron, barbed wire and steel cable. A helicopter may be used to sling these materials to the nearest appropriate location outside of wilderness. Laborers used to accomplish the gathering and loading of materials would gain access to the wilderness work site on foot.
- Remove the Trot 'n Holler Exclosure Fence. All work within wilderness would be completed without the use of motorized or mechanized equipment.

Water Management

Action 1 (P) Monitor the following parameters of water quality to determine compliance with standards for Unique Waters designation for Burro Creek/Francis Creek:

Parameter	How monitored	Where monitored	How often monitored
E. coli	Water Samples collected and transported to lab within 6 hours	One location, downstream edge of wilderness	1x every 2 years
Metals (Cu, Mn, Pb, Hg)	Water column grab samples	One location, to be determined	1x every two years
Suspended sediment	Grab sample	Two locations, 4 samples each	1 x per year at low flows
Dissolved oxygen, pH	Portable meter	One location, to be determined	1x per year
Temperature	Thermometer	One location, to be determined	1 x per year

Macro-invertebrate sampling could be used as a rough indicator if changes were occurring in sediment concentration, or heavy metal concentrations. Increases in sediment-tolerant or high temperature-tolerant species, or species that suggest presence of metals would signal the need to take water samples for lab testing. However, macro-invertebrate composition changes very slowly, and lab evaluations of the samples take several months, so it may not meet BLM sampling needs.

When tests reveal threats to water quality standards, BLM initiates investigation as to cause of the threat and takes appropriate management action to mitigate.

Rationale for Action 1(P): Most of the standards that apply to these unique waters are the same as the state standards for all surface waters. Only manganese has a higher standard. All surface waters in Arizona have anti-

degradation requirements that limit how much water quality can decline. Meeting the unique water quality standards is important for its' own sake, as an indicator of conditions in the riparian areas and uplands. However, maintenance of water quality is also necessary to safely allow the designated uses of the water: recreation uses (partial or full body contact), livestock use, and fisheries. For these reasons, monitoring water quality is a high priority in this wilderness area.

Action 1 (Q): Submit notification of federal reserved water rights for wilderness to the Arizona Department of Water Resources (ADWR).

Rationale for Action 1(Q): Completion of this action would establish baseline water quantity documentation. This information would help to establish water reservation for wilderness purposes as intended by Congress when the Arizona Desert Wilderness Act of 1990 (Public Law 101-628) was passed.

Action 1(R) – Resolve the existing protest to BLM's instream flow application for Burro and Francis Creeks in consultation with ADWR.

Rationale for Action 1(R): Resolution of the protest and successful acquisition of instream flow rights assures that an adequate amount of surface water is available to sustain vegetation, fish, wildlife, recreation and wilderness character. This action also protects the "outstandingly remarkable" values of Burro Creek, portions of which were recommended for inclusion in the National Wild and Scenic River system.

Grazing Management

Action 1 (S) - Continue the range improvement maintenance actions established in the *Range Improvement Maintenance Plan* (RIM Plan) for UBCW in 1993. This policy includes:

- Routine maintenance and inspection of all range improvements within UBCW would be conducted without the use of motorized equipment or mechanized transport, with two exceptions.

- Cleaning out the sediment within Yellow Bluff Tank would be accomplished using a D-8 bulldozer. The dozer would be walked in along an existing trail from the wilderness boundary to the site, a distance of about one mile. Sediment removed would be spread above the high water line, and contoured to simulate the natural terrain. Disturbance would be confined to previously disturbed area. The dozer work would require about two days to complete. BLM would determine the suitability of re-seeding the disturbed area with native species, and if appropriate, will require this of the permittee. Re-seeding would be accomplished without the use of motorized/mechanized equipment. Work would be scheduled to reduce conflict with wilderness recreational users by restricting it to midweek in the hot summer season when use is relatively lower than at other times. This maintenance activity would be repeated approximately one time every ten years.

- For maintenance of the Burro Creek Stock Trail, a chain saw would be permitted for a one-day period each year in the month of June. The saw would be used only to remove large mesquite branches (exceeding 4 inches in diameter) that impede travel along the trail by a rider on horseback. All other trail clearing efforts would be done with non-motorized hand tools. The permittee would notify the BLM at least two weeks in advance of any known need to use a chain saw or would report any necessary emergency use within two days following use of a chain saw.

- The use of motorized equipment or mechanized transport in emergency situations is permissible. The operator of such equipment is required to notify the BLM Field Manager as soon as the emergency situation has been detected, and prior to entering the wilderness with equipment. If the Field Manager cannot be notified prior to entry, contact must be made within 48 hours following the emergency entry.

- Major repairs to range improvements resulting from aging, vandalism or natural catastrophe may require the use of a helicopter or other mechanized transport to haul large quantities of materials to the project site. In these situations, the BLM Field Manager may authorize such action.

Rationale for Action 1 (S):

Congressional Grazing guidelines allow for the maintenance of range improvements that existed prior to designation. The activity involved with maintenance is to be based on a rule of practical necessity and reasonableness.

Action 1 (T) – Construct an exclosure fence around Lower Hosey Tank on Goodwin Mesa to permanently exclude it from livestock grazing. Such construction would occur without the use of motorized equipment or mechanized transport.

Rationale for Action 1 (T):

Sufficient water for livestock is available outside of wilderness at Upper Hosey Tank through the Salt Creek pipeline. Therefore Lower Hosey Tank is not needed. Fencing this tank would allow natural reclamation to occur reducing the imprint of man in wilderness. In addition to allowing natural re-vegetation to occur around this unneeded tank, fencing this water to exclude livestock would enable the livestock permittee to control livestock movement, thereby providing periodic rest from grazing on the portion of Goodwin Mesa serviced by this water source.

OBJECTIVE 2. Public Availability.

This objective and associated management actions have been developed to address Issue #2, Public Availability.

Provide for dispersed recreation and use by:

- Providing visitor use information to ensure that the public understands the location, opportunities, and constraints within the wilderness.
- Not constructing campgrounds, restrooms, parking lots or trails in or around the wilderness. The current and expected near-future levels of recreation use do not warrant these facilities.
- Securing legal public access to the wilderness boundary.

Management Actions to Accomplish Objective 2

Action 2 (A) – Provide visitor use information through a variety of media, including printed information and internet web pages.

Action 2 (B) - Assure proper posting of the wilderness boundary (see Mgt. Action 1.G.)

Action 2 (C) - Erect portal signs (see Mgt. Action 1.I and K) and provide visitor information at the following locations:

- T. 16 N., R. 10 W., Section 8, where the road coming from Swale Tank intercepts the wilderness boundary.
- T. 16 N., R. 10 W., Section 24, where the road descending from Bozarth Mesa intercepts Burro Creek.
- T. 15 N., R. 10 W., Section 22, where Burro Creek intercepts the south wilderness boundary.

Rationale for Actions 2 (A, B, and C):

Information and education can reduce the amount of effort expended in law enforcement activity.

Action 2 (D) – Obtain legal public access to the south wilderness boundary by acquiring property or easement corridors at the following locations:

- T. 14N., R. 10 W., Sections 5, 7 and 8
- T. 15 N., R. 10 W., Sections 27, 28, 29 and 32

Rationale for Action 2 (D): Securing public access at these locations would eliminate the possibility of private landowners closing roads to the public in the future.

OBJECTIVE 3. Vegetation Management.

This objective and associated mgt actions have been developed to address Issue #3, Vegetation Management.

Maintain or improve ecological condition of plant communities within UBCW, while allowing for variability due to natural processes, by:

- Removing new infestations of exotic plant species.
- Using and managing fire

Management Actions to Accomplish Objective 3

Action 3 (A) – Where practical, eliminate new infestations of exotic or noxious vegetation from wilderness. Control methods to be considered include:

- Manual methods (hand-pulling and grubbing), while most expensive and in some cases impractical, are overall the least obtrusive method for use in wilderness. This method is best suited for small areas.
- Mechanical treatments are not usually successful at complete noxious weed control when used alone. It is important to decrease the amount of viable seeds produced. Mechanical devices such as gas-powered "weed trimmers" would be used to eliminate the top portions of the plants if they have flowered and not yet produced seed. The vegetated portions of the plant can then be treated afterwards with herbicides.
- Herbicides would be used in some cases to kill noxious weeds. Herbicides would be applied by backpack sprayer or by paintbrush. Herbicide use requires a site-specific environmental assessment and preparation of a pesticide use proposal and pesticide application report.

Determining whether to conduct mechanized/motorized treatments in wilderness would be done on a site-specific basis; depending upon the extent of the infestation, likelihood of spread and impact analysis of wilderness resources if no treatment is done.

Future technology for weed control would be evaluated in a separate environmental document.

Rationale for Action 3 (A): Removing new infestations of exotic or noxious vegetation reduces competition for space, water, sunlight, and minerals with native vegetation, allowing native vegetation to remain established. Two Federal laws direct noxious weed control on Federal Lands: the Federal Noxious Weed Act of 1974 (7 U.S.C. 2801-2813), as amended by Sec. 15, Management of Undesirable Plants on Federal Lands, 1990, and the Carson-Foley Act of 1968 (PL-90-583). The BLM's Wilderness Management Manual provides guidance for vegetative treatments in wilderness. The guidance states the plant control must be approved only for "noxious (farm) weeds by grubbing or with chemicals when they threaten lands outside wilderness or are spreading within wilderness, provided control can be affected without serious impacts on wilderness values".

