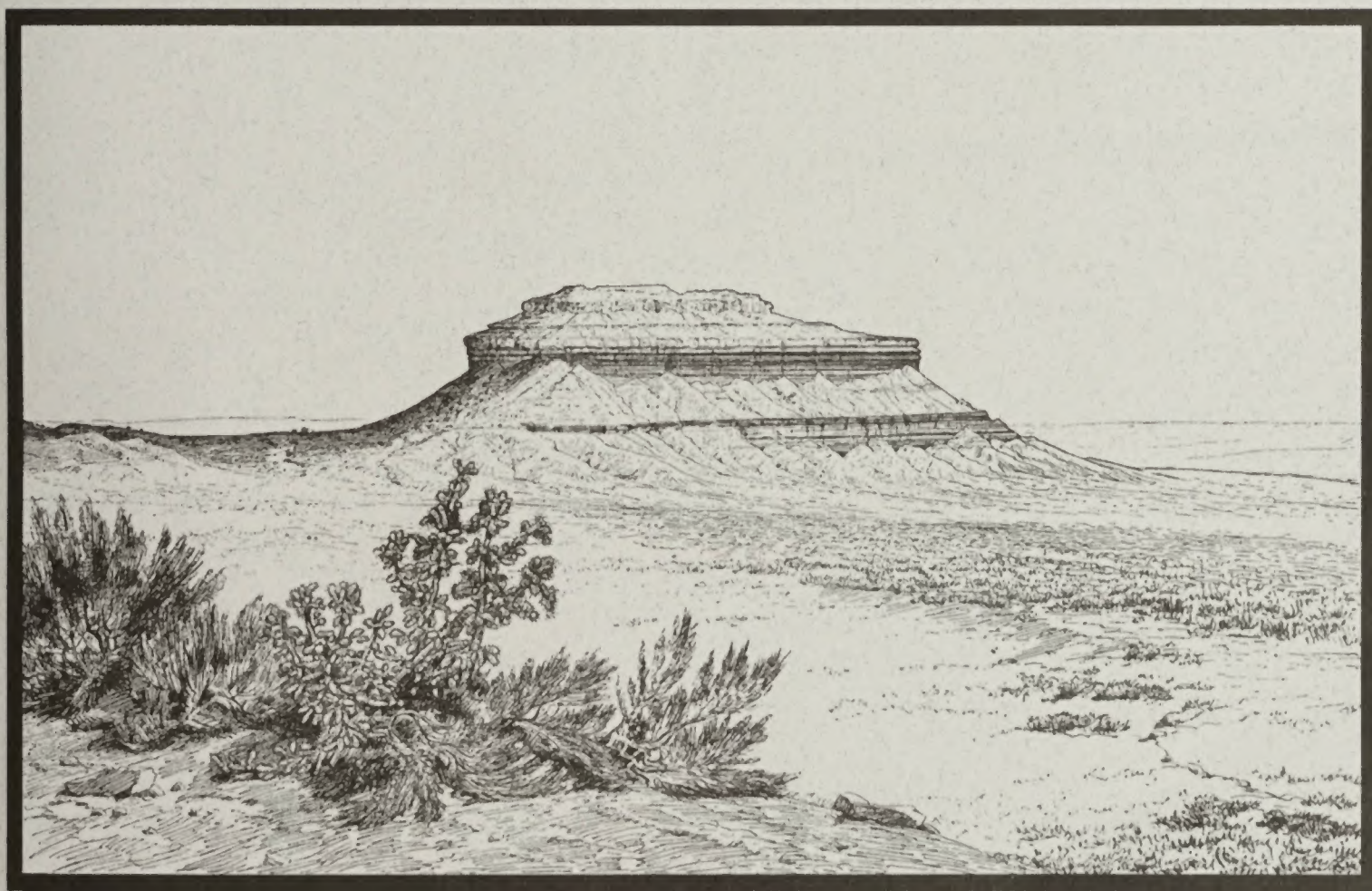


Proposed Resource Management Plan/Final EIS
for the Arizona Strip Field Office,
the Vermilion Cliffs National Monument,
and the BLM Portion of Grand Canyon-Parashant National Monument,
and a Proposed General Management Plan/Final EIS for the
NPS Portion of the Grand Canyon-Parashant National Monument

VOLUME 1



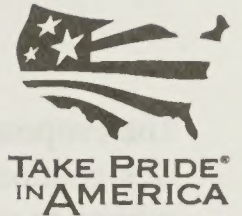
January 2007
U.S. Department of the Interior
Arizona Strip District, Bureau of Land Management
Lake Mead National Recreation Area, National Park Service





United States Department of the Interior

BUREAU OF LAND MANAGEMENT
NATIONAL PARK SERVICE
345 East Riverside Drive
St. George, UT 84790
www.az.blm.gov and www.nps.gov/para



In Reply Refer To:
1610 (AZ 100)

Dear Reader:

Enclosed for your review and comment is the Proposed Plan/Final Environmental Impact Statement (FEIS) for the Arizona Strip which includes the Grand Canyon-Parashant National Monument, Vermilion Cliffs National Monument, and the Arizona Strip Field Office planning areas. This document describes the Proposed Plan and four alternative plans, including no change from current management (the no action alternative), for management of Bureau of Land Management (BLM)-administered and National Park Service (NPS)-administered lands within the Arizona Strip. The plan will establish management goals and objectives for the planning areas, which includes more than 3.2 million acres of public lands north of the Grand Canyon in Arizona. This planning effort will eventually result in four separate Records of Decision (three for the BLM and one for the NPS) in the three planning areas.

We greatly appreciate all who contributed time and expertise to this planning effort - other federal agencies, tribal entities, state and local governments, organizations, and interested individuals. We also thank the ten agencies that worked with us as Cooperating Agencies: Mohave and Coconino counties in Arizona, Washington and Kane counties in Utah, the Kaibab Paiute Tribe, the Towns of Fredonia and Colorado City, Arizona Department of Transportation, Arizona Game and Fish Department, and the Federal Highway Administration. Public collaboration through the scoping process shaped issues covering access, wilderness, protection of natural and cultural resources, livestock grazing, and recreation; subsequently, public comments on the Draft Plan/EIS aided in refining the Proposed Plan.

The FEIS responds to the comments received on the Draft Plan/EIS, published in November 2005. The changes to the Draft Plan/EIS are identified in the Summary. The preferred alternative, Alternative E, in the Draft Plan/EIS has been refined as a result of public comments. This revision, now called the Proposed Plan, is described in Chapter 2. NPS planning policy requires identification of the environmentally preferred alternative in the EIS. The NPS determined that the preferred alternative (Alternative E) is also the environmentally preferred alternative. BLM planning policy requires identification of the environmentally preferred alternative in the Record of Decision (ROD).

Alternative E, as described in the attached Proposed Plan/FEIS, is the BLM and NPS Proposed Plan and contains both proposed land use planning decisions and more specific proposed project level or implementation decisions. Proposed land use planning decisions include Desired Future Conditions, Land Use Allocations, and Management Actions such as allowable uses and/or restrictions.

The Proposed Plan/FEIS also contains implementation decisions such as the specific Route Designations for the Monuments and the Ferry Swale area. Implementation decisions are not subject to protest at this time under the planning regulations. Instead, they are subject to administrative remedies set forth in the regulations that apply to each resource management program. These opportunities will be identified at a later date in the ROD. These administrative remedies usually take the form of appeals to the Office of Hearings and Appeals or the Interior Board of Land Appeals. For implementation decisions affecting land exchanges and proposed grazing decisions, the regulations provide for an internal agency review, usually a protest to the authorized officer, which must be completed before the decision can be appealed to the Office of Hearings and Appeals. The Proposed Plan distinguishes the implementation decisions from the land use planning decisions.

The Proposed Plan/FEIS also contains NPS decisions regarding management of park resources and visitor uses, in a framework of Desired Future Conditions and Management Actions for the portion of Grand Canyon-Parashant National Monument that is part of Lake Mead National Recreation Area. More specific Implementation or Administrative Action decisions are identified for some resources. Decisions regarding land use allocations for proposed wilderness and road access were brought forward from past NPS planning, specifically the 1986 Lake Mead General Management Plan and 1979 Lake Mead Wilderness Proposal, and are incorporated in this Proposed Plan/FEIS for the NPS portion of Grand Canyon-Parashant National Monument. An impairment analysis for Monument resources managed by NPS was completed, as required by NPS planning guidelines, where in the professional judgment of the NPS Superintendent, no harm to the integrity of park resources or values nor the opportunities to enjoy them would occur from implementation of the plan. Unlike the Bureau of Land Management, there is no protest or administrative appeals process related to NPS plans. The NPS encourages you to write the Superintendent, Grand Canyon-Parashant National Monument identifying a specific issue, so NPS can address your concerns. Comments submitted previously have been considered and addressed in this Proposed Plan/FEIS. If there are significant omissions or new information on an issue raised previously, we encourage you to write the Superintendent within 30 days after the Notice of Availability is published in the Federal Register.

Letters to the Superintendent should include:

1. Your name, mailing address, and telephone number.
2. A statement of the issue(s) of concern.
3. Specifically identify the part(s) of the Proposed Plan that are of concern. To the extent possible, this should be done by reference to specific pages, paragraphs, sections, tables, or maps included in the document.
4. A copy of any documents addressing the issue(s) that you may have submitted during the planning process or a reference to the date the issue(s) were discussed for the record.
5. A concise statement explaining why you believe the Proposed Plan is in error. All relevant facts need to be included in this statement of reasons. The facts, reasons, and documentation are important to help us understand your specific concerns, rather than an expression of general disagreement with the proposed decision.

Letters to the Superintendent should be addressed as follows:

Superintendent
National Park Service
Grand Canyon-Parashant National Monument
345 East Riverside Drive
St. George, UT 84790

The BLM's planning process provides an opportunity for administrative review of the State Director's proposed land use plan decisions by filing a protest with the BLM Director; the NPS does not have a formal process for protests (see above). In accordance with 43 CFR 1610.5-2, any person who participated in the planning process and believes they will be adversely affected by this plan may protest the Proposed Plan. The protest may raise only those issues which were submitted for the record during the planning process. All protests must be in writing and must be sent to the following address via regular mail or other delivery service. Protests must be postmarked no later than 30 days after the Environmental Protection Agency's Notice of Availability is published in the Federal Register. The exact date will be published in local media and on our website, <http://www.blm.gov/az/news.htm>. Extensions will not be granted.

Protest letters on BLM land use planning decisions must be sent to:

If via US Postal Service:

Director, Bureau of Land Management
Attention: Brenda Williams (WO-210)
P.O. Box 66538
Washington, DC 20035

If via Overnight Express Mail:

Director, Bureau of Land Management
Attention: Brenda Williams (WO-210)
1620 L Street NW
Suite 1075
Washington, DC 20236

E-mail and faxed protests will not be accepted as valid, unless the protesting party also provides the original letter by regular mail or other delivery service postmarked by the close of the protest period. Under these conditions, the BLM will consider the e-mail or faxed protest as an advance copy and it will receive full consideration. If you wish to provide us with such advance notification, please direct faxed protests to the attention of Brenda Hudgens-Williams, Protest Coordinator, at 202-452-5112, and e-mails to bhudgens@blm.gov.

At a minimum, protest letters must include:

1. The name, mailing address, telephone number, and interest of the person filing the protest.
2. A statement of the issue(s) being protested.
3. A statement of the part(s) of the Proposed Plan being protested. To the extent possible, this should be done by reference to specific pages, paragraphs, sections, tables, or maps included in the document.
4. A copy of all documents addressing the issue(s) that you submitted during the planning process or a reference to the date the issue(s) were discussed for the record.

5. A concise statement explaining why you believe the Proposed Plan is wrong. All relevant facts need to be included in this statement of reasons. The facts, reasons, and documentation are important to help us understand your protest, and that you are not merely expressing disagreement with the proposed decision.

The BLM Director will promptly render a decision on the protests. The decision will be in writing and will set forth the reasons for the decision. The protest decision will be sent to the protesting party by certified mail, return receipt requested. The decision of the Director will be the final decision of the Department of the Interior. The BLM State Director will sign the Records of Decision for the three BLM plans once the protests are resolved.

Public comments and protests, including names and street addresses of respondents, will be available for public review at Arizona Strip Bureau of Land Management, 345 East Riverside Drive, St. George, Utah during regular business hours (7:45 a.m. to 5:00 p.m.), Monday through Friday, except holidays. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your comments. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

If you have questions on the FEIS, please contact:

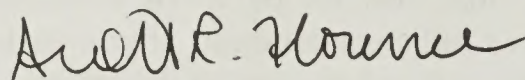
Arizona Strip BLM and NPS
Diana Hawks, Planning Team
345 East Riverside Drive
St. George, UT 84790

Phone: (435) 688-3266

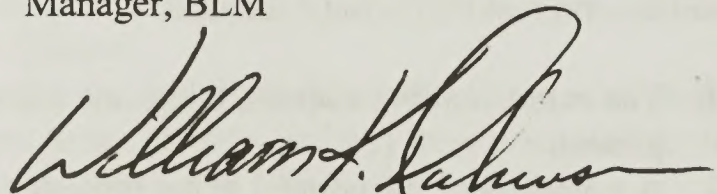
Email: Arizona_Strip@blm.gov

We appreciate your interest and encourage your continued involvement in the planning process.

Sincerely,



Scott R. Florence
Arizona Strip District
Manager, BLM



William K. Dickinson
Lake Mead National Recreation Area
Superintendent, NPS

05595940

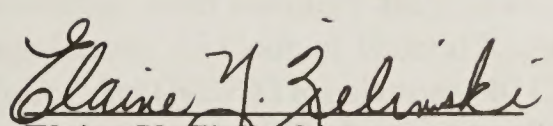
128046610

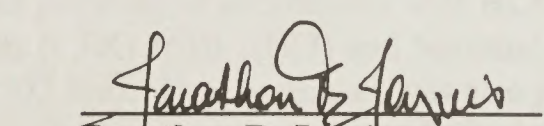
HD
243
.AG
V47
2007
V.1
C.1

**Proposed Resource Management Plan and
Final Environmental Impact Statement for the
Arizona Strip Field Office,
Vermilion Cliffs National Monument, and
Bureau of Land Management portion of the
Grand Canyon-Parashant National Monument, and a
Proposed General Management Plan for the
National Park Service portion and
Final Environmental Impact Statement for the
National Park Service portion of
Grand Canyon-Parashant National Monument**

**Arizona Strip Proposed Plan/
Final Environmental Impact Statement**

January 2007


Elaine Y. Zielinski
 Arizona State Director
 Bureau of Land Management


Jonathan B. Jarvis
 Regional Director, Pacific West Region
 National Park Service

EXECUTIVE SUMMARY

The Bureau of Land Management (BLM) and National Park Service (NPS) prepared this Proposed Resource Management Plan and Final Environmental Impact Statement (FEIS) for the Arizona Strip Field Office (Arizona Strip FO), Vermilion Cliffs National Monument (Vermilion), and BLM portion of Grand Canyon-Parashant National Monument (Parashant) and a Proposed General Management Plan (GMP) and FEIS for the NPS portion of the Grand-Canyon Parashant National Monument. This document, referred to as the Proposed Plan/FEIS, provides direction for managing three distinct planning areas: Parashant, Vermilion, and the Arizona Strip FO. Combined, these three planning areas are referred to as the Planning Area or Arizona Strip District. This Proposed Plan/FEIS analyzes the environmental effects resulting from implementation of the No Action Alternative and four action alternatives proposed for managing the Planning Area.

The Arizona Strip District and the Lake Mead National Recreation Area (NRA) portion of Parashant have local jurisdiction over their respective lands within the Planning Area. Combined, the three planning areas comprise 2,768,205 acres of BLM-administered land (BLM lands) and 208,447 acres of NPS lands within the Arizona Strip, which encompasses the northern portions of Coconino and Mohave counties, Arizona, north and west of the Colorado River. In addition, the Planning Area also encloses 206,808 acres of Arizona State lands, 139,565 acres of private lands, and 41 acres of U.S. Forest Service lands; however, this Proposed Plan/FEIS only covers decisions for BLM and NPS lands within the Planning Area. Private or state lands and non-federal mineral estate within the Planning Area are not covered by the decisions in this Proposed Plan/FEIS.

While largely remote and sparsely inhabited, the Planning Area encompasses a number of small communities in extreme northern Arizona, including Fredonia, Marble Canyon, Colorado City, Centennial, Littlefield, Beaver Dam, and Scenic. These communities are located within the Arizona Strip FO along the three major travel routes: U.S. 89A, Arizona 389, and Interstate 15. Adjacent communities outside the Planning Area include Page, Arizona; Kanab, Hurricane, Big Water, Washington, and St. George, Utah; and Mesquite and Bunkerville, Nevada. Many people from these communities rely on natural resources within the Planning Area for their livelihood as well as many forms of outdoor recreation.

This Proposed Plan/FEIS was prepared under the authorities of the Federal Land Policy and Management Act of 1976 (FLPMA) for the BLM, the Organic Act of 1916 for the NPS, and numerous other statutory authorities. It was prepared in accordance with BLM planning regulations, 43 Code of Federal Regulations (CFR) 1610.2(f)(3) and National Environmental Policy Act (NEPA) regulations, 40 CFR 1502.9(a). This document was also prepared in accordance with NPS planning guidelines including Director's Order 2 (Park Planning) and Director's Order 12 (Conservation Planning and Environmental Impact Analysis).

PURPOSE AND NEED

The Parashant was established through Presidential Proclamation 7265 on January 11, 2000 and the Vermilion was established through Presidential Proclamation 7374 on November 9, 2000. Individual BLM resource management plans (RMPs) are needed for each National Monument and a NPS general management plan (GMP) is needed for the NPS portion of Parashant to protect Monument objects and the context that supports them in a way that is consistent with the proclamations. A revised RMP is also needed for the Arizona Strip FO. The purpose of this Proposed Plan/FEIS is to develop the RMPs and GMP for the three planning areas that will guide future management of the respective areas. The NPS GMP is expected to guide management for a period of 15-20 years and may be amended, if needed. BLM plans are evaluated at least every five years and are maintained, amended, and revised as needed.

ISSUES

A planning issue is a major issue, subject, concern or controversy regarding management of resources on BLM and NPS lands that can be addressed in a variety of ways. The BLM and NPS initiated formal public scoping on April 24, 2002. Broad public participation including eleven formal public scoping meetings held during May and July 2002 resulted in over 2,000 written comments. The planning team analyzed and categorized these comments into five significant issues and also identified two important management concerns that need to be addressed. As a result, this Proposed Plan/FEIS primarily focuses on the five issues and two management concerns and the decisions needed to resolve them. These issues and concerns are as follows:

Issue 1: How will transportation and access be managed?

Rugged and isolated, the Planning Area is one of the largest, un-fragmented stretches of sparsely developed lands in the contiguous United States. The deep canyons of the Colorado River separate the area from the rest of Arizona. Ground vehicle access from the south is impossible due to the Grand Canyon. Three highways cross the northern boundary of the Planning Area. No paved roads extend into the Parashant or other interior sections of the Planning Area, but a network of unpaved roads of various types and conditions offers access. Only a few higher standard unpaved roads extend from the north into the remote southern regions of the Planning Area.

Transportation and access emerged from the scoping process as the primary issue for the public and it is closely tied to the other issues addressed. A network of routes currently exists throughout the Planning Area. Some people believe closing a number of routes and limiting vehicular access would provide the best protection of Monument objects. Others think all existing routes should remain open for recreational and resource use. Route inventories of the two Monuments, and the Ferry Swale and the Littlefield areas within the Arizona Strip FO were completed and used as baseline data for proposing potential route designations in the Draft Plan/EIS. Inventory included GPS-capture of all route types, such as "reclaiming," "single-

track,” “tertiary unpaved,” “secondary unpaved,” etc. Inventoried routes represent roads, primitive roads and trails used for a wide variety of motorized and non-motorized modes of travel. Route inventory continues for the Arizona Strip FO, with expected completion in 2007.

Proposed Route Evaluation decisions for the Monuments and the Ferry Swale area are contained in the Proposed Plan/FEIS. The Route Evaluation decisions for the Littlefield area will be presented for public review with the remainder of the routes in the Arizona Strip FO within 3-5 years following the Record of Decision on this EIS.

