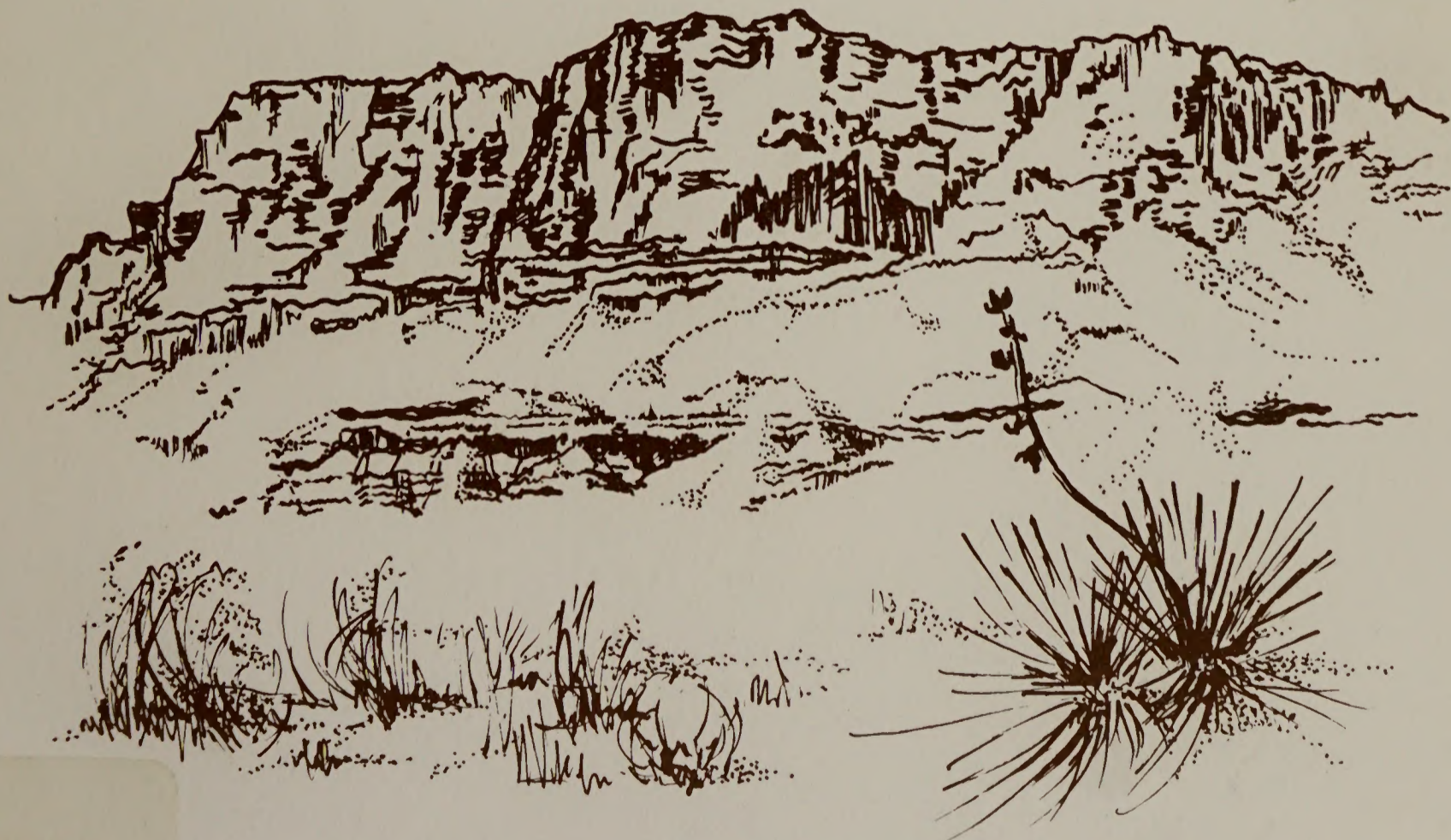


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DRAFT WILDERNESS MANAGEMENT PLAN

PARIA CANYON- VERMILION CLIFFS

Arizona - Utah

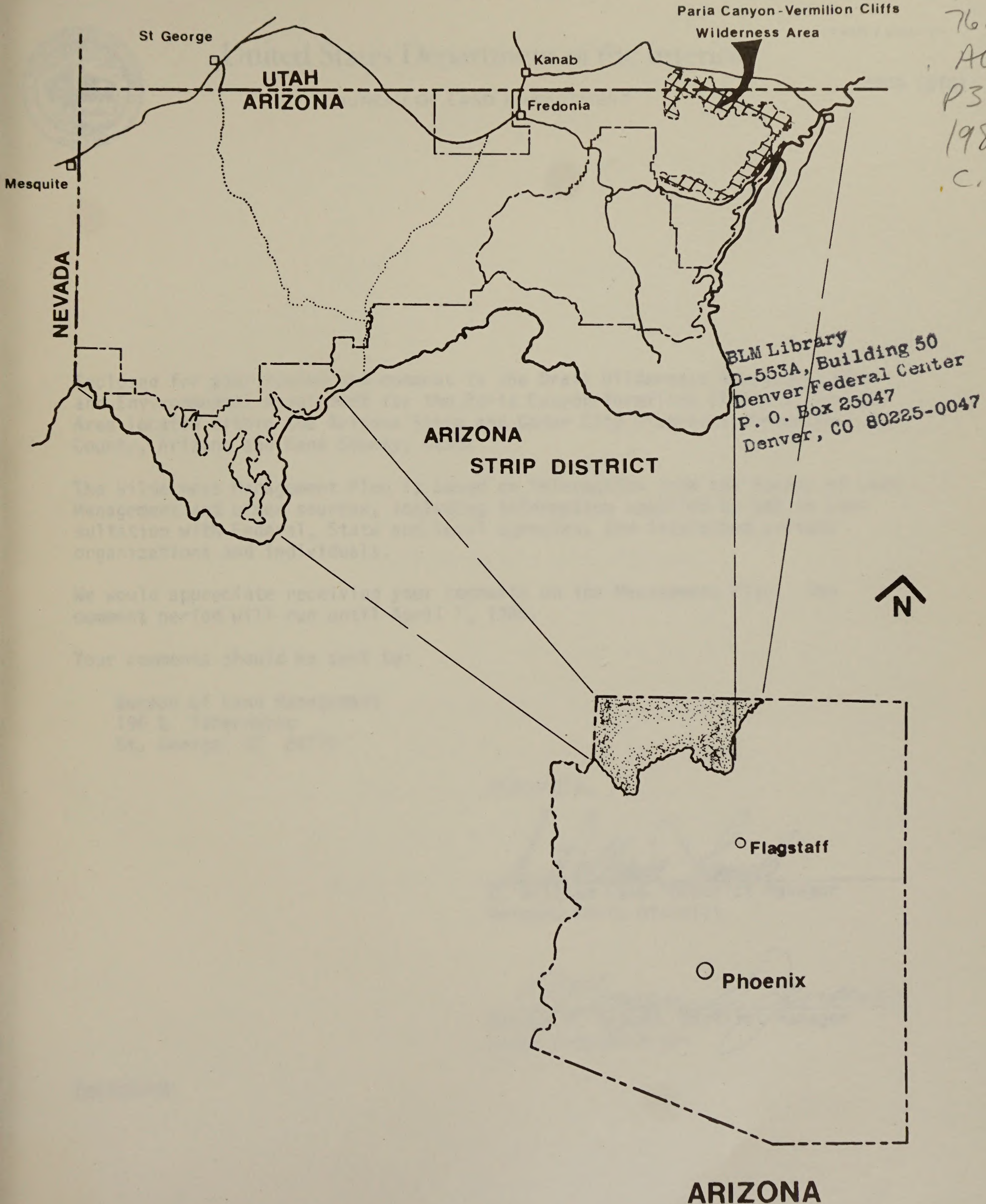


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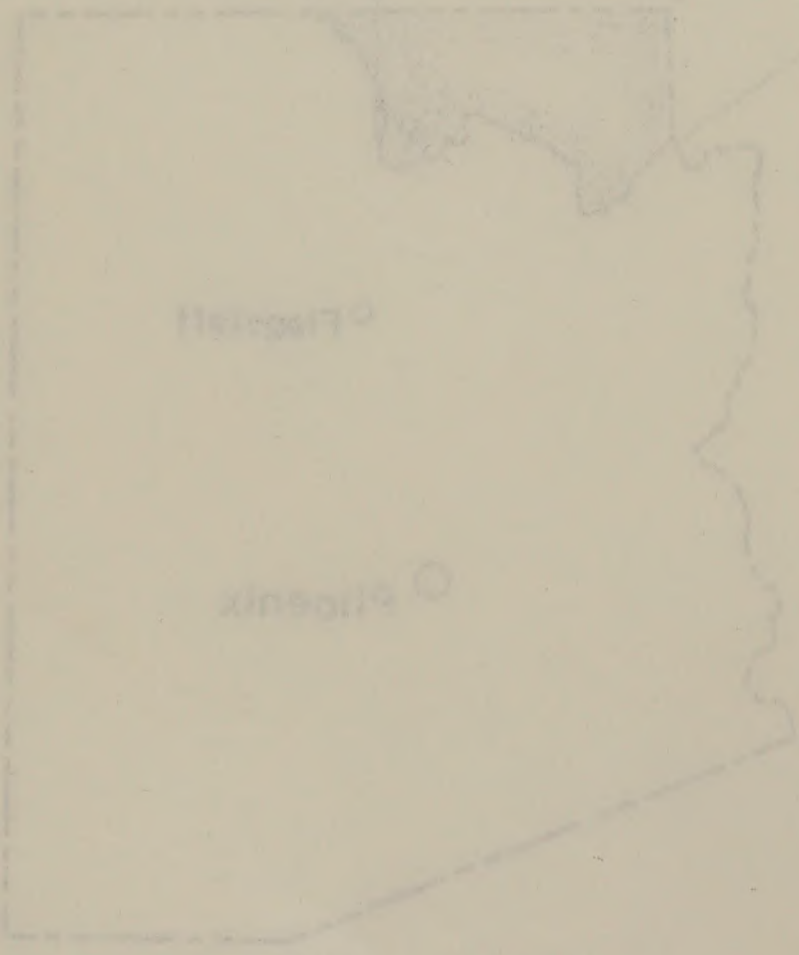
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LOCATION MAP