Action 3 (B) – Prepare a Fire Use Plan for UBCW. This Fire Use Plan would prescribe the conditions under which natural-ignition fire and/or management-ignited fire could be applied on lands in Fire Allocation Class 1, located on the top of Goodwin Mesa. The following activities could be associated with such action:

- Ignition could be accomplished through the use of firefighters on foot with drip torches, vehicle-mounted "terra-torches" used along existing roads outside of wilderness, or aerial ignition by a helicopter flying at low levels above wilderness.

- Presence of helicopters and/or fixed-wing aircraft flying at low elevations above wilderness for the purpose of monitoring burning activity.

- Fire suppression activity may occur if the fire goes beyond Goodwin Mesa. Suppression activities could include the presence of firefighter hand crews, or the use of helicopters and fixed-wing aircraft to apply water or fire retardant, or to shuttle crews.

- Post-burn seeding with native species. Seed may be applied by aircraft or by persons on foot.

- Installation of temporary protective fencing around burned areas to exclude livestock grazing

Rationale for Action 3 (B): The application of fire to this plant community reduces the invasion of woody plant species such as snakeweed, mesquite, catclaw, juniper cholla and prickly pear, and promotes the re-establishment of native grasses and forbs. A return of natural-ignition fire to this community could be expected with the proper application of prescribed fire and grazing management.

Action 3 (C) – Suppress all wildland fires in "Fire Allocation Class 2" (all wilderness land not located on Goodwin Mesa). Suppress all wildland fires in "Fire Allocation Class 1" until a Fire Use Plan is prepared that would allow for monitoring of naturally-ignited wildfires under prescribed conditions (see Action 3(B)) Suppression tactics in UBCW would be in accordance with guidelines found in Appendix A, *Fire Suppression Procedures for Upper Burro Creek Wilderness.* See also Management Action 1(E).

Rationale for Action 3 (C): Suppression of wildland fires in Allocation Class 2 would protect non-fire adapted plant communities from ecological changes caused by burning. Suppressing wildland fires in Allocation Class 1 is necessary until a Fire Use Plan is written which would allow naturally-ignited fires to be monitored under prescribed conditions.

Part VI
The "No Action" Alternative

Under this alternative, the BLM would not initiate any new actions. Management would occur reactively as issues arise, with the exception of actions approved by the "Wildlife Operations and Maintenance Plan for Upper Burro Creek Wilderness Area" (BLM, 1996), the "Range Improvement Maintenance Plan for Upper Burro Creek Wilderness" (BLM, 1993), and the "Interim Guidance for Fire Suppression in Wilderness" (BLM, 1991). There would be no other plans to provide direction for management activities and all new actions would be considered on a case-by-case basis with guidance provided by 43 CFR 6300 and national BLM wilderness policy as set forth in BLM Manual 8560 (BLM, 1983). Each new action would be considered in a separate environmental analysis, per the requirements of the National Environmental Policy Act.

Part VII
Environmental Consequences

The following critical elements of the human environment have been analyzed and either are not present, or, based on current information, would not be affected by either the Proposed Action or the No Action alternatives:

1. Air Quality
2. Areas of Critical Environmental Concern
4. Prime or Unique Farmlands
5. Floodplains
6. Native American Religious Concerns
7. Solid or Hazardous Wastes
8. Environmental Justice/Impacts on Minority or Low Income Communities
9. Energy Policy

Impacts of Alternative A - Proposed Action

Soil and Mineral Resources would not be impacted by the proposed action alternative

Impacts to Wilderness Character

Wilderness naturalness and solitude would be temporarily impacted by the sights and sounds of overhead aircraft engaged in management activities (Actions 1.A, C and D). Wildlife and wild burro census, and/or capture activities, and monitoring would be expected to occur for only a few hours to each year. Wildlife water development flights (Action 1.B), taking place over a ten year period, may occur for up to 24 hours for each water development. The use of a helicopter to sling load the suspension fence debris from Burro Creek Canyon (Action 1.O) would have similar impacts to wilderness character for several hours and would be a one-time occurrence. The use of aircraft to conduct management-ignited fire activity on Goodwin Mesa (Action 3.B) would also have similar impacts that could be expected to last several hours each day for up to one week. Wildfire suppression activities in wilderness (Actions 1.E and 3.C) would also likely involve the use of aircraft, but it is not possible to predict the frequency and duration of that impact.

Construction of three wildlife water developments on Goodwin Mesa (Action 1.B.) would introduce manmade structures to three areas on the mesa that are currently without any imprints from man. Construction activity, including the presence of large groups of people for prolonged periods, as well as the noise of construction machinery, would temporarily detract from wilderness character while those activities are ongoing, and would cease upon completion of construction work. The addition of dependable water at these three new locations would enhance wilderness character by supporting the viability of the naturally-occurring pronghorn population that occupies Goodwin Mesa.

Conducting fish surveys and macro-invertebrate survey/sampling with electro-fishing gear and nets (Action 1.A) would temporarily disrupt wilderness naturalness by creating disturbances to fish populations. These monitoring efforts would enable BLM to determine the effects of other management on aquatic components of the ecosystem, and would provide an additional indicator of water quality in Burro and Francis Creeks.

The use of motorized earthmoving equipment (Action 1.S) would also impact wilderness naturalness and solitude. The sight and sound of a bulldozer traveling to and from Yellow Bluff Reservoir, and the maintenance work occurring at the reservoir would disturb wilderness character for up to three days. Walking the bulldozer in and out along the one-mile access route between the boundary and the reservoir would crush vegetation growing in the road, leave tractor tread marks along the route that would be visible until weathering and natural re-vegetation occurs, would create noise that would impact the natural quiet of the area, and would leave obvious soil disturbance at the site of the reservoir until long-term weathering and re-vegetation of the disturbance takes place. This activity would take place no more than once in the next ten years, and, based on past history and the current condition of the reservoir, may not actually occur for a much longer period.

Chainsaw use for one day each year in Burro Creek Canyon (Action 1.S) would also disrupt wilderness character. Operation of the saw would likely only amount to a few minutes each year and would occur during the middle of the summer when human visitation is expected to be low. Nevertheless, the sounds of the saw would disrupt natural quiet and would leave cut vegetation and saw dust as evidence of use.

Other uses of motorized equipment or mechanized transport would impact wilderness character. The use of gas-powered weed-trimmers to control noxious weeds (Action 3.A) would disrupt natural quiet, but little other evidence of their use would remain following treatment. Vehicle use in emergency situations, or to transport materials for major repairs to range improvements (Action 1.S), would occur rarely and would impact naturalness and solitude because of their presence, and would leave behind tire tracks that would eventually weather away.

Many of the other actions prescribed in the proposed action would have the effect of maintaining or enhancing wilderness character over the life of the plan. Sign placement, barrier construction, visitor information kiosks, and boundary patrol (Actions 1.F.G,H and I) would all serve to lessen the sights and sounds of illegal vehicle uses in wilderness, would allow natural weathering processes to reclaim minor surface disturbances without interruption and would promote better visitor behavior. Conducting periodic monitoring of recreation impacts within wilderness (Action 1.J) ensures BLM awareness of changing wilderness conditions created by visitors and prompt action by BLM to alleviate problems, thereby maintaining a desirable level of wilderness character. Establishment of a recreation use policy which prohibits wilderness base camps, limits length of stay in spike camps and sets restrictions on use of hay and animal restraint (Action 1.K) would lessen the extent of campsite degradation, prevent the spread of noxious weeds from hay, and enhance the feeling of solitude for visitors by lessening the chance for visitor interaction. Conducting archaeological surveys and site monitoring (Action 1.N) would provide protection of cultural sites and maintain historic and prehistoric objects which are one of the special features of wilderness. Periodic water quality monitoring in Burro and Francis Creeks (Action 1.P) would ensure BLM awareness of changing water quality conditions and prompt action by BLM to alleviate threats to water quality. Inventory and subsequent application for Federal Reserve water rights (Action 1.Q) would assure that water availability at natural springs remains to support biotic components of the ecosystem and to provide water for visitors seeking primitive recreation opportunities in wilderness. Resolution of the existing protest to BLM's application for instream flow on Burro and Francis Creeks (Action 1.R) would have the effect of ensuring that adequate water flow remains in perpetuity in those streams, thereby supporting the wilderness biotic components dependent upon that water and would assure water availability for visitors. Eliminating new infestations of exotic or noxious weeds from wilderness (Action 3.A) would protect wilderness naturalness by protecting native vegetation from competition, assuring maintenance of native plant diversity. Relocating the Remote Automated Weather Station to a location outside of wilderness, removal of the obsolete water pump, removal of unneeded exclosure fences, and removal of the damaged suspension fence in Burro Creek Canyon (Action 1.O) would all serve to enhance naturalness by removing human imprints from the wilderness.

Construction of an exclosure fence around Lower Hosey Tank (Action 1.T) would enhance wilderness naturalness by allowing a disturbed area to re-vegetate and would assist the livestock permittee in rotating livestock on Goodwin Mesa, thereby benefiting rangeland health over a wide area of the mesa. The presence of the fence in wilderness would detract from wilderness naturalness by adding a human imprint in that area.