Issue 2: How will areas with wilderness characteristics be maintained?

A number of individuals and groups voiced their concern about protecting areas with wilderness characteristics in the Planning Area, specifically in the Monuments. Some felt that additional wilderness designations in the Planning Area would be the best way to protect resources, particularly those identified in the Monument proclamations. Others were not in favor of additional wilderness designations because they felt such actions would prevent the majority of visitors from accessing the remote sections of the Planning Area, especially those that enjoy motorized forms of recreation.

Because of the isolation and sparse development of the Planning Area, some roadless, natural-appearing areas remain. The Arizona Wilderness Act of 1984 created eight wilderness areas in the Planning Area covering 265,740 acres. Areas with wilderness characteristics (naturalness, solitude, and outstanding opportunities for primitive and unconfined recreation) presently occur on the Arizona Strip. The BLM and NPS may maintain or enhance these areas, where they exist. Following recent BLM guidance for assessing and maintaining areas having wilderness characteristics, the BLM and NPS have proposed various options for where, how, and how much these characteristics may be managed within the Planning Area. These options range from no prescriptive management of these areas whatsoever to a commitment to maintain virtually all acres found to possess wilderness characteristics during the assessments. Only Congress has the authority to designate new wilderness areas.

Issue 3: How will Monument and Arizona Strip FO resources be protected?

The proclamations designating the Monuments identified an array of scientific and historic objects to be protected. There are various ways of achieving this goal and legal mandate, including maintaining acceptable existing conditions, educating visitors, restricting access, setting research priorities, and restoring degraded environmental conditions. In addition to Monument resources, there are valuable natural and cultural resources within the Arizona Strip FO in need of protection. Options for protecting both Monument and Arizona Strip FO resources are identified and assessed in this document. Additional Areas of Critical Environmental Concern (ACECs), for protecting natural and cultural resources in the Arizona Strip FO, are presented in this Proposed Plan/FEIS.

Issue 4: How will livestock grazing be addressed, particularly on the Monuments?

A number of people identified livestock grazing as an issue during scoping. Comments ranged from eliminating all livestock grazing in the Monuments to supporting all grazing activities in the Planning Area. Others supported eliminating livestock grazing only in environmentally sensitive areas. Possible options to modify current grazing activities are presented in this Proposed Plan/FEIS.

Issue 5: How will recreation activities be managed?

Visitors use the Planning Area for a variety of recreation activities including exploring, sightseeing, hiking, backpacking, camping, hunting, off-highway vehicle (OHV) use, and mountain bike riding. Given growth projections for communities in the southwestern U.S. and the increased use of public lands for recreational pursuits, ineffective management of visitor activities is recognized as potentially having profound environmental effects on Monument and Arizona Strip FO lands. The BLM and NPS assessed these possible effects, along with potential user conflicts. Planners propose an appropriate recreation management framework that ensures protection of Monument and Arizona Strip FO resources. They also propose targeting several recreation-tourism strategies to produce beneficial outcomes tied to visitor experiences and activities that take place in a variety of natural and community settings.

Management concern 1: How will degraded ecosystems be restored?

Restoration of degraded ecosystems is an important management concern. Disruption of the natural fire regime has caused the degradation of ecosystems within the Planning Area (e.g., grasslands are being overrun by shrubs, ponderosa pine and pinyon-juniper forests are unnaturally dense, and Mojave desert, riparian, and other sensitive areas have been invaded by non-native, noxious plants). The selective use of techniques including, but not limited to, mechanized thinning, grazing controls, revegetation with native species, eradication of noxious plants, and use of fire to achieve more natural ecosystem processes can help recover degraded ecosystems. The range of options is detailed in this Proposed Plan/FEIS.

Management concern 2: How will the human factors in the Planning Area be considered?

While the focus of management plans tends to be on the area's natural and cultural resources, the human or social factors must also be considered. While remote and largely uninhabited, the Planning Area surrounds a number of small communities largely dependent upon public lands for deriving certain economic, personal, family, community, and environmental benefits. Other small and mid-sized communities and one urban area located just outside the Planning Area's boundaries are also closely connected to the public lands. Rapid population growth in the region will also affect the natural and cultural resources and associated uses on public lands. Public safety is also a concern. The rapid growth, as well as the issues and concerns of the local inhabitants, are taken into consideration in this Proposed Plan/FEIS.

ALTERNATIVES

NEPA regulations and BLM and NPS planning regulations require the formulation of a reasonable range of alternatives that seek to address the identified issues and management concerns. The BLM and NPS developed five alternatives, including the “No Action” and “Preferred” alternatives. The Preferred Alternative, modified in response to public comment, is now the Proposed Plan. Each of the five alternatives varies in both context and intensity of management actions and comprises a set of desired resource or future conditions, special designations, land use allocations, and the management actions needed to implement the alternative. Each alternative is evaluated to ensure that it would be consistent with all applicable laws and regulations; BLM and NPS policies and guidelines; the Monuments’ purpose, significance, and mission statements; and the Arizona Strip FO’s significance and mission statements. The alternatives must also be responsive to the issues and meet the established planning criteria. Each alternative is a complete land use plan that provides a framework for multiple use management of the full spectrum of resources, resources uses, and programs present in the Planning Area. The Proposed Plan distinguishes similarities and differences specific to each of the three planning areas: Parashant, Vermilion, and Arizona Strip FO.

Each alternative varies in both context and intensity of management actions and comprises a set of desired resource or future conditions, special designations, land use allocations, and the management actions needed to implement the alternative. Each alternative is evaluated to ensure that it would be consistent with all applicable laws and regulations; BLM and NPS policies and guidelines; the Monuments’ purpose, significance, and mission statements; and the Arizona Strip FO’s significance and mission statements. The alternatives must also be responsive to the issues and meet the established planning criteria. Each alternative is a complete land use plan that provides a framework for multiple use management of the full spectrum of resources, resources uses, and programs present in the Planning Area.

ALTERNATIVE A: NO ACTION

Alternative A describes the continuation of the management of both Monuments and the Arizona Strip FO under the Arizona Strip RMP (1992, as amended) and the Lake Mead GMP (1986, for the NPS portion of the Parashant), as modified by Interim Management Policy (BLM IM 2000-062 and BLM/NPS Addendum to that IM for Parashant; BLM IM 2002-008 for Vermilion). The Interim Management Policy for both Monuments implemented the management specifications presented by the Monument proclamations and provided temporary guidance until this Plan is completed. Alternative A serves as a baseline for comparison with the other alternatives.

ALTERNATIVE B

Alternative B places an emphasis on minimal human use/influence, and potentially provides the fewest miles of open roads and trails. It focuses on natural processes and other unobtrusive

methods for ecosystem restoration, resource management, and scientific research; more protection and enhancement of remoteness and primitive recreation; and the least amount of motorized recreation opportunities.

ALTERNATIVE C

Alternative C represents an attempt to balance resource protection and human use/influence. It potentially provides a moderate amount of open roads and trails; a combination of natural processes and “hands-on” techniques for ecosystem restoration, resource management, and scientific research; and a mix of motorized and primitive recreation opportunities.

ALTERNATIVE D

Alternative D places an emphasis on maximum appropriate human use/influence and the widest array of recreation opportunities. It potentially includes the most miles of open roads and trails; focuses on “hands-on” techniques for ecosystem restoration, resource management, and scientific research; and offers the fewest remote settings and the most motorized, least primitive recreation opportunities.

ALTERNATIVE E: PROPOSED PLAN

Alternative E emphasizes minimal human influence and use in the southern and more remote sections of the Planning Area, and more human use/influence in the northern areas and locations adjacent to local communities. It attempts to balance human use/influence with resource protection. Where appropriate, it proposes a combination of management actions including the continuation of natural processes, more hands-on restoration treatment methods, and protection of the remote settings that currently exist in the Planning Area, while allowing for human use and influence.

NPS ENVIRONMENTALLY PREFERRED ALTERNATIVE

The NPS is required to identify an environmentally preferred alternative, which is the alternative that promotes the national environmental policy as expressed in Section 101 of NEPA. The NPS has determined the environmentally preferred alternative only for NPS lands within the Parashant. The BLM is mandated by the National Monument proclamations to protect objects in the Monuments and thus avoid any adverse impacts that would otherwise “impair” such objects, however, the agency is not required to conduct impairment analysis nor identify an environmentally preferred alternative in the FEIS.

In comparison with the other alternatives analyzed, Alternative E, now the Proposed Plan, best meets the national environmental goals identified in Appendix 4.C, NPS Impairment Analysis. The Proposed Plan provides a high level of protection of natural and cultural resources, while providing for a wide range of beneficial uses of the environment.

PROPOSED LAND USE PLAN DECISIONS

PROPOSED LAND USE PLAN/GENERAL MANAGEMENT PLAN DECISIONS FOR PARASHANT

The BLM and NPS would manage Parashant to protect the Monument objects and resources as identified in Presidential Proclamation 7265 and emphasized in the purpose, significance, and mission statements. Table 1 shows the percentages of the four proposed Travel Management Areas (TMAs) under the five alternatives. Table 2 summarizes the proposed OHV area and route designations. Table 3 shows the acres of existing designated and existing NPS-proposed wilderness areas. Table 4 shows the number of acres that would be managed to maintain wilderness characteristics. These four tables summarize decisions proposed by each alternative to resolve the top two public scoping issues regarding access and wilderness. Areas of Critical Environmental Concern (ACECs; see tables 5 and 14) would be revoked because Monument status now provides protection to the resources of concern or some ACECs are changed to a Desert Wildlife Management Area (DWMA)

Table 1: Parashant Travel Management Areas (TMAs: Land use Plan (LUP) decisions)

TMA	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
Rural	NA	0%			
Backways	NA	9%			
Specialized	NA	4%	19%	25%	24%
Primitive	NA	87%	72%	66%	67%

Table 2: Parashant OHV Area Designations and Proposed Route Designations

Designation	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
OHV Area Designations (LUP decisions)					
Closed	285,268 acres				
Limited to Designated Routes	762,688 acres				
Route Designations (Proposed Implementation Decisions)					
Open and Limited (including Administrative Use)	1,754 miles	1,347 miles	1,548 miles	1,642 miles	1,603 miles
Closed and Rehabilitated	71 miles	445 miles	224 miles	148 miles	188 miles

Area	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
Designated Wilderness	95,150 acres				
Proposed Wilderness (NPS only)	190,478 acres				

Area	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
Lands to be Managed to Maintain Wilderness Characteristics	NA	411,256 acres	226,394 acres	140,949 acres	215,345 acres

ACEC	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
Nampaweap	535 acres	Monument protection – No ACEC			
Pakoon	76,014 acres	76,014 acres Desert Wildlife Management Area (DWMA)	69,083 acres DWMA	Same as Alts B & C	
Witch’s Pool	279 acres	Monument protection – No ACEC			

PROPOSED LAND USE PLAN DECISIONS FOR VERMILION

The BLM would manage Vermilion to protect the Monument objects and resources as identified in Presidential Proclamation 7374 and emphasized in the purpose, significance, and mission statements. Table 6 shows the percentages of the four proposed TMAs under the five alternatives. Table 7 summarizes the proposed OHV area and route designations. Table 8 shows the acres of existing designated wilderness areas. Table 9 shows the number of acres that would be managed to maintain wilderness characteristics. No ACECs currently exist in Vermilion and none are proposed due to the level of resource protection provided by Monument status.

TMA	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
Rural	NA	0%			
Backways	NA	2%			
Specialized	NA	12%	31%	32%	33%
Primitive	NA	86%	67%	66%	65%

Designation	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
OHV Area Designations (LUP decisions)					
Closed	89,825 acres				
Limited to Designated Routes	203,862 acres				
Route Designations (Proposed Implementation decisions)					
Open and Limited (including Administrative Use)	460 miles	385 miles	454 miles	470 miles	450 miles
Closed and Rehabilitated	105 miles	179 miles	110 miles	93 miles	113 miles

Area	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
Designated Wilderness	89,825 acres				

Area	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
Lands to be Managed to Maintain Wilderness Characteristics	NA	96,796 acres	40,345 acres	0 acres	37,566 acres

PROPOSED LAND USE PLAN DECISIONS FOR THE ARIZONA STRIP FO

The BLM would manage the Arizona Strip FO under the concepts of multiple use and sustained yield (FLPMA Sec.302 (a)) and in accordance with the Arizona Strip FO’s significance and mission statements. Table 10 shows the percentages of the four proposed TMAs under the five alternatives for the Arizona Strip FO. Table 11 summarizes the proposed OHV area and potential route designations. Table 12 shows the acres of the existing designated wilderness areas. Table 13 shows the number of acres that would be managed to maintain wilderness characteristics. Table 14 lists the proposed ACECs by alternative. In some cases, ACEC boundaries were refined under the action alternatives because of more accurate information on critical habitats and their location since the Arizona Strip RMP (1992).

Table 10: Arizona Strip FO Travel Management Areas (TMA: LUP decisions)

TMA	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
Rural	NA	9%	11%		
Backways	NA	14%			
Specialized	NA	40%	40%	41%	41%
Primitive	NA	37%	35%	34%	34%

Table 11: Arizona Strip FO OHV Area Designations and Proposed Route Designations*

Designation	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
OHV Area Designations (LUP decisions)					
Closed	123,100 acres	92,648 acres			80,829 acres
Limited to Designated Routes	282,019 acres	1,888,405 acres	682,153 acres	369,582 acres	1,899,259 acres
Limit to Existing Routes	1,575,140 acres	0 acres	1,204,782 acres	1,511,652 acres	0 acres
Open	803 acres	0 acres	1,481 acres	7,186 acres	976 acres
*Ferry Swale Area: Route Designations (Proposed Implementation decisions)					
Open and Limited	52 miles	48 miles	53 miles	54 miles	54 miles
Closed and Rehabilitated	3 miles	7 miles	2 miles	1 miles	2 miles
*Arizona Strip FO Preliminary Route Network: (Undesignated Sub-regions)					
Open and Limited	4,964 miles				
Seasonal Closures	8 miles	13 miles			

*Route evaluations would be made within 5 years of the ROD for all Arizona Strip FO Sub-regions.

Table 12: Arizona Strip FO Designated Wilderness (existing)

Area	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
Designated Wilderness	80,765 acres				

Table 13: Arizona Strip FO Lands Managed to Maintain Wilderness Characteristics (LUP decisions)

Area	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
Lands to be Managed to Maintain Wilderness Characteristics	NA	46,135 acres	77,575 acres*	34,628 acres	34,942 acres

*More lands managed to maintain wilderness characteristics are recommended in Alternative C than Alternative B because ACECs provide protection under Alternative B, while less ACEC acreage under Alternative C resulted in a recommendation for more lands to be managed to maintain wilderness characteristics.

ACEC	Alternative A No Action	Alternative B	Alternative C	Alternative D	Proposed Plan
Beaver Dam Slope	51,196 acres	52,753 acres	51,984 acres	51,984 acres	51,984 acres
Black Knolls	--	80 acres	80 acres	--	428 acres
Buckskin**	--	160 acres	--	--	--
Clayhole	--	7,362 acres	--	--	--
Coyote Valley	--	776 acres	--	--	--
Fort Pearce	916 acres	5,498 acres	5,498 acres	--	5,724 acres
Grey Points**	--	12,881 acres	--	--	--
Hurricane Cliffs**	--	23,464 acres	--	--	--
Johnson Spring	2,464 acres	2,058 acres	1,986 acres	--	3,444 acres
Kanab Creek	--	13,146 acres	9,211 acres	--	13,148 acres
Lime Kiln/Hatchett Can**	--	11,731 acres	--	--	--
Little Black Mountain	241 acres	241 acres	241 acres	241 acres	241 acres
Lone Butte	--	1,900 acres	1,900 acres	--	1,762 acres
Lost Spring Mountain	8,262 acres	17,744 acres	4,431 acres	--	19,248 acres
Marble Canyon	11,012 acres	102,141 acres	11,926 acres	11,926 acres	12,105 acres
Moonshine Ridge	5,095 acres	9,231 acres	2,575 acres	--	9,310 acres
Shinarump	--	3,619 acres	--	--	3,237 acres
Twist Hills	--	1,255 acres	--	--	--
Virgin River Corridor	8,075 acres	2,063 acres	2,063 acres	2,063 acres	2,065 acres
Virgin Slope	39,931 acres	40,287 acres	40,206 acres	40,206 acres	39,514 acres
TOTAL ACRES	127,192 acres	308,390 acres	132,101 acres	106,420 acres	150,105 acres

**These ACECs were presented in the Draft Plan/EIS under Alternative B. Further analysis revealed that the resource values recommended for protection in these ACECs did not meet the relevance and importance criteria.

SUMMARY OF MAJOR CHANGES FROM THE PREFERRED ALTERNATIVE TO THE PROPOSED PLAN

In response to public comments, the following major changes were made from the Draft Plan/EIS Preferred Alternative to the Proposed Plan.

Monument Objects

Throughout the Proposed Plan/FEIS, and particularly in the Chapter 2 Decision Tables, clarification of decisions and greater emphasis is placed on the protection of Monument objects.

Management in the National Monuments also differs from management in the Arizona Strip FO in that both Monuments are withdrawn from mineral entry and lands in federal ownership would

be retained under federal ownership, unless it was determined that disposal of a particular parcel would serve the national interest. In accordance with direction in the proclamations for both Monuments, all vehicular travel would be allowed only on designated routes, except for authorized administrative and emergency purposes.

Travel Management

The two OHV Open Areas, one in the St. George Basin, and the other near Fredonia, Arizona, were both decreased in size; St. George Basin OHV Open Area from 6,229 acres to 628 acres and Fredonia OHV Open Area from 952 acres to 348 acres. The OHV Open Area near Fredonia was moved away from the Kaibab Paiute Reservation boundary south of town to an area north of Highway 389 and east of town.

In response to public comments, specific route changes in the Monuments and the Ferry Swale area were made in the Proposed Plan (See Proposed Route Evaluation Maps for the Monuments on the CD accompanying the Proposed Plan/FEIS). In the Proposed Plan for the Parashant, an additional five miles of routes would be closed and rehabilitated, 3 fewer miles of routes open to motorized public use, and an additional 11 miles of limited use routes. In the Proposed Plan for Vermilion, there would be seven more miles of routes closed and rehabilitated, five fewer miles of routes open to motorized public use, and two less miles of limited use routes.

Even though Route Evaluations by alternative for the Littlefield Sub-region were presented in the Draft Plan/EIS, a decision was made not to move forward with these proposed route designations in this Proposed Plan because further field verification revealed more inventory was necessary to obtain an accurate representation of the actual routes in this area. The Littlefield area Route Evaluation Process © will be continued along with the remainder of the Route Evaluation Process © for the Arizona Strip FO and there will be opportunities for public participation and review at that time. The Route Evaluation Process © will be completed within 3-5 years following the RODs for this Proposed Plan.

Wilderness Characteristics

Additional acreage was added to areas with wilderness characteristics on the NPS portion of the Parashant in order to maintain the naturalness and opportunities for solitude and primitive recreation.

Any references to VRM Class I for BLM wilderness characteristics areas in the Proposed Plan/FEIS were removed, while NPS lands to be maintained for wilderness characteristics are assigned VRM Class I. Clarifying text was added so that it is clear these areas are not managed in the same manner as designated wilderness.

Visual Resource Management (VRM)

Changes were made in Visual Resource Management (VRM) Classes, primarily changing proposed VRM Class III to Class II, thus increasing the Class II designation area in House Rock Valley near Highway 389 and in the central and eastern portions of Parashant. The change in House Rock Valley was to protect scenic values for the Vermilion Cliffs and surrounding area while the changes in Parashant were in recognition of the fact that vegetation restoration treatments were appropriate management actions in VRM Class II areas.

The VRM decision concerning new projects was clarified to more closely reflect BLM Manual guidance regarding visual design considerations and the contrast rating process. In the VRM section of Chapter 2 a “practicality” criteria (location, feasibility, cost) was added to clarify when “extreme visual contrast created by past management practices or human activities would be minimized.” Language was added to the VRM Appendix, 2.L, to further explain the contrast rating process.