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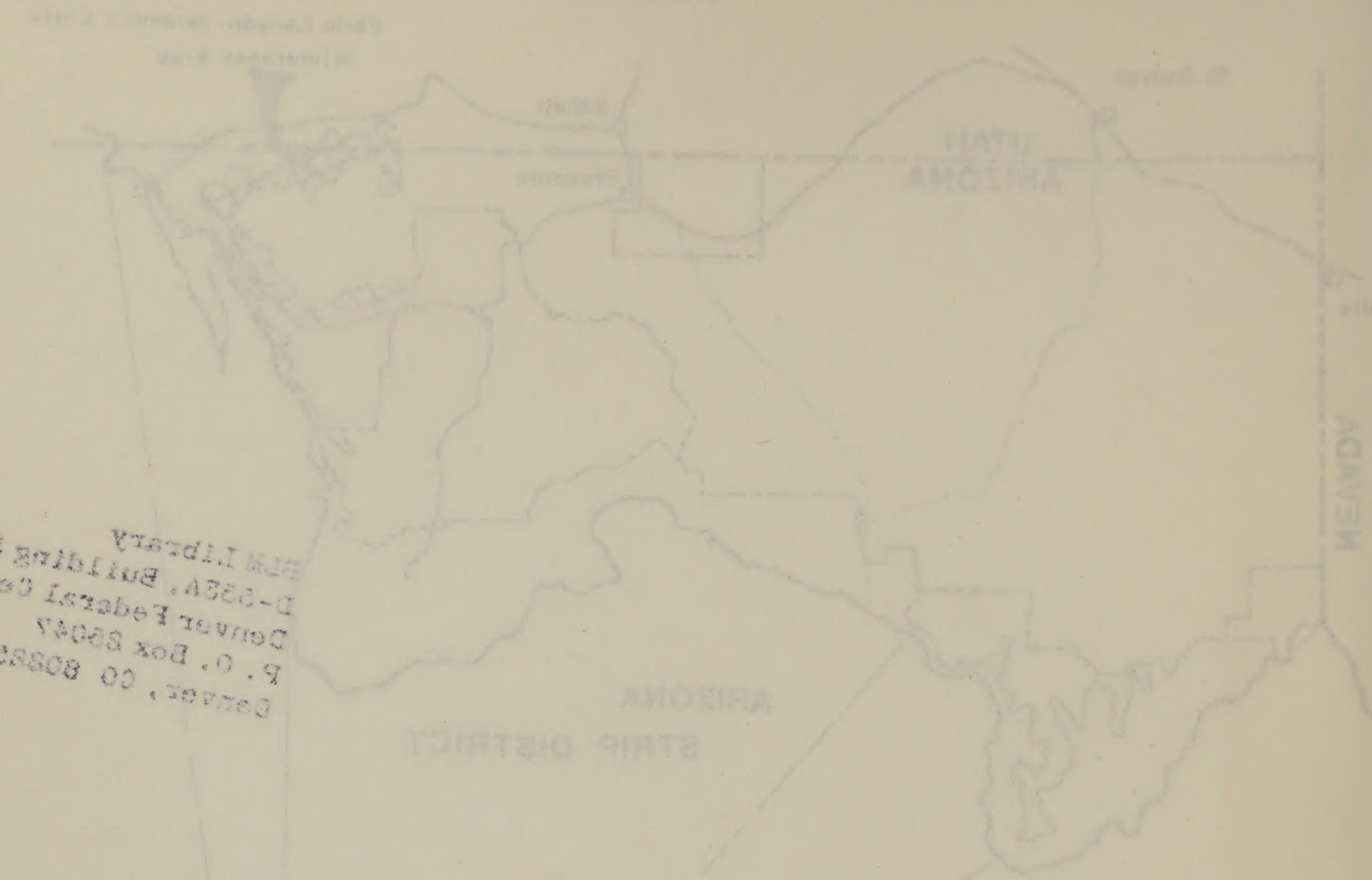


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Enclosed for your review and comment is the Draft Wilderness Management Plan and Environmental Assessment for the Paria Canyon-Vermilion Cliffs Wilderness Area located within the Arizona Strip and Cedar City Districts, Coconino County, Arizona and Kane County, Utah.

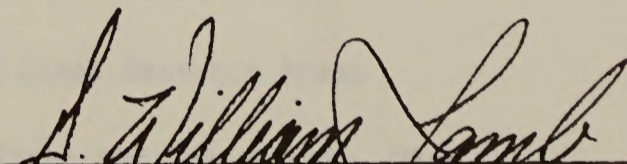
The Wilderness Management Plan is based on information from the Bureau of Land Management and other sources, including information supplied by and in consultation with Federal, State and local agencies, and interested private organizations and individuals.

We would appreciate receiving your comments on the Management Plan. The comment period will run until April 7, 1986.

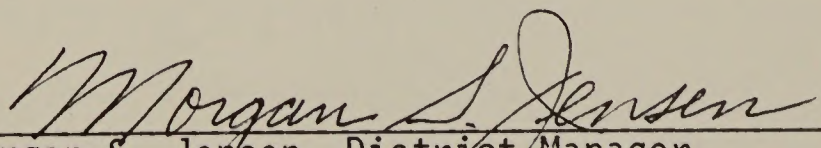
Your comments should be sent to:

Bureau of Land Management
196 E. Tabernacle
St. George, UT 84770

Sincerely,



G. William Lamb, District Manager
Arizona Strip District



Morgan S. Jensen, District Manager
Cedar City District

Enclosure

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DRAFT

**Wilderness Management Plan
for Public Review of the
Paria Canyon-Vermilion Cliffs Wilderness**

**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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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 would be asked for in case of a major plan change, especially 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.

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, geologic, historic and recreational values--some unique but all very special.

Paria Canyon is noted for its beautiful scenery. Erosion of the sedimentary rocks in the 2,500-foot deep canyon has produced 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, and a variety of wildlife including bighorn sheep, deer, antelope, coyote, small rodents, snakes, owls, hawks and eagles.

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.

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 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, convective 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 occasionally wash out drainage crossings on this road and 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 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 long-term protection and preservation of the area's wilderness character under a principle of non-degradation. Management will preserve 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.

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 a

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 area will be managed to preserve as much freedom from regulation as possible.

The third goal is to manage the area with the minimum tool, equipment, or structure to successfully, safely and economically accomplish the task. If used, the tool, equipment or structure should be the one that least degrades wilderness values permanently or temporarily.

The fourth goal is to manage nonconforming but accepted uses permitted by the Wilderness Act and subsequent laws so as to 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 plan provides management objectives for maintaining or enhancing wilderness qualities, as well as standards and criteria for guiding management's approach to present and future actions.

The objectives and standards are based on the existing and/or desired physical and social setting and emphasize the protection and preservation of the wilderness resource. Nonconforming but acceptable uses and administrative actions not addressed in this plan will be evaluated on a case-by-case basis to determine their conformance with the Wilderness Act of 1964, the Arizona Wilderness Act, Bureau policy and regulations and the goals and objectives of this plan.

Actions proposed within the wilderness will be analyzed by using the National Environmental Policy Act (NEPA) process and policies set by this plan. Analysis will consist of: (1) application of the minimum tool policy, (2) consideration of impacts to the existing physical and social setting, (3) conformance with the plan's objectives, and (4) evaluation of viable alternatives. Emphasis will be placed on maintaining wilderness character.

A. Limits of Acceptable Change

The primary management tool for maintaining the desired conditions within the wilderness will involve the use of the Limits of Acceptable Change (LAC) process.

LAC depends upon monitoring indicators for potential change to resource and social conditions in order to trigger management action. Rather than trying to estimate the number of visitors that will cause unacceptable resource or social change (the carrying capacity concept), the emphasis in LAC is to identify conditions that signal the start of unwanted adverse changes in

the physical environment and/or on users' perceptions of the physical and social environment. Other methods of measuring change over time, such as range trend studies, may also be used to detect changes to the wilderness resource.

Determining the limits of acceptable change is an involved process that must address biological and physical resources as well as sociological and psychological expectations of users. Future studies will involve monitoring such indicators as campsite condition, campsite occurrence, trailing and erosion, occurrences of litter, vandalism of cultural and geologic features, and compliance of nonconforming but accepted uses to the wilderness management objectives. Additionally, recreation users will be surveyed on a random basis to determine user expectations and perceptions of their wilderness experience in the area.

To maintain the established standards for resource and social conditions, BLM will use a variety of management strategies, ranging from providing information to periodic closures of impacted areas to all use. The intent is to instill good behavior and wilderness ethics in users. Only when such practices do not maintain established social and environmental standards will use limits for such activities be imposed.

Until field studies define appropriate standards for LAC indicators, management will entail use of interim standards for a period of approximately two years. Interim standards will be based on conditions existing at the time of designation. Appendix A identifies the preliminary indicators of social and resource conditions to be inventoried and monitored starting spring, 1986.

B. Specific LAC Monitoring Sites

Management objectives will apply to the whole area; however, the following two

sites contain unique qualities that will require special management attention. These areas will require more intensive monitoring tailored to the special characteristics of each area. As the need arises, other areas may be identified and management direction adjusted to meet new or changing conditions.

1. Coyote Buttes, in the northwest portion of the wilderness, is an area with highly scenic geologic formations eroded in innumerable shapes and showing a variety of colors. Many of the formations are small and fragile and will not tolerate any foot traffic. There are few existing or proposed developments in the area. Management

direction and LAC in this area will be aimed at the removal of all human influences that would detract from the natural setting.

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 of the canyon bottoms. The increasing use and the concentration of that use creates special management concern for visitor safety, visitor experience and the impacts of visitor use on 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 do not

allow 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 and adjacent to the Wilderness, are primarily used for either visitor service facilities or in conjunction with livestock grazing. 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 Bureau of Land Management 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 either State Director. If a request proposes a significant action using motorized equipment, an environmental

assessment (EA) is triggered in order to analyze the proposed action in greater depth.

2. Assumptions

Wilderness and its management will be an increasingly important public land issue. Additional funding and personnel will be made 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 that support private enterprises in or near the wilderness will be needed (also see Lands and Range elements).

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 wilderness management plan objectives.

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 the wilderness management.

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

The LAC process will determine if there is a need to regulate recreation use numbers.

Initiation of a fee permit system will be a function of the Paria Canyon Special Recreation Area Management Plan.

Approval may be given by the appropriate District Manager for the use of motorized and mechanical equipment for emergencies, such as fire suppression, search and rescue, and law enforcement. 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.

The appropriate District Manager has the authority to approve all non-emergency motorized vehicle or equipment use covered in this plan. Strict interpretation of the minimum tool policy will be used in considering all requests for motorized equipment use. Use of motorized equipment will be the rare exception rather than the rule. Approval is required by the appropriate State Director for non-emergency motor vehicle or equipment use not covered in this plan.

Nonconforming uses covered by special provision in Section 4(d) of the Wilderness Act will be administered for minimum interference with 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 it does not have historical significance, it may be maintained for continued use if it meets the "minimum tool" policy, or if it is necessary for a use specifically permitted by the Wilderness Act. Any structure or installation that does not qualify for retention under the above criteria and is highly visible and/or involves a low cost of removal will be removed.

Natural conditions in some locations have been modified by the past activities of humans. Where feasible and prudent, 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.

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 LAC 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.

The Special Recreation Area Management Plan will be revised to reflect management direction provided by the wilderness management plan. The plan will specify the personnel requirements needed to manage the wilderness.

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 existing structures and installations, critically evaluating the purposes and need for each, and their historical significance, if any.

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 of indicators of LAC demonstrates a need to limit user numbers.

Actual implementation of a fee permit system will require an EA and public

input. The fee permit system will be a function of the revised Paria Canyon-Vermilion Cliffs Special Recreation Area Management Plan. Until there is a determination that a permit system is needed, BLM will continue to utilize the present registration system.

The BLM district offices will submit boundary description and map to appropriate state offices for land record changes, i.e., Master Title Plats.

Revision of visitor maps and information material will reflect the official boundary location.

The BLM will inform wilderness users of location of official boundary.

Installation of boundary monuments will be required only when there is a demonstrated need.

The 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.

Access will be managed to minimize physical and visual impacts on the land and to disperse visitors.

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 interpretative sign.

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

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

Buckskin Gulch. Parking area (5 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 typical visitor is from out of state, has visited adjacent areas (Zion, Bryce, Glen Canyon), and is eager for additional information on areas to camp in and explore. Questions relating to road conditions are prevalent.

