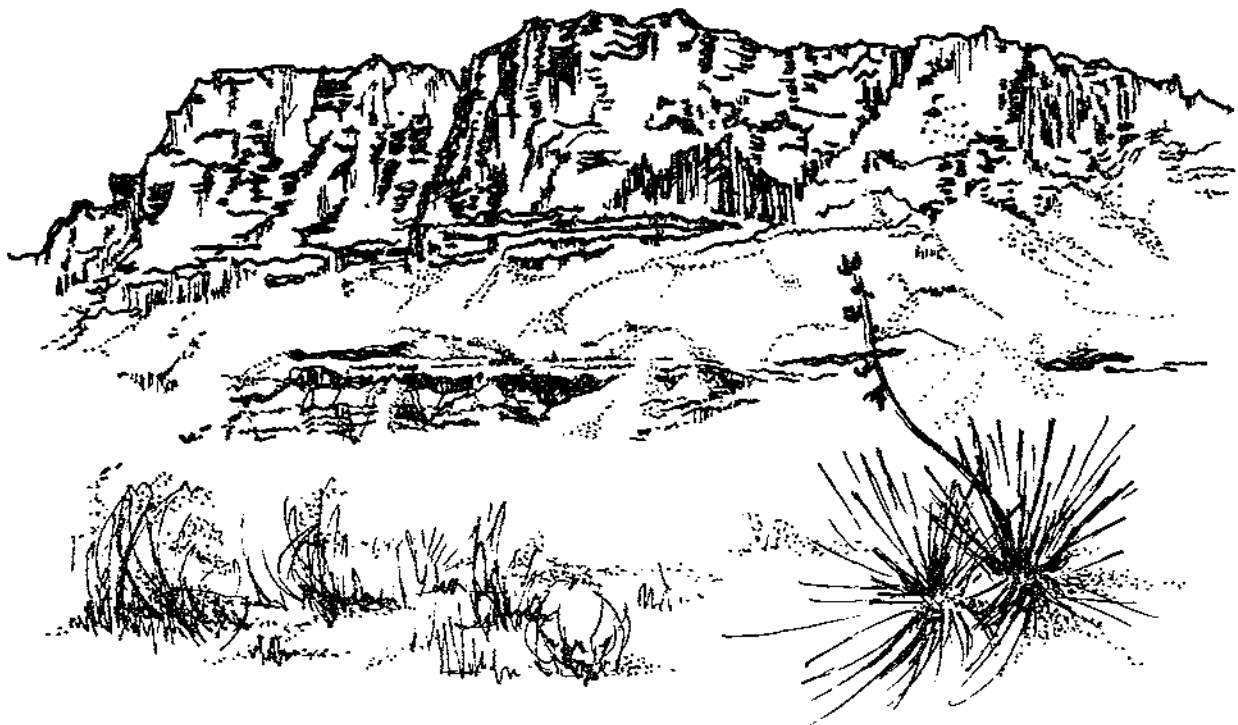


FINAL WILDERNESS MANAGEMENT PLAN

PARIA CANYON- VERMILION CLIFFS

Arizona - Utah



Department of the Interior
Bureau of Land Management



PARIA CANYON-VERMILION CLIFFS WILDERNESS

Wilderness Management Plan

U.S. Department of Interior

Bureau of Land Management

Arizona Strip and Cedar City Districts

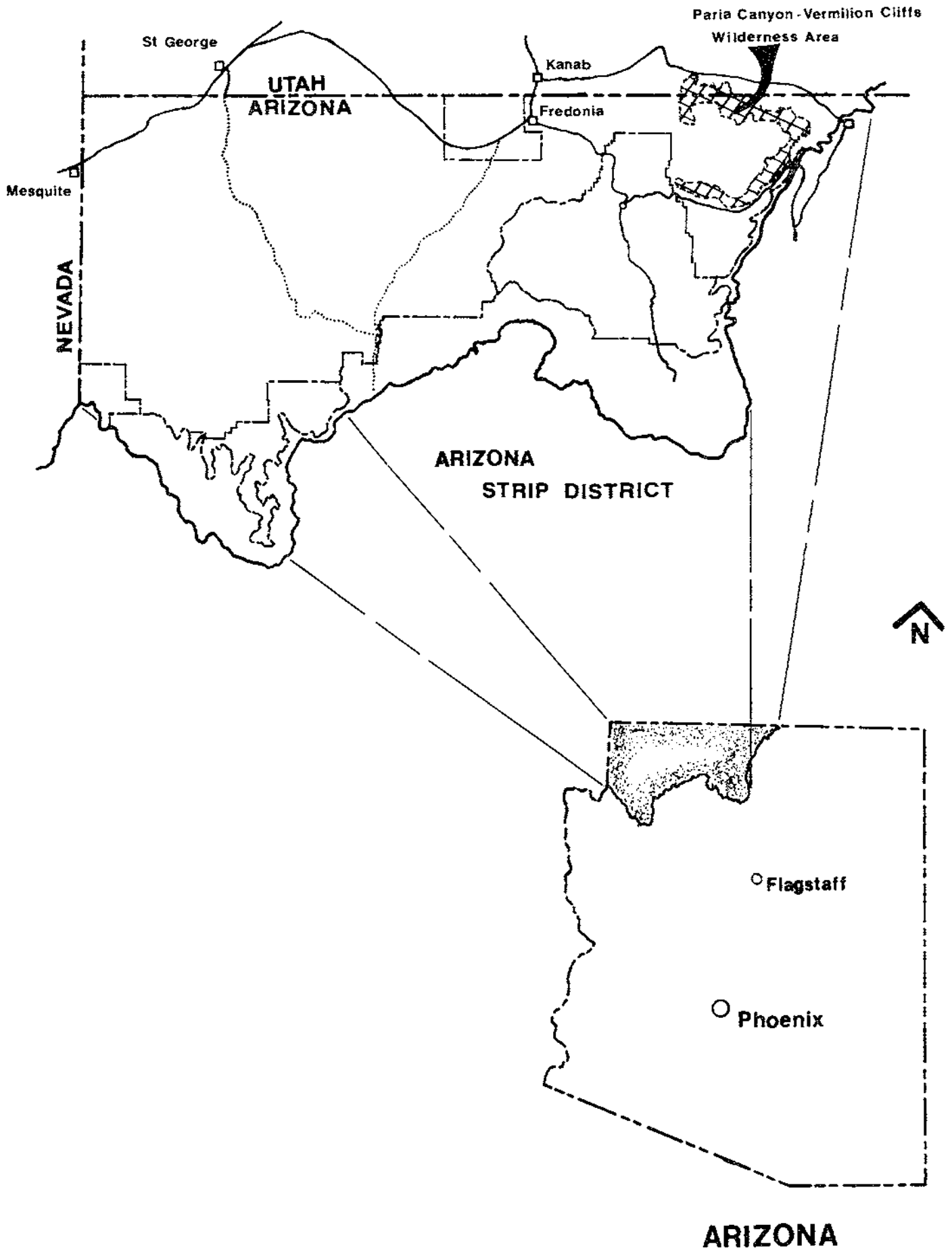
Vermillion and Kanab Resource Areas

Coconino County, Arizona and Kane County, Utah

PARIA CANYON-VERMILION CLIFFS WILDERNESS MANAGEMENT PLAN

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LOCATION MAP

I. INTRODUCTION

A. Purpose of Management Plan

The purpose of this plan is to establish objectives, policies and management actions to guide administration of the *Paria Canyon-Vermilion Cliffs Wilderness* within the intent of the *Arizona Wilderness Act of 1984* and the *Wilderness Act of 1964*.

B. Organization of Plan

This plan is organized to provide a strategy, specific objectives, and management actions to meet wilderness goals. The plan is divided into sections covering the major wilderness management elements, each of which includes subsections on management objectives, current situation, assumptions, policies, and management actions to be implemented.

The plan provides general management direction for the 10-year period 1986-1996. As this is designed to be a working document, temporary or minor changes will be made as needed. Public comments will be asked for in case of a major plan change, i.e., one affecting allocation of visitor use or a proposed management prescription generated by a significant change in the resource condition (for example, an insect infestation). At the end of the 10-year period, the management objectives and statements of current situations and assumptions will be reviewed and revised as appropriate.

An implementation sequence has been developed to specify when and by whom the specific actions outlined in the final plan will be accomplished. An environmental assessment (EA) is included in this plan. Individual EAs will be prepared for most site-specific actions which are proposed.

C. Wilderness Area Overview

1. LOCATION OF WILDERNESS

The *Paria Canyon-Vermilion Cliffs Wilderness* lies approximately 10 miles west of Page, Arizona in Coconino County, Arizona and Kane County, Utah.

The area includes about 110,000 acres (90,000 acres in Arizona and 20,000 acres in Utah). Included are 35 miles of the Paria River Canyon, 15 miles of the Buckskin Gulch, and the Vermilion Cliffs from Lee's Ferry to House Rock Valley (see attached map).

2. AREA DESCRIPTION

The *Paria Canyon-Vermilion Cliffs Wilderness* contains a variety of scenic, geological, historical, biological and recreational values.

Paria Canyon is noted for its scenery. Erosion of the sedimentary rocks in the 2,500-foot deep canyon has pro-

duced a variety of unusual geologic features, such as arches, amphitheaters, and massive sandstone walls. At the Arizona-Utah border, the Paria Canyon and its tributary, Buckskin Gulch, form spectacular "narrows" only a few feet wide and several hundred feet deep.

These geologic features are enhanced by springs, hanging gardens, wooded terraces, interesting plants and a variety of wildlife. Appendix A lists rare plants, riparian plants, floodplain plants and birds of prey which have been documented or have a high probability of occurrence in the wilderness.

The canyon rims provide scenic panoramas of not only the Paria Canyon and its tributaries but of the outlying canyon country, sandstone plateaus and towering cliffs as well.

The Vermilion Cliffs, equally scenic and well-known, join the Paria Canyon at its mouth. This 3,000-foot-high escarpment dominates the southern area because of its thick Navajo sandstone face, steep boulder-strewn slopes, rugged arroyos, and stark overall appearance.

In the west portion of the Wilderness lies Coyote Buttes, an area of spectacular scenery displaying domes, aprons, fins, corridors and a variety of small fragile rock sculptures carved in colorful swirling crossbedded sandstone.

The variety of colors and textures in the rock formations within the wilderness constantly change with variations in light and weather. In the lower canyons these formations have been broken and weathered, depositing huge boulders on the slopes below them. In scattered areas these boulders are etched with petroglyphs. Dominating the entire area is the Navajo Sandstone Formation whose various colors and massive cliffs provide visitors with the most noticeable features in the area—the canyons and cliffs.

The wilderness has a long and rich history of both Native American and Euro-American use and habitation. Prehistoric and historic trails pass through the land, slowly disappearing with each passing rain. Remnants of once bustling Anasazi dwellings, as well as sleepy old ranch sites and stark mining structures, are scattered throughout the area. Evidence remains today, crumbling in the desert sun, of long lost dreams of taming a wilderness and tapping its unknown but perceived riches, be it gold, uranium or even water. Today, a hardy few remain to make a living grazing livestock on these sparse lands.

More than 130 different species of birds have been reported in the *Paria Canyon-Vermilion Cliffs Wilderness*. The avifauna ranges from year-around resident species to occasional visitor species. At least twenty species of raptors have been documented in the wilderness. The wide variety of habitats make it an interesting place to study and observe birds.

A number of reptiles and amphibians also live in the wilderness. Some of these species are found in the widely separated riparian areas of the side canyons. Due to the geographic separation, opportunities for studies of evolutionary biology are present.

Furthermore, the canyon has been the location of a recent desert bighorn sheep reintroduction. In addition to

the desert bighorn sheep, mule deer, mountain lion, bobcat, coyote, pronghorn antelope and other mammals can be found in the area.

Opportunities for visitors to experience solitude vary from good to outstanding, depending on the area of use. Excellent opportunities exist for a variety of primitive and unconfined types of recreation. By far the most popular recreation use is hiking and backpacking in Paria Canyon and the Buckskin Dive. Sightseeing, photography and canyoneering enhance those uses to make recreation use in this wilderness setting a high quality experience. The Vermilion Cliffs provide a stunning backdrop for travelers on Highway 89A.

The Paria Canyon-Vermilion Cliffs Wilderness is in a desert region of long hot summers, mild winters, low annual rainfall, low relative humidity and a high percentage of sunny days.

Intense thunderstorms from July to September send flash floods through the Paria River Canyon. Winter precipitation occurs as gentle rain or light snowfall. Clear skies and a dry atmosphere cause surface heating during the day and rapid radiational cooling at night. Summer daytime temperatures commonly exceed 100° F., and winter maximum temperatures range from 50-60° F. Lee's Ferry, Arizona has an average frost-free period of 227 days. Page, Arizona has a frost-free period of 170 days. These two areas represent the approximate range of elevations of the wilderness area.

Relatively isolated from major sources of pollution, air quality ranges from very good to excellent. Prevailing winds in the area are typically southwesterly, convectional in summer and westerly and frontal in winter.

Major access to the wilderness area is by way of US 89, the major north-south route through the region. It passes within three miles of the northern portion of the Wilderness. US 89A skirts the southern edge of the Paria Plateau and access to the lower end of the wilderness area is by a National Park Service paved road to Lee's Ferry. US 89 and 89A are connected on the west edge of the Wilderness by a county-maintained seasonal road through House Rock Valley.

Access to the northern end of the Wilderness is by way of a 2.5-mile seasonal dirt road. Heavy rainstorms occasion-

ally wash out drainage crossings on this road and may create hazardous conditions.

3. SIGNIFICANT MANAGEMENT HISTORY

Early in 1969 BLM established the *Paria Canyon Primitive Area and Vermilion Cliffs Natural Area*. These areas were "to be managed in a manner that [would] protect the outstanding scenic, recreational and archaeological values, and/or the wilderness characteristics of the area."

The two were established as Instant Study Areas under the wilderness review. They were studied and recommended suitable for designation as wilderness in the Arizona Strip Wilderness draft Environmental Impact Statement and Suitability Report (April 1980). The suitability recommendation included contiguous lands. Subsequently, a broadly based coalition sponsored Arizona Strip Wilderness legislation which was incorporated into the RARE II bill for Arizona. It is currently the largest designated wilderness managed by the BLM.

4. GENERAL MANAGEMENT SITUATION

The Paria Canyon-Vermilion Cliffs Wilderness provides a variety of opportunities for the wilderness user. Most of the area remains in a pristine or near-pristine condition controlled by natural processes. Noticeable human influences are few.

A management plan for the *Paria Canyon Primitive Area* was completed in 1972. This plan served with minor revision until it was rewritten in 1983.

Safety considerations, particularly flash flood potential, have led to the establishment of a visitor service program. This program helps minimize risks to hikers by providing weather forecasts and information on hiking conditions.

Facilities at the administrative site of the White House access point consist of a residence/office, water system and primitive campground. There are also minimal developments at other access points.

Visitation within the Paria has almost doubled during the period 1971-1984, resulting in high concentration of visitors during the spring months.

II. WILDERNESS GOALS

The management objectives and actions developed in chapter IV of this plan are designed to help BLM attain the following four wilderness management goals.

The first and dominant goal is to provide for the long term protection and preservation of the area's wilderness character under a principle of nondegradation. 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.

The second goal is 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 character and visitor use.

The third goal is 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.

The fourth goal is to manage nonconforming but accepted uses permitted by the Wilderness Act and subsequent laws in a manner that will prevent unnecessary or undue degradation of the area's wilderness character. Nonconforming uses are the exception rather than the rule; therefore, emphasis is placed on maintaining wilderness character.



III. MANAGEMENT STRATEGY

To attain the stated goals and implement the Bureau's wilderness regulations and policies, the wilderness management plan provides objectives for maintaining or enhancing wilderness values, as well as policies and actions that BLM will implement to achieve the objectives. The objectives, arranged in the plan by various wilderness characteristics, describe wilderness conditions that managers want to achieve to assure progress in the direction of the established goals.

Objectives were carefully developed utilizing existing inventory knowledge, current knowledge of resources and the conditions existing at the time of wilderness designation.

Achieving the objectives will initially require intensive monitoring of the wilderness resources and uses. Well documented monitoring will help in selecting the most appropriate monitoring and use supervision program for the wilderness. It is anticipated that the appropriate management program (i.e., LAC, carrying capacity, etc.) will be selected and initiated following the results of applying and testing the LAC process in the Mt. Trumbull-Mt. Logan Wilderness Management Plan. Any adverse changes or trends that are revealed through interim monitoring will trigger immediate management action.

All actions proposed in wilderness, whether part of the WMP or not, will undergo an environmental analysis to determine the action's conformance with the plan objectives and goals. All action approved will be monitored to insure conformance with the plan's objectives. No action will be approved that will degrade the wilderness resource.

Two areas containing unique qualities will require special management attention. These areas will require more

intensive monitoring tailored to the special characteristics of each area. Because of current trends, visitor use will be strictly managed to protect the frail resources from irreversible damage. As the need arises, other areas may be identified and management direction adjusted to meet changing circumstances. The special monitoring and use supervision areas are as follows:

1. *Coyote Buttes*, in the northwest portion of the wilderness, is an area with highly scenic geologic formations eroded in innumerable shapes in a variety of colors. Many of the formations are small and fragile and will not tolerate any physical contact by visitors. To touch them is to break them. There are few existing developments in the area. Visitor use is increasing in the area as word-of-mouth and national publications continue to "advertise" the area. The potential for irreversible degradation of wilderness values with unrestricted visitor use is very great. Management direction and monitoring in this area will be aimed at preservation, to the exclusion of visitor use if necessary. Existing developments that affect the natural setting will be removed if they do not meet criteria for retention.

2. *Paria Canyon*, and its major tributary, *Buckskin Gulch*, are the significant features of the northern half of the wilderness. Due to the nature of the canyon, most of the use is confined to the narrow corridors in the canyon bottoms. The increasing use and the concentration of that use creates special management concern for the quality of visitor experience, visitor safety, and the impacts of visitor use on other sensitive resources. Management direction and monitoring in this area will be directed at maintaining a high quality wilderness recreation experience but not at the expense of other sensitive resources.

IV. OBJECTIVES, POLICIES AND ACTIONS

FOR MANAGEMENT OF WILDERNESS ELEMENTS

ADMINISTRATION

A. Management Objective

The area will be managed to preserve the integrity of the wilderness resource while conducting the necessary administrative functions.

B. Current Situation and Assumptions

1. CURRENT SITUATION

The Paria Canyon-Vermilion Cliffs Wilderness is jointly administered by the Vermillion Resource Area (Arizona) and the Kanab Resource Area (Utah). Administrative responsibilities are vested with the area managers and carried out by the Resource Area Outdoor Recreation Planners for both areas and the District Wilderness Coordinators for both the Arizona Strip District and the Cedar City (Utah) District.

The District Wilderness Coordinators are also responsible for technical coordination of BLM wilderness policy and regulations for management of the Wilderness and serve as liaisons between district and resource area.

Prior to wilderness designation the Kanab Resource Area was responsible for administration of visitor use in Paria Canyon Primitive Area. On-the-ground activities, such as visitor contact, maintenance and visitor use reports, continues to be accomplished primarily with a seasonal employee stationed at the Paria entrance station. In addition, this seasonal employee assists in monitoring efforts carried out by the Arizona Strip wilderness staff and in search and rescue efforts conducted by county law enforcement officials.

The seasonal position provides coverage of the Paria Canyon portion of the wilderness. While occasional efforts are made to patrol other areas, time and funding have not allowed for consistent patrols in any other part of the wilderness.

Administrative communications are adequate from the Paria entrance station to the Kanab Resource Area and with the National Park Service (NPS) at Wahweap. All other communication systems are sub-standard. Radio communication from within the wilderness is difficult due to terrain and placement of repeaters. Contact with Arizona Strip District offices and county law enforcement officials is difficult as there is no land line telephone at the entrance station.

The Wilderness is contiguous to *Glen Canyon National Recreation Area* (GCNRA). Much of the contiguous land

was recommended for wilderness by the National Park Service, however Congress has not yet acted on this recommendation.

The area around Lee's Ferry and the mouth of Paria Canyon is established as an historic district. BLM and NPS officials are working together to reroute Paria Canyon hikers around the historic district to reduce conflicts in parking and potential damage to historic structures.

Private lands within the Wilderness are used in conjunction with livestock grazing. Private lands adjacent to the wilderness are primarily used for visitor services. Development on private lands depend on private endeavors and state and county zoning constraints.

Several areas of the wilderness are susceptible to off-road vehicle violation due to ease of access and proximity to population centers. Woodcutting on Paria Plateau and Cedar Mountain also poses a threat to the wilderness.