Suppressing wildfires in wilderness (Action 1.E and 3.C) would protect non-fire adapted vegetation communities from alteration, thereby maintaining natural conditions. The use of management-ignited fire on Goodwin Mesa's semi-desert grassland (Action 3.B) would correct unnatural vegetation composition that currently exists in that community by reducing invasive

vegetation and increasing the likelihood that natural fire could be carried by native grass components, once re-established.

Impacts to Recreation

Under the proposed action, which includes not constructing visitor facilities or trails, outstanding opportunities for primitive recreation would be maintained. In addition, many of the actions which protect or enhance wilderness character, including natural quiet, would likely increase wilderness visitors' perception of solitude and naturalness of the area. Implementation of the recreation use policy (Action 1.K), including restrictions on length of stay at spike camps and pack stock restrictions on use of hay and animal restraint methods may reduce the sense of unconfined recreation for some visitors.

Temporary seasonal closure of Burro Creek Canyon to protect nesting bald eagles (Action 1.A) would reduce opportunities for primitive and unconfined recreation use in that canyon while the closure is in place.

The planned acquisition of easements to assure legal access to the south wilderness boundary (Action 2.D) would protect future recreation opportunities by acting to ensure public access to the wilderness.

Impacts to Visual Resources

The proposed action would have the overall effect of meeting the VRM Class 1 objective of preserving the existing character of the landscape. Most of the actions proposed in the plan would have no effect on existing character, and actions that are intended to lessen the imprint of man on the landscape would have the effect of improving landscape character.

Cleaning out Yellow Bluff Tank with a tracked D-8 bulldozer (Action 1.S) would cause very limited changes to existing character. Within the stock pond, freshly moved soil would have a different appearance from the present condition of disturbed land that is partially grown over with vegetation. Bulldozer tracks on the vehicle way access route would appear as fresh soil disturbance on a soil surface that has been undergoing natural weathering and re-vegetation for many years. Both of these disturbances would be temporary and would fade in several years as weathering and re-vegetation occurs. These disturbances would not attract the attention of visitors unless they were standing directly on the site of the disturbance.

Maintenance of the Burro Creek Stock Trail with a chain saw (Action 1.S) also would cause very limited changes to existing visual character. The stock trail is already in existence, and the change would consist of the presence of new saw cuts and tree limbs that have been removed. With judicious placement of the cuts, and proper disposal of limbs, visual evidence of this activity should not attract the attention of visitors. Weathering of saw cuts would further lessen the visibility of those disturbances.

Construction of a barbed-wire exclosure fence around Lower Hosey Tank (Action 1.T) would cause limited change to the existing character of the landscape. Existing character of the land around this stock pond includes extensive amounts of unnatural soil mounding to create dams and berms for the stock ponds, and heavy evidence of cattle use in the immediate vicinity of the water, including trampling, fecal deposition and absence of vegetation. The addition of the fence would be a new manmade feature that may be noticed by visitors in the immediate area, but this impact is offset by the positive change that would occur in the area by natural reclamation of the land within the fenced area and by the increased vigor of the surrounding vegetation that could occur through periodic rest from livestock use within the service area of this water.

Construction of new pronghorn waters (Action 1.B) would cause limited change to landscape character on Goodwin Mesa. With proper design and camouflage of the water facilities, the facilities should not attract the attention of visitors.

Impacts to Vegetation and Riparian Resources

Restrictions on use of hay to feed recreational livestock (Action 1.L) in wilderness should decrease the likelihood of germination and spread of non-native invasive weeds that

can displace native vegetation and alter ecosystem structure and function.

Prohibitions on establishment of base camps, restrictions on length of stay at spike camps, group size limits, limits on number of pack stock, and measures to rehabilitate camp sites in excess of the planned standard (Actions 1 L and M) should all serve to limit the amount of disturbance to vegetation cover.

Construction of physical barriers (Action 1.G) to deter illegal motor vehicle use would allow for reclamation and natural restoration to occur in areas previously disturbed by vehicle traffic.

Less than one acre of vegetation would be altered as a result of wildlife water construction (Action 1. B). Grazing pressure from pronghorn would slightly increase around the new water developments while slightly easing pressure on other areas.

Aerial census of big-game (Action 1.A) and burros (Action 1. C) would enable BLM and AGFD to assess numbers of animals and to adjust numbers as necessary to achieve a thriving ecological balance. This would prevent over-consumption of plants thereby protecting the vigor and condition of vegetation communities.

Wildfire suppression (Action 1.E and 3.C) in wilderness would act to maintain non-fire adapted desert vegetation.

Submitting notification of Federal Reserve water rights (Action1.Q) on springs and resolving the existing protest to BLM's instream flow application for Burro and Francis Creeks (Action 1.R) would support the maintenance of natural riparian vegetation surrounding springs and stream corridors.

Cleaning out of Yellow Bluff Tank with a bulldozer (Action 1.S) would result in the crushing of vegetation along the access route. The access route through Cornwall Canyon (outside of wilderness) is completely grown over and unrecognizable as a route. Vegetation is likely to recover from crushing within two years. Vegetation within Yellow Bluff Tank would be removed.

Maintaining the Burro Creek stock trail with a chainsaw (Action 1.S) would result in the removal of overhanging branches.

Construction of an exclosure fence around Lower Hosey Tank (Action 1.T) to exclude livestock would eventually result in a higher ecological vegetative condition on the disturbed soils around the tank. This planned exclosure, along with an exclosure around Upper Hosey Tank (outside of wilderness) would enable the cattle rancher to periodically rest the vegetation in this area from livestock use. This would give surrounding vegetation an opportunity to gain vigor and to reproduce.

Eliminating new infestations of exotic or noxious weeds (Action 3. A) would reduce competition for space, water, sunlight, and minerals thereby allowing native vegetation to be maintained.

The use of management-ignited fire on the semi-desert grassland community found on Goodwin Mesa (Action 3.B) may return this vegetation community to a more natural, higher ecological condition by reducing invasive plant species and increasing the perennial grass component. The return of natural fire regime would help to maintain a higher ecological condition of this vegetation type.

Impacts to Wild and Scenic Rivers (W&SR)

Management actions identified for Burro Creek Canyon would have the effect of protecting the outstandingly remarkable values (scenic, recreational, fish and wildlife habitat and cultural resources) identified for the proposed Burro Creek W&SR.

Conducting periodic monitoring of recreation impacts within Burro Creek Canyon (Action 1.J) would ensure BLM awareness of changing conditions created by visitors and would stimulate prompt action by BLM to alleviate problems, thereby maintaining a desirable setting for recreational uses. Establishment of a recreation use policy which prohibits wilderness base camps, limits length of stay in spike camps and sets restrictions on use of hay and animal restraint (Action 1.K) would lessen the extent of campsite degradation, prevent the spread of

noxious weeds from hay, and enhance the feeling of solitude for visitors by lessening the chance for visitor interaction. Conducting archaeological surveys and archaeological site monitoring along Burro Creek (Action 1.N) would protect cultural sites and maintain historic and prehistoric objects. Periodic water quality monitoring in Burro Creek (Action 1.P) would ensure BLM awareness of changing water quality conditions and would stimulate prompt action by BLM to alleviate threats to water quality. Resolution of the existing protest to BLM's application for instream flow on Burro Creek (Action 1.R) would have the effect of ensuring that adequate water flow remains in perpetuity in that stream, thereby supporting the fish and wildlife habitat dependent upon that water and would assure water availability for visitors. Eliminating new infestations of exotic or noxious weeds from wilderness (Action 3.A) would protect the natural conditions within Burro Creek Canyon by protecting native vegetation from competition, assuring maintenance of native plant diversity. Removal of the damaged suspension fence in Burro Creek Canyon (Action 1.O) would all serve to enhance scenic values by removing human imprints from the wilderness.

Suppressing wildfires in Burro Creek Canyon (Action 1.E and 3.C) would protect non-fire adapted vegetation communities from alteration, thereby maintaining natural conditions.

Impacts to Water Quality

Planned water quality monitoring in Burro and Francis Creeks (Action 1.P) would ensure BLM awareness of changing water quality conditions and prompt action by BLM to alleviate any threats to water quality. Monitoring would also ensure that the Unique Waters designation on those streams is not placed in jeopardy.

Removal of excess wild burros (Action 1.D) would help protect healthy watershed conditions.

Impacts to Wildlife and Special-status Species

There would be no affect from any action in this plan to the southwestern willow flycatcher, Yuma clapper rail, desert pupfish, Gila topminnow, yellow-billed cuckoo, or the Arizona cliffrose as habitat for these species does not occur within wilderness and habitats for these species are not influenced by these actions.

Big game surveys (Action 1.A) to monitor populations allow AGFD to set appropriate harvest levels and to assess wildlife health. No flights would descend below 2000 feet AGL within one mile of an active bald eagle or peregrine falcon nest. Surveys are conducted outside of the breeding season, therefore no affect to the bald eagles or peregrine falcon is anticipated from this activity.