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

<u>Year</u>	<u>Visitors</u>	<u>Visitor Days</u>
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 in May and June. High water and cold temperatures in the winter and early spring restrict use. Use demand is lower in July and August due to hot temperatures and flash flood danger. Use again picks up 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 water and are very desirable. Due to their small size, the areas are not suitable for large group camping. When large groups use these areas it does two things: (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 other 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 the excellent scenic panoramas. Eleven reliable springs along the base of the Vermilion escarpment provide water and sustain beautiful riparian habitats.

2. Assumptions

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

- a. campsite deterioration
- b. ecosystem alteration
- c. reduction of the visitor's expectation of achieving a wilderness experience
- d. greater demand on quality and amount of trailhead facilities
- e. rising costs of managing the area
- f. foot travel increasing
- g. 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 both the wilderness resource and

the visitor's wilderness experience and opportunities. Management of visitor use will be the minimum necessary to provide for use of the area as wilderness and to preserve the wilderness character of the area.

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 roads will be used as trails when possible.

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, if necessary, to be consistent with the goals and objectives of this plan (see Appendix B). As part of the revised SRAMP, the canyon patrol program will be expanded and implemented to encompass cleanup, visitor contact and monitoring those indicators of LAC identified in Appendix A.

Private use of horses/pack animals will not be allowed in Coyote Buttes due to adverse impacts caused by such use. 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 from LAC monitoring.

The lack of fuel and adverse impacts to the environment require the prohibition of campfires in the 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.

Visitor use facilities that are necessary to protect the wilderness will be developed in accordance with recommendations prescribed in the Paria Canyon Special Recreation Area Management Plan.

BLM personnel will locate a single route to Wrath Arch. Other routes will be closed in Wrath Canyon. Monitor use in the canyon in order to prevent future damage from multiple routes.

Study abandoned ways as possible hiking routes into the Vermilion Cliffs portion of the wilderness. Any of these roads identified as access routes will be signed at the point of intersection with the wilderness boundary. However, the routes will not be identified on the visitor map.

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 funded 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 a 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 danger to hikers exists.

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

Interpret the human and natural history of the area.

The main focus of the information and education effort will be to update the Paria Canyon-Vermilion Cliffs Wilderness brochure.

The existing entrance station will include 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.

2. Management Action

Prepare an interpretive plan covering the following themes:

a. Flash flood avoidance procedures and warnings.

b. Paria Canyon and Coyote Buttes hiking ethics.

c. Low impact hiking procedures (human waste disposal, use of stoves, etc.).

d. Historical, archaeological, geological wildlife features.

e. Points of interest.

f. Regional recreational opportunities.

g. Public lands awareness.

h. Impacts of vandalism on archaeological sites.

i. Use of horses/packstock in wilderness area.

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 expected low visitor use.

C. Management Directions

1. Management Policies

Motorized equipment and mechanical transport will be allowed when an emergency condition exists and when such use is necessary to protect the health and safety of visitors.

2. Management Actions

Complete a cooperative search and rescue plan for the Paria Canyon-Vermilion Cliffs Wilderness by September 1986. 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 considerations.

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.

Managers or appropriate personnel will attend regular meetings of the Arizona-Utah

Advisory Council to ensure coordination of law enforcement and search and rescue efforts in the Wilderness.

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 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

Commercial use of horses/pack animals will not be allowed in Coyote Buttes and the Paria Canyon above Bush Head Canyon due to adverse impacts caused by such use. Stock use will be allowed in other areas of the Wilderness.

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

Establish, as part of the LAC process, 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

Unauthorized motor vehicle activity 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 where needed.

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

2. Management Actions

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

SCIENTIFIC STUDY

A. Management Objectives

Research will be permitted and encouraged as long as proposed projects are conducted in such a manner as to preserve the area's wilderness character and to further the management, scientific, educational, historical or conservation purposes of the area.

B. Current Situation and Assumptions

1. Current Situation

The Paria Canyon-Vermilion Cliffs Wilderness Area provides an opportunity for scientific study and observation in a natural setting. However, no wilderness-oriented research has occurred within the area to date.

Erosion of the canyon has created a number of landforms unique in their magnitude and form. The most significant of these 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; and the scenic Paria Narrows.

The Paria and Buckskin Canyons also 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

Basic social and natural resource information is crucial to intelligent management decisions.

Answers to some administrative problems can be obtained only through systematic study and research.

C. Management Direction

1. Management Policies

Research that is wilderness-dependent and compatible with the goals and objectives of this plan will be approved. Research activities that would adversely affect the wilderness resource, limit the experience of users or conflict with other wilderness objectives will not be approved.

Data collected for management purposes, such as use figures and baseline ecological data, will be made available to scientists for research purposes.

BLM will encourage universities, government agencies and special interest groups to conduct scientific studies that will aid in a better understanding of wilderness management needs.

2. Management Action

Study Wrather Arch, Buckskin Gulch, and Coyote Buttes because they are unique and may qualify for the National Natural Landmark Register of the National Park Service.

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 this area 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.

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 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 could be polluted from this source as they are sometimes inundated during periods of high water.

Since the introduction of humans and their animals to the drainage basin, upstream portions of the Paria River have been impacted. 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 have been 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 are here, 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.

Water can be developed for either on-site or off-site uses. BLM has the authority for approving the development and/or protecting the water right application. Since new rights-of-way cannot be granted in wilderness areas and BLM has authority to approve on-site water development proposals, there is little threat of private control of 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.

When Congress designated the Paria Canyon-Vermilion Cliffs Wilderness, an implied federal reserve water right was attached which was adequate enough to support the area as a viable wilderness. BLM is not certain what sources and how much water is necessary to meet the intent of Congress.

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 according to wilderness management guidelines.

Instream flow water rights will not be pursued through State law. Requests and/or approval for private control of water sources within the wilderness will be opposed.

BLM will file water rights as necessary through state law in order to protect the wilderness resources and recreational uses.

2. Management Actions

Water filings will be made with the States of Arizona and Utah for recreation, wildlife and stock water where permitted.

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 with the LAC process to prevent erosion and riparian degradation.

WILDLIFE MANAGEMENT

A. Management Objective

Wildlife resource management to complement wilderness values will be conducted by managing for an abundant and diversified 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 C, Table 1). 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 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 allowing the establishment of new cottonwoods within the affected areas.

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 were extirpated from the wilderness 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 program includes AGFD surveys and monitoring of bighorns through monthly airplane flights and ground surveys and biannual use of helicopters.

A Paria Canyon-Kanab Creek Habitat Management Plan (HMP) was prepared in 1983, prior to wilderness designation. A primary

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 exists 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.

Eighteen species of birds of prey are likely to be found within the wilderness as permanent or parttime residents (see Appendix C, Table 2). The bald eagle has been documented in the area both during the summer and winter season, but is thought to be only a transient. The peregrine falcon nests 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 occurs 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. 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.

The AGFD may monitor radio-collared bighorn about once a month using fixed-wing aircraft until approximately 1989.

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 Arizona Game and Fish Department will determine if future transplants are necessary.

Predator control may be needed to insure success of the bighorn sheep re-introduction.

Deer and antelope populations within the Wilderness are expected to remain static or increase slightly due to actions 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 fauna through preserving natural processes.

Management will 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.

Through coordination between the AGFD and District Manager, helicopter use 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 a last resort, kept to a minimum and as site-specific as possible.
- Helicopter flights will generally 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 will receive special consideration.

Predators will coexist with other wildlife species indigenous to 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.

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 as areas for inclusion in the Limits of Acceptable Change process. Monitoring of the condition of indicators

identified in this process will determine what, if any, future management actions are necessary to prevent deterioration or improve existing conditions.

BLM may allow infrequent helicopter landings when a quick reaction time is necessary and there is no other alternative to document bighorn sheep mortality and determine cause of death. Landings must be approved by the District Manager.

Monitoring the native fishes and various habitat parameters will continue to ensure that the 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 in coordination with 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.

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

2. Management Actions

The Paria Canyon Rock Art Assessment Study will be completed by 1986. 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.

The proposed Paria Plateau Patrol Plan will address the need to protect cultural resources within the Wilderness.

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. There are approximately 4,168 AUMs of active use within the Wilderness (see Appendix D, Table I, for allotment breakdown).

Most allotments involved 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. The improvements were organized by allotments and were evaluated based on grazing management needs, the minimum tool policy, and time of year the maintenance would need to be done to meet both grazing and wilderness requirements. The resulting inspection and maintenance schedule was then analyzed and summarized into Appendix D. There are some range improvements that were not needed to support the current livestock operation. 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. Historic yearlong livestock grazing in the lower eight miles of the Paria Canyon has resulted in some deterioration of both riparian-floodplain and desert shrub communities along the canyon bottom. Four years of rest and a winter grazing system have helped to improve the vegetation conditions along the canyon bottom.

2. Assumptions

Under the current grazing system in Paria Canyon vegetative condition will continue to improve.

Utilization levels and patterns of use will remain generally as they are now.

Range trend will remain static or move upward under present management practices.

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

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.

Increases and/or decreases 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 plans and an environmental assessment. The construction of new improvements will generally be for resource protection and management rather than solely to accommodate increased numbers of livestock.

Motorized vehicle or equipment use will be authorized on an occasional basis and only when it is determined that it is the only practical alternative and such use would

not have a significant adverse impact on the natural environment.

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.

Additional monitoring studies will be initiated on the wilderness portion of allotments as existing studies indicate the need.

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

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

Allotment management plans will be reviewed and amended to incorporate the maintenance schedule and be consistent 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 E-1 lists all notations on the master title plats for land status, range improvements, rights-of-way, withdrawals and classifications as of April 2, 1985.

There are state and private inholdings and three 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 E-2 for the list). There are several thousand acres of Utah State surface and subsurface estates in the Buckskin Canyon and East Clark Bench areas (see Appendix E-3) as well as private inholdings and rights-of-way along the base of the Vermilion Cliffs (Appendices E-4 and E-5).

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.

Maintenance of pipelines will generally require the use of a motorized vehicle.

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

C. Management Direction

1. Management Policies

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

Use of motorized vehicles and mechanized equipment for inspection and/or maintenance of pipelines will be kept to a minimum.

Motorized vehicles or equipment use must be coordinated with the District Manager prior to entering the wilderness.

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 generally not alter size or location.

The BLM may negotiate acquisition of non-federal inholdings through voluntary exchange of federally-owned land of approximately equal value.

Access will be provided for state and private landowners who own lands 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.

When health and safety requires highway maintenance related work within the wilderness, ADOT will submit a plan of action for District Manager approval.

2. Management Actions

The BLM will monitor all rights-of-way for compliance and their effect on wilderness. The use of mechanized equipment will be reviewed, applying minimum tool concept, and BLM will determine what use of mechanized equipment is necessary. This will constitute an approved maintenance schedule.

Rights-of-way grants within the wilderness will be reviewed and may be amended if necessary to comply with wilderness constraints.

BLM will contact owners of inholdings to determine access requirements and to initiate exchange proposals. BLM will determine the least disturbing or intrusive route and/or method of access. Access routes to private inholdings may be gated and locked by BLM. A key will be 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 has been for uranium along the Vermilion Cliffs in the Chinle Formation. 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. The only known current activity is sporadic exploration at the Sun Valley Mine.

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, attempts were made to recover gold 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

The Paria Canyon-Vermilion Cliffs Wilderness was closed to mineral leasing by the Arizona Wilderness Act of August 28, 1984.