The City of Page, Arizona is considering relocation of the municipal airport. The Ferry Swale area, three miles to the northeast of the wilderness is being considered. If this location is used, adverse impacts to the wilderness may result.

The Paria Canyon-Vermilion Cliffs Wilderness is administered under the authority and provision of the *Federal Land Policy and Management Act of 1976*, the *Wilderness Act of 1964*, and the *Arizona Wilderness Act of 1984*. Procedures for the management of the public lands designated as the *Paria Canyon-Vermilion Cliffs Wilderness* are found in *Management of Designated Wilderness Areas (43 CFR Part 8560)*. Guidance for management of wilderness is found in the *BLM Manual Section 8560*.

Currently, BLM district and resource area personnel have no law enforcement authority. Consequently, any violations of *43 CFR Part 8560.1-2, Prohibited Acts*, or any other laws or regulations pertinent to public lands must be handled by the appropriate state, county, or federal agency possessing federal law enforcement authority. Several local agencies participate in the *Arizona-Utah Advisory Council* which generally meets every three months to coordinate law enforcement and search and rescue efforts in southern Utah and northern Arizona.

Fee permits have not been required for recreation use in the Wilderness except for commercial uses. Currently, a registration system is used in the Paria Canyon and Buckskin Gulch areas. There is no fee with the registration. The registration system has been used to promote user information and public safety.

Prior to wilderness designation, motorized travel for administrative purposes was low. Helicopter use for administrative purposes was a primary tool for access into much of the area. With wilderness designation came restrictions on motorized equipment including administrative uses. As

a result, the Arizona Strip District instituted a request procedure for the use of motorized equipment. The procedure requires the analysis of other alternative methods and the careful application of the minimum tool policy before any request can be approved by the authorized officer. Requests proposing use of motorized equipment will be analyzed in an environmental assessment (EA).

2. ASSUMPTIONS

Funding and personnel will be available to meet the objectives of this plan.

Management practices and proposals on most of the contiguous National Park Service lands will continue to enhance management of the *Paria Canyon-Vermilion Cliffs Wilderness*.

Occasional maintenance of existing structures in or near the wilderness will be needed.

Increases in visitation may result in a need for law enforcement and/or use restrictions.

All requests for BLM administrative use of motor vehicles and motorized equipment in the wilderness will continue to be closely scrutinized with careful application of the minimum tool policy and the environmental assessment process.

C. Management Direction

1. MANAGEMENT POLICIES

All wilderness administrative activities will be carried out to minimize any adverse effects on the wilderness environment and the experience of its users. All proposed projects will comply with the goals and objectives established by this plan.

Communication facilities and equipment will be provided to serve the administrative needs of wilderness management.

A close working relationship will be fostered with all individuals and government entities that use or influence use of the wilderness.

Monitoring will determine if there is a need to regulate recreation use numbers.

Scientific study was not identified as an issue in management of the wilderness; however, research that is wilderness-dependent and compatible with the goals and objectives of this plan will be encouraged.

Research activities that would adversely affect the wilderness resource, limit the experience of users or conflict with other wilderness objectives will not be approved.

Approval may be given by the authorized officer for the use of motorized and mechanical equipment for search and rescue and law enforcement emergencies. However, in such cases it must first be determined that the incident obviously demonstrates an urgency and need for speed beyond that available by primitive means.

Nonconforming uses covered by special provision in *Section 4(d) of the Wilderness Act* will be administered for minimum impact on wilderness values. However, such administration shall not negate the intent of Congress as expressed in the *Wilderness Act of 1964* concerning these uses.

Structures or installations having historical significance may be retained as historic features of the area. If they do not have historical significance, they may be maintained for continued use if they meet the "minimum tool" policy and if they are necessary for a use specifically permitted by the *Wilderness Act*. Any structure or installation that does not qualify for retention under the above criteria will be removed.

Natural conditions in some locations have been modified by past human activities. Where feasible, action will be taken to restore natural conditions.

Those who use or have expressed an interest in wilderness will be kept informed of wilderness management actions.

BLM administrative overflights will be conducted at least 2,000 feet above ground level over the wilderness whenever possible.

2. MANAGEMENT ACTIONS

The visitor management program for Paria Canyon will be managed primarily by the Kanab Resource Area in coordination with the Vermillion Resource Area.

The monitoring process will be developed by the Vermillion Resource Area. Implementation and field studies will be done cooperatively between the Kanab and Vermillion Resource Areas.

An inventory of Coyote Buttes and a map of the fragile areas requiring special management attention will be done.

The existing facilities at the entrance station will be evaluated and upgraded to insure direct and reliable communications with appropriate authorities during emergencies.

An inventory will be made of all existing structures and installations, critically evaluating the purpose, need and historical significance of each.

Coordination efforts with appropriate county, state, and federal agencies whose activities affect or are affected by wilderness management will continue.

BLM will initiate a system to regulate recreation use if monitoring demonstrates a need to limit user numbers. A study of alternative allocation techniques, including fees, will be prepared and analyzed in an environmental assessment involving public participation. Until there is a determination that a permit system is needed, BLM will continue to utilize the present registration system.

The BLM will, upon request, inform the public of the wilderness boundary location.

Areas where motorized activity may take place in the wilderness will be monitored frequently and barricaded when necessary.

Refinement of procedures involving requests for administrative use of motorized vehicles will be initiated.

Informing users about wilderness constraints on motorized equipment use will be initiated.

RECREATION

A. Management Objectives

The area will be managed to provide a spectrum of outstanding opportunities for primitive recreation, featuring a natural wilderness environment, solitude, physical and mental challenge, and inspiration consistent with preservation of wilderness values.

B. Current Situation and Assumptions

1. CURRENT SITUATION

There are currently four developed access points for the wilderness. In addition there is an entrance station on US 89 two miles north of the White House access point. The developments include:

White House. Five picnic units, water, gravel parking for 25 cars, two pit toilets, two miles of graveled access roads, a trail register and an interpretive sign.

Entrance Station. One trailer (residence and office), leach field, well and water system, fenced yard, graveled parking for 8-10 cars, picnic unit and an interpretive/information sign.

Wire Pass. Graveled parking area for five cars, trail register (current parking area not well defined) and an interpretive sign.

Buckskin Gulch. Parking area for five cars, trail register and an interpretive sign.

Lee's Ferry (Administered by National Park Service). The facilities are designed for fishing and boating activities on the Colorado River. Campgrounds and paved parking area also serve the Paria Canyon hikers.

One additional undeveloped access route used infrequently on the Buckskin Gulch is "the middle trail." It is not marked and is difficult to locate.

There are no developed trails in the Wilderness. Hikers in Paria Canyon have established routes that are not maintained and occasionally are abandoned due to flooding. Numerous routes in Wrather Canyon's riparian area have caused resource damage.

The old ways in the lower Paria and Vermilion Cliffs which provide access for hikers have had very little use.

A significant number of people traveling US 89 stop at the entrance station out of curiosity, wishing to know what other attractions are available within the region. The typi-

cal visitor is from out of state, has visited adjacent areas (Zion, Bryce, Glen Canyon), and is eager for additional information on areas to camp and explore. Questions relating to road conditions are common.

The visitor use estimate in the following table displays annual visitation to Paria Canyon since the earliest records in 1971.

Visitor Use Estimates:

Visitor Use in Paria Canyon

Year	Visitors	Visitor Days
1985	1,967	10,133
1984	1,654	8,580
1983	1,437	7,904
1982	1,302	8,046
1981	1,271	7,679
1980	1,125	7,574
1979	907	8,485
1978	1,577	11,528
1977	1,051	9,053
1976	955	9,496
1975	821	6,261
1974	872	6,650
1973	477	3,474
1972	671	6,534
1971	506	4,977

Approximately 50 percent of the yearly use occurs from April to June. High water and cold temperatures in the winter and early spring restrict use. User demand is lower in July and August due to hot temperatures and flash flood danger. Recreational use picks up again in the fall months when water is low and temperatures are once again cool.

In the Paria Canyon, group size is currently limited to 15 individuals. The canyon provides only a limited number of camping areas for the first night. These sites offer spring water and are desirable. Due to their small size, the areas are not suitable for large group camping. When large groups use these areas it: (1) displaces other groups from using the site due to lack of room; and, (2) heavily impacts the site due to overcrowding, thus causing site deterioration. Limiting group size to 15 allows the opportunity for more than one group of hikers to use these sites and prevents accelerated deterioration.

Outside the Paria Canyon, recreation is dispersed. The combination of the historic Honeymoon Trail, old prospecting trails, benches, washes and the 47 miles of cliff top provide access for hikers and backpackers to enjoy a variety of excellent recreation opportunities. Eleven reliable springs along the base of the Vermilion escarpment provide water and sustain beautiful riparian habitats.

Erosion has created a number of landforms unique in their magnitude and form. Of significance are Wrather Arch, one of the longest free-standing arches in the nation; the Buckskin Gulch, one of the longest and narrowest canyons of its kind; the scenic Paria Narrows; and the spectacular beauty of the Vermilion Cliffs and Coyote Buttes.

The Paria and Buckskin Canyons provide an opportunity to observe a classic example of stream channel entrenchment due to uplift of the Colorado Plateau. In places the course is meandering; in others such as Buckskin Gulch, the course is sharply angular, controlled by the joint patterns in the rocks.

The Coyote Buttes provide good examples of convoluted beds (soft sediment deformation), evidence that water partially covered the ancient desert dunes environment. The unique form of the buttes was sculptured by a combination of wind and water erosion.

2. ASSUMPTIONS

If current recreational trends continue in Paria Canyon, increased visitor use may result in:

- campsite deterioration
- localized ecosystem alteration
- reduction of the visitor's expectation of achieving a wilderness experience
- greater demand on quality and amount of trailhead facilities
- rising costs of managing the area
- foot travel increasing
- more hikers visiting areas outside the Paria Canyon

C. Management Direction

1. MANAGEMENT POLICIES

Various visitor management methods will be utilized in wilderness when necessary to preserve wilderness resources and the visitor wilderness experience and opportunities. Management of visitor use will be the minimum necessary to preserve wilderness character.

Existing routes in the Paria Canyon will not be maintained, except where safety problems arise. Trails will be constructed only when resource damage due to heavy recreational use indicates a need. Existing ways will be used as trails when possible.

Allowing dogs in the wilderness has not been identified as a management issue. Dog impacts in the Paria Canyon are being monitored and if they become an issue in the future the dogs will be restricted or eliminated as appropriate.

2. MANAGEMENT ACTIONS

Those portions of the *Paria Canyon Special Recreation Area Management Plan* (SRAMP) dealing with objectives

and actions within the wilderness will be reviewed and amended to be consistent with the goals and objectives of this plan.

Camping will be temporarily restricted or eliminated at specific locations when necessary for protection of wilderness resources or visitor experiences. Any permanent restrictions will involve public participation.

Private use of horses/pack animals will not be allowed on the fragile areas in Coyote Buttes. Horse/pack animal use will be allowed in other areas of the Wilderness to accommodate hunting and other recreational use. A monitoring system will be established to determine the effects of horse/pack animal use on camping areas and inner canyon vegetation.

The numbers of groups and group size may be modified based upon data obtained through monitoring.

The lack of fuel and adverse impacts to the environment require the prohibition of campfires in Paria Canyon and Coyote Buttes area. Visitors in these areas will be required to use campstoves for cooking. Campfires will not be restricted in the remainder of the wilderness.

BLM personnel will locate a single route to Wrather Arch. All other routes will be closed. BLM will monitor use in the canyon in order to prevent future damage from multiple routes.

BLM will study abandoned ways as possible hiking routes into the Vermilion Cliffs portion of the wilderness. Any of these ways identified as hiking access will be signed; however, the routes will not be identified on the visitor map.

The following apply in the Coyote Buttes special management area:

- day use only
- maximum group size limited to four
- no more than two groups in the area per day
- mandatory registration
- BLM will frequently patrol the area.

Signs will be developed to inform hikers that use of this area requires prior contact with the ranger. These signs will not promote or provoke people to use the area.

BLM will study Wrather Arch, Buckskin Gulch and Coyote Buttes for eligibility to the National Natural Landmark Register of the National Park Service.

INFORMATION AND EDUCATION

A. Management Objectives

Information and education will be designed to: (1) promote safety, (2) promote use of no-trace camping techniques, (3) promote resource protection, (4) interpret human and natural history and (5) obtain user information for guiding future management actions.

B. Current Situation and Assumptions

1. CURRENT SITUATION

A temporary visitor services specialist is employed from April through October and is stationed at the Paria entrance station. Personal contact with users to provide information on the Paria Canyon-Vermilion Cliffs Wilderness is the primary duty. Information on other areas in the Kanab and Vermillion Resource Areas is also given on request.

Of primary importance is the monitoring of flash flooding in the Paria Canyon. This is a life-saving procedure. Daily weather forecasts are relayed to the specialist for posting and trigger appropriate actions if there is danger to hikers.

The brochure currently being used addresses the Paria Canyon Primitive Area which became a part of the *Paria Canyon-Vermilion Cliffs Wilderness* and does not include the Vermilion Cliffs. Existing interpretation of historic, geologic, archaeological and natural environment is found in the brochure and at the Dominguez-Escalante site.

Signing is minimal and is restricted to access points and entrance station. All written requests for wilderness information are answered by personnel in the Kanab and Vermillion Resource Area Offices.

2. ASSUMPTIONS

Flash flooding will continue to be a major concern.

Conversion of the primitive area and natural area to Wilderness and the associated legislative constraints will create some misunderstanding and noncompliance among visitors.

Visitation to southern Utah will increase, creating many informational stops at Paria entrance station on US 89.

C. Management Direction

1. MANAGEMENT POLICIES

Inform users, especially organizations that regularly visit the wilderness, about wilderness etiquette, conduct and minimum impact camping, .

Interpret the human and natural history of the area.

Update, as the main focus of the information and education effort the Paria Canyon-Vermilion Cliffs Wilderness brochure.

Include, at the existing entrance station, information dissemination to non-wilderness users.

Continue to emphasize visitor safety and monitoring of life-threatening flash floods in the canyon.

Continue good public relations through personal contact with visitors.

Encourage pilots to conduct flights at least 2,000 feet above ground level over the wilderness.

2. MANAGEMENT ACTIONS

Prepare an interpretive plan covering the following themes:

- Flash flood avoidance procedures and warnings.
- Paria Canyon and Coyote Buttes hiking ethics.
- Low impact hiking procedures (human waste disposal, use of stoves, etc.).
- Historical, archaeological, geological wildlife features.
- Points of interest.
- Regional recreational opportunities.
- Public lands awareness.
- Impacts of vandalism on archaeological sites.
- Use of horses/packstock in wilderness area.

Prepare public informational materials for communication to pilots as a means of generating understanding of wilderness management objectives.

Develop an audio-visual environmental education program to inform hikers about low impact camping and the fragile nature of areas within the wilderness, principally Coyote Buttes.

SEARCH & RESCUE

A. Management Objective

BLM will insure development of effective search and rescue procedures to enhance public safety.

B. Current Situation and Assumptions

1. CURRENT SITUATION

The Paria Canyon with its rugged and narrow 35-mile-long canyon makes search and rescue difficult and time-consuming.

By its very nature the Paria Canyon has historically created concern for visitor safety from county officials, land managers and visitors alike. The visitor safety problem associated with flash floods prompted establishment of the Paria Entrance Station in 1975. Past search and rescue operations have demonstrated a need to adequately plan and prepare for emergency situations.

2. ASSUMPTIONS

As visitation and dispersed use increases, more search and rescue actions will be required.

Search and rescue actions associated with the Vermilion Cliffs will remain low due to the relatively low visitor use.

C. Management Directions

1. MANAGEMENT POLICIES

There will be a coordinated and effective search and rescue organization to handle emergencies in wilderness.

2. MANAGEMENT ACTIONS

Complete a cooperative search and rescue plan incorporating wilderness management constraints by September 1987. Agreements with the Kane County Search and Rescue, Coconino County Search and Rescue, National Park Service at Glen Canyon National Recreation Area and BLM will be formalized. The plan will identify BLM support personnel who are knowledgeable about the wilderness and its management.

Continue flood-warning procedures to protect visitors from flash floods. Formalize agreement with Bryce Canyon National Park and the U.S. Weather Bureau to supply early warning for flash flood danger.

Ensure coordination of law enforcement and search and rescue efforts in the Wilderness by managers or other appropriate personnel attending regular meetings of the Arizona-Utah Advisory Council.

COMMERCIAL USE

A. Management Objective

Commercial use will be managed to allow outfitters and guides to meet public needs as appropriate when that use is consistent with the protection of the wilderness resource.

B. Current Situation and Assumptions

1. CURRENT SITUATION

The rare commercial use in Paria Canyon has been random and mostly oriented toward educational themes such as photography or natural history. Large group size has been a problem at campsites in the narrow portion of the canyon; therefore, group size has been limited to 15 individuals including operator and support personnel.

Currently, commercial groups are prohibited from using horses/packstock within upper Paria Canyon. Although use of horses by private individuals is allowed, there have been few horse trips from White House to Lee's Ferry within the past 10 years.

2. ASSUMPTIONS

Requests for commercial trips in the *Paria Canyon-Vermilion Cliffs Wilderness* will not increase much over the next 10 years.

Demand for commercial packstock use within Paria Canyon-Vermilion Cliffs will increase as bighorn sheep hunting opportunities develop.

C. Management Direction

1. MANAGEMENT POLICY

Commercial services may be authorized for activities that are appropriate to realize the recreational or other wilderness purposes of the area.

2. MANAGEMENT ACTIONS

Prohibit commercial use of horses/pack animals on the fragile areas in Coyote Buttes Special Management Area or in the Paria Canyon above Bush Head Canyon. Stock use will be allowed in other areas of the Wilderness, with appropriate restrictions to protect wilderness.

Continue to monitor any commercial use of horse/pack animals and the restriction on group size.

Establish a monitoring system to determine effects of horse/packstock use on camping areas and canyon vegetation. Establish use limits on horses if monitoring studies indicate site deterioration is occurring.

Inform outfitters and guides who might be interested in the *Paria Canyon-Vermilion Cliffs Wilderness* about permit requirements and restrictions.

SIGNS

A. Management Objectives

Signing will be unobtrusive and will be the minimum necessary to protect wilderness values and to aid in visitor orientation, education and safety.

B. Current Situation and Assumptions

1. CURRENT SITUATION

At present, signs are limited to the existing access points and the entrance station. The signs are informational in nature, designed to promote safety. Signs within the canyon have been removed by floods or vandals.

2. ASSUMPTIONS

The potential for unauthorized motor vehicle activity impacting the wilderness will increase.

Informational signing will continue to be an important element in promoting safety and interpretation.

C. Management Direction

1. MANAGEMENT POLICIES

Signs will be utilized to identify wilderness boundaries.

Permanent interpretive and regulatory signs will be placed outside the wilderness boundary.

2. MANAGEMENT ACTIONS

Boundary signs will be placed on ways providing access to the wilderness and other areas where conflicts may arise.

Interpretive and regulatory signs will be placed at the entrance station and access points in accordance with the *Paria Canyon Special Recreation Area Management Plan* and as future use patterns demonstrate a need.

WATER

A. Management Objectives

Water quality and water rights will be monitored and managed to preserve the present natural flow and quality and to prevent human-caused contamination.

B. Current Situation and Assumptions

1. CURRENT SITUATION

The known waters in the wilderness are the Paria River, fifty-eight springs or seeps, one well, four stockponds and several waterholes. Nine springs, three stockponds and one waterhole are on private lands. On public land, sixteen springs and four stockponds have Arizona State water rights filings held by individual users. One well in Utah has been filed on by BLM. All waters in the area have been inventoried. No policies or actions within this plan will affect valid existing water rights.

The Paria River, the primary drainage for Paria Canyon, is intermittent in sections from Adairville south to the Buckskin Gulch confluence. During much of the year the Paria is turbid, having large amounts of suspended sediment. Its perennial flow from the Buckskin Gulch confluence to the mouth of the Colorado River is maintained by

springs discharging from the Navajo sandstone. These springs average releases from two to seven cubic feet per second of generally potable water with low total dissolved solids (TDS).

In 1975, a well was drilled outside the wilderness for culinary use at the Paria Entrance Station. Samples obtained from the well show unacceptable levels of total dissolved solids (TDS). In 1981 a reverse osmosis (RO) system was installed to solve the TDS (sulfate and hardness) problems.

Drinking water is quite plentiful in the middle portion of the Paria Canyon. Only one free-running spring is found in the Utah portion of the canyon, in the Buckskin drainage. The first spring in the main canyon is found about eight miles into the Paria Canyon from the White House access point. Springs are then found every 2 to 3 miles for the next 15 miles, mostly next to the base of the cliffs on the south side. Spring water available for recreation use is not found in the lower 11 miles above Lee's Ferry; however, water at Wilson Spring is of good quality and could be developed with protection from livestock contamination.