Bald eagle inventory and population monitoring by the Arizona Game and Fish Department (Action 1.A) has been addressed by the Fish and Wildlife Service through the Section 6 permitting process under the Endangered Species Act. The information gathered is used by the FWS to monitor and further the recovery of this species.

Native fish and macro-invertebrate surveys (Action 1.A) allow the AGFD to assess the health of the native fish population. Burro and Francis Creeks play an integral part in the statewide effort to conserve native fish populations. There would be no effect to bald eagles or their habitat from this action.

Bighorn sheep reintroduction, supplemental releases and monitoring (Action 1.A) would allow bighorn to reoccupy historical habitat and helps to mitigate losses of sheep habitat due to development elsewhere in its range. Bighorn reintroduction and supplemental releases were proposed and analyzed in BLM 2003.

Wildlife water development (Action 1.B) for pronghorn is important to the conservation of pronghorn statewide and within the wilderness. Water is important to pronghorn survival and recruitment in the southwest (Ockenfels 1994). High-density pronghorn populations are associated with abundant drinking water and conversely, pronghorn in the semi-arid regions and deserts with little available water exist at low densities (Lee et al. 1998).

It appears that water distribution is very critical to pronghorn during their first two weeks

of life (Ockenfels et al., 1992). During spring, pronghorn does with young will rarely venture more than one kilometer from reliable water (Ockenfels et al., 1992).

Lactating does are susceptible to inadequate water availability, which indirectly affects fawn survival (Beale 1974; Fox 1977). Even with high forage succulence, pronghorn must have access to water during hot weather; fawns are most affected by a lack of water (Beale and Holmgren, 1975). It is unlikely that water in succulent forage is sufficient to meet a lactating does' needs (Fox, 1997).

The Goodwin Mesa pronghorn would benefit by increased availability of year-round water and foraging areas without additional competition from livestock and disturbances associated with urban development. Optimal water distribution in pronghorn habitat is considered to be 1.6 km (1 mile) (Kindschy et al., 1978). Under dry conditions, in southern Arizona adult pronghorn can exist for several months by eating cacti however a lack of nutritious forage and water, led to high fawn mortality (Bright and Hervert, 2004). In these southern ranges pronghorn drink when water is available (Bright and Hervert, 2004). In the more northern ranges pronghorn drink frequently when water is available (Sundstrom, 1968; Beale and Smith, 1970; Yoakum, 1994). When deprived of water, they exhibit stress, affecting both health and reproduction (Beale and Smith, 1970; Whisler, 1984).

The location of existing waters for pronghorn is also a critical issue (AGFD, 2004). Location of the livestock waters on Goodwin Mesa did not consider the likelihood of predation on pronghorn. Ockenfels, 1994a found that terrain and vegetation type affects the ability of mountain lion to prey on pronghorn. He found that sites in rugged, heavily-vegetated terrain expose pronghorn to increased predation. Three of five existing livestock dirt tanks on Goodwin Mesa lie within such sites. Placing waters in more open habitat on Goodwin Mesa may lessen the likelihood of predation, thereby decreasing adult or fawn mortality and improving the likelihood of population persistence within the area.

Pronghorn in Arizona have been rapidly declining since 1987 (from an estimated 12,000 individuals in 1987 to <8,000 in 2000 (AGFD, census data). Arizona Game and Fish department has identified urbanization of grassland habitats on private property as the largest threat to pronghorn in the State (O'Gara et al., 2004, pg. 812). Thomas et al. 2002 looking at surface changes in Yavapai and southern Mohave Counties found that private land surface changes occur at a much higher frequency than public lands even though they comprised only 24% of the study area. Thomas et al. 2002 also found that 37% of critical habitat for pronghorn in Yavapai and southern Mohave counties are located on private lands. Loss of habitat on private land increases the importance of sustaining pronghorn populations on public lands including wilderness.

The pronghorn herd on Goodwin Mesa is located within the Arizona Game and Fish Department Game Management Unit 18B which is comprised of several other important and connected pronghorn management areas (AGFD, 2004). It is connected to other populations and dependant on habitat connectivity to the north and east of the wilderness (AGFD, 2003). These other populations occur on Anvil Rock , Bartmus Flat, Bozarth Mesa, Windy Ridge-Strotjost Flat, Behm/Contraras Mesa and the Sanders/Nelson Mesas. The pronghorn in the Upper Burro Creek Wilderness are integral in the statewide conservation of this species.

Subdivision of private land within pronghorn habitat is occurring directly to the north and east of the mesa. Subsequent urbanization impacts to the population of pronghorn in this area, of which Goodwin Mesa herd is a part of include reduction of land productivity (forage production), roads which cause habitat removal and fragmentation, housing development, pronghorn *unfriendly* fences (fences that form complete or partial barriers to pronghorn movement), free-roaming dogs, increased ATV access, and increased recreational use of pronghorn habitat.

In this area as more lands are urbanized and habitat connections lost the pronghorn habitat

located within the wilderness becomes more important to the conservation of the species.

The current grazing permittee on the Francis Creek Allotment has expressed a need to construct a fence around North and South Hosey Tanks on Goodwin Mesa, for the purpose of improving livestock distribution on that mesa. Authorization of such a structure may form a barrier to pronghorn movement and restrict pronghorn access to these waters.

Wild burro census and capture (Actions 1C and D) assures that a thriving ecological balance exists between wildlife, special-status species, wild burros and their habitats.

Wildfire suppression activities (Action 1. E and 3.C) prevent wildlife and special-status species habitat alteration by fire in plant communities not adapted to fire.

Construction of physical barriers to deter illegal motor vehicle use (Action 1.G) reduces the possibility of human encounters with wildlife and special-status species that sometimes results in unintentional or intentional harassment and poaching etc. Barrier construction promotes restoration of existing surface disturbances in habitats.

Establishment of a recreation policy for commercial and non-commercial uses (Action 1.L and M) serves to protect wildlife and special-status species habitat from degradation caused by human uses.

Removal of evidence of human imprints (Action 1.O) such as abandoned fences could potentially affect habitat for some species (especially big game) by reducing barriers to movement.

Planned water quality monitoring in Burro and Francis Creeks (Action 1.P), submitting notification of Federal reserved water rights (Action 1.Q), and resolution of the existing protest to BLM's instream flow application for Burro and Francis Creeks (Action 1.R) would help to ensure the health and maintenance of the federally listed bald eagle, BLM sensitive and Arizona State listed fish and amphibians species living in and adjacent to these streams, ensure the maintenance of riparian associated vegetation for riparian obligate wildlife species, and assure the continued availability of water for all species.

Weed removal (Action 3.A) and the application of prescribed fire (Action 3.B) would improve vegetative cover, productivity, and forage availability for wildlife and special-status species. Prescribed fire would enhance and maintain the grassland community on Goodwin Mesa. Grasslands are a fast disappearing natural resource in Arizona. Maintenance of this grassland has wide ecosystem effect as higher productivity would work its way through the food chain by enhancing existing or providing additional food resources for primary consumers.

Impacts to Cultural Resources

Archaeological site inventory and monitoring (Action 1.N) would provide BLM managers with more information on the presence of cultural sites, would facilitate identification of site impacts and help to formulate protective action, ultimately protecting historical values within UBCW.

Impacts to Grazing Management

Within the Francis Creek Allotment, approximately one acre of land would be excluded permanently from livestock grazing when the exclosure fence around Lower Hosey Tank (Action 1.T) is constructed. The construction of this exclosure fence around Lower Hosey Tank, along with planned control of livestock access to other water sources outside of wilderness would benefit grazing management by giving the permittee opportunity to control the location of cattle on Goodwin Mesa, resulting in healthier forage conditions over the entire mesa. The loss of water to the permittee from fencing Lower Hosey Tank should be offset by the Goodwin Mesa Pipeline which provides dependable water at a trough located adjacent to the tank outside of wilderness.

Impacts of Alternative B - No Action Alternative

Impacts to Cultural Resources

Current conditions and opportunities would be maintained with this alternative. Existing laws, regulations, and policies would be followed without an integrated management strategy.

No systematic archaeological survey has been conducted within the wilderness. Without baseline data that identifies archaeological sites and their condition, it would be impossible to determine the effect of wilderness recreation on archaeological sites in the Upper Burro Creek Wilderness. The information is also needed to determine the prevalence of looting in the wilderness.

Impacts to Recreation

If the actions presented in the wilderness plan are not implemented, there would be no restrictions placed on party size or number of stock. This may result in visitor dissatisfaction because of party interaction or degradation of popular campsites. Visitor dissatisfaction may also result if adequate visitor use information is not provided through signage and printed media. Failure to pursue legal easements to the south wilderness boundary may eventually result in the loss of access to that area if landowners decide to no longer suffer public use on their property.

Impacts to Grazing Management

Under the no action alternative, the proposed exclosure fence around Lower Hosey Tank would not be constructed. Without the ability to control livestock access to this water, the grazing permittee would not have as much flexibility to rotate cattle use on Goodwin Mesa. This could result in less than optimal rest periods for the vegetation within the service area of this water.

Cumulative Impacts

Long-term impacts of plan implementation should benefit the wilderness values of solitude and naturalness. Visual resource quality would be improved over the long-term when human imprints are removed or reclaimed, and natural reclamation of land disturbances takes effect. Ecosystem health, structure and function should be maintained or improved within the wilderness area. Boundary management identification and enforcement should result in better visitor compliance with wilderness restrictions and consequential avoidance of new degradation to wilderness character. Economic and social impacts to communities should be nil.