2. Assumptions

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

C. Management Direction

1. Management Policies

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

If, after a validity examination, existing mining claim(s) are administratively declared null and void, continuing an existing operation or starting a new operation will not be allowed. Only those claimants having valid existing rights will be allowed to proceed with operations but under no circumstances may cause undue or unnecessary degradation. Generally, validity examinations will not be initiated by BLM until a plan of operations or a patent application is received.

Any mining claim operation causing surface disturbance beyond the definition of casual use will require a plan of operations. Casual use in designated wilderness areas consists of operations resulting in negligible surface disturbance and do not require the use of motorized equipment, mechanical transport, landing of aircraft or use of explosives.

A performance bond may be required for those operations causing surface disturbance beyond the definition of casual use.

As current leases expire, they will not be renewed. Management of existing leases will be continued in accordance with the BLM Wilderness Management Manual, 8560.

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 District Manager 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, while ensuring that the rights of the operator are protected. The EA is also responsible for the development of mitigating measures that will prevent undue or unnecessary degradation.

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

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 occurs 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.

Control of Tamarix will be desirable if it invades springs that are important wild-life, livestock or human water sources.

C. Management Direction

1. Management Policies

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

will be approved by the Arizona or Utah State Directors.

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 using the minimum tool concept.

V. IMPLEMENTATION SEQUENCE

<u>Management Action</u>	<u>Target Date</u>	<u>Responsibility</u>
Inform users about wilderness constraints on motorized equipment use. Administration p.10.	Continuously	All BLM personnel; particularly Range and Lands
Install boundary monuments when there is a demonstrated need and on access roads. Administration p.10, Recreation p.12, Signs p.15.	Continuously	Paria Ranger
Inform wilderness users of location of official boundary. Administration p.10.	Continuously	All BLM personnel
Revise visitor map and information material to reflect official boundary location. Administration p.10, Recreation p.12, Information and Education p.13, Cultural Resources p.22.	Complete as part of interpretive plan.	District Recreation Planners
BLM personnel to attend the Arizona-Utah Advisory Council. Search & Rescue p.14.	Immediately	Area Managers
Future wilderness brochure will contain information pertaining to the Archaeological Resources Protection Act of 1979. Administration p.10, Information and Education p.13, Cultural Resources p.22	Include in interpretive plan	District Recreation Planners in cooperation with Area Archaeologists
The proposed Paria Plateau Patrol Plan will address the need to protect cultural resources within the wilderness. Cultural Resources p.22.	No date available for plan completion	Area Managers
An annual coordination meeting with affected grazing permittees will be held to review and update the maintenance schedule. Grazing Management p.23.	Annually	Area Managers
Validity examinations. Minerals Management p.26.	When plan of operation or patent application is received.	District Managers
Environmental assessment preparation where mining claims are determined valid. Minerals Management p.26.	As needed	Area Managers
Preparation of a Tamarix control plan. Insects, Disease and Noxious Plants p.27.	As needed	Area Managers
Prohibit campfires in Paria Canyon and Coyote Buttes. Recreation p.12.	6-30-1986	Paria Ranger

<u>Management Action</u>	<u>Target Date</u>	<u>Responsibility</u>
Prohibit private use of horses/pack animals in Coyote Buttes. Recreation p.12.	6-30-1986	Area Recreation Planners
Inform outfitters and guides about permit requirements and restrictions. Commercial Use p.15.	6-30-1986	District and Area Recreation Planners
Prohibit commercial use of horses/pack animals in Coyote Buttes and the Paria Canyon above Bush Head Canyon. Commercial Use p.15.	6-30-1986	Area Recreation Planners
Allotment management plans will be reviewed and amended to incorporate the maintenance schedule and be consistent with the objectives of this plan. Grazing Management p.23.	6-30-1986	Area Managers
Review the use of mechanized equipment associated with rights-of-way maintenance. Lands Management p.25.	6-30-1986	State Director
Inventory springs and seeps for Tamarix Invasion. Insects, Disease, and Noxious Plants p.27.	6-30-1986	Arizona Strip District Recreation Planner, Vermillion Resource Area Recreation Planner and Paria Ranger
Helicopter landings to document bighorn sheep mortality and determine cause of death. Wildlife p.20.	Continuously after 6-30-1986	District Managers
Submit boundary description and map to appropriate state offices for record notation. Administration p.10.	7-31-1986	District Managers
Refine procedures involving requests for administrative use of motorized vehicles. Administration p.10.	7-31-1986	District Recreation Planners
Inventory existing structures and installations. Administration p.9, Grazing Management p.24.	9-30-1986	Area Recreation Planners with assistance from other resource specialists
Revise the Special Recreation Area Management Plan to make it consistent with the goals and objectives of this plan. Administration p.9, Recreation p.12.	9-30-1986	Kanab Resource Area Recreation Planner

<u>Management Action</u>	<u>Target Date</u>	<u>Responsibility</u>
Locate a single route to Wrather Arch and close other routes. Recreation p.12, Wildlife Management p.20.	9-30-1986	Vermillion Resource Area Recreation Planner in coordination with Area Wildlife Biologist
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.14.	9-30-1986	District Managers and Safety Officers
Prepare a search and rescue plan for the wilderness area. Search & Rescue p.14.	9-30-1986	District Managers and Safety Officers
Water filings will be made with the States of Arizona and Utah for recreation, wildlife and stock water. Water p.18.	9-30-1986	Area Managers
Complete the Paria Canyon Rock Art Assessment Study. Cultural Resources p.22.	9-30-1986	Vermillion and Kanab Resource Area Archaeologists
Rights-of-way grants within the wilderness will be reviewed and amended if necessary to comply with wilderness constraints. Lands Management p.25.	9-30-1986	Area Managers
Contact owners of inholdings to determine access requirements and to initiate exchange proposals. Lands Management p.25.	9-30-1986	Area Managers
Prepare a fire management plan. Fire p.27.	9-30-1986	Vermillion Resource Area Recreation Planner and District Fire Management Officer
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. Signs p.15.	Continuously after 9-30-1986 (Recreation Plan revision)	Area Recreation Planners and Paria Ranger
Evaluate and upgrade communications at the Paria Entrance Station. Administration p.9.	12-31-1986	Kanab Resource Area Manager

<u>Management Action</u>	<u>Target Date</u>	<u>Responsibility</u>
Prepare monitoring plan. Administration p.9, Recreation p.12, Commercial Use p.15, Water p.18, Wildlife Management p.20, Grazing Management p.23, Lands Management p.25, Insects, Disease and Noxious Plants p.27.	9-30-1987	Vermillion Resource Area and Arizona Strip District Recreation Planners in cooperation with other resource specialists
Study abandoned roads as possible hiking routes into the Vermilion Cliffs portion of the wilderness. Recreation p.12.	9-30-1987	Vermillion Resource Area Recreation Planner
Prepare an interpretive plan. Information and Education p.13, Cultural Resources p.22.	9-30-1987	District Recreation Planners
Study Wrather Arch, Buckskin Gulch, and Coyote Buttes for possible nomination to the National Natural Landmark Register. Scientific Study p.16.	9-30-1987	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 plan. Wildlife Management p.20.	9-30-1987	Vermillion Resource Area Manager
Inventory unique habitats to determine the occurrence of state or federal-listed species. Wildlife Management p.20.	9-30-1987	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, and 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 how wilderness preservation requirements, the rights of existing but nonconforming uses, levels and types of recreation use and other needs 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. Wilderness Non-Use Alternative

The Wilderness Non-Use Alternative 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. Wilderness Use Alternative

The Wilderness Use Alternative 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 opportuni-

TABLE 1
 Paria Canyon-Vermilion Cliffs WMP
 Comparison Chart of Alternatives
 Bureau of Land Management, Arizona Strip District, Arizona

WILDERNESS ELEMENTS	PROPOSED ACTION	WILDERNESS NON-USE	WILDERNESS USE
<u>Administration</u>			
1. Motorized Vehicle/ Equipment Use in Non-Emergency Situations for Administration and Other Uses	1. The wilderness would be closed to motorized vehicle/equipment use for administrative purposes with rare exceptions, which would require careful evaluation and justification under the minimum tool policy.	Coyote Buttes and Paria Canyon areas would be closed to all requests for motorized use.	1. Motorized vehicle/equipment would be allowed where used previously and complies with minimum tool policy.
2. Recreation Administration	2. Present registration system for recreation uses would be continued. The Paria Canyon SRAMP would be used to administer recreation use. Group size limited to 15. No limit on number of groups.	2. Initiate a fee permit system. Do not use SRAMP. Limit group size to 10 and one group per day. Dogs would not be permitted in the Paria Canyon.	2. No registration or fee permit system. No limit on groups. No restrictions on dogs.
3. Limits of Acceptable Change (LAC) Process	3. LAC would be used to regulate use.	3. Same as Proposed Action.	3. No LAC continue existing monitoring system.
4. Administration Facilities	4. Upgrade communications system.	4. Remove communication system to make the area more remote.	4. Same as Proposed Action.
<u>Recreation</u>			
1. Trail and Access Route Management	1. No trail construction except to stop resource damage (i.e., Wrather Canyon). Identify abandoned roads as trails with signs. Do not identify these on visitor map. Leave Wire Pass Trailhead/parking as is.	1. Trail construction same as Proposed Action. Do not identify abandoned roads. Relocate Wire Pass Trailhead out of wilderness.	1. Construct and sign trails where feasible. Identify abandoned road on map with signs. Leave Wire Pass Trailhead as is.
2. Campfires	2. Allow campfires everywhere except in Coyote Buttes and Paria Canyon.	2. No campfires in wilderness.	2. No restrictions.
3. Horse/Packstock Use	3. No use in Coyote Buttes and Paria Canyon above Bush Head Canyon. No restriction elsewhere.	3. No horse/packstock use allowed.	3. No restrictions.
<u>Water</u>			
1. Water Rights	1. BLM would not pursue instream flow water rights. BLM would oppose private control of wilderness water sources BLM would file for water rights through state law if necessary to protect wilderness values.	1. BLM would pursue Federal Reserve water rights on all water sources within the wilderness.	1. Same as Proposed Action except BLM would evaluate private applications for water rights and may not oppose.

TABLE 1 (cont.)
 Paria Canyon-Vermilion Cliffs WMP
 Comparison Chart of Alternatives
 Bureau of Land Management, Arizona Strip District, Arizona

WILDERNESS ELEMENTS	PROPOSED ACTION	WILDERNESS NON-USE	WILDERNESS USE
2. Water Quality	2. BLM would periodically monitor recreational water sources for contamination.	2. No water monitoring.	2. BLM would intensively monitor recreational water sources.
<u>Wildlife</u>			
1. Aircraft Use for Wildlife Monitoring	1. BLM would evaluate requests for helicopter landings based on minimum tool policy.	1. Helicopter landings within the wilderness would not be approved.	1. Same as Proposed Action.
2. Riparian Management	2. Selected riparian areas would be monitored and action taken when necessary to prevent deterioration.	2. Same as Proposed Action.	2. No monitoring.
<u>Grazing</u>			
1. Monitoring Studies	1. Studies would be continued as specified in existing AMPs. Studies would be accomplished without vehicles.	1. Same as Proposed Action.	1. Continue existing studies. Allow vehicle use where feasible.
2. Range Improvement Inspection and Maintenance	2. Follow Congressional grazing guidelines for inspection and maintenance of range improvements as proposed in Appendix D of the management plan.	2. Same as Proposed Action.	2. Management discretion would favor grazing user.
3. New Improvements	3. Would be considered based on impact to wilderness resource.	3. No new improvements.	3. Same as Proposed Action.
4. Abandoned or Unnecessary Improvements	4. May be removed in cooperation with permittee.	4. Would be removed by BLM.	4. No removal.
<u>Minerals</u>			
1. Validity Exam	1. BLM would initiate validity exams when a plan of operations is received or patent applied for.	1. BLM would initiate validity exams on all unpatented mining claims.	1. Same as Proposed Action.