The chemical quality of springs above the river level is excellent. Some of the springs, however, are below seasonal flood level of the river and can be polluted from the Paria River during periods of high water.

Since the introduction of humans and their animals to the upstream portions of the Paria River, water quality has been affected. High concentrations of fecal coliforms and fecal streptococcus have entered the Paria River, making the water unsafe for human consumption since the bacterial strains mentioned cause dysentery and other related illnesses in people. Fresh water springs and seeps bubbling from the Navajo sandstone canyon walls generally provide potable water, however, most of these springs are undeveloped and none are regularly tested for drinking water standards.

About three-fourths of the springs and seeps are in the Vermilion Cliffs part of the Wilderness. Most of the private water rights filings occur there, including the very important ones for domestic use, mainly Lowery, Badger Spring, Soap Spring, Twin Spring and House Rock Spring. These and a few smaller springs are piped to houses and businesses along the highway just outside the Wilderness boundaries. At present, there is limited water quality or quantity data available on most of these springs.

BLM has the authority to protest water right applications, and since new rights-of-way cannot be granted in wilderness areas there is little threat of private control of the wilderness water sources.

2. ASSUMPTIONS

Stockponds and waterholes are generally unfit for human consumption.

The use of the waters in the area for recreational purposes will increase steadily as visitor use increases.

Increased use may necessitate monitoring for bacterial contamination, especially during drought periods when the users would concentrate around the more dependable springs.

With the exception of the Vermilion Cliffs area, development on private lands adjacent to the wilderness will be minimal.

An implied federal reserve water right was created when the *Paria Canyon-Vermilion Cliffs Wilderness* was designated. Established water rights existing under state law prior to creation of the wilderness area would not be affected by a federal reserve water right claim. If unappropriated water is available, the amount of water claimed by BLM would be limited to the amount required to satisfy wilderness purposes.

C. Management Directions

1. MANAGEMENT POLICIES

Water rights and waters currently used for domestic and stock watering purposes will be maintained. Additional development needs for water will be considered on a case-by-case basis according to wilderness management guidelines and policies of this plan.

Requests and/or approval for private control of water sources within the wilderness will be opposed by BLM.

BLM may, where state law permits, file for water rights on selected water sources in order to protect wilderness resources, threatened and endangered species habitat and recreational uses.

2. MANAGEMENT ACTIONS

Water filings will be made, where unappropriated water exists and state law permits, for recreation, wildlife, stock water and wilderness resources.

Springs will be periodically monitored for contamination and pollution. Special emphasis will be placed on those springs that are used by recreationists.

Selected spring sites will be monitored to protect from overuse by man or animals and prevent erosion and riparian degradation.

Water quality and flow in the Paria River will be monitored.

WILDLIFE MANAGEMENT

A. Management Objective

Wildlife resource management to complement wilderness values will be conducted by managing for an abundant and diversified flora and fauna in balance with its habitat. Natural processes will shape habitat and interactions among species.

Hunting will be carried out in a manner consistent with wilderness values and state laws.

B. Current Situation and Assumptions

1. CURRENT SITUATION

The Paria Canyon-Vermilion Cliffs Wilderness contains significant wildlife values and some of the best riparian communities within the entire Arizona Strip.

Riparian and floodplain communities are dynamic and constantly modified by flooding (see Appendix A, Table 3). In the Paria Narrows, the confined canyon increases the velocity of flood waters, scouring away most of the vegetation. The floodplain below Wrather Canyon is more stable, thus allowing better development of floodplain communities.

Historic yearlong livestock grazing has allegedly caused the loss of an entire age structure of cottonwoods within the riparian communities along the lower eight miles of Paria Canyon. The revised grazing system is anticipated to allow for the establishment of new cottonwoods within the affected areas and restoration of the riparian system.

Riparian communities associated with springs are generally in good condition. However, some of the springs below the Vermilion Cliffs are in poor condition due to their development for livestock use or domestic water.

Desert bighorn sheep are believed to have been eliminated from the Paria Canyon-Vermilion Cliffs around the turn of the century. In July 1984, the Arizona Game and Fish Department (AGFD) in coordination with BLM released 18 desert bighorns (*Ovis canadensis nelsoni*) at Bush Head Canyon and 19 bighorns at Fisher Spring in an effort to reestablish a viable population. An additional 15 bighorn sheep were released at the mouth of Wilson Canyon in July, 1985. The existing monitoring program includes AGFD surveys of bighorns through monthly airplane flights, ground surveys and biannual use of helicopters to obtain age class, population counts, lambing success and distribution data.

A *Paria Canyon-Kanab Creek Habitat Management Plan* (HMP) was prepared in 1983, prior to wilderness designation. One objective of the HMP is to manage for 175 desert bighorn sheep by 1995 through additional transplants and the development of waters where necessary. Long-term objectives of that plan are to manage for a sustainable population of bighorn throughout available habitat, which includes virtually all of the portion of the Wilderness within Arizona.

Approximately 3,000 acres of antelope habitat are within the Wilderness in House Rock Valley below the Vermilion Cliffs and west of Jacob's Pools.

Relatively low numbers of deer live throughout the wilderness. The best habitat is along the rim top of the Vermilion Cliffs. The existing HMP has no plans for improving or expanding the habitat of either deer or antelope within the wilderness. Hunting activity for deer within the wilderness boundary has been light.

At least 20 species of birds of prey are likely to be found within the wilderness as permanent or parttime residents (see Appendix A, Table 4). The bald eagle has been documented in the area both during the summer and winter

season, but is thought to be only a transient. Peregrine falcon are known to nest in the Paria Canyon and, though undocumented, could also nest along the Vermilion Cliffs. Localized conditions such as occur at Wrather Canyon may provide suitable habitat for the spotted owl and black hawk.

A small population of chukar partridge lives in Paria Canyon between Wilson Spring and Bush Head Canyon.

Very little documentation is available on amphibian, reptile and small mammal occurrence and distribution within the wilderness. Due to the uniqueness and isolation of the area the opportunity exists to increase the general knowledge of the specific range of some species and the variability in the gene pool of others.

Four native fish (speckled dace, *Chinichthys oseulus*; bluehead mountain sucker, *Pantosteus discobolus*; flannel mouth sucker, *Catostomus latipinnis*; and razorback sucker, *Xyrauchen texanus*) and one exotic fish (carp, *Cyprinus carpio*) live within the Paria River. The razorback sucker is currently on the Arizona Game and Fish Department's list of threatened wildlife in Arizona and may only be occurring incidentally in the Paria River. The fish was last collected in 1978, 100 meters upstream from the confluence of the Paria and Colorado Rivers. Arizona Game & Fish and BLM conduct an inventory of the fish and collect water quality samples once every five years.

2. ASSUMPTIONS

Based on current management practices, riparian habitat conditions will generally remain static with some improvement in condition over time. The combination of natural regeneration with recent changes in resource management practices (i.e., changing livestock season of use) will promote improvement of riparian habitat condition.

Diversity and abundance of wildlife populations will mainly depend on natural processes and conditions; however, minimal influence by humans may be necessary with some species to promote viability and stability in the population.

Helicopter flights and occasional landings may be required by AGFD for adequate bighorn sheep monitoring.

In light of preliminary data on the success of the recent desert bighorn transplants, it is expected that additional transplants may not be necessary if current population trends continue. However, ongoing monitoring studies by both BLM and Arizona Game and Fish Department will determine if future transplants are necessary.

Deer and antelope populations within the Wilderness are expected to remain static or increase slightly due to actions, such as water developments, outside the Wilderness.

Based on existing data, natural expansion of chukar into areas other than Paria Canyon is limited.

C. Management Direction

1. MANAGEMENT POLICIES

Wildlife management will be directed towards ensuring diversified and abundant flora and fauna through preserving natural processes.

Management will also be directed towards long-term goals of reestablishing native species.

Riparian areas will be managed to maintain or improve their condition. Any action proposed to improve conditions through habitat manipulation will be a result of monitoring and consideration of alternate methods.

In furtherance of wilderness management objectives, BLM will place emphasis on accomplishing habitat management functions through non-motorized, non-mechanized means.

Jurisdiction and responsibilities of the respective state agencies with respect to the protection and management of fish and wildlife species are not changed by wilderness designation.

The AGFD is responsible for monitoring radio-collared bighorn sheep and will fly at least 2,000 feet above ground level.

Through coordination between the AGFD and the authorized officer, helicopter use below 2,000 feet required for bighorn sheep management will be planned, timed and conducted in a manner which ensures that wilderness resource values are maintained. Management guidelines that will be used include:

- Helicopter use will be kept to a minimum and as site-specific as possible.
- Helicopter flights will be scheduled at times and locations, which minimize the impact on visitors' wilderness experience.
- Helicopter landing requests will be evaluated on a case-by-case basis.

If a natural wildlife species is eliminated in the canyon by human influence, reintroduction of that species will be considered.

No wildlife population increase will be encouraged to the disadvantage of another species; however, threatened and endangered species, both plants and animals, will be fully protected.

Predators will coexist with other wildlife species in the wilderness free from the interference of humans. Where control of predators is necessary to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock, it will be accomplished by methods which are directed at eliminating the offending individuals while at the same time presenting the least possible hazard to other animals or to wilderness visitors. Poison baits or cyanide guns will not be permitted. Predator control is authorized by written permission only.

2. MANAGEMENT ACTIONS

Those portions of the Paria Canyon-Kanab Creek Habitat Management Plan (HMP) dealing specifically with objectives and actions within the Wilderness will be reviewed and amended, if necessary, to be consistent with the goals and objectives of this plan.

Selected riparian communities will be identified for monitoring. Monitoring will determine what, if any, future management actions are necessary to prevent deterioration or improve existing conditions.

Infrequent helicopter landings may be allowed when quick reaction time is necessary and there is no other alternative to document bighorn sheep mortality and to determine cause of death. Landings must be approved by the authorized officer.

Monitoring the native fishes and various habitat parameters will continue to ensure that aquatic productivity of the Paria River ecosystem is perpetuated. Flow rate data will continue to be obtained from the USGS gauging station every year and an inventory of the Paria River within the wilderness area will be performed every five years by Arizona Game and Fish Department and BLM. Of particular importance is monitoring for possible pesticide contamination of the river from upstream agricultural practices.

Unique habitats such as Wrather Canyon will be inventoried to determine the occurrence of state- or federal-listed species such as the spotted owl and black hawk. Peregrine falcons will be monitored as necessary to insure that other actions do not impact their well being. BLM inventory and monitoring efforts will consist of ground surveys within the wilderness.

CULTURAL RESOURCES

A. Management Objectives

Management objectives will be to inventory, evaluate, preserve, protect and enhance cultural resources in compliance with federal and state laws and BLM policy.

B. Current Situation and Assumptions

1. CURRENT SITUATION

A total of 43 archaeological sites have been recorded in the *Paria Canyon-Vermilion Cliffs Wilderness*. Several more have been reported by BLM personnel. Virtually the entire spectrum of site types and features known to occur in the northern Southwest are represented in the Wilderness: pithouses, surface masonry features, habitation structures, granaries, storage cists, hearths, lithic scatters, open campsites, rock art, rock shelters and trails. Survey

data indicate that the majority of sites can be assigned to the Pueblo II and III period of Anasazi culture.

In the past 60 years, several surveys have been done in an extensive area around and within the Wilderness. As a direct result of the *Paria Plateau survey by Northern Arizona University* in 1967-68, a request for determination of eligibility for the *National Register of Historic Places* was made for the *Paria Plateau Archaeological District*. In 1976, the Secretary of the Interior determined that the property was eligible, but a formal nomination never proceeded beyond this point. The proposed district included 70,000 acres and 416 sites. Twenty-three of these sites are within the wilderness boundary.

The second archaeological survey of Paria Canyon was conducted by the Museum of Northern Arizona with the expressed intention of inventorying archaeological sites for recreation-planning purposes. Eleven new sites were recorded, most of which were petroglyphs.

The first Europeans to explore the high plateaus and canyons of southern Utah and northern Arizona were members of the Dominguez-Escalante expedition in 1776. In 1864 Jacob Hamblin made the first successful river crossing at what came to be known as Lee's Ferry, at the confluence of the Paria and Colorado Rivers.

In December of 1871, John D. Lee, his son, and two other men left the small settlement of Pahreah, Utah with 57 head of cattle and traversed the entire length of the Paria River to the crossing which was soon to bear his name. Brigham Young sent him to establish a ferry crossing on the Colorado River. Lee established his family there, operating the ferry and farming until his death in 1877.

From 1876-1890 the ferry was a key link in the Mormon colonization of Arizona, providing a dangerous but vital crossing of the Colorado River for pioneers on the Utah-Arizona road. Portions of this road, which came to be known as "The Honeymoon Trail," are still visible and form part of the southern boundary line of the *Paria Canyon-Vermilion Cliffs Wilderness*.

During a period of drought in 1938, Johnny Adams proposed to pump water from the Paria River up to the Paria Plateau. The drought broke before the pipeline was completed and the pump remained untested. Ten years later Gerald Swapp bought the rig to pump water to his range on Judd Hollow, but the plan was aborted with his death in 1949.

In the 1950s uranium prospecting occurred within the Paria Canyon and along the base of the Vermilion Cliffs. A few old mines remain, the largest of which is the Sun Valley Mine.

2. ASSUMPTIONS

It is assumed that significant historic and prehistoric sites that have not yet been inventoried lie within the wilderness boundary.

Upward trend in visitor use of Paria Canyon increases the probability that site data will be destroyed by vandalism.

Unauthorized use of cultural resources (vandalism) will continue to be a problem on the Paria Plateau.

C. Management Direction

1. MANAGEMENT POLICIES

Cultural Resources in the *Paria Canyon-Vermilion Cliffs Wilderness* will not be identified for the general public, with the exception of sites placed in the public use category. Those persons who have a legitimate scientific and/or educational interest in cultural resources in the area will have access to cultural site data in accordance with federal law and established BLM policy and procedure. Requests for access to cultural site data will be made through the BLM area offices.

Prehistoric and historic sites will be accorded protection from vandalism and inadvertent destruction.

Wilderness and cultural resource surveillance will be coordinated to increase the efficiency of monitoring.

Archeological and historic sites that meet eligibility criteria will be nominated to the National Register of Historic Places.

2. MANAGEMENT ACTIONS

The *Paria Canyon Rock Art Assessment Study* will be completed in 1987. This study will record and evaluate those rock-art sites easily accessible by hikers in order to assign those sites to the appropriate use category. Sites will be evaluated for significance according to the National Register of Historic Places Criteria for eligibility.

Any future wilderness brochure will contain information pertaining to the Archeological Resources Protection Act of 1979.

GRAZING MANAGEMENT

A. Management Objectives

Grazing allotments will be managed to maintain or improve present range condition and provide for necessary maintenance of range improvements without compromising wilderness values.

B. Current Situation and Assumptions

1. CURRENT SITUATION

There are presently 16 grazing allotments that are partly or wholly within the 110,000 acres of the *Paria Canyon-Vermilion Cliffs Wilderness*, with about 4,168 AUMs of

active use (see Appendix C, Table 5, for allotment breakdown).

Most allotments are on intensive grazing management systems, two are less intensive and two are custodial. There are numerous existing improvements in the wilderness including fences, pipelines, stock ponds, corrals, spring developments and a catchment. There are also five range study plots and a rain gauge within the wilderness boundaries.

The *Paria Canyon-Vermilion Cliffs Wilderness* has a great variety of plant species resulting from the area's diversity of soil types, elevations, exposures, temperatures, precipitation and existing and past uses. Vegetation types vary from pinyon-juniper atop the Vermilion Cliffs to desert shrub, saltbush and grassland subtypes that range from below the Vermilion Cliffs to the valley bottoms in House Rock Valley. Isolated pockets of ponderosa pine, as well as several riparian communities primarily along the Paria River and around numerous springs, are also found in the area.

Almost all areas in the wilderness that are grazed have an upward trend and improving ecological conditions. Historic yearlong livestock grazing in the lower eight miles of the Paria Canyon and a few springs along the Vermilion Cliffs has resulted in some deterioration of both riparian-floodplain and desert shrub communities. Implementation of rest and grazing systems has helped to improve the vegetation conditions in these areas.

2. ASSUMPTIONS

Under the current grazing system ecological condition will continue to improve.

Utilization levels and patterns of use will remain generally as they were under the pre-wilderness condition.

Range trend will remain static (ungrazed) or move upward (grazed) under present management practices.

Motorized vehicles and mechanized equipment will be needed for some maintenance operations.

C. Management Direction

1. MANAGEMENT POLICIES

Existing livestock grazing will continue at present levels pursuant to *Section 4(d)(4) of the Wilderness Act and House Reports 96-1126 and 98-643*.

Adjustments in grazing preferences will be proposed based on standard BLM range monitoring studies, allotment evaluations and wilderness resource impacts.

Whenever possible new range improvements will be located outside the wilderness area.

All newly proposed range improvements and amendments or modification to existing improvements will be evaluated in the allotment management plan and an environmental assessment. The construction of new

improvements will be for resource protection and management.

Motorized vehicle or equipment use will be authorized on an occasional basis where it existed prior to wilderness designation, when it is determined that it is the only practical alternative and when such use would not have significant adverse impact on the natural environment (see *Appendix B, Range Improvement Maintenance* for more information).

2. MANAGEMENT ACTIONS

Monitoring studies, including utilization, trend, actual use, livestock counts and precipitation data gathering, will be continued as specified in the allotment management plans.

An annual coordination meeting with affected grazing permittees will be held to review and update maintenance plans.

All range improvements will be monitored for compliance with this plan.

Allotment management plans will be reviewed and amended to incorporate maintenance plans and to assure consistence with the objectives of this plan.

All improvements which have been abandoned or are not needed to support the established grazing program may be removed in cooperation with the permittee.

LANDS MANAGEMENT

A. Management Objectives

The objective is to manage valid existing rights associated with past lands actions in order to accommodate existing uses without compromising the wilderness character of the area.

B. Current Situation and Assumptions

1. CURRENT SITUATION

Appendix D-1 lists all notations on the master title plats for land status, range improvements, rights-of-way and withdrawals as of April 2, 1985.

There are state and private inholdings and four rights-of-way within the wilderness. All Arizona State surface and subsurface estates were conveyed to the federal government on April 11, 1985 (see *Appendix D-2*). There are several thousand acres of Utah State surface and subsurface estates in the Buckskin Canyon and East Clark Bench areas (see *Appendix D-3*). Private inholdings and rights-of-way are present along the base of the Vermilion Cliffs in

Arizona (*Appendices D-4 and D-5*). BLM has contacted owners of inholdings and determined access needs.

Arizona Department of Transportation (ADOT) has a right-of-way to Highway 89A that borders the south boundary of the Wilderness. High intensity rain storms have occasionally caused road damage that required ADOT to do stream channel work outside of their right-of-way in what is now wilderness.

2. ASSUMPTIONS

Growth and development on private land at the Marble Canyon Lodge, Vermilion Cliffs Lodge and Cliff Dwellers Lodge will continue. The pipeline rights-of-way associated with these lodges are vital to their operation and will continue to require maintenance.

Routine inspection of pipelines will not require the use of motorized vehicles.

Existing access roads to private inholdings will continue to be needed.

The existing rights-of-way will continue for the purpose of transporting culinary water to private lands and inholdings.

C. Management Direction

1. MANAGEMENT POLICIES

Pipeline reconstruction will require a plan of action to be submitted to BLM at least 60 days before construction is planned to begin. Reconstruction will not alter the size or location of pipelines.

The BLM will negotiate acquisition of inholdings through voluntary cooperation of landowners.

Regulated access will be provided for state and private landowners completely surrounded by wilderness.

Acquired state and private inholdings within the wilderness boundary will be managed as wilderness, using the guidelines and intent of the management plan.

2. MANAGEMENT ACTIONS

Valid existing rights associated with the Arizona Department of Transportation maintenance activity and culinary water pipelines will be determined in consultation with the Regional Solicitor.

The rights-of-way will be amended when required to bring them into conformance with wilderness management requirements.

Rights-of-way will be regularly monitored.

Maintenance proposals associated with valid existing rights will be analyzed in an environmental assessment involving public participation.

BLM will initiate acquisition of inholdings.

BLM will determine the least disturbing or intrusive route and/or method of access to inholdings. Access routes may be gated and locked by BLM with a key provided to the property owner.

MINERALS MANAGEMENT

A. Management Objectives

The objective is to ensure the protection and/or enhancement of wilderness character while allowing valid existing mineral rights to be exercised in accordance with the Wilderness Act (1964) and subsequent legislation.