Mitigation

Mitigation for the proposed action or no action alternatives are guided by the National BLM Wilderness Management Policy and are therefore the same. Mitigation measures specific to the UBCW are as follows:

1. Administrative actions should be scheduled for periods when there is the least potential for impacts to the wilderness visitors, such as during the weekdays, or during hotter periods of the year, when visitor use is likely to be the lowest.

2. Only the minimum tool or action necessary to reasonably accomplish management objectives would be authorized for use.

3. Fencing within pronghorn habitat should be constructed to allow for unrestricted passage of all pronghorn age classes, during all seasons, and under all climatic conditions.

Environmental Justice

No direct and indirect effects from the proposed UBCW management plan were determined to impact minority and low-income populations or communities. There are no direct, indirect or cumulative impacts on people. Further, there are no minority communities in the locality of the UBCW or adjoining public lands. BLM contacted all stakeholders, interested public groups and public land users in this area to ensure their opportunity to participate in the wilderness planning process. These plan participants did not identify any environmental justice considerations to address in the scoping, preparation or implementation of the UBCW Management Plan.

Part VIII
Plan Evaluation

The BLM's Kingman Field Office would periodically evaluate the effectiveness of plan implementation. This evaluation would be completed prior to preparing the annual budget to accurately reflect the possibility of changing needs and priorities. Evaluation would include the following:

1. Document completed management actions. Identify management actions to be completed the following year.

2. Analyze monitoring data to determine if plan objectives and national goals are being met.

3. If needed, recommend and select new management actions.

4. A comprehensive review of the WMP would be undertaken approximately once every ten years.

Part IX - Implementation Schedule and Cost Estimate

Table 3. - Implementation Schedule and Cost Estimate				
Planned Action	**Responsible Parties**	**BLM Workmonths**	**Non-Labor Costs***	**Frequency**
Wildlife population surveys [Action 1(A)]	Arizona Game and Fish Department	none	none	annually
Wildlife water development [Action 1(B)]	Arizona Game and Fish Department	none	none	One-time action
Wild Burro Census and Periodic Capture [Actions 1(C) & (D)]	BLM Staff	0.1	Helicopter contract (Cost varies)	ongoing
Wildfire suppression [Action 1(E)]	BLM staff	Variable	Variable	As needed
Wilderness boundary patrol. Post signs on boundaries [Actions 1(F), 1(H), 2(B) & 2(C)]	BLM staff/volunteers	0.5 per year	$200 per year	annually
Construct Motor Vehicle Barriers [Action 1(G)]	BLM staff	0.25 per barrier project	$100 per barrier project	As needed
Construct portal kiosks and install visitor registers [Actions 1(I) & (K)]	BLM staff	0.5	$1,500	One-time action
Recreation impact inventory & monitoring [Action 1 (J)]	BLM staff/volunteers	0.5 per year	none	annually
Establish recreation policy [Action 1 (L)]	BLM staff	N/A	N/A	N/A
Implement actions to mitigate recreation impacts [Action 1 (M)]	BLM staff	Unknown	Unknown	As needed
Conduct archaeological surveys and site monitoring [Action 1 (N)]	BLM staff/volunteers	0.25	$500	annually

Planned Action	Responsible Parties	BLM Workmonths	Non-Labor Costs*	Frequency
Reduce evidence of human imprints, including relocating RAWS Station, removing fences and removing the Francis Creek pumping station. [Action 1(O)]	BLM staff/volunteers	2.0	Unknown, but minimal	One-time action
Burro Creek/Francis Creek Water Quality monitoring [Action 1(P)]	BLM Staff, as available	0.1	$100	annually
State Notification of Federal Reserved Water Rights [Action 1(Q)]	Water Rights Specialist	0.5	None	One-time action
Resolve protest to BLM instream flow application [Action 1(R)]	BLM Staff	1.0	None	One-time action
Range improvement maintenance [Action 1(S)]	Grazing permittees	none	none	annually
Lower Hosey Tank exclosure fence [Action 1(T)]	BLM and Grazing permittee	0.25	$300	One-time action
Prepare visitor use information [Action 2(A)]	BLM Staff	0.5	$200	One-time action
Secure public access to south wilderness boundary [Action 2(D)]	BLM Staff	2.0	Unknown	One-time action
Eliminate new exotic weed infestations [Action 3(A)]	BLM staff/contract	Variable	Variable	As needed
Management-ignited fire on Goodwin Mesa [Action 3(B)]	BLM staff	Total cost is about $15-17/acre		One-time action

*** non-labor costs are estimated**

Part X – Consultation and Coordination

On January 26, 1995, approximately 440 interested parties were sent notification of BLM's intent to prepare a Wilderness Management Plan for the UBCW. In that mailing, parties were notified that public meetings would be held in Kingman and Bagdad, Arizona on February 22 and 23, 1995. A BLM News Release was also issued to the media notifying the general public of the same information.

On February 22 and 23, 1995, eight parties attended the public meeting in Kingman, and 14 parties attended the meeting in Bagdad, Arizona. The BLM presented an overview of the wilderness to the attendees, followed by an opportunity to express comments and concerns about the plan.

A March 3, 1995 deadline was offered to meeting attendees, mailing list parties and the general public to submit written comments to the Wilderness Team Leader. Approximately 24 written comments were received in response to this offer.

On March 20, 1995, a work meeting was held involving both BLM employees and interested public to consolidate internal concerns and public concerns into Issue Statements. Eight members of the public, and a representative from the Arizona Game and Fish Department, assisted BLM in preparing issue statements at this meeting.

Additional consultation was made between BLM and the following stakeholders:

- Bob Posey, Arizona Game and Fish Department, Supervisor Region 3 (4/22/04)
- Ron Christofferson, Arizona Game and Fish Department, Maintenance Supervisor (5/1/2004)
- Jamie Driscoll, Arizona Game and Fish Department, Raptor Biologist (6/3/2004)
- Kevin Morgan, Arizona Game and Fish Department, Habitat Program Manager (6/22/2004)
- Richard Ockenfels, Arizona Game and Fish Department, Research Program Supervisor (6/23/2004)
- Jeff Pebworth, Arizona Game and Fish Department, Wildlife Program Manager (11/15/2004)
- Jeff Campbell (Byner Cattle Co.), Grazing Permittee, Bagdad Grazing Allotment (6/28/04)
- Clay Overson, Grazing Permittee, Francis Creek Grazing Allotment (11/03)
- Jerry Brimhall, Grazing Permittee, Upper Burro Creek Grazing Allotment (6/4/04)
- Nora Helton, Chairman, Fort Mojave Tribal Council (12/21/01)
- Ernie Jones Sr., President, Yavapai-Prescott Tribe (12/21/01)
- Louise Benson, Hualapai Tribal Council (12/21/01)
- Wayne Taylor Jr., Chairman, Hopi Tribal Council (12/21/01)
- Daniel Eddy Jr., Chairman, Colorado River Indian Tribes (12/21/01)

On July 20, 2005, notification of the availability of the *Proposed Upper Burro Creek Wilderness Management Plan and Environmental Assessment (EA)* was mailed to 455 interested parties on BLM's National Mailing List. The notification advised that the document was available for review on BLM's National Webpage in electronic format, or could be requested in paper form by contacting the BLM Kingman Field Office in Kingman, Arizona. The notification further advised that a 45-day review period was available and that comments on the proposed plan and EA must be provided to the BLM no later than September 6, 2005. A total of four notifications were returned as undeliverable, five parties advised BLM of address changes, and twelve parties requested paper copies of the document. One party (Arizona Desert Bighorn Sheep Society, Inc.) provided comments on the adequacy of the plan and EA.

Part XI - List of Preparers

Bureau of Land Management

Arizona State Office
Ken Mahoney, Wilderness Specialist
Jim Renthal, Soil, Water and Air Specialist

Phoenix Field Office
Lin Fehlmann, Water Rights Specialist

Kingman Field Office
Scott Elefritz, Wild Horse and Burro Specialist
Paul Hobbs, Soil Scientist
Dave Smith, Wildlife Biologist
Rebecca Peck, Wildlife Biologist
Mike Blanton, Rangeland Management Specialist
Bruce Asbjorn, Outdoor Recreation Planner
John Rose, Cultural Resource Specialist
Don McClure, Planning and Environmental Specialist

Glossary

Accepted uses (formerly known as nonconforming uses): Uses allowed by the Wilderness Act of 1964 that are prior in nature and not necessarily compatible with preserving wilderness values, e.g., mining, livestock grazing.

Biological diversity (biodiversity): Biodiversity is the aggregate of species assemblages (communities), individual species and genetic variation within species and the process by which these components interact within and among themselves. For classification purposes, biodiversity can be divided into three levels: (1) community diversity (habitat, ecosystem), (2) species diversity and (3) genetic diversity within species; all three levels change through time.

Visual contrast: (BLM Manual 8400, Visual Resource Management) The opposition or unlikeness of different forms lines, colors or textures in a landscape.