Changes were also made to Table 2.8, Visual Resources, especially under Allowable Uses, to clarify the intent of proposed management of visual values. References in the Proposed Plan to VRM Class I objectives for BLM areas that would be maintained for wilderness characteristics were removed. NPS lands maintained for wilderness characteristics are assigned VRM Class I.

Recreation Management

The Recreation Management Zone benefits, experiences and settings prescriptions were reevaluated, clarified and simplified. A variety of management actions were modified to clarify their intent to support Special Recreation Management Area (SRMA), Extended Recreation Management Area (ERMA) or both SRMA/ERMA management objectives.

Back Country Airstrips

Additional language and clarification for back country airstrips was made in various sections of Chapters 2, 3, 4, and to the glossary. Clarification emphasized that back country airstrips on BLM-administered lands would not be closed, unless there is full public notice and consultation with local and State government officials and the Federal Aviation Administration (FAA). There are no authorized airstrips on NPS lands.

Livestock Grazing

Livestock grazing on the Grand Gulch Wash portion of the Pakoon Allotment (7,982 acres), previously unavailable for grazing would now be available from October 15 to March 15. This change was necessary because construction of 6.5 miles of fence to exclude grazing (per the 1998 RMP Amendment) was not practical or feasible.

Livestock grazing on part of the Pakoon Springs Allotment (17,435 acres), previously available for grazing, would now be unavailable for grazing to enhance protection of desert tortoise. Implementing this action would require approximately 3.1 miles of fence construction.

The Pakoon Springs Forage Reserve was reduced from 33,179 acres to 15,745 acres in the Proposed Plan.

Special Designations: Areas of Critical Environmental Concern (ACEC)

The following changes were made to ACECs in response to public comment or because additional information provided more accurate information on cultural resources or special status plant location.

Coyote Valley ACEC (Paradine pincushion cactus) is not designated in the Proposed Plan because recent inventories indicate that the cactus is actually located within Vermilion Cliffs National Monument rather than outside the Monument as shown in the Draft Plan/EIS. Monument status provides protection for this cactus and the ACEC designation is not necessary.

Lone Butte ACEC (Jones' cycladenia) is not designated in the Proposed Plan for the protection of cultural resources because recent inventories indicate cultural values are not significant and Federal laws provide sufficient protection. Lone Butte ACEC is reduced in size from 1,900 acres to 1,762 acres in the Proposed Plan solely for the protection of Jones' cycladenia.

Shinarump ACEC is not designated in the Proposed Plan for the protection of cultural resources because recent inventories indicate cultural values are not significant and Federal laws provide sufficient protection. The ACEC is reduced in size from 3,619 acres to 3,237 acres in the Proposed Plan. Shinarump ACEC is moved 1.4 miles southwest of the location indicated in the Draft Plan/EIS to provide protection solely for Siler pincushion cactus.

Buckskin, Grey Point, Hurricane Cliffs, and Lime Kiln/Hatchett Canyon ACECs were presented in the Draft Plan/EIS under Alternative B as new ACECs. Further analysis revealed that the values in these ACECs, Bighorn Sheep and Cliff milkvetch, did not meet the relevance and importance criteria to be designated as ACECs. They have been removed from consideration under any alternative in Chapter 2, Alternatives.

Because of recent inventories for special status plant species and discussions with the FWS, the following ACEC acreage changes have been made in the Proposed Plan:

Black Knolls - from 80 to 428 acres (Holmgren milkvetch);
Fort Pearce – from 5,500 to 5,724 acres (Siler pincushion cactus);
Lost Spring - from 17,744 to 19,248 acres (Siler pincushion cactus);
Moonshine Ridge - from 9,231 to 9,310 acres (Siler pincushion cactus);
Johnson Spring – from 2,447 to 3,444 acres (Siler pincushion cactus);
Marble Canyon – from 9,852 to 12,105 acres (Brady pincushion cactus); and
Virgin Slope ACEC – from 40,206 to 39,514 acres (desert tortoise).

The following changes in ACEC Management Prescriptions are now in the Proposed Plan: no ACECs would be closed to OHVs; all ACECs would be limited to designated roads and trails; and vehicles would be required to stay on the roadways, with reasonable use of the shoulder allowed for parking or turning around.

Interrelationships (Chapter 2 Text)

The Interrelationship section of Chapter 2 was expanded to better explain the working relationship between BLM, NPS, and AGFD.

In response to comments from Animal and Plant Health Inspection Service (APHIS)-Wildlife Services, a short paragraph was added to the Chapter 2 text under Interrelationships regarding predator control. This section reiterates that animal damage control is the responsibility of APHIS-Wildlife Services and AGFD and emphasizes continued cooperating with these agencies. The decision to target individual predators under Alternative C is no longer the Preferred Alternative. Alternative D was selected for the Proposed Plan because it does not include targeting offending animals and it defers to APHIS-Wildlife Services and AGFD for animal damage control.

Socioeconomics

Additional employment information up to 2005 was obtained to update the socioeconomic tables in Appendix 3.I.

Environmental Impacts

Additional quantification of socioeconomic impacts on grazing was added to Chapters 3 and 4. Additional text was also added to Chapter 4 describing in greater detail the impacts to desert tortoise from various threats including roads, route densities, drought, fire, and livestock grazing.

General

New definitions were added to the Glossary including new transportation terms and definitions from BLM Instruction Memorandum No. 2006-173, Implementation of Roads and Trails Terminology Report.

Maps

New maps added to Chapter 2 of the Proposed Plan/FEIS that were not in the Draft Plan/EIS show vegetation and wildlife habitat areas; mineral classification for fluid, locatable, and salable minerals; and recreation maps for physical, social, and administrative settings.

TABLE OF CONTENTS

VOLUME I

CHAPTER 1 – INTRODUCTION

PURPOSE AND NEED FOR THE PLANS	1.1
PLANNING AREA AND MAP	1.2
PARASHANT	1.5
VERMILION	1.5
ARIZONA STRIP FIELD OFFICE	1.6
PLANNING GUIDANCE	1.7
PLANNING AREA VISION	1.7
PURPOSE, SIGNIFICANCE, AND MISSION STATEMENTS	1.8
PLANNING CRITERIA	1.15
RELATED LAWS, REGULATIONS, POLICIES, PLANS, AND PROGRAMS	1.15
National Park Service Carrying Capacity	1.18
NPS Boundary Adjustments	1.18
RELATIONSHIP TO OTHER PLANS	1.18
PLANNING PROCESS	1.19
COLLABORATION	1.20
PUBLIC SCOPING	1.22

CHAPTER 2. ALTERNATIVES

INTRODUCTION	2.1
DEVELOPMENT OF THE ALTERNATIVES	2.1
MANAGEMENT COMMON TO ALL ALTERNATIVES	2.2
MANAGEMENT GUIDELINES	2.8
THE ALTERNATIVES	2.8
NO ACTION ALTERNATIVE	2.8
ACTION ALTERNATIVES: ALTERNATIVES B, C, D, AND E	2.11
NPS ENVIRONMENTALLY PREFERRED ALTERNATIVE	2.16
RENEWABLE ENERGY RESOURCES	2.18
ADAPTIVE MANAGEMENT	2.19
TYPES OF BLM AND NPS DECISIONS	2.19
LAND USE PLAN DECISIONS	2.19
IMPLEMENTATION DECISIONS	2.21
ADMINISTRATIVE ACTIONS	2.21
ALTERNATIVE DECISION TABLES	2.21
IMPLEMENTATION AND MONITORING	2.258
IMPLEMENTATION	2.258
MONITORING	2.258
ENVIRONMENTAL ANALYSIS AND INTERRELATIONSHIPS	2.259
REQUIREMENTS FOR FURTHER ENVIRONMENTAL ANALYSIS	2.259
INTERRELATIONSHIPS	2.259
SUMMARY OF IMPACTS	2.262

CHAPTER 3. AFFECTED ENVIRONMENT

RESOURCES 3.1

AIR 3.1

WATER 3.3

SOILS 3.10

GEOLOGY AND PALEONTOLOGY 3.26

VEGETATION 3.32

FIRE AND FUELS MANAGEMENT 3.50

FISH AND WILDLIFE 3.54

SPECIAL STATUS SPECIES 3.64

WILD BURROS 3.88

CULTURAL RESOURCES 3.89

VISUAL RESOURCES 3.96

SOUNDSCAPES 3.102

WILDERNESS CHARACTERISTICS 3.105

RESOURCE USES 3.107

VEGETATION PRODUCTS 3.107

LANDS AND REALTY 3.111

LIVESTOCK GRAZING 3.123

MINERALS 3.130

RECREATION AND VISITOR SERVICES/INTERPRETATION AND ENVIRONMENTAL EDUCATION 3.146

TRAVEL MANAGEMENT 3.161

SPECIAL DESIGNATIONS 3.167

CONGRESSIONAL DESIGNATIONS 3.167

 Wilderness Areas 3.167

 Wild and Scenic Rivers 3.174

 National Historic Trails 3.178

ADMINISTRATIVE DESIGNATIONS 3.179

 Areas of Critical Environmental Concern 3.179

 Resource Conservation Areas 3.183

SOCIAL AND ECONOMIC CONDITIONS 3.184

SOCIOECONOMICS 3.184

ENVIRONMENTAL JUSTICE 3.186

HEALTH AND SAFETY 3.190

 Abandoned Mines 3.190

 Hazardous Materials 3.191

VOLUME II

CHAPTER 4. ENVIRONMENTAL IMPACTS

INTRODUCTION.....	4.1
ANALYTICAL ASSUMPTIONS AND GUIDELINES	4.1
INCOMPLETE OR UNAVAILABLE INFORMATION.....	4.2
TYPES OF IMPACTS.....	4.2
NPS Impairment of Resources.....	4.3
BLM AND NPS MANDATORY TOPICS.....	4.4
IMPACTS TO RESOURCES.....	4.6
AIR	4.6
WATER	4.18
SOILS	4.31
GEOLOGY AND PALEONTOLOGY	4.49
VEGETATION.....	4.59
FIRE AND FUELS MANAGEMENT.....	4.87
FISH AND WILDLIFE	4.98
SPECIAL STATUS SPECIES	4.128
WILD BURROS	4.168
CULTURAL RESOURCES.....	4.168
VISUAL RESOURCES.....	4.188
WILDERNESS CHARACTERISTICS.....	4.224
IMPACTS TO RESOURCE USES	4.243
VEGETATION PRODUCTS	4.243
LANDS AND REALTY.....	4.244
LIVESTOCK GRAZING	4.254
MINERALS	4.274
RECREATION AND VISITOR SERVICES/INTERPRETATION AND ENVIRONMENTAL EDUCATION	4.286
TRAVEL MANAGEMENT.....	4.305
IMPACTS TO SPECIAL DESIGNATIONS	4.318
CONGRESSIONAL DESIGNATIONS: WILDERNESS AREAS	4.318
CONGRESSIONAL DESIGNATIONS: WILD AND SCENIC RIVERS	4.337
CONGRESSIONAL DESIGNATIONS: NATIONAL HISTORIC TRAILS.....	4.344
ADMINISTRATIVE DESIGNATIONS: AREAS OF CRITICAL ENVIRONMENTAL CONCERN	4.348
ADMINISTRATIVE DESIGNATIONS: RESOURCE CONSERVATION AREAS...	4.353
IMPACT TO SOCIAL AND ECONOMIC CONDITIONS.....	4.354
SOCIOECONOMICS.....	4.354
ENVIRONMENTAL JUSTICE	4.373
Impacts to Environmental Justice	4.373
Impacts to Health and Safety	4.373
CUMULATIVE IMPACTS	4.374
MITIGATION MEASURES.....	4.382

UNAVOIDABLE ADVERSE IMPACTS..... 4.384
RELATIONSHIP BETWEEN SHORT-TERM USE AND LONG-TERM PRODUCTIVITY 4.385

CHAPTER 5: CONSULTATION AND COORDINATION:

COMMUNICATION METHODS 5.1
COMMUNITY BASED WORKSHOPS AND COLLABORATIVE PLANNING..... 5.1
FORMAL PRESENTATIONS TO AMERICAN INDIAN TRIBAL, BAND, AND CHAPTER COUNCILS 5.2
PLANNING BULLETINS 5.4
PUBLIC SCOPING MEETINGS..... 5.4
BLM AND NPS WEB PAGES 5.4
COOPERATING AGENCIES 5.5
PUBLIC COMMENTS 5.6
AGENCIES, ORGANIZATIONS, AND GROUPS WHO COMMENTED 5.8
INDIVIDUALS WHO COMMENTED..... 5.9
RESPONSE TO PUBLIC COMMENTS 5.63
Issue # 1: Access (Travel Management; TM).....5.63
Issue # 2: Special Designations (Wilderness, Wild and Scenic Rivers, Resource Conservation Areas: SD) 5.103
Issue # 3A: Protection of Resources: Areas of Critical Environmental Concern (SD).....5.110
Issue # 3B: Protection of Resources: Air, Water, and Soils (WS).....5.120
Issue # 3C: Protection of Resources: Geology and Paleontology (GL).....5.127
Issue # 3D: Protection of Resources: Vegetation and Fire and Fuels Management (VM) 5.128
Issue # 3E: Protection of Resources: Fish and Wildlife (WF)..... 5.138
Issue # 3F: Protection of Resources: Special Status Species (TE) 5.166
Issue # 3G: Protection of Resources: Cultural Resources (CL).....5.180
Issue # 3H: Protection of Resources: Visual Resources (VR).....5.187
Issue # 3I: Protection of Resources: Wilderness Characteristics (WC).....5.193
Issue # 4: Livestock Grazing (GM) 5.205
Issue # 5: Recreation and Visitor Services (RR) 5.223
Issue # 6: Minerals (MI) 5.259
Issue # 7: Lands and Realty (LR) 5.263
Issue # 8: Socioeconomics (SO) 5.271
Issue # 9: Alternatives (AL)..... 5.275
Issue # 10: General (GEN)..... 5.281
ARIZONA STRIP PROPOSED PLAN/FEIS DISTRIBUTION LIST 5.311
LIST OF PREPARERS..... 5.316

VOLUME III

APPENDICES

Chapter 1:

- 1.A Grand Canyon-Parashant National Monument Proclamation (#7265)
- 1.B Vermilion Cliffs National Monument Proclamation (#7374)
- 1.C Results of Scoping
- 1.D Laws, Executive Orders, and Memorandums
- 1.E Planning Criteria (BLM)
- 1.F Notice of Intent to Prepare Resource Management Plans and Plan Revision

Chapter 2:

- 2.A Arizona Standards and Guidelines for Livestock Grazing Management
- 2.B Nomination, Evaluation, and Designation of Significant Caves
- 2.C Vegetation Treatment Tools and Methods
- 2.D Standards for Rangeland Health Implementation Status
- 2.E Conservation Measures for Special Status Species
- 2.F Special Status Species Known or Suspected to Occur on the Arizona Strip
- 2.G Migratory Birds on the Arizona Strip
- 2.H Habitat Management Plan Contents
- 2.I Arizona Strip FO Oil and Gas Lease Stipulations
- 2.J Cultural Resource Use Allocations
- 2.K ACEC Summary Table: Values, Relevance, and Importance Criteria
- 2.L Visual Resource Management Classes and Objectives for Classes
- 2.M Lands identified for Disposal
- 2.N Allotment Management Status and Allotment Management Plan Status
- 2.O Reclamation Stipulations
- 2.P Minerals and Associated Land Categories
- 2.Q Arizona Strip Mineral Material Sites
- 2.R Recreation Management Areas
- 2.S Travel Management Areas, Transportation Plan Contents, and Appropriate Route Construction and Maintenance Standards by Travel Management Area
- 2.T Route Evaluation Tree Process ©

Chapter 3:

- 3.A Historical Geology and Stratigraphy of the Planning Area
- 3.B Paleontological Resources in Geological Units of the Planning Area
- 3.C Definitions for BLM Fire Management Allocations
- 3.D Identification of Wilderness Characteristics on the Arizona Strip
- 3.E Allotment Acres and Animal Unit Months by Land Status
- 3.F Mineral Potential on the Arizona Strip
- 3.G Arizona Strip Oil and Gas Wells
- 3.H Recreation Opportunity Spectrum
- 3.I Socioeconomic Profile of Planning Area communities

Chapter 4:

- 4.A NPS Management Policies
- 4.B Reasonable Foreseeable Development Scenario for Oil and Gas on the Arizona Strip
- 4.C National Park Service Impairment Analysis

Chapter 5:

- 5.A Flyers Announcing Public Meetings Locations in 2002 and 2003
- 5.B Cooperating Agency Memorandum of Understanding Example

GlossaryEnd of Volume 3
References Cited.....End of Volume 3
Index.....End of Volume 3
Abbreviations and AcronymsEnd of Volume 3

LIST OF FIGURES

CHAPTER 3:

Figure 3.1: Generalized Geologic Section of Parashant and Western Arizona Strip FO 3.29
 Figure 3.2: Generalized Strata of Vermilion and Eastern Arizona Strip FO 3.30

CHAPTER 4:

Figure 4.1: VRM Class Designations in Acres under Alternative A in Parashant 4.195
 Figure 4.2: VRM Class Designations in Acres under Alternative A in Vermilion 4.195
 Figure 4.3: VRM Class Designations in Acres under Alternative A in the Arizona Strip FO 4.196
 Figure 4.4: VRM Class Designations in Acres under Alternative B in Parashant 4.204
 Figure 4.5: VRM Class Designations in Acres under Alternative B in Vermilion..... 4.205
 Figure 4.6: VRM Class Designations in Acres under Alternative B in Arizona Strip FO 4.205
 Figure 4.7: VRM Class Designations in Acres under Alternative C in Parashant 4.211
 Figure 4.8: VRM Class Designations in Acres under Alternative C in Vermilion..... 4.212
 Figure 4.9: VRM Class Designations in Acres under Alternative C in the Arizona Strip FO 4.212
 Figure 4.10: VRM Class Designations in Acres under Alternative D in Parashant 4.218
 Figure 4.11: VRM Class Designations in Acres under Alternative D in Vermilion 4.218
 Figure 4.12: VRM Class Designations in Acres under Alternative D in the Arizona Strip
 FO 4.219

LIST OF TABLES

CHAPTER 1:

Table 1.1: Land Surface Administration (in Acres) for the Arizona Strip Region and Planning
 Area..... 1.2

CHAPTER 2:

Table 2.1: Air, Water, and Soils 2.23
 Table 2.2: Geology and Paleontology..... 2.26
 Table 2.3: Vegetation and Fire and Fuels Management 2.28
 Table 2.4: Fish and Wildlife 2.67

Table 2.5: Special Status Species.....	2.81
Table 2.6: Wild Burros	2.119
Table 2.7: Cultural Resources.....	2.120
Table 2.8: Visual Resources	2.126
Table 2.9: Soundscapes.....	2.130
Table 2.10: Wilderness Characteristics.....	2.131
Table 2.11: Land and Realty.....	2.136
Table 2.12: Livestock Grazing.....	2.151
Table 2.13: Minerals.....	2.164
Table 2.14: Recreation and Visitor Services/Interpretation and Environmental Education...	2.171
Table 2.14a: Special Recreation Management Area.....	2.193
Table 2.15: Travel Management.....	2.213
Table 2.16: Special Designations.....	2.231
Table 2.17: Public Health and Safety	2.256
Table 2.18: Scientific research.....	2.257
Table 2.19: Summary of Impacts.....	2.263

CHAPTER 3:

Table 3.1: Sub-basins in the Planning Area.....	3.4
Table 3.2: Acres by Soil Groupings.....	3.11
Table 3.3: Acres by Soil Groupings in Parashant.....	3.22
Table 3.4: Acres by Soil Groupings in Vermilion.....	3.23
Table 3.5: Acres by Soil Groupings in the Arizona Strip FO.....	3.24
Table 3.6: Minor Plateaus and Their Bounding Features in the Planning Area	3.26
Table 3.7: Dominant Plant Species by Ecological Zone.....	3.34
Table 3.8: Priority Riparian Areas.....	3.39
Table 3.9: Wildland Fires and Acres Burned in the Planning Area.....	3.51
Table 3.10: Acres of Fuels Treatment Projects in the Planning Area, 1998-2003	3.51
Table 3.11: Fire Regime/Condition Class Definitions.....	3.52
Table 3.12: Historic Fire Return Intervals, Mean FRCC, and Fire Management Allocations for each Ecological Zone.....	3.53
Table 3.13: Dominant Animal Species by Ecological Zones	3.55
Table 3.14: Special Status Animal Species.....	3.65
Table 3.15: Special Status Plants	3.82
Table 3.16: American Indian groups with Cultural and Historical Ties to the Arizona Strip ..	3.92
Table 3.17: Scenic Quality Ratings and Visual Resource Inventory (VRI) Classes in the Planning Area	3.97
Table 3.18: Scenic Quality Ratings and VRI Classes in Parashant	3.100
Table 3.19: Scenic Quality Ratings and VRI Classes in Vermilion	3.101
Table 3.20: Scenic Quality Ratings and VRI Classes in the Arizona Strip FO	3.102
Table 3.21: Lands with Wilderness Characteristics in Parashant	3.107
Table 3.22: Current and Implemented Allotment Grazing Systems in the Planning Area.....	3.125
Table 3.23: Parashant Allotment Categorization Summary	3.129
Table 3.24: Vermilion Allotment Categorization Summary.....	3.129
Table 3.25: Arizona Strip FO Allotment Categorization Summary	3.130
Table 3.26: Mineral Resource Potential Ratings	3.130
Table 3.27: Recreation Visits.....	3.151
Table 3.28: Interagency Visitor Center Visitation (ASIA).....	3.151

Table 3.29: Number of Active Permits by Use Type.....	3.153
Table 3.30: Miles of Roads, Primitive Roads and Trails in the Planning Area by Route Type	3.162
Table 3.31: Total Miles of Routes by Responsibility	3.163
Table 3.32: Miles of Roads, Primitive Roads, and Trails in Parashant by Route Type	3.164
Table 3.33: Miles of Roads, Primitive Roads, and Trails in Vermilion by Route Type.....	3.165
Table 3.34: Miles of Roads, Primitive Roads, and Trails in the Arizona Strip FO by Route Type	3.166
Table 3.35: Existing Wilderness Areas.....	3.168
Table 3.36: Suitable Wild and Scenic Rivers in the Planning Area	3.175
Table 3.37: ACECs Currently Existing in the Planning Area	3.180
Table 3.38: Estimated Economic Contributions of Grazing in the Planning Area	3.185
Table 3.39: Race and Persons of Hispanic or Latino Origin	3.188
Table 3.40: Parashant Mines with Suspected Public Safety and/or Environmental Concerns	3.190
Table 3.41: Vermilion Mines with Potential Public Safety and/or Environmental Concerns	3.191
Table 3.42: Arizona strip FO Mines with Potential Public Safety and/or Environmental Concerns	3.191

CHAPTER 4:

Table 4.1: Mandatory EIS Topics.....	4.4
Table 4.2: Topics Not Discussed in this Proposed Plan/FEIS	4.6
Table 4.3: Economic Impacts due to AUM Change by Alternative	4.357
Table 4.4: Population of select towns/cities/counties in the Planning Area.....	4.378
Table 4.5: OHV Registration in Utah	4.380

CHAPTER 5:

Table 5.1: Community Based Workshops	5.2
Table 5.2: Meetings with American Indian Tribes, Bands, and Councils	5.3
Table 5.3: Arizona Strip Planning Bulletins	5.4
Table 5.4: List of Preparers.....	5.6

LIST OF MAPS

CHAPTER 1:

Map 1.1: Arizona Strip Location Map.....	1.3
--	-----

CHAPTER 2:

Map 2.1: Management Units for the Proposed Plan	2.14
Map 2.2: Wildland Fire Use Allocations - Proposed Plan.....	2.66
Map 2.3: Vegetation Habitat Areas - Proposed Plan	2.117
Map 2.4: Wildlife Habitat Areas - Proposed Plan	2.118
Map 2.5: Visual Resource Management - Proposed Plan.....	2.129
Map 2.6: Wilderness Characteristics - Proposed Plan	2.135
Map 2.7: Land Ownership and Adjustments - Proposed Plan	2.150
Map 2.8: Grazing Allotments - Proposed Plan	2.163
Map 2.9: Fluid Mineral Leasing Categories - Proposed Plan.....	2.168

Map 2.10: Locatable Mineral Land Classifications-Proposed Plan.....	2.169
Map 2.11: Salable Mineral Land Classifications - Proposed Plan.....	2.170
Map 2.12: Special Recreation Management Areas - Proposed Plan	2.188
Map 2.13: Recreation Management Zones - Proposed Plan.....	2.189
Map 2.14: Recreation Settings (Physical) - Proposed Plan	2.190
Map 2.15: Recreation Settings (Social) - Proposed Plan.....	2.191
Map 2.16: Recreation Settings (Administrative) - Proposed Plan.....	2.192
Map 2.17: Designated Transportation System & Preliminary Route Network - Proposed Plan	2.228
Map 2.18: Travel Management Areas - Proposed Plan	2.229
Map 2.19: Off-Highway Vehicle Designations - Proposed Plan.....	2.230
Map 2.20: Areas of Critical Environmental Concern - Proposed Plan.....	2.255

CHAPTER 3

Map 3.1: Hydrology Sub-basins & Watersheds	3.5
Map 3.2: Riparian Areas, Springs, Seeps, & Water Wells	3.7
Map 3.3: Soil Productive Potential	3.12
Map 3.4: Saline Potential.....	3.14
Map 3.5: Microbiotic Soil Crusts	3.15
Map 3.6: Compactable Soils.....	3.16
Map 3.7: Water Erosion Potential.....	3.18
Map 3.8: Floodplain Soils.....	3.20
Map 3.9: Wind Erosion Potential.....	3.21
Map 3.10: Geological Formations on the Arizona Strip.....	3.27
Map 3.12: Noxious Weeds.....	3.35
Map 3.13: Major Vegetation Types on the Arizona Strip	3.36
Map 3.14: Fire History.....	3.37
Map 3.15: Pronghorn Antelope Habitat.....	3.57
Map 3.16: Bighorn Sheep Habitat	3.58
Map 3.17: Mule Deer Habitat	3.60
Map 3.18: Merriam’s Turkey & Kaibab Squirrel	3.61
Map 3.19: Desert Tortoise	3.71
Map 3.20: Southwestern Willow Flycatcher Habitat.....	3.75
Map 3.21: T&E Plant.....	3.83
Map 3.22: VRM Inventory	3.99
Map 3.23: Airports, Airstrips and Overflight Areas	3.103
Map 3.24: Lands with Wilderness Characteristics	3.106
Map 3.25: Potential Wood Harvesting Areas	3.110
Map 3.26: Active Mining Claims	3.131
Map 3.27: Oil and Gas Resource Potential.....	3.133
Map 3.28: Metallic Mineral Resource Potential.....	3.136
Map 3.29: Uranium Resource Potential.....	3.139
Map 3.30: Non-Metallic Mineral Resource Potential.....	3.140
Map 3.31: Salable Mineral Resource Potential.....	3.142
Map 3.32: Recreation.....	3.148
Map 3.33: Wild and Scenic Rivers: Paria River	3.176
Map 3.34: Wild and Scenic Rivers: Virgin River.....	3.177

Chapter 1

Introduction



Arizona Strip: Where the West Stays Wild

CHAPTER 1 – INTRODUCTION

PURPOSE AND NEED FOR THE PLANS

Grand Canyon-Parashant National Monument (Parashant) was established on January 11, 2000, when President William J. Clinton issued Presidential Proclamation 7265 (Appendix 1.A) under the Antiquities Act of 1906 (34 Stat. 225, 16 U.S.C. 431). On November 9, 2000, Presidential Proclamation 7374 (Appendix 1.B) established Vermilion Cliffs National Monument (Vermilion). The two Monuments were created to protect an array of scientific, biological, geological, hydrological, cultural, and historical objects. These objects, both individually and collectively, in the context of the natural environments that support and protect them, are referred to as “Monument objects,” “Monument resources,” or “Monument values” throughout this document.

Parashant is located on public lands administered by the Bureau of Land Management (BLM) and the National Park Service (NPS), while Vermilion is wholly located on BLM-administered public lands (BLM lands; see Table 1.1). Local jurisdiction for BLM lands in the Monuments resides with the Arizona Strip District of the BLM, while local jurisdiction for the NPS portion of Parashant resides with Lake Mead National Recreation Area (NRA). The proclamations keep the Monuments under existing BLM and NPS management and authorities, but subject them to the primary purpose of protecting the Monument objects as described in the proclamations.

The designation of Parashant and Vermilion as National Monuments changed much of the management direction of the existing Arizona Strip District Resource Management Plan (RMP; BLM 1992) and the Shivwits Plateau portion of the Lake Mead General Management Plan (GMP; NPS 1986). Individual management plans are needed for each Monument to protect Monument objects and the context that supports them, in a way that is consistent with the proclamations. Additionally, due to Parashant proclamation’s cooperative administration mandate, the BLM and NPS will jointly develop a single management plan for that Monument.

A revised management plan is needed for the remaining 1.68 million acres of non-monument public lands administered by the Arizona Strip Field Office (Arizona Strip FO) of the BLM. This management plan will revise the current Arizona Strip District RMP (1992, as amended).

This plan, the Proposed Plan/Final Environmental Impact Statement (FEIS) for the Arizona Strip FO, Vermilion, and BLM Portion of Parashant, and a Proposed GMP/Final EIS for the NPS Portion of Parashant (Proposed Plan/FEIS), will be used to develop the Arizona Strip FO management plan revision as well as the two new management plans necessary to guide management actions for Parashant and Vermilion. Thus, this Proposed Plan/FEIS covers three planning areas: Parashant, Vermilion, and the Arizona Strip FO. For purposes of this document, these three planning areas, combined, will be referred to as the Planning Area or Arizona Strip District. The Arizona Strip District of the BLM is taking the lead in developing this Proposed

Plan/FEIS since most of the Planning Area involves BLM lands. The NPS is a joint lead agency with the BLM in writing the management plan for Parashant.

This Proposed Plan/FEIS has also been prepared with the assistance of Cooperating Agencies, other federal and state agencies, communities, tribes, groups, and by members of the public. See Appendix 1.C for the results of scoping and collaborative working relationships.

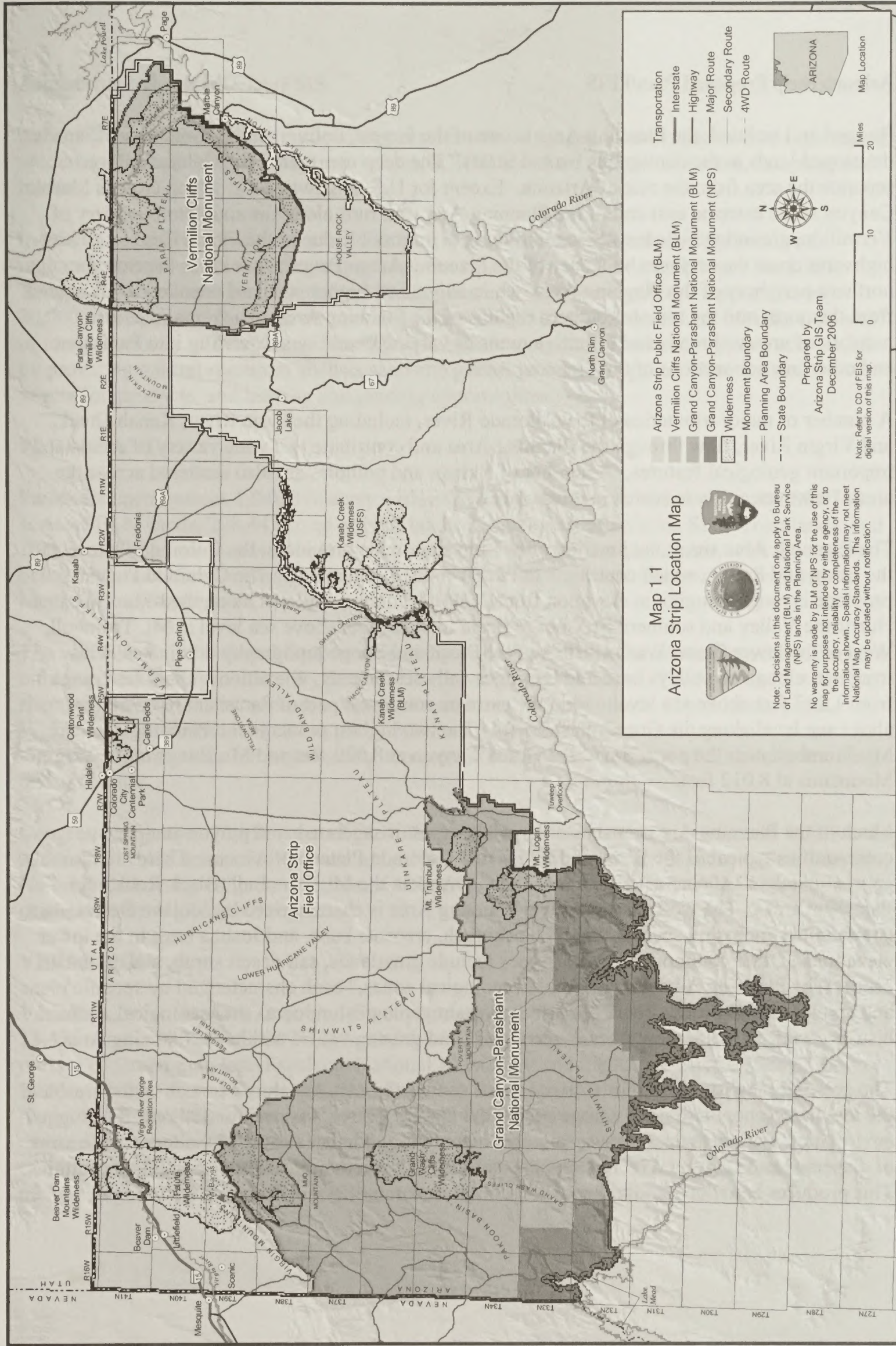
PLANNING AREA AND MAP

The Planning Area consists of 2,768,206 acres of BLM lands and 208,447 acres of NPS lands within the area known as the “Arizona Strip,” which is located in the northern portions of Coconino and Mohave counties, Arizona, north and west of the Colorado River (Map 1.1). The Arizona Strip also includes state, local, and private lands that are concentrated mostly around small communities in extreme northern Arizona, including Fredonia, Marble Canyon, Colorado City, Centennial, Littlefield, Beaver Dam, and Scenic. Adjoining communities include Page, Arizona; Kanab, Big Water, Hurricane, Washington, and St. George, Utah; and Mesquite and Bunkerville, Nevada. There is one other large block of mostly uninhabited private land at Mt. Trumbull/Bundyville, about 40 miles south of St. George.

This Proposed Plan/FEIS covers decisions only for BLM and NPS lands, with the exception of small areas of U.S. Forest Service (USFS) lands, either included or excluded, as may be described in Memoranda of Understanding (MOU) or other management agreements within the Planning Area. Table 1.1 shows land surface ownership for the geographic region of the Arizona Strip and the Planning Area portion of the Arizona Strip. All acres and mileage in this Proposed Plan/FEIS are generated by Geographic Information System (GIS) unless otherwise noted. Map 2.7 illustrates land surface ownership.

Land Ownership	Arizona Strip Region	Planning Area	Parashant	Vermilion	Arizona Strip FO
BLM, Arizona Strip District Office	2,768,206	2,768,206	808,744	279,566	1,679,896
USFS, North Kaibab Ranger District	655,629	41	--	--	41
NPS, Glen Canyon NRA**	41,566	--	--	--	--
NPS, Lake Mead NRA	213,857	208,447	208,447		--
NPS, Grand Canyon National Park	889,239	--	--	--	--
NPS, Pipe Springs National Monument	40	--	--	--	--
Kaibab-Paiute Indian Tribe	120,842	--	--	--	--
State of Arizona	206,889	206,808	23,205	13,438	170,165
Private	151,547	139,565	7,920	683	130,962
Total Acres	5,047,815	3,323,067	1,048,316	293,687	1,981,064

*Management actions proposed in this Proposed Plan/FEIS only apply to BLM and NPS lands within the Planning Area (Parashant, Vermilion, and Arizona Strip FO). Source: Arizona Strip District Office files
 **Except for grazing administration which is covered under this Proposed Plan/FEIS



Map 1.1 Arizona Strip Location Map

Rugged and isolated, the Planning Area is one of the largest, unfragmented stretches of sparsely developed lands in the contiguous United States. The deep canyons of the Colorado River separate the area from the rest of Arizona. Except for U.S. Highway 89A, which crosses Marble Canyon at the extreme east end of the Planning Area and runs along the southern boundary of Vermilion, ground vehicle travel from the south is impossible due to the Grand Canyon. Three highways cross the northern boundary of the Planning Area. Paved roads cross the extreme northern periphery of the Planning Area, while only a few higher standard unpaved roads extend from the north into the remote southern regions of the Planning Area. The remainder is a network of unpaved roads and primitive roads of varying conditions extending into Parashant and other interior sections of the Planning Area.

A number of major tributaries of the Colorado River, including the Paria River, Kanab Creek, and Virgin River, flow through the Planning Area and contribute to a wide variety of scenic and important geological features. A number of springs and potholes are also scattered across the area. However, water is scarce in most places.

The Planning Area sits at the junction of two physiographic provinces, the Colorado Plateau and the Basin and Range, which contribute to the diversity of the region. The Colorado Plateau province is rough, ranging in elevation from 2,745 feet above sea level along the lower Hurricane Valley and southern St. George Basin to 8,029 feet above sea level at Mt. Trumbull. West of the lower Grand Wash Cliffs, typical Basin and Range topography dominates, with irregular, elongated valleys bordered by ridges and escarpments. Elevations in this area range from 1,247 feet above sea level within the extreme southwest part of Parashant to 6,758 feet above sea level along the Grand Wash Cliffs. The two highest points in the Planning Area are Mt. Trumbull near the north rim of the Grand Canyon at 8,029 feet and Mt. Bangs in the Virgin Mountains at 8,012 feet.

Much of the Planning Area consists of large expanses of sagebrush and pinyon-juniper communities typical of the Basin and Range and Colorado Plateau provinces. There are also approximately 42,406 acres of ponderosa pine forests in the Mt. Trumbull, Black Rock, and Parashant areas. The western edge of the Planning Area is characterized by Mojave Desert plant communities including species such as blackbrush, creosote bush, and Joshua trees in the lower elevations. Other common vegetation types include grasslands, salt desert shrub, and mountain brush. The Planning Area contains eight "ecological zones," each characterized by specific plant and animal communities. There are also important geological, mineral, archaeological, cultural, historic, wildlife, wilderness, scenic, recreation, and grazing values within the Planning Area.

The generally low standard of motorized travel routes, the remote nature of much of the area, and the low human population are a large part of the Planning Area's appeal for visitors. The rugged environment with countless mesas, canyons, mountains, and plateaus offers visitors a wide array of dispersed and structured recreation opportunities in backcountry and near-community settings. This produces benefits to individuals, households, communities, local economies, and the

environment. Visitors enjoy outdoor experiences while engaged in activities such as sightseeing, wilderness backpacking, off-highway vehicle (OHV) travel on designated routes, camping, and hunting.

In addition to tourism and recreation, ranching is also an important industry for local and regional economies. Livestock grazing has been a part of the Arizona Strip since the 1860s. Today, 118 permittees graze cattle on 150 allotments in the Planning Area. Approximately 20,000 cattle and 300 horses are authorized to use about 183,000 Animal Unit Months (AUMs) of forage annually. The Arizona Strip has also been important to local and regional economies by providing natural resources such as sand and gravel, uranium, gypsum, picture stone, vegetation products, and hunting and guiding opportunities.

PARASHANT

Parashant encompasses 1,048,316 acres within the Planning Area in Mohave County: 808,744 acres of BLM lands, 208,447 acres of NPS lands, 23,205 acres of Arizona State Trust lands, and 7,920 acres of private lands. There are no communities within the Monument, with the nearest being Littlefield, Beaver Dam, Scenic, Fredonia, Colorado City, and Centennial, Arizona; Mesquite and Bunkerville, Nevada; and St. George, Utah.