B. Current Situation and Assumptions

1. CURRENT SITUATION

Most mining activity for uranium occurs in the Chinle Formation along the Vermilion Cliffs. In this area there are a few old mines, the largest being the Sun Valley Mine southwest of Cliff Dwellers Lodge. There also are a few scattered prospects in Paria Canyon and in the northern portion of House Rock Valley.

In addition to the uranium activity, prospecting and mineral resource investigations were conducted for gold and mercury occurrences in a mudstone unit of the Chinle Formation. These investigations suggested that gold, and possibly mercury, occur in minute but widespread quantities in the Paria Canyon-Lee's Ferry area.

Prior to 1913, attempts were made to recover gold at Lee's Ferry, but were evidently unsuccessful. In 1957, gold recovery was tried about six miles up Paria River.

The Paria Canyon-Vermilion Cliffs Wilderness contains the following:

Lode Claims	44
Placer Claims	1
Oil and Gas Leases	9

On August 28, 1984, the *Paria Canyon-Vermilion Cliffs Wilderness* was closed to all forms of appropriation under the United States mining laws and all laws pertaining to mineral leases.

2. ASSUMPTIONS

There will be mineral activities proposed on existing claims. No oil and gas activity is expected.

C. Management Direction

1. MANAGEMENT POLICIES

Generally, validity examinations will not be initiated by BLM until a plan of operations required by 43 CFR 3809 or a patent application is received.

As current leases expire, they will not be renewed. Management of existing leases will be continued in accordance with 43 CFR 8560.4-7b.

Permits shall not be issued for removal of mineral material varieties as defined in the *Act of 7/23/1955; 69 Stat. 367*.

2. MANAGEMENT ACTIONS

Prior to approving a plan of operations, the authorized officer will cause an examination of the unpatented claim(s) by a qualified BLM minerals examiner to verify whether a valid claim exists.

If claim(s) are found to be valid, an Environmental Assessment (EA) will be prepared. The EA will identify anticipated impacts and feasible alternatives for carrying out the proposed action and develop mitigation and reclamation measures.

A cash or surety bond or other guarantee sufficient to defray the costs of reclamation will be required.

FIRE

A. Management Objectives

Fire will be allowed to play its natural role in the wilderness ecosystem.

B. Current Situation and Assumptions

1. CURRENT SITUATION

The area consists of narrow, steep canyons, the Vermilion Cliffs escarpment, numerous sandstone buttes and rolling sand hills. Vegetation varies from sparse stands of grass intermixed with brush to wide-spaced pinyon and juniper trees and riparian growth in the canyon bottoms.

The fire history of this wilderness is one of low occurrence, few acres burned and low fire potential. Vegetation is sparse and scattered, leading to a non-continuous distribution of fuel. The potential for significant resource damage caused by natural fire is extremely low.

The wilderness lies within an area that has previously been designated for limited suppression or observation. Historically, suppression action has been limited to only aerial or ground observation.

2. ASSUMPTIONS

Fire is a natural part of the ecosystem.

Fire occurrence will be infrequent and number of acres burned will remain small.

Increased human use of the area will not significantly affect fire occurrence due to lack of fuel.

C. Management Direction

1. MANAGEMENT POLICIES

Wildfires will be allowed to run their course unless life or private property is endangered.

Where fire occurs on soils sensitive to erosion, grazing may be adjusted until the vegetation has been re-established.

The decision to suppress human-caused fires will be done on a case-by-case basis by the District Manager in compliance with the fire management plan.

When suppression is needed, techniques will be used that result in the least possible impact to the wilderness resource. All surface disturbances caused by suppression actions will be rehabilitated to the fullest extent possible.

A wilderness resource advisor will be assigned to all fires when suppression action has been determined necessary.

2. MANAGEMENT ACTION

A Paria Canyon-Vermilion Cliffs Wilderness fire management plan will be written, a plan that addresses all aspects of fire management, including prescription parameters and appropriate suppression actions.

INSECTS, DISEASE, AND NOXIOUS PLANTS

A. Management Objectives

Insect infestations, disease and noxious plants will be allowed to play their natural role in the ecosystem except where there is a threat to a valuable wilderness resource or a threat to property or resources outside the wilderness.

B. Current Situation and Assumptions

1. CURRENT SITUATION

Insects and disease occur naturally in all forest types in endemic proportions. In the *Paria Canyon-Vermilion Cliffs Wilderness* these would include dwarf mistletoe in the juniper and ponderosa pine, mountain pine beetle in the ponderosa and pine needle scale in pinyon pine. These forest pests contribute in a positive way by creating occasional snags for raptors and cavity-nesters.

Tamarix is currently the only known noxious plant that has the potential of posing a significant threat to other resource values. Tamarix, or salt cedar, is a "naturalized" exotic from Eurasia which has become widespread in the Southwest along streams and around springs. It grows along the Paria River from the south end of "the narrows" to the confluence with the Colorado River and around some springs and seeps in Paria Canyon and the Vermilion Cliffs. Tamarix can be detrimental to small water sources by overgrowing the area and using much of the available water.

2. ASSUMPTIONS

Control of harmful insects or diseases will not be necessary.

Tamarix will continue to spread along the Paria River and will find its way to other springs in the area.

C. Management Direction

1. MANAGEMENT POLICIES

Tamarix invasion of spring areas will be controlled on an as-needed basis using the minimum tools necessary.

2. MANAGEMENT ACTION

Springs and seeps in Paria Canyon and along the Vermilion Cliffs will be inventoried and monitored for Tamarix invasion.

Where control is considered necessary an eradication plan will be developed and analyzed in an environmental assessment involving public participation.

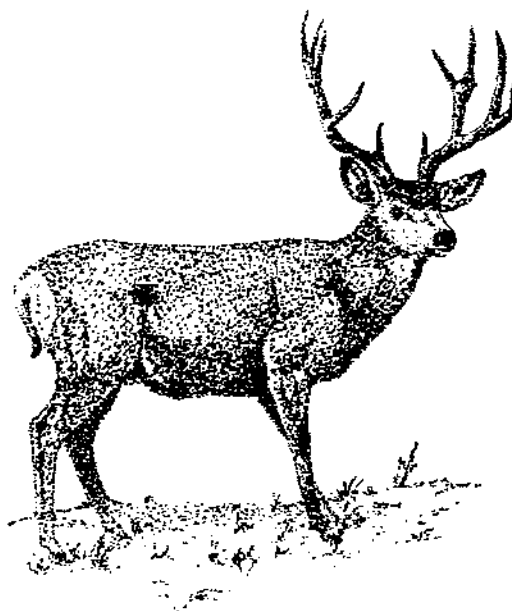
V. IMPLEMENTATION SEQUENCE

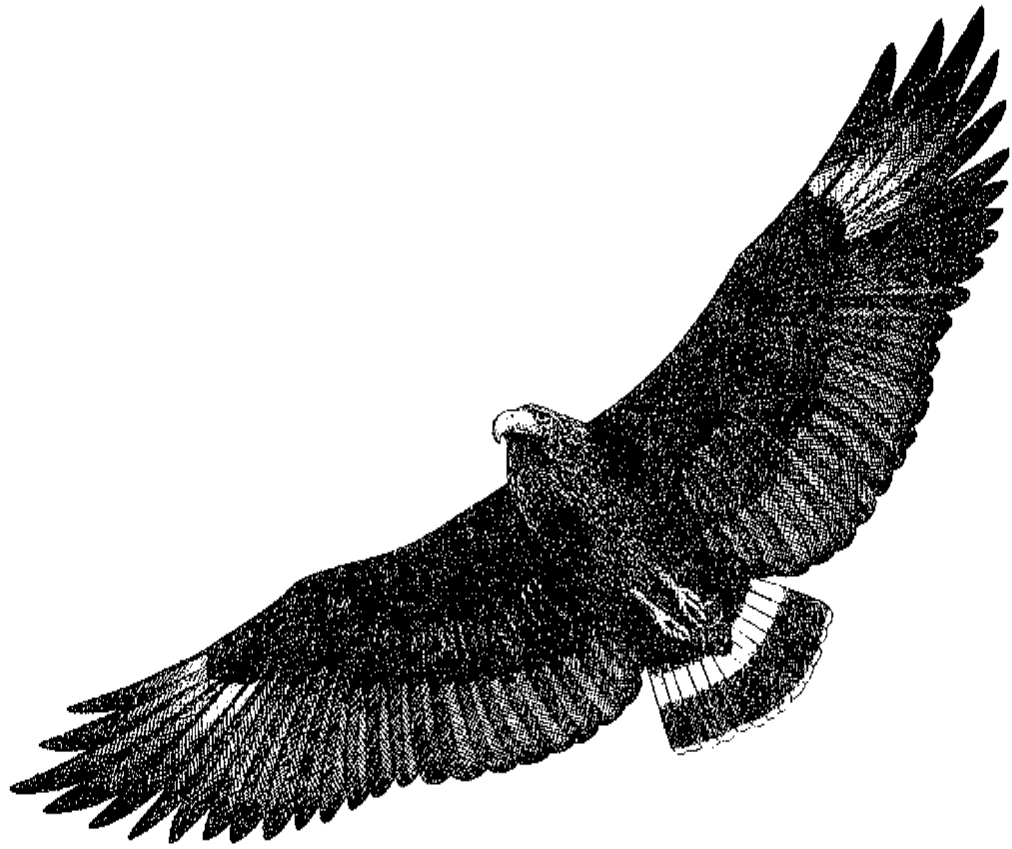
Management Action	Target Date	Responsibility
Inform users about wilderness constraints on motorized equipment use. (Administration)	Continuously	All BLM personnel; particularly Range and Lands
Monitor ORV problem areas and prevent use in wilderness. (Administration)	Continuously	Paria Ranger and Area Recreation Planners
Inform wilderness users of location of official boundary. (Administration)	Continuously	All BLM personnel
Coordinate helicopter landings to document bighorn sheep mortality and determine cause of death. (Wildlife)	Continuously	Area Managers
Revise visitor map and information material. (Recreation), (Information & Education), (Cultural Resources)	Complete as part of interpretive plan	District Recreation Planners
BLM personnel attend the Arizona-Utah Advisory Council. (Search & Rescue)	Immediately	Area Managers
Conduct an annual coordination meeting with affected grazing permittees to review and update the maintenance schedule. (Grazing Management)	Annually	Area Managers
Conduct validity examinations. (Minerals Management)	When plan of operation or patent application is received	District Managers
Prepare environmental assessment where mining claims are determined valid. (Minerals Management)	As needed	Area Managers
Require financial guarantees for mining operations. (Minerals Management)	When a plan of operations is approved	District Managers
Prepare a Tamarix control plan. (Insects, Disease and Noxious Plants)	As needed	Area Managers
Inform outfitters and guides about permit requirements and restrictions. (Commercial Use)	As needed	District and Area Recreation Planners
Write temporary camping restrictions. (Recreation)	As needed	Paria Ranger
Follow BLM administrative flight policy. Administration p. 8.	9-30-1986	District Managers
Refine procedures involving requests for administrative use of motorized vehicles. Administration p. 8.	9-30-1986	District Recreation Planners
Evaluate and upgrade communications at the Paria Entrance Station. Administration p. 8.	9-30-1986	Kanab Resource Area Manager
Complete the Paria Canyon Rock Art Assessment Study. Cultural Resources p. 21.	9-30-1986	Vermillion and Kanab Resource Area Archaeologists
Contact owners of inholdings to initiate exchange proposals. Lands Management p. 23.	9-30-1986	Area Managers
Inventory Coyote Buttes to determine the special management area. Administration p. 8, Recreation p. 11, Commercial Use p. 14.	12-31-1986	Area Recreation Planners
Prohibit campfires in the canyons and Coyote Buttes Special Management Area. Recreation p. 11.	4-1-1987	Paria Ranger
Restrictions on visitor use in Coyote Buttes Special Management Area. Recreation p. 11, Information & Education p. 13, Signs p. 14.	4-1-1987	Paria Ranger and Area Recreation Planners
Prohibit private use of horses/pack animals in Coyote Buttes Special Management Area. Recreation p. 11.	4-1-1987	Paria Ranger and Area Recreation Planners

Implementation Sequence

Management Action	Target Date	Responsibility
Prohibit commercial use of horses/pack animals in Coyote Buttes and the Paria Canyon above Bush Head Canyon. Commercial Use p. 14.	4-1-1987	Area Recreation Planners
Review and amend allotment management plans to incorporate the maintenance plans and be consistent with the objectives of this plan. Grazing Management p. 22.	6-30-1987	Area Managers
Determine valid existing rights associated with rights-of-way. Lands Management p. 23.	6-30-1987	State Director
Inventory existing structures and installations. Administration p. 8, Grazing Management p. 22.	6-30-1987	Area Recreation Planners with assistance from other resource specialists
Develop environmental education program and signs. Recreation p. 11, Information & Education p. 12.	9-30-1987	Paria Ranger and Area Recreation Planners
Revise the Special Recreation Area Management Plan to make it consistent with the goals and objectives of this plan. Administration p. 8, Recreation p. 11.	9-30-1987	Kanab Resource Area Recreation Planner
Locate a single route to Wrather Arch and close other routes. Recreation p. 11, Wildlife Management p. 19.	9-30-1987	Vermillion Resource Area Recreation Planner in coordination with Area Wildlife Biologist
Prepare material to encourage pilots to fly above 2,000 feet. Information & Education p. 12.	9-30-1987	Public Affairs
Prepare a search and rescue plan for the wilderness area. Search & Rescue p. 13.	9-30-1987	District Managers and Safety Officers
Review and amend rights-of-way grants within the wilderness, if necessary, to comply with wilderness constraints. Lands Management p. 23.	9-30-1987	Area Managers
Place interpretive and regulatory signs at the entrance station and access points in accordance with the Paria Canyon Special Recreation Area Management Plan and as future use patterns demonstrate a need. Signs p. 14, Information & Education p. 12.	Continuously after 9-30-1987 (Recreation Plan revision)	Area Recreation Planners and Paria Ranger
Prepare formal agreements with the National Park Service (Bryce Canyon) and U.S. Weather Bureau to supply early warning of flash flood danger. Search & Rescue p. 13.	6-30-1988	District Managers and Safety Officers
Inventory springs and seeps for Tamarix invasion. Insects, Disease & Noxious Plants p. 25.	6-30-1988	Arizona Strip District Recreation Planner, Vermillion Resource Area Recreation Planner and Paria Ranger
Prepare a fire management plan. Fire p. 25.	9-30-1988	Vermillion Resource Area Recreation Planner and District Fire Management Officer
Study abandoned ways as possible hiking routes into the Vermilion Cliffs portion of the wilderness. Recreation p. 11.	9-30-1988	Vermillion Resource Area Recreation Planner
Prepare monitoring plan. Administration p. 8, Recreation p. 11, Commercial Use p. 14, Water p. 16, Wildlife Management p. 19, Grazing Management p. 22, Lands Management p. 23, Insects, Disease and Noxious Plants p. 25.	9-30-1988	Vermillion Resource Area and Arizona Strip District Recreation Planners in cooperation with other resource specialists
Prepare an interpretive plan. Information and Education p. 12, Cultural Resources p. 21.	9-30-1988	District Recreation Planners

Management Action	Target Date	Responsibility
Study Wrather Arch, Buckskin Gulch, and Coyote Buttes for possible nomination to the National Natural Landmark Register. Recreation p. 11.	9-30-1988	District Recreation Planners in cooperation with Area and District Geologists
Revise the Paria Canyon-Kanab Creek Habitat Management Plan to make it consistent with the goals and objectives of the wilderness management plan. Wildlife Management p. 19.	9-30-1988	Vermillion Resource Area Manager
Inventory unique habitats to determine the occurrence of state or federal-listed species. Wildlife Management p. 19.	9-30-1988	Vermillion Resource Area Wildlife Biologist





VI. ENVIRONMENTAL ASSESSMENT

A. Introduction

The Paria Canyon-Vermilion Cliffs area was designated wilderness with the passage of the *Arizona Wilderness Act of 1984*. To guide management of the area, a wilderness management plan has been prepared which sets forth the Bureau of Land Management (BLM) proposed management objectives, policies and actions. This environmental assessment (EA) has been written to identify, document and analyze the environmental, social and economic impacts of the proposed wilderness management plan (WMP) and various alternative management strategies.

A draft environmental impact statement (EIS) was prepared in April 1980, which analyzed the environmental, social and economic impacts of designating the *Paria Canyon-Vermilion Cliffs Wilderness*. Several other management plans and EAs have been written on all or parts of the wilderness covering the pre-wilderness management issues. All of those documents are available at the Arizona Strip and/or Cedar City District Office.

Several management actions, such as the *Search and Rescue Plan*, in the WMP have not been evaluated in this EA because they do not have adverse environmental, social or economic impacts on the wilderness resources, wilderness users or to the local area. Generally, the alternatives to these actions not brought forward to the EA would be no action.

B. Description of the Proposed Action and Alternatives

The framework for wilderness management is provided by the *Wilderness Act of 1964*, Congressional guidelines, regulations and BLM Manual sections. Management of this wilderness area is unusually complex because of a mixture of exceptional natural values, significant recreational use and a number of established and recognized nonconforming but acceptable uses, some of which would require use of motorized vehicles or mechanized equipment. As a result, specific procedures must be developed to guide wilderness preservation requirements, the rights of existing but nonconforming uses, the levels and types of recreation use and other needs that can be balanced in accordance with established laws and regulations.

Four alternative management proposals are being considered. Table 1 highlights the alternatives to facilitate comparison.

1. PROPOSED ACTION ALTERNATIVE

The *Proposed Action Alternative* favors wilderness preservation, with special emphasis on protecting naturalness, scenic quality, solitude and primitive unconfined recreation, while recognizing and providing for nonconforming but acceptable uses.

The *Proposed Action Alternative* consists of the *Management Policies and Management Actions* that are presented in Chapter IV of the *Wilderness Management Plan*. This is the Bureau's proposed action and reflects policy, public input and compromise.

2. ALTERNATIVE A

Alternative A favors wilderness preservation over and above the *Proposed Action Alternative*. Under this alternative wilderness resource protection would always take precedence over other wilderness values such as wilderness recreational use and nonconforming but acceptable uses. Interpretation of the wilderness regulations would be followed with management discretion always favoring wilderness preservation. This alternative would be the most restrictive on the wilderness users.

3. ALTERNATIVE B

Alternative B emphasizes wilderness resource uses over naturalness, solitude, and pristine conditions. The area would be managed according to the wilderness regulations; however management discretion would favor users. This alternative would enhance most user opportunities and user information. It would be the least regulated and restrictive alternative.

4. NO ACTION ALTERNATIVE

The *No Action Alternative* is a continuation of the management recommendations in the Vermillion MFP. The consequences of this have been analyzed in the *Draft and Preliminary Final Arizona Strip Instant Study Area EIS* (1980 and 1984) and the *Draft EIS on the Arizona Strip Wilderness Study Areas* (1982).

The *No Action Alternative* is not a viable alternative because the area has been legislatively designated as wilderness and must be managed as such. Therefore, further analysis of this alternative will not be done.

Table 1 highlights the three alternatives. A complete description of the *Proposed Action Alternative* is in Chapter IV of the *Wilderness Management Plan*. The Wilderness Administration section covers both BLM's administrative actions as well as the way BLM will administer other proposed actions.