Source: Arizona Strip District, Arizona

ties and user information. It would be the least regulated and restrictive alternative.

4. No Action Alternative

The No Active Alternative consists of a continuation of management recommendations as described 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.

Table 1 highlights the three alternatives. A complete description of the Proposed Action Alternative is presented in Chapter IV of the Wilderness Management Plan.

C. Description of the Affected Environment

The Paria Canyon-Vermilion Cliffs Wilderness Area is the designated 110,000 acre wilderness located on the Arizona-Utah borders which consists of four major components: 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 1986.

(3) The short-term period would be 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 by an Environmental Assessment in accordance with NEPA regulations.

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 arranged similar to the Wilderness Management Plan so the Proposed Action Alternative and other alternatives can be compared.

(1) Administration

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

Proposed Action Alternative

This alternative would, with rare exceptions, exclude motorized vehicle use for administrative purposes. 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. Few instances are anticipated for which BLM would require motorized equipment, therefore impacts resulting from administrative use would be reduced over the pre-wilderness condition.

The greater the use of motorized transportation the greater would be the adverse impacts on natural 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.

If a request proposes a significant action using motorized equipment, a separate EA will be developed to evaluate the proposed action in greater detail.

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

Wilderness Non-Use Alternative

Under this alternative, Coyote Buttes and Paria Canyon would be closed to all requests for vehicle use in order to protect wilderness resource values and reduce impacts associated with vehicle use. This would have insignificant adverse impacts to four livestock operators who have range improvements in the area. It would have beneficial impacts on naturalness, wildlife and solitude. Impacts on the remainder of the area would be the same as the Proposed Action Alternative.

Wilderness Use Alternative

Under this alternative, motorized vehicle/equipment use authorization for administrative purposes 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 limited but occasional vehicle use, primarily pickup trucks on existing roads on fringes of the wilderness. Motorized vehicle use would be expected to be greater than 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 Non-Use Alternative.

(b) Recreation Administration

Proposed Action Alternative

The Proposed Action Alternative would continue to use the Special Recreation Area Management Plan (SRAMP), as amended, to guide management of recreational uses in the northern portion of the wilderness. It also includes non-wilderness areas, such as the Paria Entrance Station, that are integral to management of recreational use in the northern half of the wilderness.

The Proposed Action Alternative sets recreational group size limits at 15, but has not proposed any limits on the number of groups (reference page 11). This could have an adverse impact to larger organized groups that would be prohibited from using Paria Canyon. 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. Significant adverse impacts to the biological and physical resources are not anticipated when group size is 15 or less.

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.

Wilderness Non-Use Alternative

Under this alternative the BLM would initiate a fee permit system, not use SRAMP 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. Changing from the SRAMP and replacement with a fee and reservation system would have both adverse and beneficial impacts on wilderness experience opportunity. This 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 dogs in 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.

Wilderness Use Alternative

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 dogs in the wilderness area would have the potential for adverse impacts on wildlife and opportunities for solitude. 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) Limits of Acceptable Change (LAC) Process

Proposed Action Alternative

Utilizing the Limits of Acceptable Change (LAC) as outlined in the management plan would have both positive benefits and some potentially negative impacts to wilderness values. The LAC interim program would be very similar to a comprehensive wilderness monitoring program directed toward achieving proposed management actions and policies. There would be a benefit to BLM from the additional information gathered before the LAC project plan would be developed. The additional baseline data would

be used in evaluating the existing acceptable level of change and the specific area to which the LAC indicator applies. There would be a potential short-term adverse impact using this approach from either applying the LAC indicator too broadly or not using the appropriate standard to direct management in a specific setting.

Wilderness Non-Use Alternative

The Wilderness Non-Use Alternative would differ from the Proposed Action Alternative in that the LAC Project Plan would be initiated immediately upon approval of the WMP, rather than two years from that time. 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 opportunity classes, 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 of opportunity classes. Drawbacks from this approach are related to the current lack of baseline information and BLM expertise in utilizing the LAC process. By immediately initiating the LAC Project Plan upon approval of the WMP, the long term quality of the plan could suffer due to the points mentioned.

Wilderness Use Alternative

Under this alternative BLM would not use the LAC process, but would continue to monitor those areas that were established prior to wilderness designation. It would also benefit those programs (i.e. grazing, wildlife, and recreation) where ongoing monitoring programs exist. There would be a potential negative impact from not having a comprehensive wilderness monitoring plan. Adverse impacts to wilderness values could occur without prior knowledge. Under this alternative many wilderness values would not be monitored. The current monitoring program is activity driven, i.e., range utilization for AMP objectives. This would adversely effect BLM's ability to manage wilderness.

(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 be beneficial for the coordination of management actions and response to noncompliance actions. 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.

Wilderness Non-Use Alternative

The Wilderness Non-Use Alternative 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.

Wilderness Use Alternative

Same as Proposed Action Alternative.

(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.

Wilderness Non-Use Alternative

The Wilderness Non-Use Alternative 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 slight benefit to natural values.

Wilderness Use Alternative

Under this alternative BLM will 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 providing information on locations, distances and direction.

(b) Campfires

Proposed Action Alternative

The Proposed Action Alternative would benefit natural values in critical areas by eliminating destruction of vegetation and evidence of fire rings, charcoal and soot on some rock overhangs. The absence of this evidence would also enhance the feeling of remoteness from humans and their activities. Allowing campfires in the remainder of the wilderness would not be expected to adversely impact natural values of feelings of solitude since visitor use is very low and, as such, the impacts would be very occasional and very minimal.

Restricting campfires in Paria Canyon and Coyote Buttes would preclude the opportunity for a "total" experience; however, for several years visitors have been encouraged by BLM to use camp stoves rather

than fires and, as such, this particular action would not be a significant change. This approach would balance managerial protection of natural values in critical areas providing fewer regulations or restrictions. Visitors in Paria Canyon and Coyote Buttes could feel they've lost an aesthetic value with the campfire restriction, however, they could also experience a greater sense of naturalness and solitude.

Wilderness Non-Use Alternative

The Wilderness Non-Use Alternative expands the restriction on campfires in the Proposed Action Alternative to the entire wilderness.

While favoring natural values and some aspects of experience (naturalness and solitude), this alternative would be more restrictive to visitors. Other aspects of visitor experience (opportunities, expectations and freedom from regulations) as well as visitor attitudes toward BLM would be adversely impacted.

Wilderness Use Alternative

The Wilderness Use Alternative would not restrict campfires anywhere in the wilderness. This would favor unregulated visitor use and opportunities for a "total" recreation 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 detract from the wilderness experience of some visitors. These adverse impacts would be greater than what would occur with the Proposed Action or the Wilderness Non-Use Alternative, both of which would restrict campfires.

(c) Horse/Pack Stock Use

Proposed Action Alternative

The action described in the Proposed Action Alternative regarding both private and commercial use of horses or pack stock

would generally benefit natural, scenic, riparian and certain recreation values in Paria Canyon and Coyote Buttes by eliminating the potential for vegetative, geologic and water quality impacts. Additionally, this could reduce the potential for conflicts between different types of recreation users. While the action would preclude the opportunities for recreation 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 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.

Wilderness Non-Use Alternative

The Wilderness Non-Use Alternative expands the restriction 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 toward BLM.

Wilderness Use Alternative

The Wilderness Use Alternative 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 concern for 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 page 14.)

(3) Water

(a) Water Development and Water Rights

Proposed Action Alternative

Under the Proposed Action water filings would be pursued through state law to protect wilderness values. It is anticipated that few water sources would require filings. Closing the area to future water development unless it enhances wilderness values or resources would have a negative impact on some local land owners and resource users since much of the local available water is in the wilderness area. This impact is the most significant on the Vermilion Cliffs area. Fewer potential water developments would have a positive impact on natural wilderness values. There would be a positive impact to wildlife and recreation use from the potential future reduction in competition for water.

Wilderness Non-Use Alternative

Implementing this alternative means pursuing Federal Reserved Water Rights. There would be potential for a negative social impact to local citizens concerned about too much federal control. However many recreational interests might feel more secure knowing that certain water sources would be protected under a specific federal reservation.

Wilderness Use Alternative

This alternative would be the same as the Proposed Action Alternative except BLM would file through state law on every water source available for appropriation. There would be potential for a positive social benefit in that the wilderness resources would be less subject to federal water policy changes. Many citizens could perceive this as additional governmental control or cost.

(b) Water Quality

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 when they are collecting the samples.

Wilderness Non-Use Alternative

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 the effects of change in water quality on riparian vegetation and wildlife.

Wilderness Use Alternative

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.

(4) Wildlife

(a) Aircraft Use for Wildlife Monitoring

Proposed Action Alternative

Arizona Game and Fish Department aircraft flights would result in both beneficial and adverse impacts. The flights enable effective monitoring of desert bighorn sheep which would provide information on movements, reproduction, population trend and age and sex ratios considered important to establishment and maintenance of a viable herd and to future hunting programs. The monitoring would, therefore, enable more effective management programs and benefit the public and sportsmen who enjoy the opportunity to see or hunt bighorn sheep in

a wilderness setting.

Using the AGFD worst-case, up to fourteen overflights could occur annually through 1989. These overflights of aircraft and any approved landing of helicopters would create noise which disrupts the solitude of the wilderness.

Wilderness Non-Use Alternative

Impacts from aircraft use would be the same as described in the Proposed Action Alternative, except the additional impacts from helicopter landings and takeoffs would be eliminated, thus reducing impacts on solitude, wildlife and naturalness.

Helicopter landings would not be authorized within the wilderness under this alternative. This would eliminate adverse impacts associated with helicopter landings, but would make it more difficult for the AGFD to retrieve dead radio-collared sheep for autopsies purposes. It would be more difficult and less reliable to determine bighorn sheep mortality.

Wilderness Use Alternative

Impacts would be the same as described in the Proposed Action Alternative.

(b) Riparian Management

Proposed Action Alternative

Selected riparian areas would be monitored through the LAC process and action taken when necessary to prevent deterioration.

Restrictions on the private and commercial use of horses or pack stock from Coyote Buttes and Paria Canyon south to Bush Head Canyon would be beneficial to the riparian areas. Campfire restrictions in Paria Canyon and Coyote Buttes 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 bene-

ficial impact to riparian management.

The use of the LAC process would help maintain the riparian areas within the wilderness in a natural condition, thus benefiting both recreational and wildlife values.

Wilderness Non-Use Alternative

Same as the Proposed Action Alternative.

Wilderness Use Alternative

Under this alternative riparian areas would not be monitored for condition. If riparian areas were not monitored, the potential for adverse impacts exists. These impacts would continue due to lack of knowledge. This would have potential 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 slightly positive effect on natural values, solitude, and primitive and unconfined recreation due to the elimination of most motorized vehicle use. Impacts on supplemental values such as geology, cultural resources and wildlife, would be negligible. Socially and economically, impacts would also be negligible.