Ecological (range) site: (Inventory and Monitoring Technical Reference 1734-7, Ecological Site Inventory, December 2001) A kind of land with a specific potential natural community and specific physical site characteristics, differing from other kinds of land in their ability to produce distinctive kinds and amounts of vegetation and to respond to management. Ecological sites are defined and described with information about soil, species composition, and annual production.

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Appendix A
Fire Suppression Procedures for Upper Burro Creek Wilderness

Introduction

These fire management procedures provide for:

- Fire suppression strategy which ensures protection of wilderness resources, human safety and structures, with suppression techniques resulting in the least possible evidence of human activity, and
- Ensuring a common understanding by fire and resource personnel of the constraints, considerations and procedures involved with fire suppression operations in the wilderness.

All wildfires within or threatening to enter the wilderness will be extinguished with appropriate suppression response. The fact that a wildfire occurs in the wilderness is not in itself an emergency. An emergency exists when:

- A wildfire burning within the wilderness threatens human life or property, or
- There is definite potential for a wildfire to exceed suppression efforts, burn beyond the wilderness boundary and endanger human life, property, managed resources or the public welfare.

Appropriate and approved suppression actions are those which:

- Ensure protection of wilderness resources,
- Provide for protection of human safety and structures,
- Result in the least possible evidence of human activity,
- Minimize surface disturbance and alterations of the natural landscape,
- Are consistent with management objectives and constraints,
- Allow for the least possible acreage burned,
- Are reasonable and prudent for the time of year, current and predicted fire behavior and availability of fire resources, and
- Minimize fire suppression cost.

Surface disturbance from suppression actions in the wilderness must be rehabilitated to as natural a state as possible.

An escaped fire situation analysis will be prepared to govern all wildfires escaping initial attack.

Suppression facilities, support vehicles and improvements (i.e. temporary fire camps, helispots, staging areas) and other sites used for fire suppression activities, must be outside the wilderness, except those which are the minimum necessary to protect life, property, public welfare and wilderness objectives.

Due to the surface disturbance involved and adverse impacts on wilderness values and aesthetics, fireline constructed with motorized equipment will be used as a final recourse.

Within the constraints defined by this guidance, initial attack suppression actions will be determined by the Initial Attack Incident Commander and Resource Advisor, if available.

The Field Manager will be informed immediately of all wildfires that occur in or threaten the wilderness.

Operating Procedures

Detection

Fire detection methods will have the least permanent impact on wilderness values, such as aircraft overflights. Aerial detection flights should attempt to maintain the FAA airspace advisory of 2,000 feet above ground level over the wilderness.

Initial Attack

Establish ground or aerial reconnaissance and determine:

Fire location, size, rate-of-spread and behavior,

Current and probable fuels, weather and topography, including any natural barriers, and any threats to life, property or sensitive wilderness resources.

Send the Initial Attack Incident Commander to the fire. Authority is given to the Incident Commander to fly at levels below 2000 feet in reconnaissance efforts when it is determined to be the minimum tool to assess the fire.

The Field Manager will consult with the Incident Commander and/or the Resource Advisor to determine the appropriate level of initial attach and fire suppression strategy considering such variables as weather conditions, time of year, current and predicted fire behavior and other pertinent factors.

Take action to suppress the fire, utilizing the most effective tactics while considering the concept of minimum tool.

Use of temporary structures, chainsaws, portable pumps, initial attack aircraft, retardant air tankers, helicopters, aerial ignition systems, heli-spot construction, wilderness camps, motorized vehicles, and motorized earth-moving equipment requires Field Manager approval when they are determined to be the minimum tool necessary to meet wilderness fire objectives.

If the Field Manager or acting cannot be contacted within a 15-minute notification window after arrival of the Incident Commander at the fire, the Incident Commander has discretion to authorize helicopter landings, use Single Engine Air Tankers (with fugitive fire retardant) and helicopter water bucket drops after consulting with the resource advisor if he/she is available. Justification for such actions could include:

- imminent danger to structures or people
- serious threats to significant wilderness resources

Complete an escaped fire situation analysis if the fire escapes initial attack as determined by the Incident Commander. The Incident Commander, Resource Advisor and Field Manager will complete the analysis.

A memorandum will be completed by the Resource Advisor and/or the Incident Commander, for the Field Manager, describing the use of motorized vehicles/mechanized equipment following the fire, with copies submitted to the State Director and placed in the wilderness case file.

All human impacts created during suppression efforts will be reclaimed following the fire.

Tactical Considerations

Planning

- Emphasize the BLM minimum tool policy.
- Evaluate suppression tactics during each planning and strategy session to ensure that they meet the objectives for wilderness.
- Include the BLM Wilderness Resource Advisor and other affected agency representatives in all planning and strategy sessions.
- Emphasize the need to protect habitat for sensitive species, including Federally-listed threatened and endangered species.
- Assess and request early in the incident the need for an archaeologist or additional resource advisors.

Line Construction and Holding

- Whenever possible, avoid the use of scratch lines. Use natural barriers as much as possible in fireline construction. Locate firelines to take advantage of natural barriers, rock outcroppings, trails, streams, etc.
- Firelines will be no wider than absolutely necessary to stop the spread of the fire.
- Place the fireline as close to the fire as possible.
- Limb trees along fireline only as necessary for suppression efforts and for firefighter safety.
- If unburned material is left within the fireline, all such material will be felt/tested with bare hands to assure that no sparks or glowing embers remain.
- Burning snags or trees will only be felled when they may fall across the fireline or

endanger firefighters. If possible, they will be allowed to burn naturally.
- Spot fires will be flagged and/or signed from a main fire.
- A flagged line from the fire to the nearest road or trail will be left for checking purposes. This line will be removed by whoever checks the fire.
- Consider the use of single engine air tankers dropping foam, water or fugitive fire retardant.
- Cut only the minimum number of trees necessary for line construction.

Logistics

- Use the long line or remote hook in lieu of constructing new helispots to deliver and retrieve gear. Emphasize the use of natural openings.
- Emphasize the use of mule pack strings to re-supply fire crews.
- Emphasize the use of "no trace" camps.
- Consider the use of rappelling operations.
- Crews will stay on existing trails whenever possible.
- Base camps within wilderness are not acceptable.
- Spike camps within wilderness are discouraged; if possible, place them outside of wilderness. Evaluate the location of, and need for, spike camps daily.
- If spike camps are approved for use in wilderness, consider:
  - use low impact "no trace" camping techniques, site selection and site use,
  - use existing campsites, if available,
  - if existing campsites are not available, select campsites unlikely to be observed by visitors
  - select impact-resistant sites such as those with rocky or sandy soils, avoiding sites along streams,
  - change camp location if the ground vegetation in or around camp shows signs of excessive use,
  - do minimal disturbance to the land in preparing sleeping and cooking areas. Do not clear vegetation or dig trenches for sleeping areas,
  - campfires are not allowed,
  - toilet sites should be located a minimum of 200 feet from any water sources; holes must be dug six to eight inches deep,
  - select alternate travel routes between camp and the fire if trail wear becomes excessive, and
  - restore the camp are to as natural a condition as possible.

Rehabilitation

- Emphasize to all fire personnel the need to remove all signs of human activity.
- Pack out all trash.
- Fill in deep, wide firelines and trenches.
- Construct water bars to prevent erosion.
- Ensure that stumps from trees and large brush are cut flush with the ground.
- Any trees or large brush cut during fireline construction should be scattered to appear natural.
- Restore helicopter-landing sites.
- Cover or fill in latrine sites.

Appendix B

Bald Eagle Flight and Ground Monitoring Procedures
Upper Burro Creek Wilderness

Flights: In Arizona there are three types of bald eagle flights conducted by the AGFD.

1. Mid Winter Survey*– conducted during the first full week of January. It takes four days to cover all potential nesting areas in the State of Arizona conducted concurrently with the first Occupancy and Reproductive Assessment Flight (ORA) of the year.
2. Nest Survey Flights* – 1-3 flights per year are conducted to check known breeding areas (not necessarily active breeding areas) **– These flights begin in January. The first flight is done concurrently with the Mid-winter survey flights.
3. Occupancy and Reproductive Assessment Flights (ORA)* – conducted monthly January through June where active nests are found. These flights are conducted concurrently with the Mid-winter and nest survey flights. If a nest is inactive then the April, May and June flights are not conducted unless reports from other biologists indicate activity may be occurring.

Flight and Ground Procedures for Active Nesting: If an active nest is found the helicopter would circle to get a look at the nest, to count young and to determine the age of young. Flights would be conducted monthly to determine productivity, health status of fledglings, fledging etc. Flights would last through June when fledging is complete. Landings would be rare and would occur only if there was an emergency such as if a nestling falls from the nest, or some other life threatening incident occurs (nestling wrapped up in fishing twine etc.), or if the nestling is missing. If a nestling is missing the helicopter would land and a ground search for the baby would be conducted. If a nestling requires medical care it is taken to a rehabilitation center, rehabilitated and, if appropriate, returned to the nest at a later date.

Miscellaneous Activities:
Banding of nestlings would take one day for two or three persons. Access would be by vehicle or by foot and in rare cases helicopter. Observation and subsequent identification of adult birds is conducted by foot and may take two people up to a week to complete. Continual nest monitoring may occur but is unlikely because of the remoteness of the area and the low human use of this area.