C. Description of the Affected Environment

The *Paria Canyon-Vermilion Cliffs Wilderness Area* is the designated 110,000 acre wilderness on the Arizona-Utah borders. The WSA consists of four major components:

TABLE 1

Comparison Chart of Alternatives

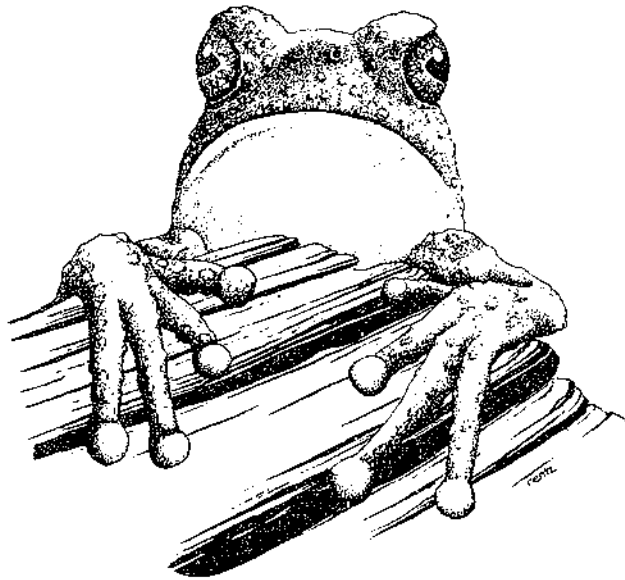
WILDERNESS ELEMENTS	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B
(1) WILDERNESS ADMINISTRATION			
(a) Motorized/Mechanized Equipment Use in Non-Emergency Situations for Administration and Other Uses	(a) The wilderness would be closed to motorized/mechanized equipment use, with rare exceptions. Coyote Buttes Special Management Area would be closed to all non-emergency requests for motorized use.	(a) Same as the <i>Proposed Action</i> except Paria Canyon bottoms would be closed to all non-emergency requests for motorized use.	(a) Motorized/mechanized equipment would be allowed where used previously and where the use complies with minimum tool policy.
(b) Recreation	(b) Present registration system for recreation uses would be continued. Group size in wilderness area would be limited to 15 with no limit on the number of groups. No restrictions on domestic pets. However, Coyote Buttes Special Management Area would recommend limiting group size to 4 and limiting groups to 2 per day.	(b) Initiate a fee permit system. Limit group size to 10 and one group per day. Coyote Buttes Special Management Area would be the same as the Proposed Action. Domestic pets would not be permitted in the Paria Canyon and/or Coyote Buttes Special Management Area.	(b) No registration or fee permit system. No limit on groups. No restrictions on domestic pets.
(c) Monitoring	(c) Monitor wilderness management actions for compliance with the management plan, and limit use.	(c) Limits of Acceptable Change (LAC) would be used to allocate resources	(c) Same as <i>Proposed Action</i> .
(d) Administrative Facilities	(d) Upgrade communications system.	(d) Remove communication system to make the area more remote.	(d) Same as <i>Proposed Action</i> .
(e) Aircraft Use	(e) All non-emergency aircraft use would be above 2,000 feet where practical. Flights below 2,000 feet would require Authorized Officer approval. Landing of helicopters would be after a case-by-case analysis.	(e) All non-emergency administrative flights would be above 2,000 feet. No landings permitted.	(e) No aircraft elevation restrictions. Landing of helicopters would be only after a case-by-case analysis.
(2) RECREATION			
(a) Trail and Access Route Management	(a) No trail construction except to correct resource damage (e.g., Wrather Canyon). Identify abandoned roads as trails with signs. Do not identify these on visitor map. Leave Wire Pass Trailhead/parking as is.	(a) Trail construction same as Proposed Action. Do not identify abandoned roads. Relocate Wire Pass Trailhead out of wilderness.	(a) Construct and sign trails where feasible. Identify abandoned road on map with signs. Leave Wire Pass Trailhead as is.

TABLE 1 (Continued)
Comparison Chart of Alternatives

WILDERNESS ELEMENTS	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B
(b) Campfires	(b) Allow campfires everywhere except for Coyote Buttes Special Management Area and Paria Canyon.	(b) No campfires in wilderness.	(b) No restrictions.
(c) Horse/Pack stock Use	(c) No horse/pack stock use in Coyote Buttes Special Management Area or commercial use of horses/pack stock in Paria Canyon above Bush Head Canyon. No restriction elsewhere.	(c) No horse/pack stock use allowed.	(c) No restrictions.
(3) WATER			
(a) Water Quality	(a) BLM would periodically monitor recreational water sources for contamination and take appropriate actions.	(a) BLM would intensively monitor water sources and take appropriate action.	(a) No water monitoring.
(4) WILDLIFE			
(a) Riparian Management	(a) Selected riparian areas would be monitored and action taken when necessary to prevent deterioration.	(a) All riparian areas would be monitored and action taken when necessary to prevent deterioration.	(a) No monitoring.
(5) GRAZING			
(a) Monitoring Studies	(a) Studies would be continued as specified in existing AMPs. Studies would be accomplished without vehicles.	(a) Same as <i>Proposed Action</i> .	(a) Continue existing studies. Allow vehicle use where feasible.
(b) Range Improvement Inspection and Maintenance	(b) Follow Congressional grazing guidelines for inspection and maintenance of range improvements as proposed in Appendix D of the management plan.	(b) Same as <i>Proposed Action</i> .	(b) Management discretion would favor grazing user.
(c) New Improvements	(c) Would be considered based on impact to wilderness resource.	(c) No new improvements.	(c) Same as <i>Proposed Action</i> .
(d) Abandoned or Unnecessary Improvements	(d) Would be removed in cooperation with permittee.	(d) Would be removed by BLM.	(d) No removal.
(6) MINERALS			
(a) Validity Exam	(a) BLM would initiate validity exams when a	(a) BLM would initiate validity exams on all	(a) Same as <i>Proposed Action</i> .

TABLE 1 (Continued)
Comparison Chart of Alternatives

WILDERNESS ELEMENTS	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B
(b) Bonding	<p>plan of operations is received or patent applied for.</p> <p>(b) Cash or surety bonds or other guarantee sufficient to defray the cost of reclamation would be required.</p>	<p>unpatented mining claims upon approval of the wilderness management plan.</p> <p>(b) Same as the <i>Proposed Action</i>.</p>	(b) Do not require bonds.



Paria Canyon, portions of the Paria Plateau, Coyote Buttes and the Vermilion Cliffs. A specific description of the affected environment is provided in *Section I.C.2 and IV.B.1* of the wilderness management plan.

D. Analysis of the Proposed Action and Alternatives

1. ASSUMPTIONS

The analysis of impacts is based on the following assumptions.

- (1) Each alternative is analyzed as if it were a fully funded action and would be implemented with all necessary personnel.
- (2) Implementation of the management plan would begin in fiscal year 1987.
- (3) The short-term period would be less than 10 years; long-term is greater than 10 years.
- (4) Site impacts from any proposed actions that are not specifically projected in the WMP would be analyzed on a case-by-case basis in an Environmental Assessment.

2. ENVIRONMENTAL IMPACTS

a. Anticipated Impacts

This section evaluates the actions and policy statements in the wilderness management plan and the viable alternatives to those actions. This section is in the same order as the wilderness management plan so the *Proposed Action Alternative* and other alternatives may be compared.

(1) ADMINISTRATION

(a) Motorized/Mechanized Equipment Use in Non-Emergency Situations for Administration and Other Uses

PROPOSED ACTION ALTERNATIVE

Under this alternative the wilderness would be closed to unauthorized motorized/mechanized use. Proposals would be evaluated using the minimum tool criteria. Only vehicle use or mechanical equipment determined to meet the minimum tool criteria would be authorized. This approach would minimize adverse impacts to naturalness, solitude and unconfined recreation. There are relatively few instances anticipated for which BLM would require or approve motorized/mechanized equipment. Impacts resulting from motorized administrative use should be substantially reduced over the pre-wilderness condition.

The greater the use of motorized transportation the greater would be the adverse impacts on the wilderness values such as solitude, wildlife, visual resource and recreational users. Mechanized use would adversely affect the solitude and wilderness experience of recreational visitors within hearing or seeing distance. Impacts would

occur mainly on fringes of the wilderness where there are existing roads. Opportunities for wilderness visitors to engage in primitive and unconfined types of recreation within Paria Canyon are not expected to be adversely impacted by use of motorized vehicles or equipment due to the remoteness and distance from vehicle routes.

Almost all motorized vehicle proposals would require a separate EA to evaluate the impacts on the wilderness resources and users.

Cultural, wilderness and wildlife values could benefit from motorized vehicle use for law enforcement purposes by providing quicker response to reported incidents, therefore reducing damage caused by vandals.

Coyote Buttes Special Management Area would be closed to all non-emergency requests for motorized vehicle use in order to protect wilderness resource values and reduce adverse impacts associated with vehicle use. This could have adverse impacts on two livestock operators who have range improvements in the surrounding area. Since the improvements themselves are not in the Special Management Area, only the access to these improvements would be affected.

Closing the wilderness to motorized vehicle use would have beneficial impacts on naturalness, wildlife, solitude and the fragile nature of the parent rock.

ALTERNATIVE A

Alternative A would be identical to the Proposed Action except the Paria Canyon would also be closed to all requests for non-emergency motorized vehicle use. This could have a minor adverse effect on two permittees who have range improvements in the canyon area. However neither permittee currently has a need for motorized ground support. This alternative would have a negative impact on those who request helicopter landing for any non-emergency use (i.e., wildlife monitoring, water quality sampling, etc.) This alternative would have a beneficial impact on wilderness users, solitude, the area's naturalness and other unconfined recreational opportunities.

ALTERNATIVE B

Under this alternative, motorized vehicle/equipment use authorization would be considered where used previously and consistent with the minimum tool process. Impacts would not significantly change from the pre-wilderness situation, which involved uncontrolled occasional vehicle use, primarily pickup trucks on existing roads and on fringes of the wilderness. Motorized vehicle use would be expected to be greater than under the *Proposed Action*, but would still be regulated by the minimum tool. Adverse impacts to wilderness values, such as solitude, wildlife and naturalness, would occur. This would involve more instances of adverse impact than either the *Proposed Action* or *Alternative A*.

(b) Recreation

PROPOSED ACTION ALTERNATIVE

The *Proposed Action Alternative* would continue to use recreational group size limits of 15, but would not propose

any limits on the number of groups. This could have an adverse impact to larger organized groups that would be prohibited from using Paria Canyon without breaking up into smaller units. It could also have adverse impacts on solitude and naturalness for those small groups that encounter up to 15 people in a group, especially if two or more larger groups meet. Substantial adverse impacts to the biological and physical resources are not anticipated when group size is 15 or less.

This alternative requires a registration system. The registration system provides user information and safety and would have a beneficial impact on user safety and provide BLM with additional information on social and physical attitudes of the users. A positive impact would result from disseminated visitor safety information.

This alternative has not placed any restrictions on domestic pets (i.e., dogs). This could have a negative impact on wildlife, recreational users, camping areas, noise and water holes. However, to date there have not been any complaints. It could have a positive impact on those recreationists who enjoy hiking and recreating with their pets.

Under this alternative the Coyote Buttes Special Management Area would recommend limiting the size of each group to four and the number of groups to two per day. This should have a positive impact on all the wilderness values due to the extremely fragile nature of the area. It would have a negative impact on groups larger than four and/or if more than two groups want to visit the area per day.

ALTERNATIVE A

Under this alternative the BLM would initiate a fee permit system and limit group size to 10 and one group per day. This alternative would involve greater restrictions on visitors to Paria Canyon than would the other alternatives. Requiring a fee and reservation system would have both adverse and beneficial impacts on wilderness. The action would reduce the number of people who would be able to visit Paria Canyon but in turn would benefit those visitors who wish to have a wilderness experience free from encounters with other people. It would also reduce visitor use impacts on wilderness resources.

The restriction placed on domestic pets in Coyote Buttes Special Management Area and the Paria Canyon would have a beneficial impact on wildlife and solitude. In comparison to the Proposed Action Alternative, this alternative would result in fewer concentrated impacts on natural values, especially campsites, and offer improved opportunities for visitors who want solitude.

Recreation in the Coyote Buttes Special Management Area would be managed the same as under the *Proposed Action*.

ALTERNATIVE B

This alternative could result in increased impacts to wilderness resources and visitor use conflicts in Paria Canyon in comparison to the other two alternatives. The potential for increased visitor use and lack of regulation of group size could adversely affect the quality of the wilderness experience for many visitors, especially those seeking solitude. It would, on the other hand, result in more people being able

to hike and camp in Paria Canyon. Not restricting domestic pets in the wilderness area would have the potential for adverse impacts on wildlife and recreationists, campsites and water holes. Dropping the registration system has the potential for adverse impacts on human health and safety through not providing information on natural hazards. It would also reduce the information BLM has been obtaining on user attitudes.

(c) Monitoring

PROPOSED ACTION ALTERNATIVE

Under this alternative the area would be monitored as outlined in the management plan. This would have a positive impact on the wilderness. This is a comprehensive wilderness monitoring program directed toward achieving the stated planned objectives through the implementation of the proposed management actions and policies. This would benefit the wilderness by providing additional baseline data and by documenting change as it occurs. If change occurs, BLM can determine if it is natural or artificial and, if artificial, can propose actions to correct it.

ALTERNATIVE A

Alternative A would differ from the *Proposed Action Alternative* in that the LAC Project Plan would be initiated immediately upon approval of the WMP. Potential benefits to wilderness values and management from this approach would be realized sooner than in the *Proposed Action Alternative*. Additionally, as the process is carried out, identifying key indicators of change, gathering information about the chosen indicators and determining standards for them, would insure that indicators and standards reflect the objectives in the descriptions. Drawbacks from this approach are related to the current lack of baseline information and BLM expertise in utilizing the LAC process. If LAC were immediately initiated upon approval of the WMP, the plan would require immediate amendments. Due to the Bureau's lack of expertise with LAC there is a great chance that the effort would require continual updating and might not work.

ALTERNATIVE B

This alternative is the same as the *Proposed Action*.

(d) Administrative Facilities

PROPOSED ACTION ALTERNATIVE

Upgrading communications at Paria would increase BLM's ability to provide accurate and current weather data to recreational users. It would also benefit BLM's ability to coordinate management actions and effectively respond to noncompliance activities. Effective communications are essential to search and rescue. The *Proposed Action Alternative* would result in beneficial impacts to visitor services and safety. There is a potential negative impact to natural values and solitude to those recreationists who want a pure wilderness experience unmarred by potential human intervention.

ALTERNATIVE A

Alternative A would reduce efficiency in management which would not be offset by increasing remoteness. Hikers may or may not perceive the increase in remoteness with removal of communications. The added feeling of solitude or remoteness experienced by the average hiker is thought to be insignificant.

ALTERNATIVE B

Same as *Proposed Action Alternative*.

(e) Aircraft Use

PROPOSED ACTION ALTERNATIVE

Under the *Proposed Action Alternative* all non-emergency aircraft use would be at least 2,000 feet above the ground whenever practical. This request has potential for both positive and negative impacts. Flying above 2,000 feet could have a beneficial effect on the wilderness recreational user and wildlife in that flying above this height would reduce or eliminate noise and visual intrusions. However it could have a negative affect on the mission of the flight in that 2,000 feet above the ground may be too high to accomplish the objectives of the flight. All BLM administrative flights below 2,000 feet would require prior Authorized Officer approval. If approved, the flight could have adverse impact on naturalness, solitude and unconfined recreation.

All helicopter landing would be evaluated on a case-by-case basis and therefore will not be analyzed any further.

ALTERNATIVE A

Alternative A would be similar to the *Proposed Action Alternative* except no non-emergency administrative flights would be approved below 2,000 feet and no landings would be authorized. These two additional restrictions would have a positive impact on recreational experiences by reducing the opportunity for motorized encounters within the wilderness. It could, however, have a negative effect on wildlife in that the Arizona Game & Fish Department would be handicapped in their ability to monitor bighorn sheep, lambing success, age class composition and in establishing appropriate hunting regulations.

ALTERNATIVE B

Under *Alternative B* there would be no imposed restrictions on aircraft flights. Landing of helicopters would be the same as the *Proposed Action Alternative*. This alternative would have a negative impact on wilderness users in that aircraft use would be anticipated to increase. This would adversely affect the area's naturalness, solitude and unconfined recreational opportunities.

(2) RECREATION

(a) Trail and Access Route Management

PROPOSED ACTION ALTERNATIVE

The actions and policies set forth in the *Proposed Action Alternative* regarding trail and access route management

would generally minimize new impacts to natural values while providing for restoration or protection of areas adversely impacted by visitor use. The *Proposed Action Alternative* would also provide opportunities for primitive recreation by identifying other areas of access not commonly used. This management approach would maintain or enhance existing trail and access.

ALTERNATIVE A

Alternative A would differ from the *Proposed Action Alternative* in that abandoned roads would not be identified for users and the current Wire Pass access facility would be moved out of wilderness. This approach would not provide alternative opportunities for primitive recreation to the extent the *Proposed Action Alternative* could but it would not preclude visitors from "discovering" these opportunities on their own. Relocating the Wire Pass access facility out of wilderness would be a benefit to naturalness.

ALTERNATIVE B

Under *Alternative B* BLM would construct and sign trails where feasible. This would have an adverse impact on the soil, water and vegetative resources by attracting most use to specific areas. The visual impacts from established trails and signs would adversely impact the area's natural and primitive character. Some recreationists would be beneficially affected by the provided information about locations, distances and direction.

(b) Campfires

PROPOSED ACTION ALTERNATIVE

The *Proposed Action Alternative* would benefit natural values by not allowing consumption of woody material for fire, thus eliminating evidence of fire rings, charcoal and soot in the high use areas. The absence of campfires would also enhance the feeling of remoteness from past human activities. Allowing campfires in the remainder of the wilderness would not be expected to adversely impact naturalness and solitude since visitor use is very low.

Restricting campfires in Paria Canyon and Coyote Buttes would preclude the opportunity for a "total" experience. However, for several years visitors have been encouraged to use camp stoves rather than fires. This approach is a balance of managerial protection versus regulations and restrictions. Visitors in Paria Canyon and Coyote Buttes could feel they have lost an aesthetic value with the campfire restriction. However, other visitors could experience a greater sense of naturalness and solitude.

ALTERNATIVE A

Alternative A expands the restriction on campfires in the *Proposed Action Alternative* to the entire wilderness. While favoring naturalness and solitude this alternative would be more restrictive on visitors, reducing their opportunity for unconfined recreation free from rules or regulations. Recreational user information presently does not support this proposal.

ALTERNATIVE B

Alternative B would not restrict campfires anywhere in the wilderness. This would favor unregulated visitor use and opportunities for a "total" back country experience over protection of natural values and solitude. This alternative would result in increased destruction of vegetation for use in campfires, construction of fire rings and charcoal piles, all of which would adversely affect natural wilderness values and might detract from the wilderness experience of some visitors.

(c) Horse/Pack Stock Use

PROPOSED ACTION ALTERNATIVE

The *Proposed Action* restricts commercial and recreational horse/pack stock use in Coyote Buttes Special Management Area and commercial use in Paria Canyon above Bush Head. This would benefit natural, scenic, riparian and certain recreation values in these areas by eliminating the potential for adverse impacts on vegetation, fragile soils and parent materials. Additionally, this could reduce the potential for conflicts between different types of recreation users. While the action would preclude the recreation opportunities for those who use horses or pack stock, it would not affect those opportunities in unrestricted areas. In light of historic low recreational horse use and other visitor use throughout much of the wilderness, unrestricted use outside Paria Canyon and Coyote Buttes Special Management Area would not adversely impact natural, scenic or other recreational values. The action would not be expected to significantly impact social or economic aspects of recreational horse/pack stock use, since very little demand exists.

ALTERNATIVE A

Alternative A expands the restrictions on horse/pack stock use in the *Proposed Action Alternative* to the entire wilderness. While potentially beneficial to natural, scenic, riparian and certain other recreational values in the wilderness, this alternative would contain regulations and restrictions where no need has been demonstrated. Opportunities for recreational horse/pack stock use would be totally eliminated, potentially affecting user attitudes especially as they relate to future hunting opportunities.

ALTERNATIVE B

Alternative B would not restrict horse/pack stock use anywhere in the wilderness. This would favor totally unregulated use. Opportunities for this use would be favored over natural, scenic, riparian and certain other recreational values. However, in light of historic low recreational horse use and anticipated low future utilization in the wilderness, unrestricted use may never impact these values. (See Commercial Use in the WMP.)

(3) WATER

PROPOSED ACTION ALTERNATIVE

Under this alternative BLM would periodically monitor recreational water sources for contamination. This would provide a positive benefit to the recreationist by providing

information on the kind of water purification needed. It would also provide information on any significant change in water quality that could affect riparian vegetation and/or wildlife, including fish. There would be a negative impact on solitude and naturalness to those recreational users who happen to encounter BLM personnel collecting the samples.

ALTERNATIVE A

The impacts of this alternative would be the same as the *Proposed Action Alternative* except all the negative impacts would be greater due to the increased effort. The positive impacts may or may not be greater based on the results of the tests and public attitude.

ALTERNATIVE B

Under this alternative no water quality testing would be done. There would be a positive benefit on solitude, but a negative benefit on users who want to know if water purification is needed. There would be a potential negative impact from not knowing if changes in water quality are occurring.

(4) WILDLIFE

(a) Riparian Management

PROPOSED ACTION ALTERNATIVE

Selected riparian areas would be monitored and action taken when necessary to prevent deterioration. Restrictions on the use of horses or pack stock in Coyote Buttes Special Management Area and Paria Canyon would be beneficial to the riparian areas. Campfire restrictions in Paria Canyon and Coyote Buttes Special Management Area would be beneficial to the riparian areas by preventing the use of the larger vegetation for firewood. Locating one trail in Wrather Canyon for visitor use and closing the other trails would provide a high beneficial impact to riparian management.