Wilderness Non-Use Alternative

Same as Proposed Action Alternative.

Wilderness Use Alternative

The Wilderness Use Alternative 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 negligibly impacted.

(b) Range Improvement Inspection and Maintenance

Proposed Action Alternative

Under this alternative motorized use proposals would be reviewed using the minimum tool policy. An adverse impact to 12 ranchers would occur due to the increased restrictions to motor vehicle use. Negative social and economic impacts would thus result because of ranchers having to adjust their operations to accommodate non-motorized travel. 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. Approximately two trips per allotment per year would be anticipated under the approved maintenance schedule.

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

Wilderness Non-Use Alternative

Same as the Proposed Action Alternative.

Wilderness Use Alternative

Under this alternative management discretion would favor the wilderness user. Additional adverse impacts on naturalness, solitude, and primitive 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 significantly reducing human intrusion in the form of 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.

Wilderness Non-Use Alternative

The Wilderness Non-Use 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 would occur due to the prohibition on new improvements that could enhance range conditions or grazing operation.

Wilderness Use Alternative

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.

Wilderness Non-Use Alternative

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.

Wilderness Use Alternative

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 can control when validity examinations would be done. There is a negative impact from prolonging the life of those potentially invalid claims who do not submit mining plans, but continue to keep up with 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.

Wilderness Non-Use Alternative

Under this alternative BLM would initiate a

validity examination on all mining claims in the wilderness area. 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 minor positive impact would result from eliminating the assessment requirement for all of the invalid claims.

Wilderness Use Alternative

Same as the Proposed Action Alternative.

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
	Totals: \$ 59,000

5. Wilderness management 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

(date)

Area Manager, Kanab Resource Area

(date)

District Manager, Arizona Strip District

(date)

District Manager, Cedar City District

(date)

Approved by:

State Director, Arizona

(date)

State Director, Utah

(date)

IX. APPENDICES

Recommended by:

Area Manager, Kern Resource Area
Area Manager, Kern Resource Area
Area Manager, Kern Resource Area
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Area Manager, Kern Resource Area

Approved by:

State Director, Kern
State Director, Kern

State Director, Kern
State Director, Kern

APPENDIX A

TABLE 2
Limits of Acceptable Change
Area-Wide
Bureau of Land Management, Arizona Strip District, Arizona

SAMPLE *

INDICATOR	INTERIM STANDARD	MONITORING		
		INVENTORY METHOD	SAMPLING PROCEDURE	FREQUENCY
1. <u>Status of Existing Impacts</u>				
a. R/W Developments	a. Not to exceed size, type, capacity, or area of disturbance originally granted.	a.1. Visual survey. a.2. Monitor R/W permit renewals, amendments or modifications.	a.1. Map and record significant changes. a.2. Record significant changes proposed.	a.1. Annually a.2. On demand
b. Other Existing Improvements	b.1. Maintenance activities not to exceed original area of disturbance. b.2. Any revision to original construction must meet VRM Class I standards.	b.1. Visual survey. b.1.(a) Monitor requests to revise improvements. b.2. Visual inspection of revisions.	b.1. Map and record changes. b.1.(a) Record requests proposed that exceed. b.2. Use of VRM Contrast Rating.	b.1. Annually b.1.(a) On demand b.2. On demand
2. <u>ORV Trespass</u>	2. No more than 2 new occurrences per year.	2. Visual survey.	2. Map and record location of new occurrences.	2. During any field operation or patrol trip.

Other possible indicators:

- Occurrence of new campsites
- Excess trailing in Wrather Canyon
- Vegetative condition other than campsites (range studies)
- Encounters with others (could be part of Recreation Experience Survey)
- Occurrence and impact of new developments (could be part of Recreation Experience Survey)
- Peregrine nests sensitivity
- Bighorn watering at river
- Cottonwood populations impacted by livestock
- Presence of motorized vehicle sights and/or sounds (Recreation Experience Survey)
- Search & Rescue occurrences
- ORV trespass areas
- Cumulative impacts

* These charts are representative of the types of indicators possible for identification. More or less are possible. Interim standards should reflect more in-depth resource specialist input before being utilized.

TABLE 3
Limits of Acceptable Change
Paria Canyon
Bureau of Land Management, Arizona Strip District, Arizona

INDICATOR	INTERIM STANDARD	MONITORING		
		INVENTORY METHOD	SAMPLING PROCEDURE	FREQUENCY
1. <u>Campsite Condition</u>				
a. 8.5 mile camp	a. Not to exceed Impact Class 3	a. Campsite impact evaluation using an impact rating form.	a. Field check, Spring and Fall and photo document.	a. Biannually
b. 11.0 mile camp	b. Not to exceed Impact Class 3	b. Campsite impact evaluation using an impact rating form.	b. Field check, Spring and Fall and photo document.	b. Biannually
c. 17.9 mile camp (Wrather Canyon)	c. Not to exceed Impact Class 2	c. Campsite impact evaluation using an impact rating form.	c. Field check, Spring and Fall and photo document.	c. Biannually
d. 19.1 mile camp (Shower Spring)	d. Not to exceed Impact Class 4	d. Campsite impact evaluation using an impact rating form.	d. Field check, Spring and Fall and photo document.	d. Biannually
e. 23.3 mile camp (Bush Head Canyon)	e. Not to exceed Impact Class 3	e. Campsite impact evaluation using an impact rating form.	e. Field check, Spring and Fall and photo document.	e. Biannually
f. 29.5 mile camp (Old Ranch)	f. Not to exceed Impact Class 3	f. Campsite impact evaluation using an impact rating form.	f. Field check, Spring and Fall and photo document.	f. Biannually
g. 13.3 mile camp	g. Not to exceed Impact Class 2	g. Campsite impact evaluation using an impact rating form.	g. Field check, Fall only and photo document.	g. Annually
h. 16.7 mile camp (The Hole)	h. Not to exceed Impact Class 3	h. Campsite impact evaluation using an impact rating form.	h. Field check, Fall only and photo document.	h. Annually
2. <u>Occurrences of Litter (Other than campsites)</u>	2. No more than an average of 5 occurrences of litter viewable from hiking track per day.	2. Visual count of litter occurrences.	2. Record number of occurrences observed per day on patrol trips.	2. During any patrol.
3. <u>Recreation User Experience Quality Index</u>				
a. Inner Canyon Use Index	a. No more than 25% of surveyed users at lowest quality level.	a. Short verbal survey of visitors during use with emphasis on quality of recreation experience.	a. Administer survey during patrol trips.	a. During any canyon patrol

APPENDIX A

TABLE 3 (cont.)
Limits of Acceptable Change
Paria Canyon
Bureau of Land Management, Arizona Strip District, Arizona

INDICATOR	STANDARD	MONITORING		
		INVENTORY METHOD	SAMPLING PROCEDURE	FREQUENCY
3. <u>Recreation User Experience Quality Index</u> b. Lee's Ferry Use Index	b. No more than 25% of surveyed users at lowest quality level.	b. Short written survey form for visitors upon completion of trip.	b. Locate survey forms at Lee's Ferry Trail-head register box.	b. Check register monthly.
4. <u>Vandalism of Cultural and Geologic Features</u> a. Petroglyph Panels	a. No more than one new occurrence of defacement per panel every 2 seasons.	a. Visual count.	a. Census, map & photo document all occurrences of defacement of known panels during Fall patrol.	a. Annually
b. Historic Structures	b. No more than one new occurrence of defacement per panel every 2 seasons.	b. Visual count.	b. Census, map & photo document all new occurrences of other than natural deterioration of known historic structures during Fall patrol.	b. Annually
c. Geologic Features	c. No more than one new occurrence of defacement per season of natural geologic features.	c. Visual count.	c. Census, map & photo document all new occurrences of defacement during Fall patrol.	c. Annually

Source: Arizona Strip District, Arizona

TABLE 4
Limits of Acceptable Change
Coyote Buttes
Bureau of Land Management, Arizona Strip District, Arizona

INDICATOR	INTERIM STANDARD	MONITORING		
		INVENTORY METHOD	SAMPLING PROCEDURE	FREQUENCY
1. <u>Campsite Occurrence</u>	1. No evidence of campsites.	1. Visual count.	1. Map and record any evidence of campsites on random backcountry patrol schedule.	1. Annually in Coyote Buttes area.
2. <u>Encounters per day with other users in area</u>	2. Probability of sighting no more than 1 individual or group in the area per day.	2.a. Visual count.	2.a. Census of all sightings during backcountry patrols on random patrol schedule.	2.a. Same as above.
		2.b. Short verbal survey of visitors encountered with emphasis on number of other parties sighted.	2.b. Administer survey on randomly scheduled backcountry patrols.	2.b. Same as above.
3. <u>Recreation User Experience Quality Index</u>	3. No more than 10% of surveyed users at lowest quality level; no less than 10% at highest quality level.	3. Short verbal survey of visitors during use with emphasis on quality of recreation experience.	3. Same as above.	3. Same as above.
4. <u>Impacts of Visitor Use on Physical Setting</u>				
a. Trailing	a. No more than one worn path to or through an area.	a. Visual survey.	a. Map and record location and condition of newly worn paths.	a. Same as above.
b. Human-Induced Erosion	b. No more than one new occurrence per year per patrol area.	b. Same as above.	b. Same as above.	b. Same as above.
c. Denuding Woody Vegetation	c. Same as above.	c. Same as above.	c. Map and record location extent of occurrence, and remaining condition.	c. Same as above.
d. Occurrences of Litter	d. No more than an average of 3 occurrences of litter viewable from hiking route per day.	d. Same as above.	d. Record number of occurrences observed per day on patrol trips.	d. During any backcountry patrol.

APPENDIX A

TABLE 4 (cont.)
Limits of Acceptable Change
Coyote Buttes
Bureau of Land Management, Arizona Strip District, Arizona

INDICATOR	INTERIM STANDARD	MONITORING		
		INVENTORY METHOD	SAMPLING PROCEDURE	FREQUENCY
5. <u>Vandalism of Cultural and Geologic Features</u>				
a. Petroglyph Panels	a. No new occurrence of defacement.	a. Visual count.	a. Census, map & photo document all occurrences of defacement of known panels during Fall patrol.	a. Annually
b. Historic Structures	b. No more than one new occurrence of defacement per panel every 2 seasons.	b. Visual count.	b. Census, map & photo document all new occurrences of other than natural deterioration of known historic structures during Fall patrol.	b. Annually
c. Geologic Features	c. No more than one new occurrence of defacement per season of natural geologic features.	c. Visual count.	c. Census, map & photo document all new occurrences of defacement during Fall patrol.	c. Annually

Source: Arizona Strip District, Arizona

APPENDIX B
Summary of Issues and Actions
Draft Management Plan for Paria Canyons
Special Recreation Management Area

ISSUE NO. 1 - COMPATIBILITY OF LAND USES

1. Action 1.1 - Fence the east side of the House Rock Valley road to eliminate livestock grazing in the Buckskin and Wire Pass drainages.
2. Action 1.2 - Support construction of the Lee's Ferry fence and Wilson Spring development in the Lee's Ferry allotment if management objectives cannot be achieved through implementation of an allotment management plan.
3. Action 1.3 - Accelerate the review of the existing withdrawals held by Bureau of Reclamation pursuant to the provisions of section 204(L)1 of FLPMA, and support revocation of the following withdrawals:
 - Marble Canyon Project
 - Hogan Dam-Paria Reservoir
 - Colorado River Storage Project
4. Action 1.4 - Withdraw from mineral entry 10 acres at the Paria Entrance Station and 20 acres at the White House Trailhead.
5. Action 1.5 - Upon receipt of plans of operation required by 43 CFR 3802 within Zone IV, attach stipulations designed to reduce the impacts of such operations upon the primitive setting and experience.
6. Action 1.6 - Acquire through exchange 1,920 acres of State lands and minerals in Utah and 1,546.48 acres in Arizona.
7. Action 1.7 - Maintain the existing oil and gas leasing categories in Utah. In Arizona, attach stipulations designed to protect primitive setting and experience within Zone III and Zone IV to oil and gas leases.
8. Action 1.8 - Limit the location of utility corridors, facility developments, and any new road proposals to Zones I and II. Any new utility corridor proposals will be located north of the existing 500 KV Navajo-McCullough powerline in Zone II.
9. Action 1.9 - Redesignate the Paria Canyon Primitive Area as the "Paria Canyon Outstanding Natural Area" (ONA:) if the area is not designated by Congress as wilderness.
10. Action 1.10 - Designate Management Zone IV as "Limited to Existing Roads and Trails" for vehicular travel.