The vast chasm of the Grand Canyon essentially prevents travel to Parashant from the south, and only unpaved roads provide entry from the north, west, and northeast. The Monument offers spectacular scenic vistas, numerous rough canyons, and isolated stands of ponderosa pines. Within these environs, visitors can participate in a wide array of dispersed recreation activities that offer opportunities for experiencing remoteness and solitude, a sense of discovery, learning, and adventure.

Congress designated 95,150 acres of BLM lands within the Monument as wilderness in 1984. In addition, 190,478 acres of NPS lands are proposed as wilderness areas. Most of Grand Canyon National Park and contiguous portions of Lake Mead NRA outside Parashant are also proposed or suitable for wilderness designation.

VERMILION

Vermilion lies in northern Coconino County and encompasses 279,566 acres of BLM lands, 13,438 acres of Arizona State Trust lands, and 683 acres of private lands. It is adjacent to a portion of Grand Staircase-Escalante National Monument and the Kanab Field Office of the BLM in Utah to the north, borders Glen Canyon NRA to the east, and borders Kaibab National Forest to the west. No communities exist within the Monument, although several small residential/commercial areas lie along the Monument boundary at the foot of the Vermilion Cliffs along U.S. Highway 89A in the vicinity of Marble Canyon. Other close communities include Page and Fredonia, Arizona, and Kanab and Big Water, Utah.

While U.S. Highway 89A provides excellent passage along the southern boundary of the Monument, much of the Monument's landscape of steep cliffs, deep canyons, and loose sand make vehicular entry deep into its boundaries challenging. Spectacular scenic vistas are common from the rims of the Paria Plateau and visitors are offered a sense of isolation and remoteness in much of the area.

Congress designated approximately 89,825 acres within Vermilion as the Paria Canyon-Vermilion Cliffs Wilderness in 1984. Another 22,365 acres of the same statutory area are located outside the Monument in Utah. Portions of Glen Canyon NRA adjacent to Vermilion are proposed for wilderness designation. The BLM has the administrative authority over livestock grazing and mineral exploration on Glen Canyon NRA lands.

California Condors, last observed wild in Arizona in 1924, were reintroduced to Arizona at a release site on top of the Vermilion Cliffs in 1996. Condor releases continue in Vermilion, with approximately 50 Condors currently flying in the region. The California Condor Recovery Plan (USFWS 1996) cites an ultimate goal of 150 Condors in the area, including 15 reproductive pairs.

ARIZONA STRIP FIELD OFFICE

The Arizona Strip FO encompasses roughly 1.98 million acres located between the two Monuments in both Coconino and Mohave Counties: 1,679,896 acres of BLM lands, 170,165 acres of Arizona State Trust lands, and 130,962 acres of private lands. The Arizona Strip FO also contains 41 acres of USFS lands that make up the Tanglefoot Work Area. The communities of Fredonia, Littlefield, Beaver Dam, Scenic, Colorado City, and Centennial are located on enclaves of private lands within the Arizona Strip FO, with the larger communities of St. George, Washington, Big Water, Hurricane, and Kanab, Utah and Mesquite, Nevada directly across state lines. Since the Arizona Strip FO includes several communities within the Planning Area that are linked via U.S. 89A, Arizona 389, and Interstate 15, together with large portions of the area being easily accessible via a number of unpaved county roads, it receives the most human use. In addition to recreation and ranching, the Arizona Strip FO also supports the mining of gypsum, sand and gravel, picture stone, and flagstone.

In 1984, Congress designated 80,765 acres of BLM lands within the Arizona Strip FO as wilderness. These wilderness areas include Cottonwood Point, Beaver Dam Mountains, the northern unit of the Paiute, and a portion of Kanab Creek. Another 3,652 acres of the Beaver Dam Mountains Wilderness exists directly across the state line in Utah. Most of Kanab Creek Wilderness is administered by the USFS. The southern half of Paiute Wilderness is in Parashant. Adjoining Cottonwood Point Wilderness to the north is the Canaan Mountain Wilderness Study Area (WSA) in Utah. Most of Grand Canyon National Park that is contiguous to the Arizona Strip FO is proposed for wilderness designation, while some portions of the St. George Field Office of the BLM are also recommended as suitable for wilderness designation.

PLANNING GUIDANCE

PLANNING AREA VISION

A vision, as used in this context, is an ideal to strive for which is not quantifiable or set to a specific time frame. A goal is a statement of a desired outcome that often has quantifiable measures and established time frames for achievement.

The vision for the Planning Area is to retain, where it currently exists, the present natural and socially remote nature of the Planning Area while still allowing compatible human use to occur within “the place where the West stays wild.”

Goals for the Planning Area include:

1. The variety of remote natural and social settings will be managed to preserve essentially natural appearing landscapes. Visitors will have the opportunity to experience adventure, beautiful vistas, retreat from the pressures of modern life, and a sense of discovery through a variety of appropriate and sustainable outdoor recreation activities and travel modes.
2. Proclamations for Parashant and Vermilion and their purpose, significance, and mission statements will guide management of these Monuments. The National Monument is the dominant reservation for the public lands within the Monuments.
3. The Arizona Strip FO lands will be managed to balance protection of the natural and cultural resources with recreational, community, commercial, scientific, and social interests and needs.
4. The BLM and NPS will manage Monument lands for the benefit of local, regional, national, and international publics to provide recreational, scientific, commercial, social, and traditional uses while protecting the objects and context that supports them as required under the Antiquities Act and the proclamations.
5. The BLM and NPS will provide long-term protection and sustain the health and diversity of the public lands and resources that they manage for the use and enjoyment of present and future generations.
6. The BLM and NPS will work cooperatively with local, regional, state, county, and federal agencies; tribes; communities; user groups; universities; researchers; and the interested public to achieve the above goals.

PURPOSE, SIGNIFICANCE, AND MISSION STATEMENTS

Purpose, significance, and mission statements clarify the intent of the Monument proclamations and are used to shape the development of this Proposed Plan/FEIS. Purpose statements clarify why the Monuments were set aside as units for special management, significance statements address what makes the areas unique, and mission statements reflect ideal conditions which managers should strive to attain. The BLM also developed significance and mission statements for the Arizona Strip FO based on management principals identified by the Federal Land Policy and Management Act (FLPMA) of 1976, as amended.

Parashant Purpose, Significance, and Mission Statements

Purpose: To retain, for public interest (scientific inquiry, long-term preservation, and public use and enjoyment for present and future generations), well-preserved examples of scientific and historic objects of interest and to protect those objects from unauthorized location or settlement and from unauthorized appropriation, injury, destruction, or removal of any features. Those objects include:

- The exposed Paleozoic and Mesozoic sedimentary strata on the boundary between two major geologic provinces: the Basin and Range and the Colorado Plateau.
- The abundant fossil record.
- The ecological diversity resulting from the junction of two physiographic ecoregions, the Basin and Range and Colorado Plateau, and three floristic provinces, the Mojave Desert, Great Basin, and Colorado Plateau, including a diversity of wildlife.
- The undisturbed archaeological evidence, displaying the long and rich human history spanning more than 12,000 years.
- Areas of importance to existing Indian tribes.
- The colorful and engaging scenery, natural splendor, and a setting that provides for rugged recreation opportunities.
- The historic resources, including evidence of early European exploration, Mormon settlements, historic ranches, sawmills, and old mining sites.
- Remote and unspoiled landscapes with limited travel corridors.

Significance: The Monument contains relatively intact ecosystems and spring/water sources in public ownership that can provide sites for restoration and re-introduction of species.

The Monument's engaging scenery and inspirational landscape provides for rugged recreation opportunities.

The ponderosa pine ecosystem in the Mt. Trumbull area is a biological resource of scientific interest, which has been studied to gain important insights regarding tree-ring climatic reconstruction, fire history, forest structure change, and the long-term persistence and stability of pine communities.

The vastness and isolated location of the Monument provides for solitude, natural quiet, dark night skies, and wilderness characteristics.

The Monument is one of the larger sparsely developed, isolated land areas in the contiguous 48 states.

The exposed rock layers from the Paleozoic, Mesozoic, and Cenozoic eras provide an unobscured view of the geology of the Colorado Plateau and Basin and Range physiographic provinces.

The Monument is an important watershed for the Colorado River.

Historic remnants of Euro-American exploration and settlement exist in nearly their original context, relatively undisturbed by vandalism and development, and are connected with contemporary uses.

The Monument has irreplaceable archaeological resources primarily of the Archaic, Ancestral Puebloan, and Southern Paiute occupations. These resources are significant because of their good condition, their connection with contemporary American Indians, and their location adjacent to the Grand Canyon – a place sacred to past and present peoples.

A dramatic elevation change (1,200 – 8,000 feet) in a relatively compact area creates rich ecological diversity where the Colorado Plateau and Mojave Desert merge.

The vastness of the Monument allows for large-scale ecological processes, combined with low levels of resource conflicts providing unprecedented opportunity for ecological research.

Mission: Parashant is a model of land management for the BLM and NPS that conserves the natural, scientific, and historic resources and includes ecological restoration and protection in a broad ecosystem context, while honoring the history and living traditions of the people who came before us: "The place where the West stays wild." The goal of Parashant management is to achieve the following:

1. Natural and cultural resources and associated values of Parashant are protected, restored, and maintained in good condition and managed within their broader ecosystem and cultural context. The protection of cultural, biological, and physical resources and human values for which the Monument was created receives the highest priority in planning and management.
2. Management decisions about resources and visitors are based on scientific information. The Monument is a model of scientifically based ecological restoration, research, and investigative studies that guide the restoration of healthy native ecosystems, natural fire regimes, and cultural landscapes.
3. The variety of natural and social settings are managed to preserve the remote and essentially unspoiled landscape character while providing opportunities for people, communities, and the environment to benefit from visitors experiencing adventure, beautiful vistas, a retreat from the pressures of modern life, and a sense of discovery through a variety of appropriate and sustainable backcountry activities. The public receives the information they need to have a safe and enjoyable experience.
4. New planning direction (developed through a collaborative process) and an accumulation of valid existing decisions provide clear direction for the management of Parashant.
5. The infrastructure footprint is the minimum necessary and is of consistent quality to provide for visual enjoyment, public safety, and protection of Monument values.
6. Sustainable, traditional ranching operations and associated interpretive activities showcase the Monument's historical lifestyles and enhance visitor experience.
7. Conservation and restoration of habitats that support sustainable populations of a full range of native species, including predators, are emphasized. Recovery and protection of special status species are a primary focus.
8. A variety of backcountry driving experiences are provided to key destinations and features via a system of designated roads while protecting Monument objects, the context that supports them, and other natural and cultural resources.
9. The preservation of natural quiet is emphasized in wilderness areas and other remote settings.
10. The public understands and appreciates the purposes and significance of the Monument and its resources for this and future generations.

11. Contemporary management practices, systems, and technologies are used to effectively accomplish the joint mission.
12. The Monument serves as a model of efficient interagency coordination, incorporating the strengths of each agency. The Monument increases its managerial resources through initiatives and support from other agencies, organizations, and individuals.

Vermilion Purpose, Significance, and Mission Statements

Purpose: The Monument was set aside to retain for scientific inquiry, long-term preservation, and public use and enjoyment for present and future generations, well-preserved examples of scientific and historic objects of interest and to protect those objects from location or settlement and from unauthorized appropriation, injury, destruction, or removal. Those objects include:

- Sandstone slick rock, rolling plateaus, and brilliant cliffs with arches, amphitheaters, and massive walls.
- Archaeological evidence displaying a long and rich human history spanning more than 12,000 years.
- Historic resources, including evidence of early European exploration, ranches, homesteads, mines, and roads.
- Remote and unspoiled landscape with limited travel corridors.
- Cold desert flora and warm desert grassland.
- Wildlife including California Condors, bighorn sheep, pronghorn antelope, mountain lions, raptors, and fish.
- The Paria River and widely scattered ephemeral water sources and springs.

Significance: The geologic structure, stratigraphy, and erosional processes within the Monument have combined to create unique landforms of incredible shape, color, and beauty, which draw visitors from around the world.

The Monument contains irreplaceable archaeological resources of Archaic, Ancestral Puebloan, and Southern Paiute origin. These resources are significant because of their abundance, good condition, and scientific potential.

Historic resources, such as ranch structures and corrals, fences, water tanks, mines, and historic routes, exist in nearly their original context. They provide a unique opportunity for public interpretation and education of the historical and social significance of these early lifestyles.

The Monument is a remote and sparsely developed landscape. It supports ecological processes that provide opportunities to study functioning physical and natural systems.

The Monument provides a sense of solitude in natural settings that provide for rugged recreation opportunities.

Mission: Vermilion is a model of land management for conserving natural, scientific, and historic resources within their broader ecological and social contexts. The goal of Vermilion management is to achieve the following:

1. Management decisions about resources and visitors are based on scientific information and monitoring.
2. The variety of natural and social settings are managed to preserve the remote and essentially unspoiled character of the landscape while providing opportunities for people, communities, and the environment to benefit from visitors experiencing adventure, beautiful vistas, retreat from the pressures of modern life, and a sense of discovery through a variety of appropriate and sustainable backcountry activities.
3. The public receives the information they need to have a safe and enjoyable experience.
4. A new, collaborative process provides clear direction for management.
5. Sustainable ranching operations and associated activities showcase the Monument's traditional lifestyles and enhance visitor experience.
6. New infrastructure is the minimum necessary and is of consistent quality to provide for visual enjoyment, public safety, and the protection of Monument values.
7. Management of habitats that support sustainable levels of a full range of native species, including predators, is emphasized. Recovery and protection of special status species is a primary focus.
8. The public understands and appreciates the purposes and significance of the Monument.

Arizona Strip FO Significance and Mission Statements

Significance: A variety of resources on the Arizona Strip FO lands is significant from a regional and national perspective.

The Arizona Strip FO contains a long and rich human history spanning at least 12,000 years. These lands contain irreplaceable archaeological resources that are significant because of their good condition, scientific potential, and historic and cultural importance. Opportunities exist for study, preservation, and interpretation of these resources.

Arizona Strip FO lands are rich in historic resources from the past 150 years such as ranch structures and corrals, fences, water tanks, mines, and historic routes. These structures exist in nearly their original context. They provide a unique opportunity for public interpretation, appreciation, and education of the historical and social significance of these early lifestyles.

These lands contain remote, wide-open landscapes of incredible beauty, with unique geologic features that have remained essentially unchanged through time.

The Arizona Strip FO is located at the junction of two physiographic units, Basin and Range and Colorado Plateau, and three floristic provinces: the Colorado Plateau, Mojave Desert, and Great Basin.

The area includes fragile and healthy ecosystems ranging from the Mojave Desert to pinyon-juniper and ponderosa pine forests. Opportunities exist to restore vital habitats and study ecosystems.

Much of the area includes broad expanses of pinyon-juniper woodlands that provide opportunities for harvest of woodland products such as firewood, posts, and Christmas trees. Opportunities also exist for collection of native seeds and plants.

The area supports sustainable populations of a full range of native wildlife and plant species. The majority of the special status species in the Arizona Strip FO is on the edge of their geographic range and surviving in one of the largest remaining blocks of relatively undisturbed habitat available to them.

Recreation opportunities abound that produce a variety of personal, familial, community, economic, and environmental benefits from visitors enjoying outdoor experiences while engaged in activities such as hiking, biking, backpacking, camping, sightseeing, driving for pleasure, hunting, wildlife viewing, geo-caching, and OHV driving and exploring .

Livestock grazing and related ranching activities occur over most of Arizona Strip FO lands. Traditional ways of life are preserved, as well as economic benefits to local communities.

The area contains broad expanses of pinyon-juniper- and sage-covered plateaus and tributary canyons leading to the north rim of the Grand Canyon.

Much of the Arizona Strip FO is open to mineral development. Uranium deposits are found in breccia pipe features across the Arizona Strip. The lands are also suitable for gypsum, sand and gravel, picture stone, and flagstone collection.

High quality, night sky views occur across the Arizona Strip FO.

Unique desert riparian areas offer places of high biological diversity and a rich variety of native wildlife species. Other ecosystems also offer a rich variety of native wildlife species.

These lands support ecological processes that provide opportunities to study physical and natural systems.

The Arizona Strip FO offers opportunities for community expansion and other development in and adjacent to local communities.

The lands contain remote landscapes, much of which remain essentially unchanged through time and exemplify “the place where the West stays wild.”

Mission: The goal of Arizona Strip FO management is to sustain the health, diversity, and productivity of the public lands and resources for the use and enjoyment of present and future generations, with multiple uses being the primary emphasis of management. This will be accomplished in a cooperative and cost-effective manner by working jointly with state, county, local and federal agencies and with tribes, communities, universities, researchers, and the interested public.

Remote natural and social settings are managed to preserve unspoiled landscapes, where they exist, while providing opportunities for people, communities, and the environment to benefit from visitors experiencing adventure, beautiful vistas, retreat from the pressures of modern life, and a sense of discovery through a variety of appropriate and sustainable backcountry activities.

Another goal is to serve the needs of the American people under principles of multiple use and sustained yield (FLPMA Sec. 302(a), also see FLPMA Sec. 102(7)). Management balances recreational, community, commercial, scientific, historical, and cultural interests with long-term protection of renewable and nonrenewable resources. These resources include diverse vegetative communities and unique habitats with timber, minerals, watersheds, fish, wildlife, and wilderness areas encompassing a host of natural, scenic, scientific, recreational, and cultural values. In managing and protecting these resources, the BLM also recognizes public needs for energy, defense, minerals, food, communication, wood products, rights-of-way, community

lands, forage, and fiber. Appendix 1.D contains a listing of other relevant federal laws, regulations, and policies relating to the use and management of public lands.

The Arizona Strip FO's "Blueprint for the Future" consists of six goals:

1. Maintain healthy ecosystems, with emphasis on recovery and protection of special status species and preservation of cultural values, providing for economic and social benefits.
2. Serve current and future publics in their use and enjoyment of the Arizona Strip FO.
3. Promote collaboration with agencies, communities, tribes, and groups.
4. Invite and support open dialogue with the public.
5. Inform and educate the public about resources and wise uses of such resources.
6. Assist the public in benefiting from safe, enjoyable experiences and activities on public lands.

PLANNING CRITERIA

BLM planning regulations (43 Code of Federal Regulations (CFR) 1610) and NPS directives (Director's Order 2; 2000) require preparation of planning criteria to guide development of all plans. Planning criteria provide the principles that guide and direct the development of the plan and influence all aspects of the planning process, including inventory and data collection, alternative development, impact analysis, and ultimately the selection of a preferred alternative. In effect, planning criteria ensure the tailoring of plans to the identified issues and the avoidance of unnecessary data collection and analysis. The basis of determining planning criteria includes applicable laws, agency guidance, public comment, data analysis, professional judgment, and coordination with other federal, state, and local governments and American Indian tribes.

The BLM developed the majority of the planning criteria for this planning effort since most of the Planning Area lies within its jurisdiction. The BLM and NPS jointly developed planning criteria specific to Parashant, although each agency's authorities have their origin in separate and different enabling legislation. As a result, some planning criteria are specific only to one agency and not the other.

Appendix 1.E provides the planning criteria for this planning effort and identifies the laws, regulations, and policies that form the basis for these criteria and are relevant to each of the issue topics discussed in this Proposed Plan/FEIS.

RELATED LAWS, REGULATIONS, POLICIES, PLANS, AND PROGRAMS

The National Environmental Policy Act (NEPA) of 1969, as amended, mandates that federal agencies prepare EISs for major federal actions. This Proposed Plan/FEIS conforms to the Council on Environmental Quality (CEQ) regulations for implementing NEPA requirements (40 CFR 1500-1508).

NEPA, FLPMA, and the planning guidance contained in 43 CFR 1600 guide the BLM planning process. The Organic Act of 1916, as amended, is the legal authority for the NPS planning process while Directors Order 2 (NPS 2000) provides planning guidance. The planning process for both agencies involves an interdisciplinary approach and provides opportunities for public involvement and interagency coordination.