Monitoring the riparian areas would help in documenting change and would help direct management action when necessary. Maintaining or improving current riparian condition would benefit recreationist, water quality and wildlife values.

ALTERNATIVE A

Same as the *Proposed Action Alternative*.

ALTERNATIVE B

Under this alternative riparian areas would not be monitored for change. If riparian areas were not monitored, the potential for adverse impacts exists. These impacts may continue due to lack of knowledge. This would have potentially adverse impacts on natural values, wildlife, livestock and recreational use.

(5) GRAZING**(a) Monitoring Studies****PROPOSED ACTION ALTERNATIVE**

Impacts of the *Proposed Action Alternative* would have a positive effect on natural values, solitude, and primitive and unconfined recreation due to the restrictions placed on motorized vehicle use. Impacts on supplemental values such as geology, cultural resources and wildlife would be negligible. Social and economic impacts would vary but are generally thought to be negligible.

ALTERNATIVE A

Same as *Proposed Action Alternative*.

ALTERNATIVE B

Alternative B would have a slightly negative impact on natural values, solitude and primitive and unconfined recreation due to periodic motor vehicle use in the wilderness. Other values would be negligible.

(b) Range Improvement Inspection and Maintenance**PROPOSED ACTION ALTERNATIVE**

Under this alternative motorized or mechanized proposals would be reviewed using the minimum tool policy. Adverse impact to 12 ranchers would occur due to the increased restrictions on motorized use. Negative social and economic impacts would result because ranchers would have to adjust their operations to accommodate the approved maintenance schedule. This may reduce efficiency of ranching operations and increase operating costs.

No significant adverse biological or physical impacts would be anticipated from any of the approved vehicle uses.

Implementation of the proposed range maintenance plan would result in occasional adverse impacts on solitude and the recreational experience of some visitors due to rancher vehicle use.

The restrictions on rancher vehicle use resulting from the proposed maintenance schedule would result in slightly positive effects on naturalness, solitude, and primitive and unconfined recreation. Other wilderness values would be little affected by the Proposed Action Alternative.

ALTERNATIVE A

Same as the *Proposed Action Alternative*.

ALTERNATIVE B

Under this alternative management discretion would favor the wilderness user. Additional adverse impacts on naturalness, solitude, primitive and unconfined recreation and recreational visitors would be involved in comparison to the other alternatives.

(c) New Improvements**PROPOSED ACTION ALTERNATIVE**

The *Proposed Action Alternative* would have positive impacts on naturalness, solitude and primitive recreation by substantially reducing human intrusion for water development and other range improvements. Additional positive benefits to these wilderness values would be realized by allowing those improvements that would not adversely affect the natural resource conditions in wilderness. Scenery, wildlife and other supplemental wilderness values could be adversely affected, depending upon the level of human activity. An insignificant negative social and economic impact would be imposed on grazing permittees because they would be unable to put in new improvements that might benefit their operation.

Optimum location of some new improvements could be prevented by the policy of locating them outside the wilderness when possible, thereby reducing their effectiveness.

ALTERNATIVE A

This alternative would have both positive and negative effects on wilderness values. Naturalness, solitude and other associated values would benefit from no intrusion being allowed but could be impaired because those projects that could improve resource conditions would also be precluded. Greater negative social and economic impacts to the ranchers could occur due to the prohibition on new improvements that could enhance range conditions or grazing operation.

ALTERNATIVE B

Same as *Proposed Action Alternative*.

(d) Abandoned or Unnecessary Improvements**PROPOSED ACTION ALTERNATIVE**

Under this alternative removal of abandoned improvements would result in insignificant beneficial impacts to natural values, wildlife and unconfined recreation. Motorized/mechanized assistance for these actions would be evaluated on a case-by-case basis.

ALTERNATIVE A

Under this alternative all abandoned or unnecessary improvements would be removed by BLM. BLM/rancher relationships could be damaged through the policy of removing those improvements.

ALTERNATIVE B

Under this alternative abandoned or unnecessary improvements would not be removed. This would result in an insignificant adverse impact on naturalness, wildlife and unconfined recreation.

(6) MINERALS

(a) Validity Examinations

PROPOSED ACTION ALTERNATIVE

BLM would initiate a validity examination upon receipt of a mining plan or a patent application. This would be beneficial for the mining claimants because they could control when validity examinations would be initiated. There is a negative impact from prolonging the life of those potentially invalid claims for claimants who do not submit mining plans but continue to complete their assessment requirements. Natural values and solitude may be adversely affected by mining claimants doing assessment and/or BLM doing the validity examination. All mining claims that are valid will be managed under 43 CFR 3809 regulations.

ALTERNATIVE A

Under this alternative BLM would initiate a validity examination on all mining claims in the wilderness area upon approval of the wilderness management plan. Naturalness and solitude would be adversely affected in the short term but benefitted in the long term by eliminating and rehabilitating all invalid claims. A positive impact would result from eliminating the assessment requirement for all of the invalid claims.

ALTERNATIVE B

Same as the *Proposed Action Alternative*.

(b) Bonding

PROPOSED ACTION ALTERNATIVE

Under this alternative BLM would require a cash or surety bond or other guarantee to sufficiently defray the cost of reclamation of a mining operation. This would have a beneficial impact on the wilderness resources by assuring that funds would be available for reclamation. The cost of providing such security would be an adverse economic impact on the mining claimant.

ALTERNATIVE A

Same as the *Proposed Action Alternative*.

ALTERNATIVE B

Under this alternative BLM would not require bonding or guarantees of any type to cover costs of mining reclamation. The mining operator would benefit from this alternative by not having to finance a bond during the course of the mining operation. Wilderness resources would be adversely affected if the operator ceased operation prior to completing reclamation. This could result in a visible scar and/or trash on the landscape that could be visible for generations.

b. Possible Mitigating or Enhancing Measures and Recommendations for Mitigation or Enhancement

Mitigation and enhancing measures have been incorporated in the *Proposed Action Alternative* as described in the *Wilderness Management Plan*.

3. RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

The *Proposed Action Alternative* is not expected to have either short- or long-term impacts that would degrade the environment below the pre-wilderness condition.

4. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Under the *Proposed Action Alternative*, the existing natural character of the *Paria Canyon-Vermilion Cliffs Wilderness* would be maintained at a level which would meet or exceed the *Section 3(c)* definition of the *1964 Wilderness Act*. No irreversible commitments of wilderness resources is predicted.

E. Conclusion

The result of this evaluation is that there are no significant environmental impacts from the *Proposed Action Alternative* or the other alternatives and that an environmental impact statement (EIS) is not warranted.

VII. COST ESTIMATES

It is estimated that annual expenditures in the wilderness area will total \$43,000, with development and additional planning totaling \$229,000. Specific expenditure components anticipated for the wilderness area are identified below.

1. Current annual expenditures at the Paria Canyon-Vermilion Cliffs Wilderness:

Workmonths	\$18,000
Vehicle	5,000
Utilities	2,500
Water System (Maintenance)	600
Trailheads/Signs Maintenance	1,500
Brochures	150
Travel	250
Total:	\$28,000

2. Additional annual expenditures resulting from wilderness management actions:

Boundary Monuments	\$2,000
Additional Use Supervision and Monitoring	13,000
Total:	\$15,000

3. Unfunded development proposed in the Recreation Area Management Plan for the Paria Canyons Special Recreation Management Area, Utah/Arizona:

Permanent Residence/Entrance Station	\$130,000
Upgrade Trailheads and Facilities	5,000
Pave Access Road to Entrance Station and Parking Area	35,000
Total:	\$170,000

4. Non-recurring expenditures resulting from wilderness management actions:

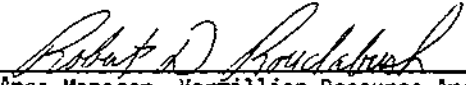
Revise Visitor Map and Information	\$8,000
Revise Recreation Area Management Plan	5,000
Inventory Springs, Seeps, Structures and Installations	6,000
Revise Vehicle Use Procedures	100
Locate a Trail to Wrather Arch	2,000
Search and Rescue Agreement	1,900
Search and Rescue Plan	3,000
Limits of Acceptable Change Plan	15,000
Study of Abandoned Roads as Trails	4,000
Interpretive Plan	5,000
Effective Communications at Paria	9,000
Total:	\$59,000

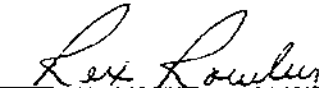
5. Wilderness management related actions funded by other resource programs (no cost estimates have been made for these actions):


- Annual Meetings with Livestock Operators
- Mining Claim Validity Examinations and Environmental Assessments
- Tamarix Eradication Plan
- Revision of Allotment Management Plan
- Revision of Habitat Management Plan
- Review of Rights-of-Way
- Inventory of Unique Wildlife Habitat
- Fire Management Plan
- Water Filings
- Inholding Exchanges
- Protective Withdrawal of Paria Administration Site
- Fence at Boulder Slide (Livestock)
- Fence at House Rock Valley Road (Livestock)
- Study of National Natural Landmark Candidates

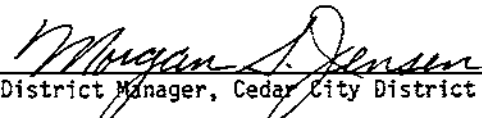
VIII. RECOMMENDATION AND APPROVAL SHEET

Recommended by:



Area Manager, Vermillion Resource Area 9/5/86
(date)



Area Manager, Kanab Resource Area 9/9/86
(date)


District Manager, Arizona Strip District 9/5/86
(date)


District Manager, Cedar City District 9/9/86
(date)

Approved by:


State Director, Arizona 9/12/86
(date)


State Director, Utah 9/15/86
(date)

IX. APPENDICES

APPENDIX A

TABLE 2

RARE PLANT SPECIES WHICH MAY OCCUR IN THE PARIA CANYON-VERMILION CLIFFS WILDERNESS BUREAU OF LAND MANAGEMENT, ARIZONA STRIP DISTRICT, ARIZONA

<i>Amsonia tomentosa Stenophylla</i>	State Sensitive (S2)	
<i>Argemone arizonica</i>	USFWS Candidate (Category 2)	Regional endemic
<i>Astragalus beathii</i>	State Sensitive (S1)	Arizona endemic
<i>Astragalus barnebyi</i>	State Sensitive (S2)	Regional endemic
<i>Astragalus striatiflorus</i>	State Sensitive (S2)	Regional endemic
<i>Ipomopsis frutescens</i>	State Sensitive (S2)	Regional endemic
<i>Pediocactus bradyi</i>	Federal Endangered	Regional endemic
<i>Pediocactus paradinei</i>	Federal Candidate (Category 1)	Regional endemic
<i>Argemone arizonica</i>	Federal Candidate (Category 2)	Regional endemic
<i>Psorothamnus arborescens pubescens</i>	State Sensitive (S2)	Arizona endemic
<i>Sclerocactus spinosior</i>	USFWS Candidate (Category 2)	Regional endemic

TABLE 3

RIPARIAN AND FLOODPLAIN PLANT SPECIES BUREAU OF LAND MANAGEMENT, ARIZONA STRIP DISTRICT, ARIZONA

Fremont Cottonwood	Columbine	Box Elder	Buttercup
Sandbar Willow	Monkey Flower	Dixie Black Willow	Licorice
Tamarix	Plantago	Single-leaf Ash	Climbing Milkweed
Cattail	Helleborine	Bulrush	Beeplant
Maidenhair Fern	Stickseed	Wire Rush	Slender Wheatgrass
Rocky Mountain Rush	Spike Redtop	Wood Rush	Bentgrass
Aster	Bromegrass	Baccharis	Saltgrass
Arrowweed	Foxtail Barley	Scouring Rush	Common Reed
Horned Pondweed	Bluegrass	Asparagus	Rabbitfoot
False Solomon Seal	Alkaligrass		

Source: Arizona Strip District, Arizona

TABLE 4

BIRDS OF PREY—DOCUMENTED AND PROBABLE OCCURRENCES BUREAU OF LAND MANAGEMENT, ARIZONA STRIP DISTRICT, ARIZONA

Documented Occurrences		Probable Occurrences	
American kestrel	Turkey vulture	Ferruginous hawk	Goshawk
Red-tailed hawk	Rough-legged hawk	Long-eared owl	Burrowing owl
Golden eagle	Peregrine falcon	Flammulated owl	Screech owl
Prairie falcon	Sharp-shinned falcon	Northern harrier	Saw-whet owl
Cooper's hawk	Great-horned owl	Spotted owl	Bald eagle
		Black hawk	Zone-tailed hawk

Source: Arizona Strip District, Arizona

APPENDIX B

PROCESS FOR ADMINISTERING MOTORIZED VEHICLE/MECHANIZED EQUIPMENT USES IN LIVESTOCK GRAZING OPERATIONS AND MAINTENANCE OF RANGE IMPROVEMENTS

Congressional guidance in House Report 96-1126 provides overall direction for management of grazing including criteria for the possible use of motorized vehicles in livestock management or maintenance of range improvements.

The language of the house report is very clear in its intent that livestock grazing and necessary facilities to support a livestock grazing program will be permitted to continue when established prior to wilderness designation. The house report further states that wilderness designation should not prevent the maintenance of existing fences or other livestock management improvements, nor the construction and maintenance of new fences or improvements which are consistent with allotment management plans and/or which are necessary for the protection of the range.

The house concluded that the general rule of thumb on grazing management in wilderness should be that activities or facilities established prior to the date of an area's designation as wilderness should be allowed to remain in place and may be replaced when necessary for the proper administration of the grazing program.

As directed by Congressional intent and BLM's *Wilderness Management Policy*, the following process will be used in administering these nonconforming but accepted uses.

This process is depicted on the flow chart following this narrative.

A list of all of the range improvements known to be located in the *Paria Canyon-Vermilion Cliffs Wilderness Area* has been compiled and is summarized at the conclusion of this appendix.

Available data from such sources as project files, maintenance inspections, aerial photographs, employee and permittee knowledge, water inventories and field inventories when necessary will be compiled for each project. This data will provide answers to these questions.

- a. What is present use of the project and is it needed with respect to the future AMP or grazing programs?
- b. Is the project accessible by motorized vehicle?
- c. Was motorized access used in its maintenance prior to wilderness designation?
- d. Is motorized access necessary for present and future maintenance?
- e. Can part or all of the maintenance be done by non-motorized means?
- f. Age of the project?
- g. Condition of the project?
- h. Frequency and duration of possible motorized needs?
- i. Type of motorized equipment (if any) that may be appropriate or available?

Using this information and following the BLM *Wilderness Management Policy* criteria (*Chapter III.H.1.d and e*) the authorized officer will, after consultation with the affected permittee, determine and document by individual project which are needed to continue the allotments' grazing management programs and which are not needed.

Those not needed will no longer be maintained and the party responsible for maintenance notified to discontinue maintenance. An Environmental Analysis (EA)/Decision Record (DR) will be prepared to analyze impacts of removing the abandoned projects considering possible cultural values, practicality, feasibility and use of motorized vehicles in removal. A Decision Record will then document by name those projects where removal will be considered and those to be allowed to naturally disintegrate.

Those developments which appear at this point to be needed will be further analyzed relative to the need for and type of motorized equipment that may be necessary for their maintenance based again on the information described by the above list. They will be grouped into three categories for analysis purposes based on need for or type of possible motorized vehicle and/or equipment use.

Any project may be independently evaluated through the remainder of the process at separate times for either maintenance of a routine nature or reconstruction where more equipment may be necessary.

For those projects where it is conclusively determined that neither motorized vehicles nor mechanized equipment will be required in maintenance, no further analysis will be made. A list of these projects will be prepared, the grazing permittee notified and the list and maintenance decision made a condition of the AMP and/or grazing permits by reference. On this basis, the permittees will be authorized to proceed with non-motorized maintenance.

Compliance with these non-motorized requirements will be a component of BLM's wilderness monitoring program.

A second proposed list by priority of need will be prepared for those projects where occasional motorized vehicle use is deemed necessary to inspect or maintain the improvements. Normal vehicle use expected would be ATVs or trucks up to 2½ ton to haul materials or livestock.

A site-specific environmental analysis (EA) will be prepared to analyze environmental impacts of alternatives with respect to type, frequency of or access routes for motorized vehicles on each individual project or group of projects where the proposed vehicle uses and potential environmental impacts are the same. It will also consider factors such as minimum tools or possible project relocation outside of the wilderness area.

These EAs will be prepared in priority order as rapidly as possible following issuance of the final *Wilderness Management Plan*.

A Decision Record (DR) will be prepared to document the alternative selected and mitigating measures for each project.

Upon completion of these EAs and DRs, a written maintenance plan will be prepared in consultation with the permittee and based on mitigating measures developed in the EA and in conformance with the Decision Record. It will detail timing, vehicle type, number of trip(s), authorized person(s) and record keeping requirements.

This plan will be incorporated into the AMP and grazing permit by reference and will, upon approval, authorize the permittee to make motorized uses as specified during the normal grazing period for the allotment.

In making uses authorized in the maintenance plan, each permittee will be required to keep accurate records of date, time, type vehicle, trail used, purpose and duration of any motorized entry. This log will be submitted to the BLM at the end of the grazing period.

Field compliance on these motorized vehicle entries will be made and documented. Findings can then be compared to the records submitted by the permittee to detect and correct discrepancies or violations.

Vehicle entry deemed necessary specifically for livestock management purposes will be processed in the manner described above with the same constraints, reporting requirements and monitoring procedures.

The third project grouping includes those developments where heavy earth-moving equipment is deemed necessary. These proposals will require a minimum 60-day notice from a permittee of the possible need for project maintenance. The project is examined in the field and a site-specific EA is prepared that examines the need for maintenance and alternatives of access, equipment, tool(s), timing, possible relocation as well as recommending mitigating measures and reclamation requirements.

A DR is prepared that selects an alternative with mitigating measures or a no action alternative. If the decision permits the action to proceed, the permittee is notified of the terms and timing approved. It is standard procedure to have a BLM wilderness or surface protection specialist on

site during any earth-moving operations to assure compliance with terms and supervise reclamation.

Throughout this process, it may be found that individual projects have been improperly classified relative to its continuation or need for equipment. For example a project expected to require motor vehicle access may be found by the EA analysis to not need vehicles, a heavy equipment proposal may be found to be accomplishable with motorized vehicles or vice versa. Also a project preliminarily determined to be not needed, may be upon further analysis found to be needed. In these cases, the project's processing will be transferred to the more appropriate procedures that cover the newly determined situation.

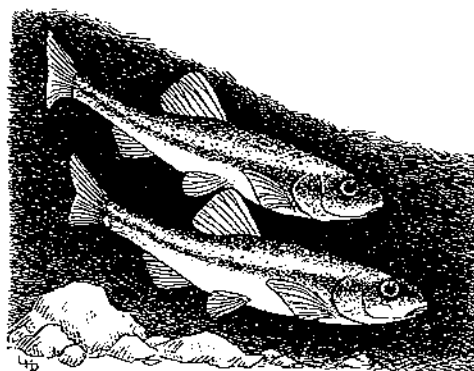
At any point in this process, the authorized officer will consider all information available at that point to approve or deny proposals for emergency motorized use to protect life or property. Considerations will include validity of the emergency and potential impacts to wilderness values.

Proposed use of vehicles for all purposes (livestock management, improvement inspection or maintenance) will be considered in total prior to approval and trips combined where practicable to minimize the overall amount of vehicle use.