* In Burro Creek the survey is conducted with a helicopter (200 feet above ground level, AGL) from near the confluence of Francis and Burro Creeks on downstream to Six-mile Crossing. This takes approximately 20 minutes. In Arizona there has never been a landing in wilderness for a bald eagle emergency. Francis Creek has been flown for bald eagle survey once since 1992. However, if there were breeding activity it would be checked on the same frequency as Burro Creek.

** There is one breeding area (Devil's Postpile) in Burro Creek adjacent to the wilderness. This nest is classified as historical as it has been inactive for over a decade.

Endangered Species Consultation –Flights conducted by AGFD for bald eagles are permitted under Section 6 of the Endangered Species Act. The AGFD and has an agreement with the FWS to inventory and monitor the Arizona bald eagle population under Section 6 of the Endangered Species Act and during the post-delisting monitoring period. The information is used by the FWS to monitor this species.

Appendix C

Pronghorn Water Facility Development
Upper Burro Creek Wilderness

Description of typical trick- tank water facility: A trick-tank water facility consists of a small dam placed across a small drainage to collect surface rainwater. The water is then piped to a nearby storage tank and subsequently piped to a drinker. The entire facility would be fenced to exclude livestock. Maintenance would be conducted on an annual basis and consists of removing sediment from the drinker and dam with a shovel. In times of drought water may be air dropped from a bucket suspended from a helicopter.

Dam: Dams range between 1-3 feet in height and 3-15 feet in length. They are made of concrete and native rock. The concrete is colored or stained to match the landscape.

Storage: Storages are low profile and designed to hold between 5-10,000 gallons of water. Storages are constructed out of 24" diameter PVC pipe. Typically three pipes are used each as long as 160 feet, or an equivalent storage capacity with different configuration of pipe lengths may be used. Where backhoe access is available, a backhoe is used to excavate and bury the storage pipes. If backhoe access is not practical then the trenches for the storage pipes are hand dug. If the ground is too rocky or bedrock is encountered then pipes may be only partially buried or put on the surface. They would be camouflaged with native rock, soil, and paint.

Trough: The trough (walk-in drinker) surface would be set at the same elevation as the storage eliminating the need for a float valve and reducing maintenance visits. It would be camouflaged the same way as the storage. The troughs are typically 2' x 3' in size and are made out of fiberglass.

Exclosure fence: An exclosure fence surrounding the facility is usually less than ¼ acre but can be as large as 1 acre in size and would be constructed using metal "T" posts and four strands of wire, barbed and smooth. An alternative fence design would use welded black pipe set in concrete. This pipe naturally rusts to blend with the landscape.

Tools, equipment and manpower: A helicopter would sling-load tools, supplies and equipment to the project site and would not land in wilderness. Equipment to be flown to the sites includes a cement mixer, generator, welder, pionjar (gasoline-powered jackhammer), wheelbarrows and a variety of hand tools. Supplies would include pipe, fittings, paint, concrete, water, etc. Laborers would walk to and from the job site from the wilderness boundary. Camping by the laborers would occur outside but adjacent to the wilderness boundary. Upon leaving, the campsites are raked to eliminate tracks.

Aircraft use during construction: To build one facility a helicopter would be utilized for approximately 6-8 days accumulating about 24 hours of flight time over wilderness.

Construction time-frames: A typical water facility takes 20 working days for a four person crew to complete. This time frame could be shortened if volunteers were to be used. A volunteer group consists of 10-30 people who typically donate time over a one weekend period.

Water hauling: In times of drought emergency water hauling may be conducted using a helicopter equipped with a water bucket. This bucket carries approximately 250-300 gallon of water. To provide emergency water it is estimated that 10 flights would be made to the facility. The helicopter would not land but drop water into the dam area from above. The supply point would be outside of wilderness. Emergency water hauling activities may occur as often as every year but is more likely to occur not more than once every five years.

Maintenance: Maintenance would be conducted on an annual basis and consists of hiking to the site and removing sediment from the drinker and dam with a shovel. Repairs may range from tightening loose fittings to total replacement of major components. Large component replacement would be similar to the actions described for construction and is expected to occur no more than once every 20 years.

Appendix D

Summary of:
Programmatic Environmental Assessment, EA#AZ-030-2001-0035, For the Reintroduction and Supplemental Releases of Desert Bighorn Sheep in Mohave, Yavapai, Coconino and La Paz Counties

The Arizona Game and Fish Department has proposed translocation of bighorn from the Black Mountains, Kofa Wildlife Refuge, and the New Water Mountains, Arizona, to historical and occupied bighorn habitat, located at nine sites in the Kingman Field Office, over the next 20 years. Seven of the sites involve public land and two are located on State and private lands only. The proposal could increase the bighorn population from a current very low population density estimated to be 60 to 820 animals over the entire project area.

The proposed action presents the four parts of the overall program: bighorn sheep capture, bighorn sheep release, predator control, and water development.

The impacts of bighorn sheep capture were previously analyzed and approved through Decision Records on the Black Mountain Ecosystem Management Plan/Environmental Assessment, and the Kofa National Wildlife Refuge and Wilderness and New Water Mountains Wilderness Interagency Management Plan, Environmental Assessment, and Decision Record. The capture was nevertheless discussed in the Programmatic EA in order to provide full disclosure of the translocation program.

The effects of bighorn sheep release and subsequent telemetry monitoring of released sheep via fixed-wing aircraft were one focus of the Programmatic EA. Resources analyzed in the EA include special-status species, ACEC, wilderness, wildlife, vegetation (forage allocation), social and economic environment (livestock management), and wild burros. Assessed impacts to wilderness character (specifically to UBCW) from sheep release and monitoring included 1) temporary disturbances to opportunities for solitude due to the presence of low-flying aircraft engaged in monitoring, and 2) anticipated enhancement of wilderness naturalness due to reestablishment of an historic population of wildlife.

The Programmatic EA also discussed the effects of predator control on mountain lions, bighorn sheep, special-status species and non-target wildlife, social and economic environment (livestock management), and wilderness. Impacts, as they relate to UBCW included 1) temporary disturbances to solitude and natural quiet from the activity of humans, dogs and horses engaged in trailing lions; 2) a temporary reduction in wilderness naturalness due to artificial adjustments to predator populations in the area; and 3) over the long term, wilderness naturalness would be improved because of the ultimate enhancement of biological diversity through bighorn reestablishment.

There is potential for the development of three additional waters for bighorn within the project area. One would be located on state land, two on public land, none are in wilderness. Water developments will be further analyzed if monitoring of released bighorn shows a need for the water.

The Finding of No Significant Impact and Decision Record for the Programmatic EA were issued by the BLM on March 24, 2003, following extensive public review by organizations, agencies, and individuals with an interest in BLM wilderness management.

The Programmatic EA incorporated several documents by reference. Incorporation by Reference is summarizing and citing information or analysis from another document. This is a technique used to avoid redundancy in analysis and to reduce the bulk of a NEPA document (40 CFR 1502.21). All documents incorporated by

reference are available for review at the following locations: BLM Kingman Field Office, 2755 Mission Blvd., Kingman, Arizona, 86401. The following is a list and summary of the documents incorporated by reference:

Predator Damage Management on Federal Public Lands in Arizona (APHIS 1999) - The affects of predator control activities on public lands were analyzed in this document. There was a finding of no significant impact and decision to implement the Proposed Action. The EA analyzed impacts to livestock operations, target wildlife species, non-target wildlife species, special status species, recreational use on public lands, and the humaneness and selectivity of predator control methods. APHIS (1999) did not discuss the impacts of predator control within special designation areas such as wilderness, Areas of Critical Environmental Concern (ACEC) and proposed Wild and Scenic Rivers (W&SR).

Environmental Checklist, Bighorn Sheep Translocations in Region III (AGFD 2002) - The Arizona Game and Fish Department evaluated the effects and need of mountain lion removal in this document to ensure that the Department Federal Aid activities comply with the National Environmental Policy Act.

Transplant of Desert Bighorn Sheep into the Artillery Mountains, EA No. AZ-025-94-057 (BLM 1994a). The effects of capture of bighorn within the Black Mountain Ecosystem were analyzed in this document.

Black Mountain Ecosystem Management Plan and Environmental Assessment (BLM 1996). A description of water developments and effects of development were analyzed in this document. This document also described capture techniques.

Kofa National Wildlife Refuge and Wilderness and New Water Mountains Wilderness Interagency Management Plan, Environmental Assessment, and Decision Record, EA No. AZ-055-95-105 (BLM et al. 1997). An analysis of the effects of bighorn sheep captures in the Kofa and New Water Mountains for translocation purposes.

Biological Evaluation for Hell's Half Acre Bighorn Reintroduction, Environmental Assessment No. AZ-030-99-080 and informal consultation number AESO/SE 2-21-99-I-350 (BLM 1999). The effects of the proposed action on the endangered plant Arizona cliffrose were analyzed in this document.

Biological Evaluation for the Reintroduction and Supplemental Releases of Desert Bighorn Sheep in Mohave, Yavapai and Coconino (La Paz) Counties, Informal consultation AESO/SE 2-21-01-I-242 (BLM 2001). The effects of the proposed action on the southwestern willow flycatcher, bald eagle, Gila topminnow, and desert pupfish were analyzed in this document .