Management plans ensure that the BLM manages public lands in accordance with the intent of Congress as stated in FLPMA, under the principles of multiple use and sustained yield. As required by FLPMA, public lands must be managed in a manner that protects the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water, and cultural resources and values; that, where appropriate, preserves and protects certain public lands in their natural condition and provides food and habitat for fish and wildlife and domestic animals; and that provides for outdoor recreation and human occupancy and use by encouraging collaboration and public participation through the planning process. In addition, public lands must be managed in a manner that recognizes the Nation's need for domestic sources for minerals, food, timber, and fiber from public lands.

The Organic Act directs the NPS to manage units "to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." The National Parks and Recreation Act of 1978 is the legal authority requiring each national park unit to complete a GMP in conformance with park enabling legislation and the Organic Act of 1916. Director's Order 2 (NPS 2000) provides planning guidance.

In addition to the federal mandates and guidelines mentioned above, the planning team considered a number of existing management plans, programmatic documents, and standards and guidelines in the preparation of this Proposed Plan/FEIS including:

Land Use Plans and Amendments

- Proposed Arizona Strip District RMP and FEIS (BLM 1992)
- Lake Mead GMP and FEIS (NPS 1986)
- Arizona Strip RMP Mojave Desert Amendment (BLM 1998)
- Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management Finding of No Significant Impact (FONSI) and Environmental Assessment (BLM 2003)

Legislative EIS

- Arizona Statewide Wild and Scenic Rivers Legislative EIS (BLM 1994)

Activity (Implementation) Level Plans

- Shivwits Resource Area Implementation Plan for the Arizona Strip District Approved RMP (BLM 1992)
- Vermilion Resource Area Implementation Plan for the Arizona Strip District Approved RMP (BLM 1992)
- Parashant Interdisciplinary Management Plan (BLM and NPS 1997)
- Mt. Trumbull Resource Conservation Area Plan (1995)
- Land Protection Plan for Lake Mead NRA (NPS 1987)
- Lake Mead NRA Burro Management Plan and Final EIS (1995)
- Lake Mead NRA Minerals Management Plan (1986)
- Lake Mead NRA Wilderness Proposal (1979)
- Lake Management Plan: Lake Mead NRA (2003)
- Paria Canyon-Vermilion Cliffs Wilderness Management Plan (1986)
- Paiute and Beaver Dam Mountains Wilderness Management Plan (1990)
- Mt. Trumbull and Mt. Logan Wilderness Management Plan (1990)
- Grand Wash Cliffs Wilderness Management Plan (1990)
- Cottonwood Point Wilderness Management Plan (1991)
- Arizona Strip Desert Bighorn Sheep Management Plan (BLM and AGFD 2001)
- Southwestern Willow Flycatcher (*Empidonax traillii extimus*) Final Recovery Plan (USFWS 2002)
- Virgin River Resource Management and Recovery Program (USFWS 2000)
- Biological Opinion for the Arizona Strip RMP-Mojave Amendment (USFWS 1998)
- Recovery Plan for the California Condor (USFWS 1996)
- Virgin River Fishes Recovery Plan (USFWS 1995)
- Desert Tortoise (Mojave Population) Recovery Plan (USFWS 1994)
- Glen Canyon NRA Grazing Management Plan (1999)
- Glen Canyon NRA Minerals Management Plan (1980)

Programmatic NEPA Documents

- BLM Vegetation Treatment FEIS (1991)

Policy and Rules

- Arizona Standards for Rangeland Health and Guidelines for Grazing Administration (BLM 1997)

These documents have been examined not only to assure appropriate integration and compliance, but also to identify information that is still appropriate for inclusion in the management plans and/or decisions that are still valid and can be carried forward into the documents being prepared. Activity plans that have been tiered off these plans have also been considered in this planning effort, but may require revision to be consistent with the new management plans.

National Park Service Carrying Capacity

The NPS will identify implementation commitments for visitor carrying capacities for NPS lands within Parashant (NPS Management Policies, National Historic Preservation Act, NPS Organic Act, Director's Order 22, Title 36 of the CFR, and the 1978 National Parks and Recreation Act).

The laws, regulations, and policies leave considerable room for judgment about the best mix of types and levels of visitor use activities. For this reason, most decisions relating to visitor experience and use are addressed in the Recreation and Travel Management sections of this Proposed Plan/FEIS.

The NPS will take the following kinds of actions to meet legal and policy requirements related to visitor experience and use of the NPS portion of Parashant:

- Provide visitors the opportunity to understand, appreciate, and enjoy the Monument (management directions within this broad policy are discussed in the alternatives).
- Continue to enforce the regulations governing visitor use and activities in 36 CFR.
- Following approval of the Final Management Plan, the NPS will undertake detailed planning to establish carrying capacities, as part of the development of the Undeveloped Special Recreation Management Area Plan and the Wilderness Management Plan.

NPS Boundary Adjustments

The NPS does not address boundary adjustments in this Plan. The NPS portion of Parashant is bounded on the south and east by Grand Canyon National Park, on the west by Lake Mead NRA, and on the north by the BLM portion of the Monument.

RELATIONSHIP TO OTHER PLANS

Title II, Section 202 of FLPMA provides guidance for the BLM's planning process to coordinate planning efforts with American Indian tribes, other federal departments and agencies, and agencies of state and local governments. NPS is also guided to do the same under NPS Management Policies (NPS 2001). To accomplish these directives, the BLM and NPS have kept abreast of state and local plans, assured that consideration is given to such plans, and worked with these other entities to avoid inconsistencies among their various plans. Section 202 of FLPMA goes on to state in Subsection (c)(9) that "[L]and use plans of the Secretary under this section shall be consistent with state and local plans to the maximum extent he [sic] finds consistent with federal law and the purposes of this Act."

In keeping with the above mandates, members of the planning team reviewed the federal, county, and municipal plans listed below for consistency:

- Coconino County, Arizona, Comprehensive Plan (2003)
- Kane County, Utah, General Plan (1998)
- Mohave County, Arizona, Comprehensive Plan (2003)
- Washington County, Utah, General Plan (1994)
- Glen Canyon NRA RMP (1986)
- Glen Canyon NRA GMP (1979, reprinted 1991)
- Grand Canyon National Park GMP (1995)
- Draft Colorado River Management Plan (2004)
- Kaibab National Forest Land Management Plan (1996)
- Grand Staircase Escalante National Monument Management Plan (2000)
- Las Vegas BLM RMP (1998)
- Dixie Resource Area RMP (1998)
- Town of Colorado City, Arizona, General Plan (HDR 2002)
- St. George, Utah, General Plan (2002)
- Fredonia, Arizona, General Plan (1994)
- Mesquite, Nevada, General Plan (2003)
- Arizona Game and Fish Department (AGFD) Strategic Plan (2006)
- Paria Management Framework Plan (1981)

PLANNING PROCESS

The target date for completion of the three management plans is summer 2007. To meet this objective and begin this inclusive planning process, the BLM and NPS formed an interdisciplinary/interagency planning team in February 2001, based in St. George, Utah. The team is comprised of Monument managers, resource specialists, and staff from both the BLM and NPS. The planning team met numerous times from 2001 to 2005 to gather background information, identify goals and objectives, examine resource issues, develop alternatives, and write/review the various sections of the Draft Plan/DEIS. The Notice of Intent (NOI) to begin planning was published in the Federal Register on April 24, 2002 (see Appendix 1.F).

The Draft Plan/DEIS presented a No Action Alternative (Alternative A) and four action alternatives (Alternatives B, C, D, and E). Alternative E was the agencies' (BLM and NPS) Preferred Alternative due to its attempt to balance human use/influence with resource protection. The Draft Plan/DEIS was completed in November 2006 and was subject to a 90-day public review. This Proposed Plan/FEIS responds to public comment and cooperative agency review of the Draft Plan/DEIS through numerous revisions and modifications, as well as direct responses to comments, which can be found in Chapter 5. The agencies Preferred Alternative has thus been modified and is now presented in this document as the Proposed Plan (Alternative E).

The three management plans to be developed from this Proposed Plan/FEIS will guide future management actions in their respective units. The purpose of these plans is to provide a set of

decisions outlining management and to create a framework for future planning and decision-making. It is expected that there will be a future need for subsequent and more detailed planning, which will focus on specific geographic areas or management issues. Further NEPA documents will be written to analyze and implement decisions that are not fully addressed in the three original management plans. In each subsequent activity plan and NEPA document, the BLM and/or NPS will include a description of the desired future conditions (DFCs) of the land, resources involved, and an explanation regarding how the proposed activities, as well as reasonable alternatives, would contribute to attaining those conditions.

In addition to the planning team, other parties were also crucial in the planning process and development of this Proposed Plan/FEIS. Through collaborative efforts, the BLM and NPS solicited participation from cooperating agencies; special interest groups and stakeholders; other federal, state, and local agencies; and tribal governments. Public scoping efforts and public responses to planning bulletins provided information from the general public. These participants and their roles and impact on the planning process are briefly described below. A more detailed discussion of the collaboration and scoping process is presented in Chapter 5.

COLLABORATION

A variety of federal, state, county, local, and tribal groups played a vital role in this planning process by attending meetings, providing databases and general information, conducting peer reviews, and assisting with the development of the management alternatives presented in this Proposed Plan/FEIS. A brief discussion of two collaborating groups, cooperating agencies and tribal governments, is presented below. A more detailed list of these groups, along with other special interest groups and stakeholders involved in the planning process, are presented in Chapter 5. Appendix 1.C describes the results of scoping.

Cooperating Agencies

CEQ requirements contained in 40 CFR 1501.6 and 1508.5 implement the NEPA mandate that federal agencies responsible for preparing NEPA analysis and documentation do so “in cooperation with state and local governments” and other agencies with jurisdiction by law or special expertise (42 USC 4331(a), 4332(2)). In support of this mandate, the BLM and NPS planning team invited a broad range of local, county, state, tribal, and federal agencies to attend a series of meetings to develop MOUs that would establish cooperating agency status with the BLM and NPS. Cooperating Agency status offers the opportunity for interested agencies to assume additional roles and responsibilities beyond the collaborative planning processes of attending public meetings and reviewing and commenting on plan documents. MOUs are time-limited documents that describe the roles and responsibilities of the BLM, NPS, and the Cooperating Agencies during the planning process for these particular management plans. Invitations to become formal cooperators were sent to more than 200 agencies, communities, and tribes. Ten accepted the invitations to become formal cooperating agencies in developing these

plans, and include Coconino and Mohave counties in Arizona; Kane and Washington counties in Utah; AGFD; Kaibab Band of Paiute Indians; Colorado City and Fredonia, Arizona; Federal Highway Administration; and Arizona Department of Transportation. Nine federal agencies, one state agency, and the Hopi Tribe are also working with the cooperating agencies, and include the U.S. Fish and Wildlife Service (USFWS); Grand Canyon National Park; Kanab Field Office of the BLM; Glen Canyon NRA; Department of Defense, Air Force Regional Environmental Office, San Francisco; St. George Field Office of the BLM; Las Vegas Field Office of the BLM; Grand Staircase-Escalante National Monument; North Ranger District of Kaibab National Forest; and the Federal Highway Administration.

Tribal Governments

The planning team initiated consultation with American Indian tribes and bands who have oral traditions and historical or cultural concerns relating to the Planning Area, or who are documented as having occupied or used portions of the Planning Area during prehistoric or historic times. In January 2002, the BLM initiated consultation with 14 tribes or bands, including five bands within the Paiute Indian Tribe of Utah, and six chapters within the Navajo Nation. All of the consulted tribes or bands currently live on or near the Planning Area and have historic ties to the area. Some continue to use the resources in the Planning Area. These tribes and bands include:

- Chemehuevi Indian Tribe
- Colorado River Indian Tribe
- Havasupai Indian Tribe
- Hopi Tribe
- Hualapai Indian Tribe
- Kaibab Band of Paiutes
- Las Vegas Indian Center
- Las Vegas Paiute Tribe
- Moapa Band of Paiutes
- Navajo Nation (Cameron, Coppermine, Bodaway/Gap, Tuba City, LeChee, and Coalmine Chapters)
- Pahrump Band of Paiutes
- Paiute Indian Tribe of Utah (Indian Peak, Cedar, Shivwits, Koosharem, and Kanosh Band of Paiutes)
- Pueblo of Zuni
- San Juan Southern Paiute Tribe

Tribal or band members expressed concern for the natural and cultural resources on the Arizona Strip, access to and use of these resources, opportunities to expand reservation boundaries onto public lands, and management of these resources on the public lands. Kaibab Paiute band

members expressed concern about access and subsequent vandalism on the reservation from public lands.

The Bureau of Applied Research and Anthropology at the University of Arizona in Tucson is conducting a Southern Paiute ethnographic and place name study on the Arizona Strip in conjunction with this planning effort (Stoffle et al. 2004, 2005).

PUBLIC SCOPING

In addition to soliciting input from cooperating agencies, American Indian tribes, federal agencies, and other special interest and stakeholder groups, inviting input from the general public is also a crucial first step in the planning process. Public input is generated through a formal public scoping process, which began with publication of the NOI to produce the management plans, appearing in the Federal Register on April 24, 2002 (see Chapter 5 and Appendix 1.F). This public scoping process generated a wide range of public comments that were used to focus the planning process, develop the significant issues, and formulate alternatives.

The public was invited to provide input on the planning process through questionnaires, e-mails, the Internet, and public open-house meetings. Eleven open-house meetings were held in three states between May 28 and July 22, 2002, and four planning bulletins were released. More than 2,000 comments were received from across the U.S. as well as 10 other countries. In addition, five open house meetings were held during the first week of June 2003 and an additional planning bulletin was released to update the public and provide them the opportunity to comment on the preliminary alternatives. Over 6,000 public comments were received from that effort. A complete outline of the scoping process and public input is found in Appendix 1.C.

Issues and Management Concerns Addressed by this Proposed Plan/FEIS

One of the most important outcomes of the scoping process was the identification of significant issues to be addressed in this Proposed Plan/FEIS. For planning purposes, an "issue" is defined as a matter of controversy, dispute, or general concern over resource management activities, the environment, or land uses. In essence, issues help determine what decisions will be made in the management plans and what the FEIS must address as required by NEPA.

Based on the scoping comments received and their subsequent analysis and evaluation, five major planning issues were identified as being within the scope of this Proposed Plan/FEIS. All of these issues, particularly as they relate to the Monuments, center on the larger question of just how much human activity should be allowed, while still providing the mandated level of resource protection.

In addition to the five issues identified during public scoping, the planning team identified two management concerns that also need to be addressed regarding restoration of degraded

ecosystems and consideration of the local communities and human use in the Planning Area. The five issues and two management concerns are presented below, followed by a short description of why each is significant and the management decisions that they require.

Issue 1: How will transportation and access be managed?

Transportation and access (i.e., travel management) emerged from the scoping process as the primary issue for the public, and is closely tied to the other issues addressed. A network of routes currently exists throughout the Planning Area. Some people believe closing a number of routes and limiting vehicular access would provide the best protection of Monument values. Others think all existing routes should remain open for recreational and resource uses.

The Vermilion proclamation specifically calls for a transportation plan to address road closures and needed travel restrictions to protect Monument resources. The information on travel management presented in this FEIS will be used to develop a transportation plan for Vermilion following completion of the EIS. A similar approach is being taken for BLM lands in Parashant. An authorized road system for NPS lands in Parashant was designated in the Lake Mead NRA GMP (1986) and is not readdressed in this Proposed Plan/FEIS, except to attend to inconsistencies in existing plans and to provide for resource protection. Route inventories of the two Monuments and portions of the Arizona Strip FO were completed and used as baseline data for trail and travel management planning. The route inventory and subsequent route evaluation will not be completed for the Arizona Strip FO prior to the completion of this planning effort. Those routes not able to be designated within the timeframes of this EIS will, following inventory, go through an evaluation and designation process with public participation within five years of the signing of the Record of Decision (ROD).

Proposed decisions about restricting or improving access are addressed under each management alternative presented in Chapter 2. Proposed travel management implementation decisions and associated maps for the Monuments are also detailed in Chapter 2.

Issue 2: How will areas with wilderness characteristics be managed?

A number of individuals and groups voiced their concern for protecting areas with wilderness characteristics in the Planning Area, specifically in the Monuments. Many brought up the concept of additional wilderness designations during the public scoping period. Some felt that additional wilderness designations in the Planning Area would be the best way to protect resources, particularly those identified in the Monument proclamations. Others were not in favor of additional wilderness designations because they felt such actions would prevent the majority of visitors from accessing the remote sections of the Planning Area, especially those that enjoy motorized forms of recreation. However, such arguments are outside the scope of this Plan as only Congress has the authority to designate new wilderness areas.

The BLM historically has had the authority to inventory, assess, and recommend suitable public lands as WSAs; however, recent guidance clarified that this authority expired in 1991. With the passage of FLPMA in 1976, the BLM had 15 years to inventory and identify lands suitable for designation as wilderness by Congress. That inventory and review was completed in 1991 and submitted to Congress in 1993. Many of the WSAs identified Bureau-wide are still managed today under an Interim Management Policy (IMP). With the passage of the Arizona Wilderness Act of 1984, any WSAs not included as part of a statutory wilderness by Congress were “released” by Congress from the IMP. The Planning Area contains no WSAs from that 15-year period.

In 2001, the BLM issued new policies in the Wilderness Inventory and Study Procedure Handbook (H-6310-1). The handbook reiterated the BLM’s authority to inventory, assess, and designate public lands as WSAs. These lands would then be available at any time for Congress to consider for designation as wilderness areas. The state of Utah and others challenged the authority of the Department of the Interior (DOI)/BLM to designate and manage new (post 1993) WSAs as wildernesses, arguing that BLM completed the wilderness suitability process for public lands with the submission of recommendations to Congress in 1993. In the ensuing Utah Wilderness Settlement (April 2003), the DOI/BLM agreed that FLPMA does not allow identification or protection of new WSAs after 1993. In 2003, the BLM formally rescinded the Wilderness Inventory and Study Procedures Handbook. Therefore, in this planning process, additional BLM lands cannot be considered or recommended for designation as WSAs.

In September 2003, the BLM provided new guidance in Instruction Memorandum (IM) 2003-274 and IM 2003-275, Change 1. Specifically, IM 2003-274, Implementation of the Settlement of Utah v. Norton Regarding Wilderness Study, applied the terms of the Utah Wilderness Settlement Bureau-wide. Additionally, IM 2003-275, Change 1, Consideration of Wilderness Characteristics in Land Use Plans, provides current guidance for planners and the public for assessing areas that may exist in essentially natural condition, or landscapes where the opportunities to experience solitude or engage in primitive and unconfined recreation may be outstanding. IM 2003-275, Change 1, also provides guidance for making decisions about maintaining these values where they are reasonably present or have sufficient value and need, and are practical to manage. The “non-impairment standard” of FLPMA Section 603 and the BLM IMP for WSAs are not applied as measures to protect naturalness, solitude, and primitive recreation. Such decisions are discussed under the management alternatives in Chapter 2.

This new guidance for BLM wilderness does not affect NPS proposed wilderness within Parashant. For those lands, the 1979 Lake Mead NRA wilderness proposal was brought forward as the decision of record and was not readdressed in this Plan. However, NPS has adopted the BLM’s approach to assess additional areas on NPS lands within Parashant that exist in essentially natural condition and provide outstanding opportunities for solitude and primitive and unconfined recreation (outside of proposed wilderness).

For NPS lands, those areas identified to maintain wilderness characteristics would be managed as backcountry areas to protect their natural condition consistent with approved cultural and natural resource management activities and NPS backcountry management policy. “Areas identified to maintain wilderness characteristics” is derived from BLM planning guidance (WO IM 2003-275). On NPS lands, this designation was used for interagency consistency in this particular jointly developed land use plan. NPS Planning Guidelines (Director’s Order 2) zones equivalent areas as “backcountry.” By NPS policy (2001), “backcountry” refers to primitive, undeveloped portions of parks. The NPS lands identified to maintain wilderness characteristics are adjacent to either BLM lands maintained for wilderness characteristics or lands previously proposed for wilderness designation by NPS. As such, they constitute a logical management unit with these adjacent areas and recognize the need for consistent classification, terminology, and management of Monument resources across agency boundaries.