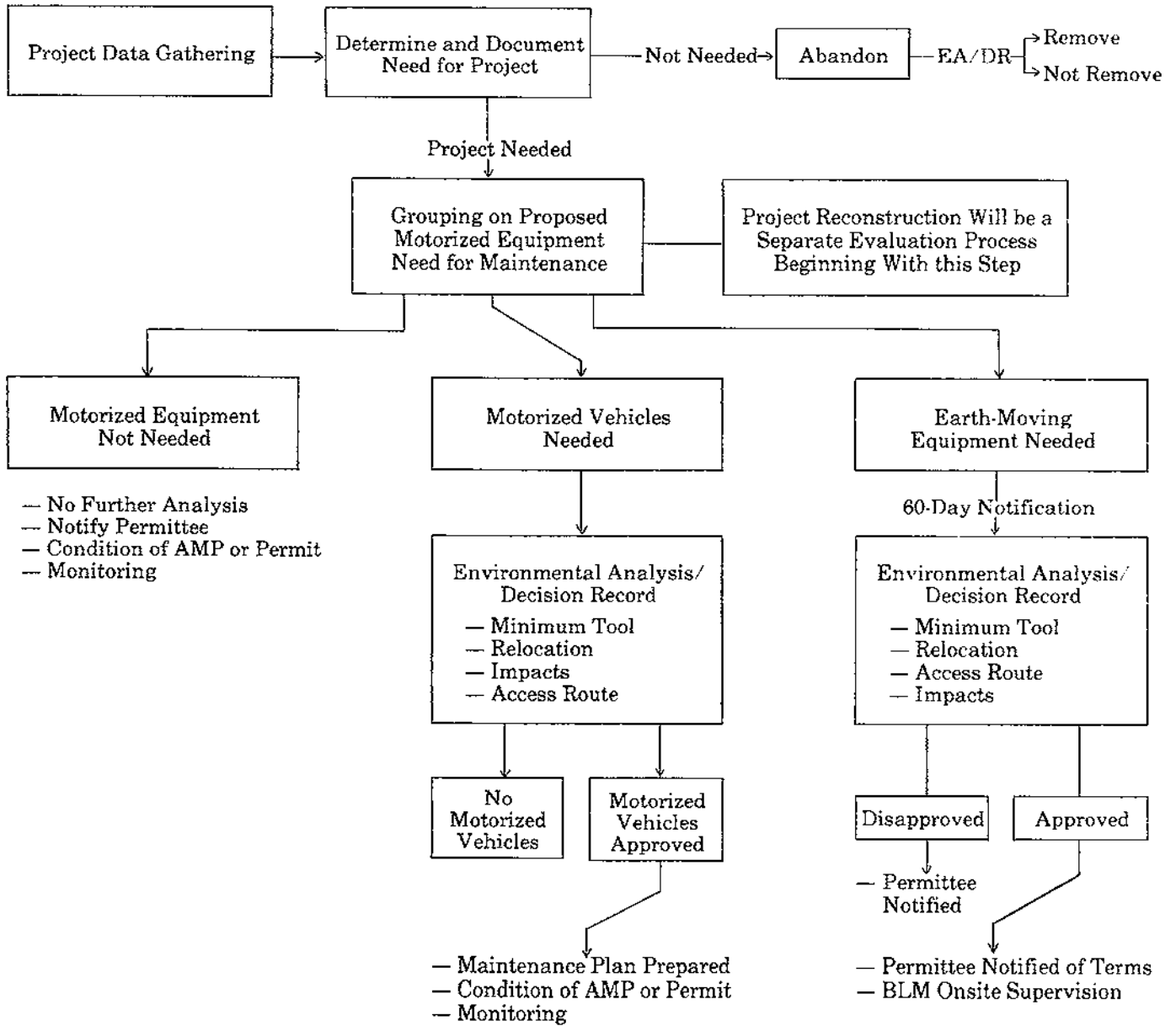
All inventories, lists analysis, EAs, DRs, monitoring and compliance files will be available for public review on request.

The range improvements known to exist in the *Paria Canyon-Vermilion Cliffs Wilderness Area* and to be analyzed under these procedures include:

No. of Spring Developments	12
Miles of Pipeline	16
Troughs	7
Mile of Livestock Fence	32
No. of Reservoirs	10
No. of Corrals	8
Miles Livestock or Truck Trails	Numerous
No. of Water Catchments	1



Major Steps of Motorized Vehicle/Mechanized Equipment Analysis and Management Process



APPENDIX C

TABLE 5
ALLOTMENTS
BUREAU OF LAND MANAGEMENT, ARIZONA STRIP DISTRICT, ARIZONA

Allotment/State	Total Active Preference	Total Preference	Estimated Percent of AUMs in Wilderness
Badger Creek/Arizona	93	200	50
Bunting Well/Utah	3,247	3,387	5
East Clark Bench/Utah			
State Block/Utah			
Coyote/Arizona	1,713	2,500	30
Pine Hollow/Utah			
Clark Bench/Utah	1,800	2,430	10
Ferry Swale/Arizona	1,230	1,884	10
House Rock/Arizona	1,350	2,500	25
Lees Ferry/Arizona	400	1,126	100
Mollies Nipple/Utah	3,882	7,318	6
Soap Creek/Arizona	2,192	3,147	50
Signature Rock/Arizona	382	475	10
Two Mile/Arizona	2,664	3,640	25
Wire Pass/Utah	371	371	100
Vermillion/Arizona	11,817	13,340	10

Source: Arizona Strip District, Arizona



APPENDIX D-1

TABLE 6

MTP NOTATIONS ON LANDS WITHIN THE WILDERNESS AREA BUREAU OF LAND MANAGEMENT, ARIZONA STRIP DISTRICT, ARIZONA

GILA & SALT RIVER BASE & MERIDIAN (ARIZONA)

T38N R4E

Sec. 4 AR03390 pipeline
Sec. 3 AR03390 pipeline and trough

T38N R5E

Sec. 6 NE $\frac{1}{4}$ SW $\frac{1}{4}$ 40.00 acres patented 1028145 D/C
Sec. 6 W $\frac{1}{2}$ NE $\frac{1}{4}$ 80.30 acres patented 1103360 D/C
Sec. 6 Lot 1 NE $\frac{1}{4}$ NE $\frac{1}{4}$ 40.42 acres patented 1038279 D/C
Sec. 6 SW $\frac{1}{4}$ NE $\frac{1}{4}$ 4.976 acres patented MS2118B, 44023
Sec. 6 Fence 446
Sec. 6 Fence 806
Sec. 5 14.632 acres patented MS2118A, 44023
Sec. 2 & 3 Fence 170-51
Sec. 14 Fence 549
Sec. 13 Fence 549
Sec. 6 Lot 2 SE $\frac{1}{4}$ NE $\frac{1}{4}$ 31.63 acres patented 1064232 D/C
Sec. 8 & 9 17.025 acres patented MS2141, 44640

T38N R6E

No entries

T39N R3E

Sec. 13 & 14 Spring, pipeline and trough 288
Sec. 23, 25 & 26 Fence A2852 (4864)
Sec. 25 Spring, pipeline, trough, reservoir A2852 (4816)

T39N R4E

Sec. 30 Spring, pipeline, trough A2852 (4817)
Sec. 30 Fence A1875 (882)
Sec. 21, 28, & 33 Pipeline AR033390 (616)
Sec. 27 & 34 Fence 214

T39N R5E

Sec. 30 Land treatment 398
Sec. 31 Spring, pipeline (547)
Sec. 31 Fence (809)

T39N R6E

Sec. 30 Pipeline, trough (572)
Sec. 33 Pipeline, trough(?) (848)
Sec. 29 Spring, pipeline (848)
Sec. 17, 20, 32, & 28 A7779 ROW 8-foot (Sec. 29, ROW 25-foot) Cliff Dwellers
Sec. 29, 17, 21, 22, 27, & 26 Spring, pipeline, trough (504) A2852 (4166)
Sec. 16 Fence 780
Sec. 13 Fence 170-43
Sec. 1 Land treatment (281)
Sec. 1, 2, & 12 Pipeline A6897 ROW 25-foot Vermillion Cliffs, AZ River
Sec. 1, 2, & 12 Pipeline AR034221 (684)
BDY Powerline AR035054 ROW 10-foot
BDY Road PHX086798

TABLE 6 (Continued)**MTP NOTATIONS ON LANDS WITHIN THE WILDERNESS AREA
BUREAU OF LAND MANAGEMENT, ARIZONA STRIP DISTRICT, ARIZONA****GILA & SALT RIVER BASE & MERIDIAN (ARIZONA) (Continued)****T39N R7E**

BDY	Powerline ARO355054
BDY	Road PHX086798
Sec. 18	Road AR035259 (742) may not be in
Sec. 7	25-foot ROW A6897
Sec. 7	Corral AR034226 (679)
Sec. 7	A19340 Homeowners' Association, adjacent to boundary

T40N R6E

Sec. 35	ARO34221 (684) spring and pipeline
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T40N R7E

Sec. 29	PHX071710 ROW 50-foot pipeline, B. Foster
Sec. 32	A2195 (819) fence
Sec. 32	PHX077543 fence
Sec. 10	A2852 fence
Sec. 10	A4267 fence

T40N R8E

Sec. 6	AR034189 ROW 5-foot powerline
Sec. 6	A7502 ROW 5-foot
Sec. 6	AR016690 50-foot road

T41N R8E

Sec. 30 & 31	AR034189 5-foot ROW powerline boundary
Sec. 34	AR0034405 corral (701)
Sec. 9	Fence (273)

T41N R6E

Sec. 7	Fence (436)
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T41N R5E

Sec. 15	Reservoir 700
Sec. 17	Fence A1-4-193
Sec. 5 & 8	Fence GRS-11
Sec. 7	Fence 6-C-111
Sec. 17	Fence 331
Sec. 17	Fence A28524026

SALT LAKE BASE AND MERIDIAN (UTAH)**T44S R1E**

Sec. 2	State section
Sec. 7	U-024909 Reclamation Withdrawal
Sec. 8 Lots 1 and 2	State land

T43S R2W

Sec. 11	U12130 Powerline, 17633 (EP2642) Powerline
Sec. 28 SE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$	U32357 44 LD 513
Sec. 27	U52734 Intpr Wdl PW Res
Sec. 14, 15, 22, 23, 26, 27, 33, 34	PLO 3469 Reclamation Withdrawal

T44S R2W

Sec. 3 SW $\frac{1}{4}$ SW $\frac{1}{4}$	U52737 Intpr Wdl PW Res 107
Sec. 1, 3, 4, 9, 10, 11	PLO 3469 Reclamation Withdrawal
Sec. 2	PLO 4277 Reclamation Withdrawal

TABLE 6 (Continued)

MTP NOTATIONS ON LANDS WITHIN THE WILDERNESS AREA BUREAU OF LAND MANAGEMENT, ARIZONA STRIP DISTRICT, ARIZONA

SALT LAKE BASE AND MERIDIAN (UTAH) (Continued)

T44S R1W

Sec. 2
Sec. 1, 3, 4, 11, 12

PLO 4277 Reclamation Withdrawal
U-024909 Reclamation Withdrawal

T43S R1W

Sec. 32 & 36
Sec. 24, 33 & 35

PLO 4277 Reclamation Withdrawal
U-024909 Reclamation Withdrawal

APPENDIX D-2

TABLE 7

ARIZONA STATE LANDS EXCHANGED WITHIN THE WILDERNESS AREA*
BUREAU OF LAND MANAGEMENT, ARIZONA STRIP DISTRICT, ARIZONA

County	Township	Range	Section	Legal Description	Acres	Surface Estate	Sub-surface Estate	Acres of Oil & Gas Leases
Fee Exchange								
M	34N	8W	2	All	638.68	S	S	
M	34N	8W	32	W2;W2E2	480.00	S	S	
M	34N	9W	16	All	640.00	S	S	
M	34N	9W	36	All	640.00	S	S	
M	35N	8W	16	All	640.00	S	S	
M	35N	14W	36	All	640.00	S	S	
C	38N	4E	2	Lots 1-4;S2N2;S2	641.32	S	S	
C	38N	5E	2	All	641.08	S	S	
C	38N	5E	16	All	640.00	S	S	
M	38N	14W	2	Lots 1-4;S2N2;S2	650.60	S	S	
M	38N	15W	2	Lots 1-4;S2N2;S2	656.88	S	S	
M	38N	15W	16	All	640.00	S	S	
C	39N	3E	36	NE	160.00	S	S	
C	39N	5E	36	E2SE	80.00	S	S	
C	39N	6E	2	Lots 1,3,4;S2NW;SW;NWSE;S2SE	479.62	S	S	
C	39N	6E	32	All	640.00	S	S	
C	40N	6E	36	All	640.00	S	S	
C	40N	7E	2	Lot 1; SENE;W2SW;SESW;E2SE	281.48	S	S	
C	40N	7E	16	All	640.00	S	S	
C	41N	4E	16	All	640.00	S	S	
C	41N	5E	2	S2	320.00	S	S	
C	41N	5E	16	All	640.00	S	S	
M	41N	6W	2	Lots 1-4;S2N2;S2	640.00	S	S	
M	41N	6W	10	All	640.00	S	V	640.00
M	41N	6W	16	All	640.00	S	S	
M	41N	13W	16	All	640.00	S	S	
M	41N	14W	2	Lots 1-4;S2N2;S2	639.76	S	S	
M	41N	14W	16	All	640.00	S	S	
C	42N	3E	36	Lots 1-4;S2	471.84	S	S	
C	42N	4E	36	Lots 1-4	154.80	S	S	
C	42N	5E	32	Lots 3-4;SW	237.89	S	S	
C	42N	6E	32	Lots 1-4;S2	476.48	S	S	
M	42N	6W	32	Lots 1-4;N2S2;SESE	309.71	S	S	
					17,559.71			
Subsurface Exchange								
C	39N	6E	16	All	640.00	V	S	
C	40N	7E	32	All	640.00	V	S	
M	35N	14W	32	E2SE	80.00	V	S	
M	38N	14W	16	All	640.00	V	S	
M	39N	13W	32	All	640.00	V	S	
M	41N	14W	32	All	640.00	V	V	
M	41N	14W	36	All	640.00	V	S	
M	42N	13W	32	Lots 1-4;S2	445.36	V	S	
M	42N	14W	32	Lots 1-4;S2	445.08	V	S	
M	42N	14W	36	Lots 1-4;S2	446.86	V	S	
					5,256.80			

*State of Arizona conveyed these lands to the Federal Government on April 11, 1985.

M—Mohave

S—State

C—Coconino

V—Vacant

Source: Arizona Strip District, Arizona

APPENDIX D-3

TABLE 8

UTAH STATE LANDS WITHIN THE WILDERNESS AREA BUREAU OF LAND MANAGEMENT, ARIZONA STRIP DISTRICT, ARIZONA

County	Township	Range	Section	Legal Description	Acres*	Surface Estate	Subsurface Estate
Kane	43S	1E	36	Portion of S2SW4	44.00	S	S
Kane	43S	1W	25	Portion of SW4SE4	29.00	S	S
Kane	43S	1W	32	All	640.00	V	S
Kane	43S	1W	36	All	640.00	V	S
Kane	43S	2W	36	All	640.00	S	S
Kane	44S	1E	2	S2	320.00	S	S
Kane	44S	1E	8	Lots 1 and 2	47.00	S	S
Kane	44S	1W	2	All	640.00	V	S
Kane	44S	2W	2	All	640.00	V	S

TOTALS: Utah Fee Title 1,080 acres, subsurface only 2,259 acres.

*Acreage is approximate

S—State

V—Vacant (BLM)

Source: Arizona Strip District, Arizona

APPENDIX D-4

TABLE 9

PATENTED LAND IN THE WILDERNESS AREA BUREAU OF LAND MANAGEMENT, ARIZONA STRIP DISTRICT, ARIZONA

Legal Description	Acres	Associated Numbers
T. 38 N., R. 5 E.		
(A) Sec. 6 NE¼ SW¼	40.000	1028145
(B) Sec. 6 Lot 2, SW¼ NE¼	80.300	1103360
(C) Sec. 6 Lot 1	40.420	1038279
(D) Sec. 5&6 Patented mining claim described by Mineral Survey 2118B	4.976	MS2118B
(E) Sec. 5 Patented mining claim described by Mineral Survey 2118A	14.632	MS2118A
(F) Sec. 8 Lot 2	31.630	1064232
(G) Sec. 8&9 Patented mining claim described by Mineral Survey 2141	17.025	MS2141
	197.353	

Source: Arizona Strip District, Arizona



APPENDIX D-5

PRIVATE INHOLDINGS

There are seven parcels of patented land within the wilderness boundary. These parcels are referred below by alphabetical listing as described in Lands Appendix E-4. All parcels were examined for access, activity and unauthorized uses on adjacent lands in wilderness on 3/13/85. A description of each parcel and access are discussed below:

Parcel (A) — P&1N, R4E, Sec. 6, NE¼ SW¼ (Jacob Pools) — 40 Acres

This parcel consists of gently sloping land at the base of the Vermillion Cliffs. Jacob Pools, an historic ranch, is in the northwest corner of this parcel (see photos). There are corrals, a reservoir and an abandoned ranch house.

The southwest side of this parcel is the wilderness boundary. A well-used dirt road runs north from U.S. Highway 89A to the south side and through this parcel. There were no unauthorized uses overlapping into the wilderness area.

Parcel (B) — T38N, R5E, Sec. 6, Lot 2, SW¼ NE¼ — 80.30 Acres

This parcel is surrounded on all sides by the wilderness area except for the point where the SW corner touches Parcel (A). This parcel is predominantly rough slopes at the base of the Vermillion Cliffs. A developed spring with a pipeline runs south to Jacob Pools and a road north from Jacob Pools to the spring area. A part of the road is washed out and access is now from cross-country travel. This road and cross-country route are currently being used for access to this parcel to maintain the spring and pipeline.

There were no other uses overlapping into the wilderness area.

Parcel (C) — T38N, R5E, Sec. 6, Lot 1 — 40.42 Acres

This parcel is adjacent to the northwest side of Parcel (B). Topography consists of steep slopes, a drainage and part of a bench. Access is obtained through Parcel (B).

Parcel (D) — MS 2118B — 4.976 Acres

This parcel is a mineral survey patent surrounded by wilderness lands. There are no roads or trails to the undeveloped parcel. The parcel shows no signs of ever being worked for minerals or any other use.

Parcel (E) — MS 2118A — 14,632 Acres

This parcel is also a mineral survey patent surrounded by wilderness lands. The parcel consists of a drainage and its side slopes, with no access roads or trails. There is no evidence of this parcel being worked for minerals.

Parcel (F) — T38N, R5E, Sec. 8, Lot 2 — 31.63 Acres

See Parcel (G).

Parcel (G) — MS 2141 — 17.025 Acres

Parcels (F) and (G) combine to form 48.655 acres of patented land within the wilderness area. Parcel (F) contains Emmett Spring and pipeline. The spring is developed and shows signs of regular use and pipeline maintenance. The area covered by these two tracts is predominantly rough slopes except for the drainage from Emmett Spring. Access

is provided by a dirt road from U.S. Highway 89A north up to the south side of Parcel (F). This access road, however, splits into two roads at approximately 3/8 mile north of U.S. 89A. The access road does appear to be regularly used.

RIGHTS-OF-WAY

There are three rights-of-way grants that extend into the wilderness along with several rights-of-ways which are used to define the wilderness boundary. These rights-of-way are discussed below:

A7779

ROW Grant for a Water Pipeline and Access Road (8 feet from centerline)

Date of grant: September 1, 1974

Expiration date: None

Amendments: Name change of permittee to Greenhaven Development Company

Location: Cliff Dwellers Lodge

The pipeline and road are being maintained and used to supply water for Cliff Dwellers Lodge and the private housing around it. The four-inch pipeline runs along the centerline of the road and along either side depending on soil or rock conditions. The pipeline is buried except at vents and at the spring source. The road is utilized the entire length and ends at approximately 220 yards south of the spring.

A6897

Pipeline Right-of-Way (25 feet from centerline)

Date of grant: October 13, 1972

Date of expiration: October 12, 1992

Permittee: Arizona River Runners at Vermilion Cliff Lodge

This pipeline is used to supply water to the Vermilion Cliffs Lodge and adjacent private homes. The pipeline is one-inch black PVC line laid on the surface and buried in some places. The pipeline could be buried for the first mile where it runs over sand. The pipeline is not in the actual location as drawn on the plat sheets or the written legal description of the grant. A road is being used for inspection and maintenance along the first mile of the pipeline. Along the pipeline there are numerous rolls of new pipeline material and segments of discarded material. The right-of-way width of 25 feet off of centerline is not needed nor does it reflect current policies and should be amended to the minimum width needed.

This right-of-way will need to be amended to include the 40 acres of state of Arizona land that is being conveyed to the federal government.

PHX 071710

Pipeline Right-of-Way (50 feet from centerline)

Permittee: Jane Foster (Marble Canyon Lodge)

Date of Grant: August 9, 1932

Transferred to: Lorenzo Hubbell 7/1/40

Transferred to: Jane Foster 6/7/67

Date of expiration: None

The pipeline was inspected on 3/27/85 and was found unused and broken in many places. Part of the right-of-way is a tank site which is being used to store water and does use 1/2 mile of the pipeline. The permittee plans to have the spring source developed and to replace the existing line. Work is planned for 1985 and proposes to use a helicopter. The pipeline should be monitored each year until 3/27/90 to determine abandonment.

APPENDIX E

PUBLIC INVOLVEMENT PROCESS

During the week of May 20, 1985, public scoping meetings were held in Kanab, Utah and also Marble Canyon, Phoenix and Flagstaff, Arizona. In addition to the four general public meetings, a meeting was also held the same week with the *State Governors Consistency Review Commission*. The purpose of the meetings was to assist the BLM in identifying issues and concerns about how the wilderness area should be managed. Other comments were welcomed during the scoping period, including personal contacts and letters.