ISSUE NO. 2 - VISITOR SAFETY AND SERVICES

11. Action 2.1 - Complete a cooperative search and rescue plan for the Paria SRMA. Develop cooperative agreements with the Kane County Search and Rescue, Coconino County Search and Rescue, and National Park Service at Glen Canyon NRA.

APPENDIX B
Summary of Issues and Actions
Draft Management Plan for Paria Canyons
Special Recreation Management Area

12. Action 2.2 - Establish flood warning procedures to protect visitors from flash floods. This would include agreements with Bryce Canyon National Park and the U.S. Weather Bureau to supply early warning for flash flood danger. Do not issue hiking permits for the canyon if there is flash flood danger. Do not allow south to north hiking from Lee's Ferry to White House Trailhead which requires hiking through the narrows of Paria.
13. Action 2.3 - Prepare a comprehensive interpretation and signing plan for the SRMA.

ISSUE NO. 3 - VISITOR EXPERIENCE AND RESOURCE PROTECTION

14. Action 3.1 - Do not issue commercial recreation use permits (RUPs) to groups containing more than 15 individuals (including operators and support personnel). Emphasis will be placed on limiting non-commercial group size to less than 15 individuals.
15. Action 3.2 - Implement a visitor awareness program of minimum impact camping.
16. Action 3.3 - Implement a canyon patrol program stressing campsite cleanup, site monitoring, visitor contact, vandalism surveillance of archaeological sites, and monitoring changing canyon hiking conditions.
17. Action 3.4 - Support state and BLM programs in wildlife habitat maintenance and enhancement including desert bighorn sheep reintroductions and replenishment of depredated cottonwood stands.
18. Action 3.5 - Continue to monitor and analyze the visitor transect studies. Analyze the data and make recommendations on carrying capacities on a five-year continuing basis.
19. Action 3.6 - Limit use of horses for commercial use in the Paria Canyon to individuals holding a valid Arizona hunting license for deer or bighorn sheep. Private use of horses will be allowed. Establish a monitoring system to determine effects of horse use on camping areas and inner canyon vegetation. Establish use limits on horses if monitoring studies indicate site deterioration is occurring.

ISSUE NO. 4 - MONITORING, USE SUPERVISION, ADMINISTRATION AND FACILITY DEVELOPMENT

20. Action 4.1 - Implement a recreation visitor use fee system for Paria Canyons. The fee system will incorporate a self service/honor system approach.
21. Action 4.2 - Plan, design and construct safe recreation facilities that are consistent with the management objectives.
22. Action 4.3 - Establish a Paria Canyon uniformed Visitor Services Specialist position with residence at Paria Canyon from March 1 through November 30, with duty hours from 9 a.m. to 11 a.m.

APPENDIX B
Summary of Issues and Actions
Draft Management Plan for Paria Canyons
Special Recreation Management Area

- 23. Action 4.4 - Prepare and implement a maintenance plan for the Paria Canyon SRMA.
- 24. Action 4.5 - Upgrade the existing communications capability by installing a telephone at the Paria Entrance Station.

APPENDIX C

TABLE 5

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 6

Birds of Prey--Documented and Probable Occurrences

Bureau of Land Management, Arizona Strip District, Arizona

<u>Documented Occurrences</u>	<u>Probable Occurrences</u>
American kestrel	Ferruginous hawk
Turkey vulture	Goshawk
Red-tailed hawk	Long-eared owl
Rough-legged hawk	Burrowing owl
Marsh hawk	Flammulated owl
Golden eagle	Sow-what owl
Peregrine falcon	Screech owl
Prairie falcon	
Sharp-shinned hawk	
Cooper's hawk	
Great-horned owl	

Source: Arizona Strip District, Arizona

APPENDIX D
Range Improvement Maintenance

As stated in the wilderness congressional records: "where practical alternatives do not exist maintenance may be accomplished through occasional use of motorized equipment." BLM has met with every affected grazing permittee to discuss their past range improvement program and their future practical inspection and maintenance requirements. The data below summarize these requirements and establish the minimum tool policy for the coming year. These requirements will be reviewed and updated annually to reflect any changes in the grazing system and to insure minimum tool policies and wilderness values are not being compromised. The grazing permittees at the beginning of each grazing year will be required to discuss with the BLM their motorized equipment needs, if any, for that part of the allotment in wilderness. The permittee will then be responsible for keeping accurate records of the time, duration and success of each motorized use as per the previously approved annual schedule. After each motorized use the permittees will be required to send the BLM a record of his use.

Range improvement inspection is defined as the routine check of an improvement to determine its general condition. Minor maintenance is usually accomplished at this time.

Maintenance is divided into two categories; planned and unplanned. Planned maintenance is the required maintenance that a permittee can plan to do in the future and which does not require immediate attention. Planned maintenance must be coordinated with BLM at least 60 days in advance of the actual work in order to evaluate the following: minimum tool necessary to do the job, time of year the maintenance can be done to avoid impacts to recreational uses and/or wilderness values, best access, rehabilitation requirements for any surface disturbance, minimum duration required to complete the work and/or any other wilderness-related issue specific to the individual plan. At this point an evaluation will be made on the need to write a separate environmental assessment. The decision will depend on the amount of surface disturbance proposed, the impact on wilderness resources and the adequacy of existing environmental assessments to evaluate the proposal.

Unplanned maintenance is defined as that maintenance which needs immediate attention and is paramount to the ongoing grazing program. Unplanned maintenance that requires the uses of motorized vehicles, which has not already been approved in the annual inspection/maintenance schedule, should be coordinated with BLM prior to the initiation of work.

Both planned and unplanned maintenance require the occasional use of motorized equipment; generally a pickup truck, due to the type and quantity of materials and tools required to complete the work. All requests for heavy equipment require prior approval by BLM. The annual inspection and maintenance schedule and the actual use report will be available for public review upon request.

Maintenance of Range Developments in the Paria Canyon-Vermilion Cliffs Wilderness:

17 Fences (approximately 32 miles)

Inspection and minor maintenance will be non-motorized.

Major planned maintenance using motor vehicle will be approved only if supplies and materials warrant. Maintenance will be approved at annual BLM review.

Prior approval is required by the BLM for unplanned maintenance requiring motorized equipment.

APPENDIX D
Range Improvement Maintenance

12 Springs, 16 Miles of Pipelines and 7 Troughs

Inspection and minor maintenance will be non-motorized.

Planned maintenance using motor vehicle will be approved only if supplies and materials warrant. Planned maintenance will be approved during the annual review process. If heavy equipment is involved the proposal should be submitted to BLM at least 60 days prior to the initiation of the action for review.

Unplanned maintenance requiring motorized equipment should be approved by the BLM prior to uses.

10 Reservoirs

Inspection will be non-motorized.

Planned maintenance requiring heavy equipment should be submitted to BLM at least 60 days prior to initiation of the action for review.

Unplanned maintenance requiring heavy equipment must be approved by the BLM prior to uses.

1 Catchment

Inspection and minor maintenance will consist of no more than 2 motorized vehicle uses annually.

Major planned maintenance requiring motor vehicles should be submitted to BLM at least 60 days prior to initiation of the action for review.

Unplanned maintenance requiring the uses of motorized equipment should be approved by the BLM prior to use.

Numerous Access Roads

Inspection and maintenance will be only the minimum necessary to gain access to existing range improvement for doing approved maintenance. Otherwise, all access routes will be non-motorized.

Numerous Salting

Salting will be non-motorized unless it can be combined with another approved vehicle use.

8 Corrals

The use of motorized vehicles will be restricted to the grazing use period and to that which is the minimum necessary to effectively manage the livestock program. One interior corral is restricted to all forms of motorized access due to its remoteness and past use.

APPENDIX D

TABLE 7
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 E-1

TABLE 8
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
Sec. 2 State section

T38N R5E

Sec. 6 NE1/4 SW1/4 40.00 acres patented 1028145 D/C
Sec. 6 W1/2 NE1/4 80.30 acres patented 1103360 D/C
Sec. 6 Lot 1 NE1/4 NE1/4 40.42 acres patented 1038279 D/C
Sec. 6 SW1/4 NE1/4 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. 2 State grant
Sec. 14 Fence 549
Sec. 13 Fence 549
Sec. 6 Lot 2 SE1/4 NE1/4 31.63 acres patented 1064232 D/C

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)

APPENDIX E-1

TABLE 8 (cont.)
MTP Notations on Lands
Within the Wilderness Area
Bureau of Land Management, Arizona Strip District, Arizona

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

T39N R7E

BDY	Powerline AR0355054
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

SALT LAKE BASE AND MERIDIAN (UTAH)

T40N R6E

Sec. 35	AR034221 (684) spring and pipeline
---------	------------------------------------

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

APPENDIX E-1

TABLE 8 (cont.)
MTP Notations on Lands
Within the Wilderness Area
Bureau of Land Management, Arizona Strip District, Arizona

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)

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

T44S R1E

Sec. 2 State section

T43S R1W

Sec. 23, 25, & 26 U024909 Withdrawal Reclamation
Sec. 33 (Buckskin Dive) U024909 Withdrawal Reclamation
Sec. 32 (Buckskin Dive) PLO 4288 Withdrawal Reclamation

T43S R2W

Sec. 12 & 13 U12130 Boundary Road Amendment Application
Sec. 28 SE1/4 NW1/4 NE1/4 U32357 44 LD 513
Sec. 27 U52734 Intpr Wdl PW Res
Sec. 27 PLO 3469 Withdrawal Reclamation
Sec. 27 U7567 S0 Des Primitive Area
Sec. 33 PLO 3469 Reclamation Withdrawal

T44S R2W

Sec. 3 SW1/4 SW1/4 U52737 Intpr Wdl PW Res 107
Sec. 3 SW/14 SW1/4 PLO 3469 Recl Wdl
Sec. 3 SW1/4 SW1/4 U7567 Primitive Area
Sec. 2 PLO 4277 Reclamation Withdrawal
Sec. 11 PLO 3469 Reclamation Withdrawal

APPENDIX E-1

TABLE 8 (cont.)
MTP Notations on Lands
Within the Wilderness Area
Bureau of Land Management, Arizona Strip District, Arizona

T44S R1W

Sec. 12 U024909 Reclamation Withdrawal
Sec. 2 PLO 4277 Reclamation Withdrawal
Sec. 3 & 4 U024209 Reclamation Withdrawal