Issue 3: How will Monument and Arizona Strip FO resources be protected?

The proclamations designating the Monuments identified an array of scientific and historic objects to be protected. There are various ways of achieving this goal and legal mandate, including maintenance of acceptable existing conditions, educating visitors, restricting access, setting research priorities, and restoring degraded environmental conditions. Decisions about which approaches will be used are detailed under each management alternative in Chapter 2. There are also valuable natural and cultural resources within the Arizona Strip FO in need of protection. Options for protecting both Monument and Arizona Strip FO resources are identified and assessed in this document. Additional Areas of Critical Environmental Concern (ACECs) for protecting natural and cultural resources in the Arizona Strip FO are also presented in this Proposed Plan/FEIS.

Issue 4: How will livestock grazing be addressed, particularly on the Monuments?

The Monument proclamations state that laws, regulations, and policies followed by the BLM in issuing and administering livestock grazing permits or leases on all lands under its jurisdiction shall continue to apply with regard to the lands in the Monuments. The Parashant proclamation also states that BLM shall continue to issue and administer grazing leases within the NPS portion of the Monument, consistent with the Lake Mead NRA enabling legislation.

The scoping process identified livestock grazing as an issue for a number of people. Comments ranged from eliminating all livestock grazing in the Monuments to supporting all grazing activities in the Planning Area. Those in the middle supported eliminating livestock grazing only in environmentally sensitive areas.

All land uses, including livestock grazing, need to be incorporated into the concept of overall environmental health. Possible modifications to current grazing are detailed in Chapter 2 under the management alternatives.

Issue 5: How will people's recreation activities be managed?

Lands in the Planning Area are used for a variety of recreational activities, including exploring, sightseeing, hiking, backpacking, camping, hunting, OHV use on designated routes or "open OHV areas," and mountain bike riding. Given growth projections for communities in the southwestern U.S. and the increased participation of people in recreation pursuits on public lands over time, ineffective management of visitor activities is recognized as potentially having profound environmental effects on Monument and Arizona Strip FO lands. These possible effects, along with potential user conflicts, make appropriate management of these activities crucial to protecting Monument and Arizona Strip FO resources.

During the scoping process, the public frequently referred to the important relationship between the remoteness of the Planning Area and the quality of visitor experiences. Land managers must decide how to best manage recreation by deciding where and what types of recreation-tourism markets should be targeted for more structured types of recreation opportunities. They must also decide what kind of custodial management is needed for unstructured, dispersed recreation.

Decisions, such as where and what kind of interpretation and signage to provide, how to minimize potential user conflicts, and what types of recreation settings should be maintained in specific areas, are important elements addressed in Chapter 2. For identified markets, Chapter 2 must address more specific decisions for various recreation management zones that address maintaining or enhancing the public benefits, experiences, and activities and settings each zone provides.

Management concern 1: How will degraded ecosystems be restored?

Restoration of degraded ecosystems is an important management concern. Disruption of the natural fire regime has caused the degradation of ecosystems within the Planning Area (e.g., grasslands are being overrun by shrubs and ponderosa pine forests are unnaturally dense). The use of such techniques as mechanized thinning and prescribed fire can help restore degraded ecosystems. The range of options is detailed in Chapter 2 and proposed vegetation treatment tools and methods are described in Appendix 2.E.

Management concern 2: How will the human factors in the Planning Area be considered?

While the focus of management plans is on the area's natural and cultural resources and on the uses of these resources, the human or social factors must also be considered. While largely uninhabited, the Planning Area surrounds some small communities dependent upon public lands for deriving certain economic, personal, family, community, and environmental benefits. These communities include Beaver Dam, Colorado City, Fredonia, Littlefield, and Scenic, Arizona. Other small and mid-sized communities and one urban area located just outside the Planning Area's boundaries are also closely connected to the public lands in Arizona. These include Page,

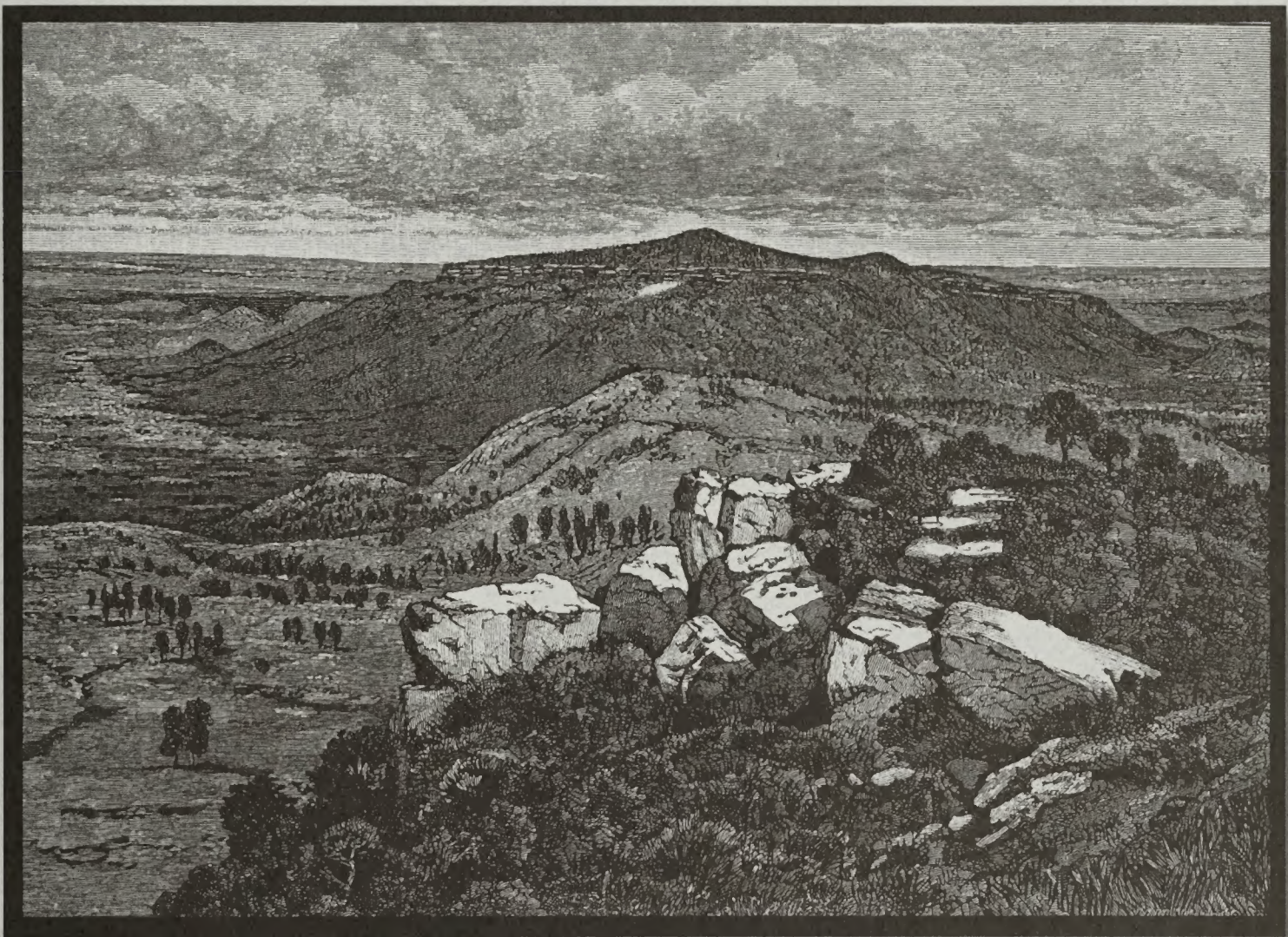
Kaibab Village, and Moccasin, Arizona; Mesquite, Nevada; and Big Water, Hildale, Hurricane, Washington, Kanab, and St. George, Utah.

Public safety is also a concern. Sections in Chapter 2 on health and safety, recreation, and air, soil, and water detail proposed management approaches to assist with public safety.

Rapid population growth on private lands in the region will also affect the natural and cultural resources and future uses on the Arizona Strip. Decisions proposed in Chapter 2 address actions necessary to maintain or protect the resources and uses in the Planning Area. Monitoring and adaptive management will assist the BLM and NPS in modifying some uses, if conditions exceed acceptable levels. Decisions about which management approaches will be used in the Arizona Strip FO and the Monuments are detailed under each management alternative in Chapter 2.

Chapter 2

Alternatives



Here, truly, the imagination soars and the very spirit is set free.

Alfonso Ortiz, 1979

CHAPTER 2. ALTERNATIVES

INTRODUCTION

This chapter describes and compares five alternatives, consisting of four action alternatives and the “No Action” Alternative, for managing the Planning Area. Each alternative varies in both context and intensity of management actions, and consists of a set of designations, land use allocations, and management actions needed to implement the alternative. Each alternative is subsequently assessed for environmental impacts, which are summarized at the end of this chapter. A detailed discussion of impacts by alternative is presented in Chapter 4, Environmental Consequences.

Each alternative portrays a different concept for management, as defined by the application of its management units, desired future conditions (DFCs), special designations, land use allocations, management actions, and allowable uses. All alternatives afford a high degree of protection for Monument resources, as required by the proclamations.

DEVELOPMENT OF THE ALTERNATIVES

The Bureau of Land Management (BLM) and National Park Service (NPS) developed five alternatives using public comments, ideas, and concerns from the staffs of both agencies, and input from cooperating agencies. National Environmental Policy Act (NEPA) regulations and BLM and NPS management planning regulations require the formulation of a reasonable range of alternatives to address identified planning issues and management concerns. Each alternative was evaluated to ensure that it would be consistent with the three planning areas’ significance and mission statements, the Monuments’ proclamations and purpose statements, as well as current laws, regulations, and policies.

The existing management plans (1992 Arizona Strip Resource Management Plan (RMP) and 1986 Lake Mead General Management Plan (GMP)) and the interim management policies for the Monuments (BLM Instruction Memorandum (IM) 2000-062 and Addendum for Parashant, and IM 2002-008 for Vermilion) served as the baseline for the No Action Alternative.

A number of management actions stemming from other plans amending the Arizona Strip RMP, Lake Mead GMP, and interim management guidelines were also taken into consideration (see Chapter 1 for specific plans). Many of the management actions occurring in these documents were found to be acceptable and reasonable and were thus carried forward under all the alternatives.

Public input received during the scoping process was considered to ensure that all issues and concerns were addressed, as appropriate, in developing the alternatives and their management action options. An additional set of public meetings not required under NEPA were held

specifically for the public to comment on preliminary alternatives to ensure that the issues and concerns raised during the initial public comment period were adequately addressed under the alternatives. The public scoping process and its results are presented in more detail in Chapter 5.

A number of cooperating and federal agencies (see Chapter 5) also participated in alternative development. The BLM and NPS coordinated meetings with these agencies to gather input during the alternative development process. The BLM and NPS provided preliminary drafts of the alternatives for the cooperating agencies and affected federal and state agencies to review.

MANAGEMENT COMMON TO ALL ALTERNATIVES

In the alternative decision tables (tables 2.1-2.18) presented later in this chapter, the decisions common to all alternatives are readily noticeable as they cross the five columns in the table that represent the five alternatives. Most of the DFCs are common to all alternatives or common to all action alternatives (Alternatives B, C, D, and E). These and other specific management decisions common to all alternatives are identified in the alternative decision tables (tables 2.1 – 2.18).

While the management decisions under the five alternatives vary, numerous decisions would be implemented under all the alternatives. Many of these consist of management actions carried forward from the current planning documents, including the Arizona Strip RMP (BLM 1992, as amended), Lake Mead GMP (NPS 1986), and the Monument interim management policies, as they were found acceptable and reasonable under all the alternatives.

Land Health Standards

One important management consideration common to all alternatives, resource programs, and all three planning areas is the integration of the land health standards described in Arizona Standards for Rangeland Health and Guidelines for Grazing Administration (BLM 1997; see Appendix 2.A). The land health standards were developed, pursuant to 43 Code of Federal Regulations (CFR) 4180, through a collaborative process involving BLM staff and the Arizona Resource Advisory Council, and were approved by the Secretary of the Interior in April 1997. The land health standards have been developed to identify the characteristics of healthy ecosystems on BLM-administered public lands (BLM lands) and the management actions that promote them. When approved, the land health standards became BLM Arizona policy, guiding the planning for and management of BLM lands. The land health standards, therefore, have been incorporated into management decisions proposed for Parashant, Vermilion, and the Arizona Strip FO under all the alternatives. Listed below are the standards that describe the conditions necessary to encourage proper functioning of ecological processes, and which have been adopted as the land health standards applicable to BLM lands throughout Arizona. When appropriate, implementation of these standards may be modified for use on NPS-administered lands (NPS lands) by incorporating NPS Vital Signs initiatives. Any land health standards applied on NPS lands will be in compliance with NPS Management Policies (2001). As the Vital Signs initiative is developed, all or portions of it may be adopted on BLM lands in Parashant.

Standard 1: Upland Sites

Upland soils exhibit infiltration, permeability, and erosion rates that are appropriate to soil type, climate, and landform (i.e., ecological zone).

Criteria for Meeting Standard 1

Soil conditions support proper functioning of hydrologic, energy, and nutrient cycles. Many factors interact to maintain stable soils and healthy soil conditions, including appropriate amounts of vegetative cover, litter, and soil porosity and organic matter. Under proper functioning conditions, rates of soil loss and infiltration are consistent with the potential of the site.

Ground cover in the form of plants, litter, or rock is present in pattern, kind, and amount sufficient to prevent accelerated erosion for the ecological site; or ground cover is increasing as determined by monitoring over an established period of time.

Signs of accelerated erosion are minimal or diminishing for the ecological site as determined by monitoring over an established period of time. As indicated by such factors as:

- Ground cover
- Litter
- Live vegetation (e.g., grass, shrubs, trees) amount and type
- Rock
- Signs of erosion
- Flow pattern
- Gullies
- Rills and plant pedestaling

Exceptions and exemptions (where applicable):

- None

Guidelines

- 1-1. Management activities will maintain or promote ground cover that will provide for infiltration, permeability, soil moisture storage, and soil stability appropriate for the ecological sites within management units. The ground cover should maintain soil organisms and plants and animals to support the hydrologic and nutrient cycles, and energy flow. Ground cover and signs of erosion are surrogate measures for hydrologic and nutrient cycles and energy flow.

- 1-2. When grazing practices alone are not likely to restore areas of low infiltration or permeability, land management treatments may be designed and implemented to attain improvement.

Standard 2: Riparian-Wetland Sites

Riparian-wetland areas are in properly functioning condition.

Criteria for Meeting Standard 2

Stream channel morphology and functions are appropriate for proper functioning condition for existing climate, landform, and channel reach characteristics. Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high-water flows.

Riparian-wetland functioning condition assessments are based on examination of hydrologic, vegetative, soil, and erosion-deposition factors. The BLM has developed a standard checklist to address these factors and make functional assessments. Riparian-wetland areas are functioning properly as indicated by the results of the application of the appropriate checklist.

The checklist for riparian areas is in Technical Reference 1737-9, "Process for Assessing Proper Functioning Condition." The checklist for wetlands is in Technical Reference 1737-11, "Process for Assessing Proper Functioning Condition for Lentic Riparian-Wetland Areas." As indicated by such factors as:

- Gradient
- Width/depth ratio
- Channel roughness and sinuosity of stream channel
- Bank stabilization
- Reduced erosion
- Captured sediment
- Ground water recharge
- Dissipation of energy by vegetation

Exceptions and exemptions (where applicable):

- Dirt tanks, wells, and other water facilities constructed or placed at a location for the purpose of providing water for livestock and/or wildlife, and which have not been determined through local planning efforts to provide for riparian or wetland habitat are exempt.
- Water impoundments permitted for construction, mining, or other similar activities are exempt.

Guidelines

- 2-1. Management practices maintain or promote sufficient vegetation to maintain, improve or restore riparian-wetland functions of energy dissipation, sediment capture, groundwater recharge and stream bank stability, thus promoting stream channel morphology (e.g., gradient, width/depth ratio, channel roughness and sinuosity) and functions appropriate to climate and landform.
- 2-2. New facilities are located away from riparian-wetland areas if they conflict with achieving or maintaining riparian-wetland function. Existing facilities are used in a way that does not conflict with riparian-wetland functions or are relocated or modified when incompatible with riparian-wetland functions.
- 2-3. The development of springs and seeps or other projects affecting water and associated resources shall be designed to protect ecological functions and processes.

Standard 3: Desired Resource Conditions

Productive, diverse upland and riparian-wetland plant communities of native species exist and are maintained.

Criteria for Meeting Standard 3

Upland and riparian-wetland plant communities meet desired plant community objectives. Plant community objectives are determined with consideration for all multiple uses, as appropriate. Objectives also address native species and the requirements of the Taylor Grazing Act, Federal Land Policy and Management Act (FLPMA), Endangered Species Act (ESA), Clean Water Act (CWA), and appropriate laws, regulations, and policies.

Desired plant community objectives will be developed to assure that soil conditions and ecosystem function described in Standards 1 and 2 are met. They detail a site-specific plant community, which when obtained, will assure rangeland health, state water quality standards and habitat for endangered, threatened, and sensitive species. Thus, desired plant community objectives will be used as an indicator of ecosystem function and rangeland health.

As indicated by such factors as:

- Composition
- Structure
- Distribution

Exceptions and exemptions (where applicable):

- Ecological sites or stream reaches on which a change in existing vegetation is physically, biologically, or economically impractical

Guidelines

- 3-1. The use and perpetuation of native species will be emphasized. However, when restoring or rehabilitating disturbed or degraded rangelands, non-intrusive, non-native plant species are appropriate for use where native species (a) are not available, (b) are not economically feasible, (c) cannot achieve ecological objectives as well as non-native species, and/or (d) cannot compete with already established non-native species.
- 3-2. Conservation of Federal threatened or endangered, proposed, candidate, and other special status species is promoted by the maintenance or restoration of their habitats.
- 3-3. Management practices maintain, restore, or enhance water quality in conformance with State or Federal standards.
- 3-4. Intensity, season and frequency of use, and distribution of grazing use should provide for growth and reproduction of those plant species needed to reach desired plant community objectives.
- 3-5. Grazing on designated ephemeral (annual and perennial) rangeland may be authorized if the following conditions are met:
 - Ephemeral vegetation is present in draws, washes, and under shrubs and has grown to useable levels at the time grazing begins.
 - Sufficient surface and subsurface soil moisture exists for continued plant growth.
 - Serviceable waters are capable of providing for proper grazing distribution.
 - Sufficient annual vegetation will remain on site to satisfy other resource concerns (i.e., watershed, wildlife, wild horses and burros).
 - Monitoring is conducted during grazing to determine if objectives are being met.
- 3-6. Management practices will target those populations of noxious weeds, which can be controlled or eliminated by approved methods.
- 3-7. Management practices to achieve desired plant communities will consider protection and conservation of known cultural resources, including historical sites, and prehistoric sites and plants of significance to Native American peoples.

NPS Vital Signs

The condition of key natural resources and ecological processes on NPS lands are verified through the NPS Vital Signs monitoring program. For Parashant and Glen Canyon National Recreation Area (NRA)-administered lands, Vital Signs selection, condition standards, and monitoring protocols are currently under development. Where indicated in the Plan, and for other key resources not specifically referenced in the Plan, Vital Signs monitoring will be developed and used to determine status and trends in resource condition from which management actions, if necessary, may be implemented in conformance with this Plan to prevent or reverse resource degradation. The intent of NPS Vital Signs monitoring is to track a subset of physical, chemical, and biological elements and processes of park ecosystems that are selected to represent the overall health or condition of park resources, known or hypothesized effects of stressors, or elements that have important human values. Monitoring results will be used to assess the efficacy of management and restoration efforts, provide early warning of impending threats, and provide a basis for understanding and identifying meaningful change in natural systems characterized by complexity, variability, and unknowns. Monitoring data may help to determine what constitutes impairment and to identify the need to initiate or change management practices. The elements and processes that are monitored are a subset of the total suite of natural resources that park managers are directed to conserve "unimpaired for future generations," including water, air, geological resources, plants and animals, and the various ecological, biological, and physical processes that act on those resources. While NPS Vital Signs standards may be different than BLM standards and guides for particular resources, Vital Signs monitoring on NPS lands may be designed to compliment similar natural resource monitoring conducted through BLM programs on BLM lands and vice versa, in terms of techniques and data collected.