A few of the major concerns and suggestions were as follows:

1. Consider the use of campstoves and eliminate campfires in Paria Canyon and Coyote Buttes.
2. Establish a monitoring system to determine limits of acceptable change.

3. Do not allow commercial horseback trips in Paria Canyon and Coyote Buttes.

4. Keep signs out of the wilderness area.

5. Limit use of helicopter monitoring to insure a successful bighorn sheep reintroduction.

6. Permit wildfires to burn unless threatening life.

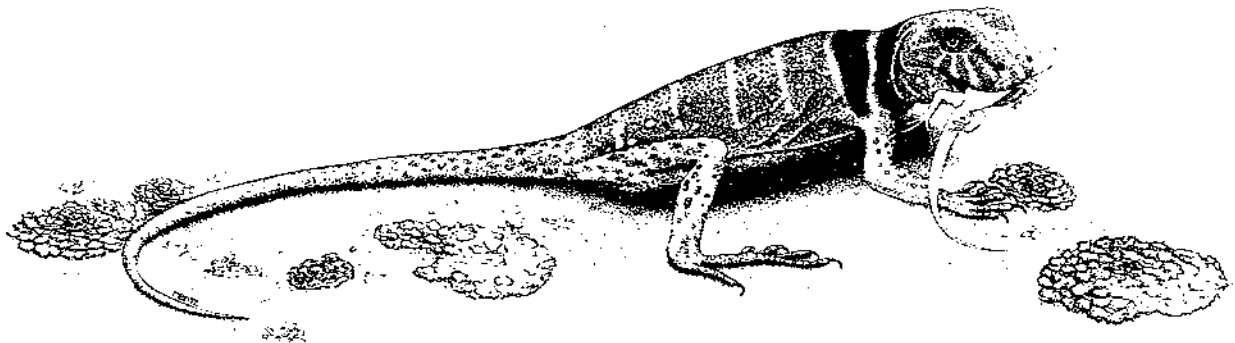
The *Arizona Strip District Advisory Council* also reviewed portions of the preliminary draft during their regular meeting in September 1985 and made comments.

The draft management plan will be sent out for a 45-day review period to those on the District's mailing list who have shown interest in management of wilderness. After this comment period, the final document will be corrected and published.

APPENDIX F

LIST OF PLAN PARTICIPANTS

Name	Position
Robert Abbey	Outdoor Recreation Planner
Carl Bezanson	Range Conservationist
Evelyn Booker	Volunteer
William Booker	Outdoor Recreation Planner
Jane Closson	Writer-Editor
Holly Congdon	Natural Resource Specialist
Philip Damon	Outdoor Recreation Planner
Robert Davis	Natural Resource Specialist
Thomas Folks	Outdoor Recreation Planner
Toni Gardner	Secretary
Jennifer Jack	Archaeologist
Morgan Jensen	Cedar City District Manager
Jackson C. Johnson	Natural Resource Specialist
Glenn Joki	Fire Management Officer
Pete Kilbourne	Geologist
William Lamb	Arizona Strip District Manager
Larry Lee	Outdoor Recreation Planner
Ray Mapston	Associate District Manager
Kenneth Moore	Planning & Environmental Coordinator
Keith Pearson	Sociologist/Planner
Robert Roudabush	Vermillion Area Manager
Rex Rowley	Kanab Area Manager
Larry Royer	Outdoor Recreation Planner
Rodney Schipper	Paria Ranger
Sidney Slone	Wildlife Management Biologist
Robert Smith	Natural Resource Specialist
Daniel Sokal	Realty Specialist



APPENDIX G

GLOSSARY

- ACTIVE GRAZING PREFERENCE.** The total animal unit months (AUMs) that a livestock operation or allotment is licensed to use in a year. Also referred to as Qualifications.
- ACTIVE NONUSE (GRAZING).** The active grazing privileges not used or paid for by an operation during a year. Active nonuse and active use equal active grazing preference or qualifications.
- ACTIVE USE (GRAZING).** The number of AUMs that a livestock operation actually uses and pays for during a year.
- ALLOTMENT.** A land area where one or more operators graze their livestock. It generally consists of public land but may include parcels of private and state-owned lands. The number of livestock and season of use are stipulated for each allotment. An allotment may consist of one or several pastures.
- ALLOTMENT MANAGEMENT PLAN (AMP).** A livestock grazing management plan for a specific allotment, based on multiple-use resource management objectives. The AMP considers livestock grazing in relation to other uses of the range and in relation to renewable resources—watershed, vegetation, and wildlife. An AMP establishes the seasons of use, the number of livestock to be permitted on the range and the rangeland developments needed.
- ANIMAL UNIT (AU).** Considered to be the forage required for one mature (1,000 pound) cow or the equivalent based upon average daily forage consumption of 26 pounds dry matter per day (Range Term Glossary Committee, 1974).
- ANIMAL UNIT MONTH (AUM).** The amount of forage necessary for the sustenance of one cow or its equivalent for 1 month.
- CARRYING CAPACITY (RECREATION).** The maximum number of people at one time that an area or facility can accommodate without impairing the natural, cultural or developed resource.
- CULTURAL RESOURCES.** Those fragile and nonrenewable remains of human activities, occupations and endeavors as reflected in sites, buildings, structures or objects, including works of art, architecture and engineering. Cultural resources are commonly discussed as prehistoric and historic values, but each period represents a part of the full continuum of cultural values from the earliest to the most recent.
- CUMULATIVE IMPACTS.** Impacts occurring as a result of a succession of activities over a period of time.
- ENDANGERED ANIMAL SPECIES.** Any species in danger of extinction throughout all or a significant portion of its range.
- ENDANGERED PLANT SPECIES.** Species of plants in danger of extinction throughout all or a significant portion of their ranges. Existence may be endangered because of the destruction, drastic change or severe curtailment of habitat or because of over-exploitation, disease, predation or even unknown reasons. Plant taxa from very limited areas, e.g., the type localities only, or from restricted fragile habitats usually are considered endangered. See Threatened Plant Species.
- EPHEMERAL STREAM.** A stream that flows only briefly after a storm or during snowmelt. See Perennial Stream.
- HABITAT.** A specific set of physical conditions that surround the single species, a group of species or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover and living space.
- HABITAT MANAGEMENT PLAN (HMP).** A written and officially approved plan for a specific geographical area of public land that identifies wildlife habitat and related objectives, establishes the sequence of actions for achieving objectives, and outlines procedures for evaluating accomplishments.
- LIMITS OF ACCEPTABLE CHANGE (LAC).** The amount of human-caused change to biophysical or social components which is tolerable without the loss of desired wilderness conditions.
- LIVESTOCK OPERATOR.** An individual, family, corporation or other entity that runs a livestock operation. An operator may have a single allotment, more than one allotment, or a portion of an allotment.
- MANAGEMENT FRAMEWORK PLAN (MFP).** A land use plan for public lands that provides a set of goals and constraints for a specific planning area to guide the development of detailed plans for the management of each resource.
- MECHANICAL TRANSPORT.** "Mechanical transport" means (1) any device for transporting personnel or material with wheels, tracks or skids, or by flotation, for traveling over land, water or snow, and is propelled by a nonliving power source contained or carried on or within the device, or (2) a bicycle or hang-glider.
- MOTORIZED EQUIPMENT.** "Motorized equipment" means any machine activated by a non-living power source, except small battery-powered, handcarried devices such as flashlights, shavers, Geiger counters and cameras.
- MOTOR VEHICLES.** "Motor vehicle" means any vehicle which is self-propelled or any vehicle which is propelled by electric power obtained from batteries.
- MULTIPLE USE.** ". . . the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse

resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values, and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output." (From Section 103, FLPMA).

NATURALNESS. Refers to an area which "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable." (From Section 2(c), Wilderness Act).

NONCONFORMING USES. Private rights and certain other uses that were authorized prior to wilderness designation and that Congress has directed to be allowed to continue even though they generally do not conform to the intent of wilderness designation.

OFF-ROAD VEHICLE (ORV). Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland or other natural terrain, excluding (a) any registered motorboat, (b) any fire, military, emergency, or law enforcement vehicle when used for emergencies and any combat or combat support vehicle when used for national defense, and (c) any vehicle whose use is expressly authorized by the respective agency head under a permit, lease, license, or contract.

PERENNIAL STREAM. A stream that flows throughout the year.

PETROGLYPH. An art figure or symbol cut, carved or pecked into a stone surface.

PRIMITIVE AND UNCONFINED RECREATION. Nonmotorized and nondeveloped types of outdoor recreation.

PRIMITIVE AREA. A natural, wild and undeveloped area, essentially removed from the effects of civilization.

PUBLIC LAND. Formal name for lands administered by the Bureau of Land Management.

RANGE IMPROVEMENT. A structure, development or treatment used in concert with management to rehabilitate, protect and improve public land and its resources to arrest rangeland deterioration; and to improve forage condition, fish and wildlife habitat, watershed protection and livestock production, all consistent with land use plans.

RAPTORS. Birds of prey.

RESOURCE AREA. An administrative division of a BLM District, which is headed by an area manager.

RIPARIAN. Situated on or pertaining to the bank of a river, stream or other body of water. Normally used to refer to the plants of all types that grow along streams or around springs.

ROADLESS. The absence of roads that have been improved and maintained by mechanical means to insure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road.

SOLITUDE. The state of being alone or remote from habitations; isolation in a lonely, unfrequented, or secluded place.

SPECIAL RECREATION AREA. Recreation Areas where congressionally recognized recreation values exist or where significant public recreation issues or management concerns occur. Special or more intensive types of management are typically needed.

SUPPLEMENTAL VALUES. Resources not required for an area to be designated a wilderness but that are considered in assessing the wilderness potential of an area. Such values include ecological, geologic, and other features of scientific, educational, scenic, or historical value.

SUSPENDED GRAZING PREFERENCE. That portion of a grazing preference which has been suspended and for which active grazing use will not be reauthorized until forage is available and allocated for livestock grazing use on a sustained yield basis.

THREATENED ANIMAL SPECIES. Any animal species likely to become endangered within the foreseeable future throughout all or a significant part of its range. See Endangered Animal Species.

THREATENED PLANT SPECIES. Species of plants that are likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges, including species categorized as rare, very rare, or depleted. See Endangered Plant Species.

UNNECESSARY OR UNDUE DEGRADATION. Surface disturbance greater than what would normally result when an activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and taking into consideration the effects of operations on other resources and land uses, including those resources and uses outside the area of operations. Failure to initiate and complete reasonable mitigation measures, including reclamation of disturbed areas, or creation of a nuisance may constitute unnecessary or undue degradation. Failure to comply with applicable environmental protection statutes and regulations thereunder will constitute unnecessary or undue degradation.

VALID EXISTING RIGHTS. Private or other authorized rights existing as of the date an area was designated as wilderness. Examples are valid mining claims, rights-of-way, and access to private land within the wilderness.

VISITOR USE. Visitor use of the wilderness resource for inspiration, stimulation, solitude, relaxation, education, pleasure or satisfaction.

VISUAL RESOURCE MANAGEMENT (VRM) CLASSES. Classification containing specific objectives for maintaining specific objectives for maintaining or enhancing visual resources, including the kinds

of structures and modifications acceptable to meet established visual goals.

WILDERNESS. An uncultivated, uninhabited, and usually roadless area set aside for preservation of natural conditions. According to Section 2(c) of the Wilderness Act of 1964,

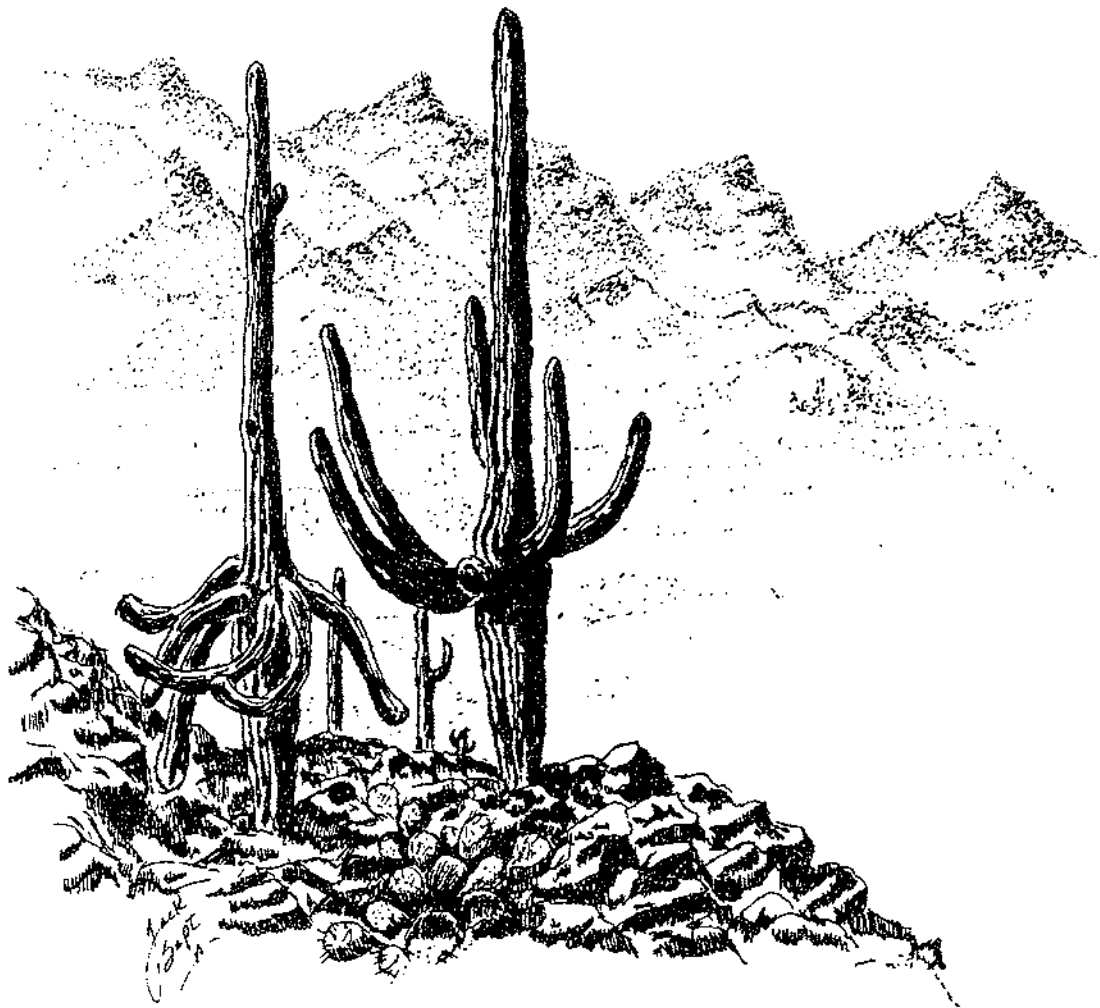
A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to man in this Act 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 and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its

preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

WILDERNESS CHARACTERISTICS. Key characteristics of a wilderness listed in section 2(c) of the Wilderness Act of 1964 and used by BLM in its wilderness inventory. These characteristics include size, naturalness, opportunities for solitude, opportunities for primitive or unconfined recreation, supplemental values, and the possibility of an area returning to a natural condition.

WILDERNESS MANAGEMENT PLAN. An officially approved planning document for specific congressionally designated wilderness areas and in some cases lands immediately adjacent to wilderness areas (e.g., trailheads). The wilderness management plan is the vehicle for implementation of the Bureau's *Wilderness Management Policy* (BLM Manual Section 8560).

WITHDRAWAL. An action that restricts the use of public land and segregates the lands from some or all of the public land or mineral laws.



APPENDIX H

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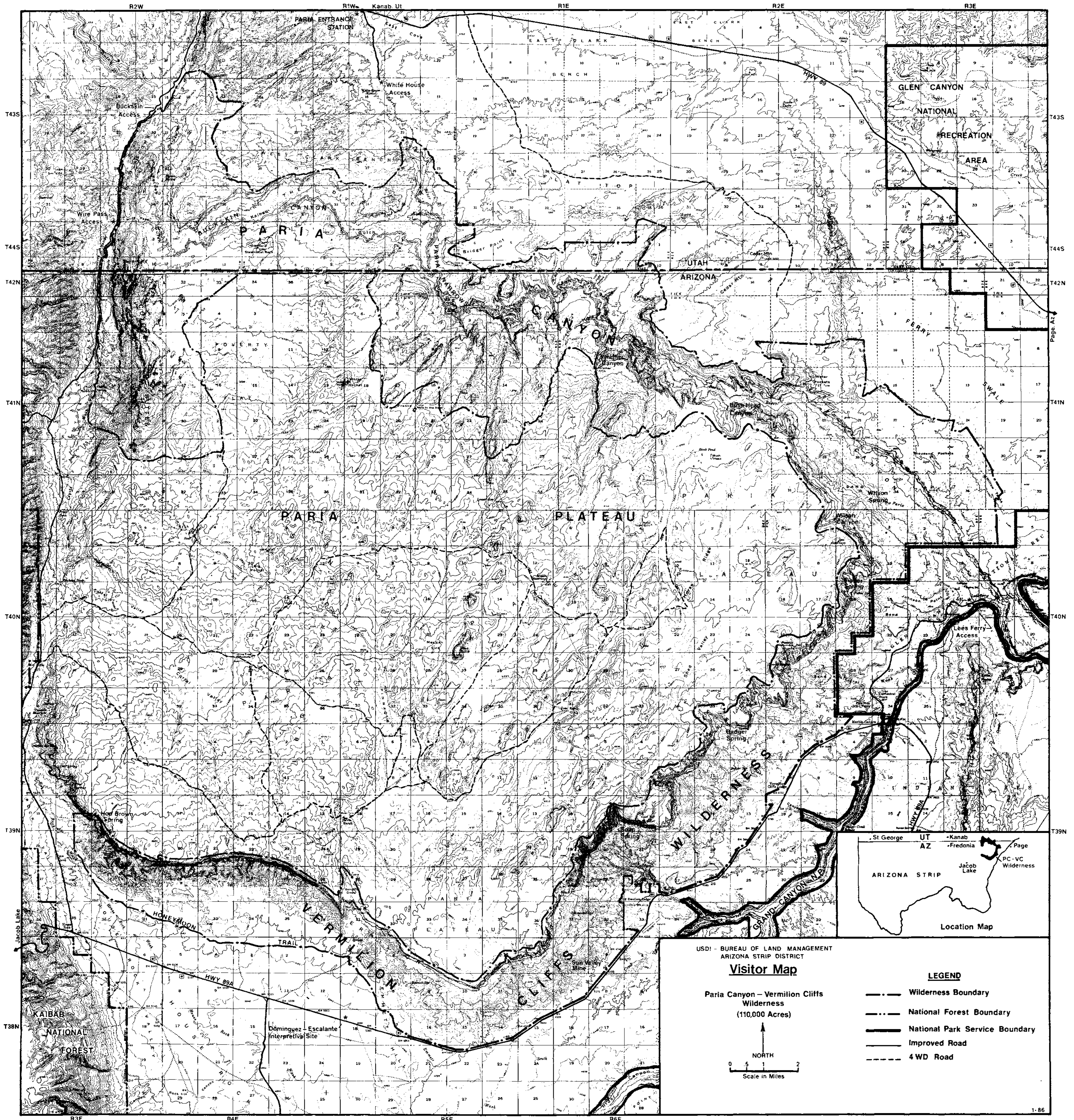
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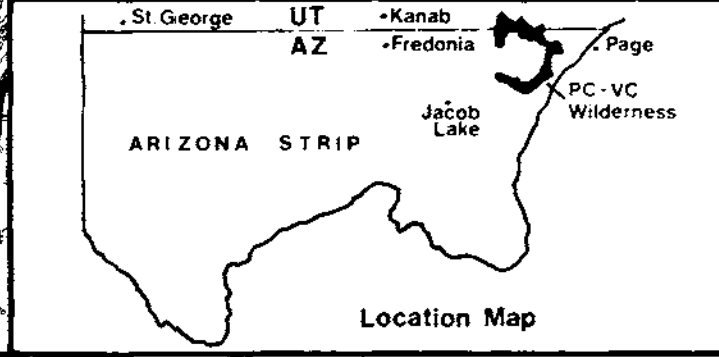
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GLEN CANYON
NATIONAL
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AREA

PARIA PLATEAU

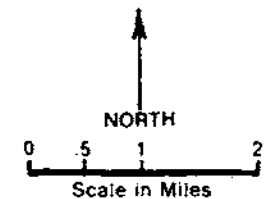
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Visitor Map

Paria Canyon - Vermilion Cliffs
Wilderness
(110,000 Acres)



LEGEND

- Wilderness Boundary
- National Forest Boundary
- National Park Service Boundary
- Improved Road
- 4 WD Road