APPENDIX E-2

TABLE 9
Arizona State Lands Exchanged Within the Wilderness Area*
Bureau of Land Management, Arizona Strip District, Arizona

County	Town- ship	Range	Sec.	Legal Description	Acres	Surface Estate	Subsurface Estate	Acres of Oil & Gas Leases
<u>Fee Exchange</u>								
M	34N	8W	2	A11	638.68	S	S	
M	34N	8W	32	W2;W2E2	480.00	S	S	
M	34N	9W	16	A11	640.00	S	S	
M	34N	9W	36	A11	640.00	S	S	
M	35N	8W	16	A11	640.00	S	S	
M	35N	14W	36	A11	640.00	S	S	
C	38N	4E	2	Lots 1-4;S2N2;S2	641.32	S	S	
C	38N	5E	2	A11	641.08	S	S	
C	38N	5E	16	A11	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	A11	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	A11	640.00	S	S	
C	40N	6E	36	A11	640.00	S	S	
C	40N	7E	2	Lot 1; SENE;W2SW;SESW;E2SE	281.48	S	S	
C	40N	7E	16	A11	640.00	S	S	
C	41N	4E	16	A11	640.00	S	S	
C	41N	5E	2	S2	320.00	S	S	
C	41N	5E	16	A11	640.00	S	S	
M	41N	6W	2	Lots 1-4;S2N2;S2	640.00	S	S	
M	41N	6W	10	A11	640.00	S	V	640.00
M	41N	6W	16	A11	640.00	S	S	
M	41N	13W	16	A11	640.00	S	S	
M	41N	14W	2	Lots 1-4;S2N2;S2	639.76	S	S	
M	41N	14W	16	A11	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			
<u>Subsurface Exchange</u>								
C	39N	6E	16	A11	640.00	V	S	
C	40N	7E	32	A11	640.00	V	S	
M	35N	14W	32	E2SE	80.00	V	S	
M	38N	14W	16	A11	640.00	V	S	
M	39N	13W	32	A11	640.00	V	S	
M	41N	14W	32	A11	640.00	V	V	
M	41N	14W	36	A11	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	446.36	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

APPENDIX E-3

TABLE 10
Utah State Lands Within the Wilderness Area
Bureau of Land Management, Arizona Strip District, Arizona

County	Town- ship	Range	Sec.	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	A11	640.00	V	S
Kane	43S	1W	36	A11	640.00	V	S
Kane	43S	2W	36	A11	640.00	S	S
Kane	44S	1E	2	S2	320.00	S	S
Kane	44S	1E	8	Portion of S2NW4	47.00	S	S
Kane	44S	1W	2	A11	639.00	V	S
Kane	44S	2W	2	NE4SE4, E2SE4, SW4	275.00	V	S

TOTALS: Utah Fee Title 1,080 acres, subsurface only 2,194 acres.

*Acreage is approximate

S-State V-Vacant (BLM)

Source: Arizona Strip District, Arizona

APPENDIX E-4

TABLE 11
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 NE1/4 SW1/4	40.000	1028145
(B) Sec. 6 Lot 2, SW1/4 NE1/4	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	<u>17.025</u> 197.353	MS2141

Source: Arizona Strip District, Arizona

APPENDIX E-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) - T38N, R4E, Sec. 6, NE1/4 SW1/4 (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, SW1/4 NE1/4 - 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 Vermilion 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).

APPENDIX E-5
Private Inholdings

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

APPENDIX E-5
Private Inholdings

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 F
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 G
List of Plan Participants

<u>Name</u>	<u>Position</u>
Robert Abbey	Outdoor Recreation Planner
Peggy Avey	Public Affairs Specialist
Carl Bezanson	Range Conservationist
Evelyn Booker	Volunteer
William Booker	Outdoor Recreation Planner
Jane Closson	Writer-Editor
Holly Congdon	Natural Resource Specialist
Phillip 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
David Porter	Outdoor Recreation Planner
Ron Ray	Realty Specialist
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 H
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 privileges 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. This definition excludes species of insects that the Secretary of the Interior determines to be pests and whose protection under the Endangered Species Act of 1973 would present an overwhelming and overriding risk to humans.

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 overexploitation, 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 and Sensitive 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

APPENDIX H

Glossary

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.

MECHANIZED EQUIPMENT. "Mechanized equipment" means any machine activated by a nonliving 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

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Glossary

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 and Sensitive 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

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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 I
Bibliography

- ABBEY, Edward. 1974. Beyond the Wall. Holt, Rinehart and Winston: New York, NY.
- _____, and Philip Hyde. 1971. Slickrock: Endangered Canyons of the Southwest. Sierra Club: San Francisco, CA.
- BUSH, A. L., and M. E. Lane. 1982. Mineral Resource Potential of the Vermilion Cliffs-Paria Canyon Instant Study Area, Coconino County, AZ and Kane County, UT: U.S. Geological Survey, Miscellaneous Geologic Investigations Map 1475-D, scale 1:62,500, with pamphlet. 11 p.
- HENDEE, John C., George H. Stankey, and Robert C. Lucas. 1978. Wilderness Management. U.S. Department of Agriculture, Forest Service, Washington DC.
- PHOENIX, D. A. 1963. Geology of the Lees Ferry Area, Coconino County, AZ: U.S. Geological Survey Bulletin 1137, 86 p.
- REILLY, P. T. 1977. Historic Utilization of Paria River. Utah Historical Quarterly, Vol. 45, No. 2 (Spring), p. 188-201.
- RUSHO, W. L., and C. Gregory Crampton. 1975. Desert River Crossing: Historic Lees Ferry on the Colorado River. Peregrine Smith: Salt Lake City, UT and Santa Barbara, CA.
- SCHIPPER, Rod. 1982. Paria Canyon, in the Hiker's Guide to Utah, Dave Hall, ed. Falcon Press: Billings and Helena, MT, p. 150-154.
- TRIMBLE, Stephen. 1980. Paria Journal. Plateau (Rediscovery: The Plateau), vol. 52, No. 1.
- U.S. CONGRESS. 1964. Wilderness Act. Public Law 88-577, 88th Congress.
- _____. 1976. Federal Land Policy and Management Act of 1976. Public Law 94-579, 94th Congress.
- _____. 1984. Arizona Wilderness Act of 1984. Public Law 98-406, 96th Congress.
- U.S. CONGRESSIONAL RECORD. Vol. 130.
- U.S. HOUSE OF REPRESENTATIVES. 1984. Report: Designating Certain National Forest Lands in the State of Arizona as Wilderness and For Other Purposes. Report 98-643, Part I. 98th Congress.
- U.S. DEPARTMENT OF INTERIOR. 1981. Bureau of Land Management. Wilderness Management Policy. Washington, DC.
- _____. 1982. Arizona Strip Wilderness Study Areas: draft environmental impact statement. Phoenix, AZ.
- _____. 1983. Arizona Strip District; Instant Study Areas; Wilderness Study Report. St. George, UT.

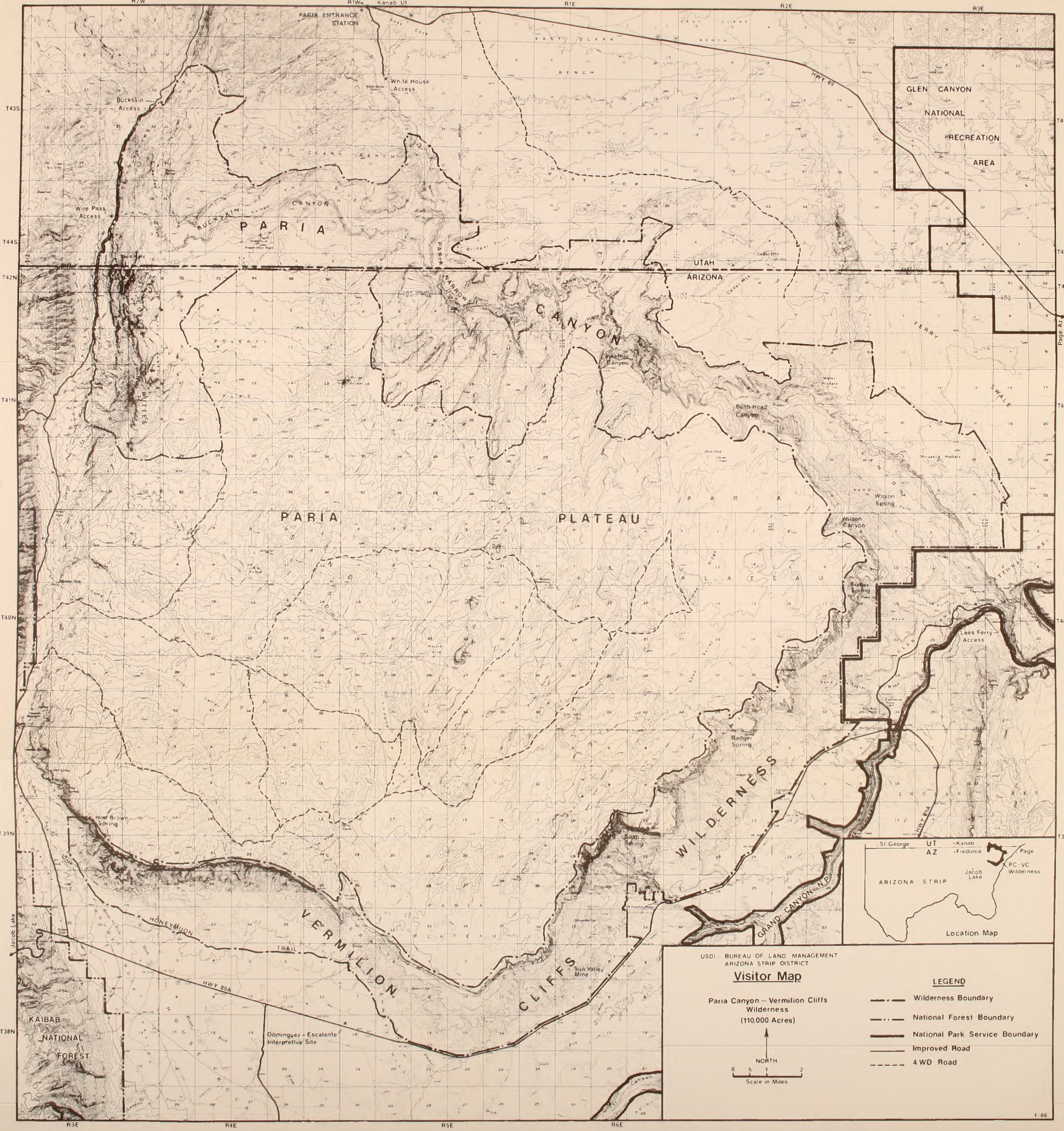
APPENDIX I
Bibliography

_____. 1983. Recreation Area Management Plan for the Paria Canyons Special Recreation Management Area Utah/Arizona. Cedar City, UT.

_____. 1984. Arizona Strip Wilderness; preliminary final environmental impact statement (unpublished). Phoenix, AZ.

_____. 1985. Designated Wilderness Areas; Procedures for Management; Final Rulemaking. Washington, DC.

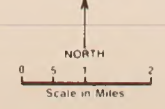
WHITAKER, Bob. 1978. Trekking the Mysterious Paria. Arizona Highways, Vol. 54, No. 1, (January) p. 32-43.



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ARIZONA STRIP DISTRICT

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

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