Supplements to the Biological Evaluation for the Reintroduction and Supplemental Releases of Desert Bighorn Sheep in Mohave, Yavapai and Coconino (and La Paz) Counties (BLM 2001a). Additional information added to the biological evaluation (BLM 2001)

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August 1, 2005

Mr. Wayne King, Manager
Kingman Field Office
Bureau of Land Management
2755 Mission Boulevard
Kingman, Arizona 86401

Re: Upper Burro Creek Wilderness Management Plan and Environmental Assessment
(EA-AZ-030-2003-0039)

Dear Mr. King:

The Arizona Desert Bighorn Sheep Society, Inc. (ADBSS) has reviewed the above referenced document and wishes to submit the following comments as part of the official public record. ADBSS is an 1100-member wildlife conservation organization dedicated to the proper management and enhancement of desert bighorn sheep and their habitat, and has particular interest in the Upper Burro Creek Wilderness area as a potential reestablishment area for bighorn sheep.

The most important Management Action identified in the Proposed Action is Action 1(A), in the view of ADBSS. It pertains to aerial wildlife population census, inventory and monitoring. The Bighorn Sheep section of Action1(A) states an aerial population survey would be conducted by helicopter or fixed wing aircraft for desert bighorn sheep if bighorn ever become reestablished within the wilderness. It goes on to say that survey flights are typically flown once every three years.

COMMENT 1-1

Nothing in the document acknowledges the proposed bighorn sheep transplant in the area of the Lower Burro Creek Wilderness Area, which would conceivably be the source population for bighorn sheep within the Upper Burro Creek Wilderness Area. The

COMMENT 1-2

Arizona Game and Fish Department has a survey protocol for reintroduction and supplemental releases of bighorn sheep that is different from, and more rigorous than, the survey flights flown once every three years for established bighorn sheep populations. ADBSS feels that there enough difference in the manner in which reintroduction and supplemental release aerial surveys and established population aerial surveys are conducted that both should be acknowledged in Action1(A).

Reference is made in the document to both a Master Memorandum of Understanding between the Game and Fish Commission and the Bureau of Land Management (A.G. Contract No. KR87-0249-CIV dated March 18, 1987), and a Programmatic Environmental Assessment for the Reintroduction and Supplemental Releases of Desert Bighorn Sheep in Mohave, Yavapai, Coconino and LaPaz Counties (EA#AZ-030-2001-0035). ADBSS realizes that both the Master M.O.U. and the Programmatic E.A. are used as guidance documents for the Upper Burro Creek Wilderness Management Plan. If neither the Master M.O.U. nor the Programmatic E.A. make a distinction between reintroduction and supplemental release aerial surveys, this should not prevent such a distinction from being made in the Upper Burro Creek Management Plan. Not only should a distinction be made, but the unique needs of both types of aerial surveys should be accommodated in this wilderness management plan.

COMMENT I-3

In summary, ADBSS supports the Proposed Action with an amended Action 1(A) to acknowledge and accommodate the differences between reintroduction and supplemental bighorn sheep aerial surveys, and established bighorn sheep population aerial surveys.

Thank you for the opportunity to comment on this document.

Sincerely,

D. Pence

Dave Pence
President

Response to Comments
Upper Burro Creek Wilderness Management Plan and Environmental Assessment
EA# AZ-030-2003-0039

1-1. The Programmatic Environmental Assessment for the Reintroduction and Supplemental Releases of Desert Bighorn Sheep in Mohave, Yavapai, Coconino and LaPaz counties (EA#AZ-030-2001-0035), BLM 2003 addresses bighorn release in the area of lower Burro Creek. This document was incorporated by reference on page 3 of the Proposed Upper Burro Creek Wilderness Management Plan (UBC-WMP). Also see Appendix D, page 56 of the UBC-WMP for a summary of BLM 2003.

1-2. BLM 2003 addresses monitoring of bighorn following a release. The following is the text found in BLM 2003, pg. 7.

Bighorn Sheep Release and Monitoring –

Bighorn sheep would be released in nine different areas within the Kingman Field Office boundaries (Table 1 and Maps 1-13) in northwestern Arizona over the next twenty years. Maximum population size for each release area is displayed in Table 1. Maximum potential population number for the entire project area is estimated to be 820 bighorn. Of this, 570 bighorn are anticipated to range onto public lands

The releases may occur 2-3 times per area over the next 20 years until the target population sizes are achieved (Table 1) or until the areas are determined to be non-viable for bighorn.

Radio-marked bighorn would be monitored to determine the success of the transplant and the need for future augmentation. Monitoring of radio-collared sheep may be conducted on a daily basis from the ground and weekly by fixed-wing aircraft for the first 3 months after release, plus daily from the ground and twice a month from the air for the 4-6 month period. Monthly flights would continue for the remaining 2-3 year post-release monitoring period. In general the AGFD would keep flights at 2,000 feet above ground level within designated wilderness. However, under favorable weather conditions, once a transmitter is heard, visual location of the animal would be attempted. The aircraft may descend as low as 200 feet above ground level for short periods.

Bighorn radio collars include a motion sensor (to determine mortality) which changes the pulse-rate if an animal has not moved during a specified period of time. Department personnel would use aircraft and/or hand-held telemetry equipment to locate bighorn that die and to recover the radio-collars. Personnel would use vehicles only on existing roads, trails and washes. Personnel would access wilderness and road-less areas only by foot or horseback, or via helicopter if approved by Wilderness Management Plans and available during wildlife survey flights.

The AGFD would monitor populations to determine the need for further augmentation. If transplants are unsuccessful, AGFD would evaluate the causes for failure and determine what measures, if any, could be taken to ensure future success.

Wilderness: At a minimum the BLM would be notified two weeks in advance of releases in wilderness to allow time for public notification of the helicopter activity in wilderness. The public could then plan trips accordingly.

1-3. Please see the response to comment 1-2 above.

KINGMAN FIELD OFFICE SCOPING FORM

Proposal: Implementation of the Upper Burro Creek Wilderness Management Plan

AZ-030-2003-0039 — EA Number
WD-01 — RMP Implementation No.
AWP: Work Category and Task #

Land Description: T. 15&16N., R. 10&11W.

Applicant: BLM

Address:

Type of Case:

INVOLVEMENT: Indicate in the left column which disciplines need to provide information into the EA.

Needed Input (X)	Discipline	Signature
	Lands	
✓	Minerals Misiaszek	Paul F. Misiaszek 9/28/05
✓	Range Blanton	Mark W. Blanton 9/28/05
X	Wild Horse and Burro	Scott D. Eb[illegible] 9/28/05
✓	General Recreation	Bruce M. Cadgow 9/28/05
✓	Cultural and Paleontological Resources	
✓	Wilderness	Bruce M. Cadgow 9/28/05
✓	Soils	Paul Hobbs 9/28/2005
	Surface and Groundwater Quality/Water Rights	
	Air Quality	
X	Wildlife	Rebecca L. Peck 9/28/2005
X	Threatened and Endangered Plants and Animals	Rebecca L. Peck 9/28/2005
	Surface Protection	
✓	~~Hazardous Materials~~ FIRE	Wade Kuhn 9/28/05
	Areas of Critical Environmental Concern	
✓	Visual Resources	Bruce M. Cadgow 9/28/05
	Socio-Economics/Environmental Justice	
X	General Botany/Noxious Weeds	Rebecca L. Peck 9/28/2005
✓	Energy Policy	

Writer: Bruce M. Cadgow — Date: 9/28/05

Environmental Coordinator: _____ — Date: _____

Field Manager: _____ — Date: _____

Reviewed 9/28/05 Looks Good
Tom McClure D. McKee

FINDING OF NO SIGNIFICANT IMPACT and DECISION RECORD

Upper Burro Creek Wilderness Management Plan

Environmental Assessment No. AZ-030-2003-0039
Case File AZA-25492

Finding of No Significant Impact: Based on the analysis of potential environmental impacts contained in the attached environmental assessment, I have determined that impacts are not expected to be significant and an environmental impact statement is not required.

Field Manager, Kingman Field Office, BLM — Date: 9/28/2005

Decision: It is my decision to approve the Upper Burro Creek Wilderness Management Plan as described in the Proposed Action (Wilderness Management). This plan will establish management direction for the Upper Burro Creek Wilderness for approximately the next 10 years.

Rationale for Decision: The proposed action provides for the enhancement and maintenance of naturalness, solitude, and primitive recreation while also managing other land uses and activities provided for by wilderness legislation. Naturalness and solitude would be enhanced by reducing the evidence of past human disturbance. Naturalness, solitude, and opportunities for primitive forms of recreation would be maintained by establishing a standard of no new evidence of surface disturbance; not developing facilitated recreation opportunities; suppressing wildfires and requiring the use of the minimum tool for the repair and maintenance of range fences and developments, wildlife management activities, and wild burro management.

Other Alternatives Considered: A "no action" alternative was considered. Since no unresolved conflicts involving alternate uses of resources, or options offering meaningful differences in environmental impacts, were identified during the course of this analysis, the range of two alternatives was considered to be sufficient.

Stipulations: None

Field Manager, Kingman Field Office, BLM — Date: 9/28/2005