Wildland Fire Acres in the Alternative Decision Tables

The number of acres predicted to be burned by wildland fire in each ecological zone in Table 2.3 is based on the total acres burned by wildland fires from 1984-2003. This number does not change by alternative. Although proposed vegetation treatments change by alternative, there is not a direct correlation between acres treated and acres burned by wildland fire. Fuels treatments can decrease the potential for stand-replacing fire, but may not affect the number of acres burned. Projected acres of post-fire rehabilitation are based on fire history. Rehabilitation may not be implemented after all fires. Additional rehabilitation efforts could be implemented if wildland fires and fire use exceed these estimates.

MANAGEMENT GUIDELINES

The proclamations and purpose, significance, and mission statements for the Monuments and the significance and mission statements for the Arizona Strip FO guided the development of the management actions presented in the alternatives (see Chapter 1). The BLM and NPS also considered the Planning Area vision and planning criteria in the process. An in-depth discussion of these management guidelines is found in Chapter 1. The BLM and NPS were also guided through the development of goals for each of the management units and DFCs for each resource/resource use within the Planning Area. DFCs are presented for resource/resources uses within the Monuments and Arizona Strip FO in the alternative decision tables (tables 2.1 – 2.18).

THE ALTERNATIVES

NO ACTION ALTERNATIVE

Alternative A: No Action

Alternative A is the No Action Alternative that is required by NEPA and provides the baseline against which to compare the other alternatives. Under this alternative, current management practices would continue as funding allows.

With the establishment of Parashant, the BLM and NPS were instructed to follow the directives of Proclamation 7265 and the interim management policy issued pursuant to the proclamation. Following the establishment of Vermilion, the BLM was instructed to follow the directives of Proclamation 7374 and the interim management policy issued pursuant to that proclamation. Alternative A would entail the continued management of both Monuments and the Arizona Strip FO under the Arizona Strip RMP (1992, as amended) and the Lake Mead GMP (1986, for the NPS portion of Parashant), as modified by the interim management policies that have been incorporated in the BLM/NPS Interagency Agreement for Parashant and under BLM IM 2002-008 for Vermilion. Interim management policies provide temporary guidance until this Plan is completed. These interim policies are considered part of a viable alternative for future management and are incorporated into Alternative A.

The key components of Alternative A are identified below:

- Alternative A depicts current management under the existing management plans as modified by Proclamations 7265 and 7374 and the interim management policies for the Monuments.
- Alternative A provides the baseline to compare current management with various strategies suggested for future management (Alternatives B, C, D, and E).
- Alternative A responds to those public comments favoring keeping things as they are.

Management Actions under Alternative A

Alternative A would incorporate the management common to all alternatives as previously described. Specific management actions under Alternative A for each of the planning areas are presented in tables 2.1 – 2.18, and compared against the other alternatives. Maps illustrating management actions under Alternative A are located in the Draft Plan/DEIS at the end of Chapter 2.

BLM Guidance Areas and NPS Management Zones

BLM Guidance Areas

Under the current management of the BLM portion of the Planning Area, public lands were partitioned into Guidance Areas (Areas A and B) in the Arizona Strip RMP (BLM 1992, as amended). These broad landscapes differentiate areas with special resource concerns, sensitivities, or characteristics and are defined as follows:

Area A

These lands contain a wide variety of resources and values that require continued multiple-use management. Most of these lands do not contain unusual characteristics and are not subject to unusual demands requiring special management attention.

Management guidelines for these areas would remain similar to current management practices, which are considered adequate. Existing laws, regulations, policies, and procedures would be followed. The following management guidelines apply to area A:

- Designate off-highway vehicle (OHV) use as either open or limited to existing roads and trails,
- Issue commercial, non-commercial, negotiated sales, and free-use permits as appropriate for woodland products and mineral materials,
- Provide for primitive motorized and primitive non-motorized recreation,
- Transfer public lands for community expansion, primarily through exchange.

Area B

Area B includes land identified by the public and BLM as having unique resource values and special management needs. These lands have characteristics that include important scenic values, exceptional natural features, and fragile physical features. In these fragile areas, disturbances would be very difficult to reclaim and permanent scars on the landscape can occur. With few exceptions, public lands in Area B are more remote than those in Area A. These lands are generally not developed and presently do not receive a great deal of public use.

Management guidelines for public lands in Area B focus on the maintenance and/or enhancement of various resource values while allowing for multiple uses. The BLM would manage authorized uses and prepare management prescriptions to protect remoteness, natural settings, or other unique resource values. The following management guidelines apply to area B:

- Close and rehabilitate roads where no obvious public or administrative need exists,
- Designate OHV use as either closed or limited to designated roads and trails,
- Implement special coordinated RMPs to protect the fragile character and unique resource values of specific areas,
- Permit the removal of woodland products only when it would enhance other resource values of the area,
- Retain land in federal ownership unless specifically required by law,
- Provide for primitive motorized and primitive non-motorized recreation,
- Accommodate mineral material disposal, provided Visual Resource Management (VRM) Class II guidelines are met.

Most BLM lands (2,228,434 acres) would be in Area A, which contain a wide variety of resources and values that require continued multiple use management. Area B includes land identified as having unique resource values and special management needs (885,515 acres). Most of Area B now encompasses large portions of the Monuments and would be managed to protect these unique resource values.

NPS Management Zones

Under current management, the NPS portion of Parashant falls within “management zones” that were identified in the Lake Mead GMP (1986). Under Alternative A, the NPS portion of the Parashant would remain within the Gregg Basin/Grand Wash and Shivwits Zones.

Gregg Basin/Grand Wash Zone

The Gregg Basin/Grand Wash Zone includes remote and primitive lands in the lower Pakoon Basin that access Lake Mead NRA. This area is intended to provide a unique, isolated experience for visitors to access the Pakoon Basin and associated Mojave desert environment and Lake Mead.

Shivwits Plateau Zone

The Shivwits Plateau Zone includes remote and rugged plateaus, primarily in a forested pinyon-juniper and ponderosa pine landscape, that provide access to the north rim of western Grand Canyon via primitive roads. This area is intended to be managed for a primitive and remote visitor experience. Much of this area was proposed as wilderness in the 1986 Lake Mead GMP and 1979 Wilderness Proposal.

ACTION ALTERNATIVES: ALTERNATIVES B, C, D, AND E**Alternative B**

Alternative B places an emphasis on minimal human use/influence, and proposes the fewest miles of open roads and trails. It focuses on natural processes and other unobtrusive methods for ecosystem restoration, resource management, and scientific research; more protection and enhancement of remoteness and dispersed recreation; unstructured recreation opportunities; and the least amount of motorized recreation opportunities.

The key components of Alternative B are as follows:

- Alternative B responds to those public comments desiring greater focus on ecological health and the protection of naturalness, opportunities for solitude, and primitive recreation.
- Alternative B supports a restoration program that relies more on natural processes to restore ecological health.

Management Actions under Alternative B

Alternative B would incorporate the management common to all alternatives as previously described. Specific management actions under Alternative B for each of the planning areas are presented in tables 2.1 – 2.18, and compared against the other alternatives. Maps illustrating management actions under Alternative B are located at the end of this Chapter 2 in the Draft Plan/DEIS.

Alternative C

Alternative C represents an attempt to balance resource protection and human use/influence. It proposes a moderate amount of open roads and trails; mix of natural processes and “hands-on” techniques for ecosystem restoration, resource management, and scientific research; and a mix of motorized, non-motorized, dispersed, and structured recreation opportunities.

The key components of Alternative C are as follows:

- Alternative C provides a balanced response to competing public concerns between public use and protection of resources.
- Alternative C accommodates use and access while still protecting resources.

Management Actions under Alternative C

Alternative C would incorporate the management common to all alternatives as previously described. Specific management actions under Alternative C for each of the planning areas are presented in tables 2.1 – 2.18, and compared against the other alternatives. Maps illustrating management actions under Alternative C are located at the end of Chapter 2 in the Draft Plan/DEIS.

Alternative D

Alternative D places an emphasis on maximum appropriate human use/influence and the widest array of visitor experiences and opportunities. It includes the most miles of open roads and trails (with the exception of Alternative A), and focuses on “hands-on” techniques for ecosystem restoration, resource management, and scientific research. As such, it offers fewer remote settings and the most motorized and structured recreation opportunities compared to the other alternatives.

The key components of Alternative D are as follows:

- Alternative D allows the broadest use of restoration tools, including chemical, biological, mechanical, and natural processes as appropriate to the ecological zone.
- Alternative D responds to public comments stressing the desire for more motorized access, a stronger focus on multiple use of resources, and increased number of projects or facilities.

Management Actions under Alternative D

Alternative D would incorporate the management common to all alternatives as previously described. Specific management actions under Alternative D for each of the planning areas are presented in tables 2.1 – 2.20, and compared against the other alternatives. Maps illustrating management actions under Alternative D are located at the end of Chapter 2 in the Draft Plan/DEIS.

Alternative E: Proposed Plan

Alternative E, the Proposed Plan, emphasizes minimal human influence and use in the more remote sections of the Planning Area and more human use/influence in the areas adjacent to local communities or in areas presently receiving such use/influence. It attempts to balance human use/influence with resource protection. Where appropriate, it proposes a combination of management actions including allowing natural processes to continue, applying more hands-on treatment methods, and protecting the remote settings that currently exist in the Planning Area.

The key components of Alternative E, the Proposed Plan, are as follows:

- Alternative E responds to public comments to protect resources while still allowing use, especially near the communities.
- Alternative E provides the best means to accommodate the widest range of public and agency concerns over resources and resource uses.

Management Actions under Alternative E

Alternative E would incorporate the management common to all alternatives as previously described. Specific management actions under Alternative E for each of the planning areas are presented in tables 2.1 – 2.20, and compared against the other alternatives. Maps illustrating management actions under Alternative E follow these management action tables, where appropriate (see maps 2.2 – 2.20).

Management Units

Management units are geographic areas with similar resource management goals. Under Alternatives B, C, D, and E, four management units (Community, Corridors, Backroads, and Outback) were used as guidance for land use plan decisions in specific geographic areas with similar landscapes, resources, and resource uses in the Planning Area.

The polygons that outline the location of the four management units are identical to those that identify the location of travel management areas (TMAs; see Table 2.15 and Map 2.18). The corresponding TMAs for each Management Unit are shown in parentheses after the Management Unit name. TMAs, however, describe areas delineated for varying types of access, while management units are not land use allocations or decisions. This does not diminish their value as management tools as they assist in better understanding the differing areas and associated uses and resources in the Planning Area.

Improvements (facilities or projects) associated with valid, existing rights and permitted uses could occur in any management unit, though the influence they have on the landscape character may vary greatly. Facilities include, but are not limited to: transmission lines, communications facilities, or kiosks. Projects could include, but are not limited to: corrals, catchments, pipelines, fences, wells, and troughs.

The location and extent of the management units vary among the four action alternatives (See Map 2.1 for the Proposed Plan and maps for the other alternative at the end of Chapter 2 in the Draft Plan/DEIS), with the exception of the Corridors Management Unit that is identical under each of the action alternatives.

Community Management Unit (Rural Travel Management Area)

BLM lands within the Community Management Unit would provide room for community growth and development. These lands would also offer the widest variety of recreation opportunities, such as viewing scenery and activities; riding motorcycles/OHVs; vehicle touring; flying aircraft; hiking and walking; bicycling; horseback riding; camping; picnicking; hunting; studying nature; using interpretive services; and attending organized events. These activities, however, would not be to the detriment or exclusion of the protection of resources upon which the natural environment and recreation experiences depend. Visitors to this management unit would experience the highest frequency of interaction with other people.

These areas would also provide the most opportunities for short-term or day-use recreation activities “close to home.” Lands within the Community Management Unit may also provide resources, such as fuelwood and mineral materials, access to permitted commercial and recreational activities, and scenic backdrops or settings for communities.

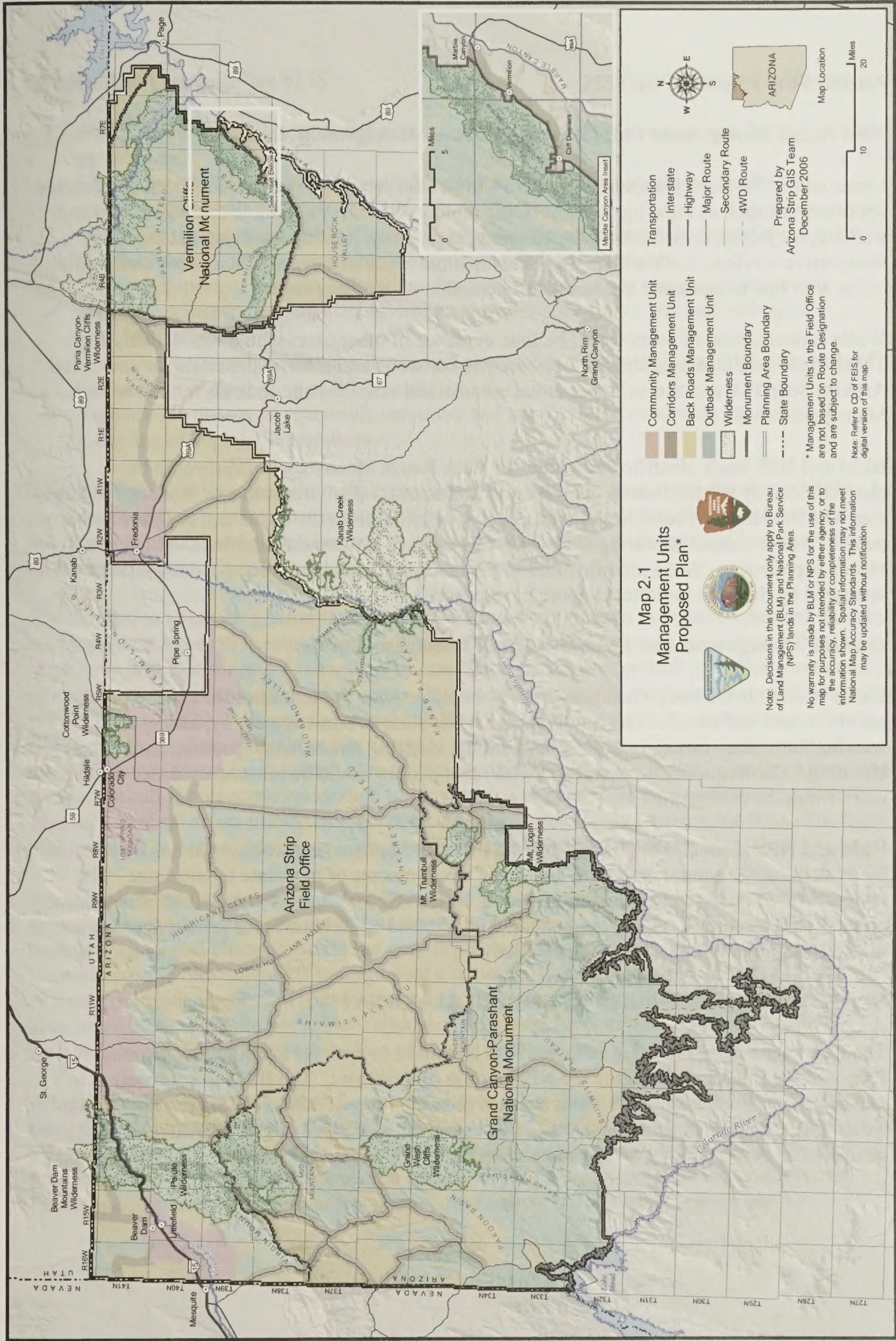
Moderate to substantial modifications to the landscape character would be allowed to occur in the Community Management Unit compared to other management units but not to the exclusion of protecting important resources. Sights, sounds, and uses of other people would be readily evident. No NPS lands are found in the Community Management Unit as they are far-removed from communities, occurring in the southern end of the Planning Area.

Corridors Management Unit (Backways Travel Management Area)

Lands within the Corridors Management Unit would occur along major travel routes, providing, among other things, access to the Back Roads and Outback management units. They would offer a variety of recreation opportunities, such as viewing scenery, riding motorcycles/OHVs, vehicle touring, flying aircraft, hiking and walking, bicycling, horseback riding, camping, picnicking, hunting, studying nature, using interpretive services, and participating in compatible organized events. Such activities would occur with a moderate frequency of interaction with other people.

These areas would also provide the most opportunities for short-term or day-use recreation activities related to vehicle touring. Outside the Monuments, these lands may also provide resources, such as fuelwood and mineral materials, and access to permitted commercial and recreational activities.

The Corridors Management Unit is characterized by predominantly natural-appearing environments with moderate evidences of the sights and sounds and uses of others. Some modifications to the landscape could occur, but not to the exclusion of the protection of visual, natural, and cultural resources and uses. No NPS lands are found in the Corridors Management Unit as major travel routes cross BLM lands from the north and northwest before reaching NPS lands in the southern end of the Planning Area.



Map 2.1 Management Units - Proposed Plan

Back Roads Management Unit (Specialized Travel Management Area)

Lands within the Back Roads Management Unit would provide a variety of dispersed recreation opportunities such as viewing scenery, riding motorcycles/OHVs, vehicle touring, hiking and walking, bicycling, horseback riding, camping, picnicking, hunting, studying nature, using interpretive services, and participating in compatible organized events. Such activities would occur with low to moderate frequency of interaction with other people.

While concentration of users would be low, evidence of other users would be relatively high. These lands may also provide resources such as fuelwood and mineral materials for use on the Arizona Strip FO, and access to permitted commercial activities and to lands in the Outback Management Unit.

BLM and NPS lands identified as within the Back Roads Management Unit would be characterized by predominantly natural or natural-appearing environments of moderate to large size with moderate probabilities of experiencing isolation from the sights and sounds of other people. These natural appearing landscapes and open spaces would contribute to high quality visitor experiences. Some modifications to the landscape could be expected, but would be tempered by the need to protect important resources.

Outback Management Unit (Primitive Travel Management Area)

Lands within the Outback Management Unit would provide opportunities for undeveloped, primitive, and self-directed recreation opportunities such as viewing scenery, hiking and walking, horseback riding, backpacking, hunting, studying nature, canyoneering, and rock climbing. The frequency of interaction with other people would be low and evidence of other users would be minimal.

BLM and NPS lands classified as within the Outback Management Unit would be characterized by predominantly natural or natural-appearing environments of moderate to large size. The lowest level of landscape modifications would be expected compared to the other management units. Remote settings, natural landscapes, solitude, and opportunities for primitive recreation would be minimally impacted by human activity.

NPS ENVIRONMENTALLY PREFERRED ALTERNATIVE

The Environmentally Preferred Alternative is identified to meet NPS requirements in the Proposed Plan/FEIS in managing the NPS portion of Parashant. The BLM is not required to identify an environmentally preferred alternative in the Proposed Plan/FEIS. The alternative would meet national environmental policy as expressed in Section 101 of NEPA, which identifies the responsibility of the federal government to do the following:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
2. Ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings.
3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
4. Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.
5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

In comparison with the other alternatives analyzed, Alternative E best meets the above NEPA goals for the future management of the NPS portion of Parashant. It provides a high level of protection of natural and cultural resources, while providing for a wide range of beneficial uses of the environment.

The No Action alternative, Alternative A, would allow visitor use to increase unchecked, thereby causing potential negative impacts on the visitor experience and resource conditions. This alternative does not address TMAs, thereby ignoring a proactive approach to visitor access and protection of natural and cultural resources. It does not address discrepancies that exist between the Lake Mead 1979 Wilderness proposal and the 1986 GMP, resulting in potentially confusing and conflicting information about which routes are designated open. This alternative also does not identify additional lands managed to maintain wilderness characteristics. Finally, Alternative A does not call for proactive restoration of pinyon pine or ponderosa pine communities, thereby causing unnatural accumulation of fuels that could cause potentially catastrophic fires. For these reasons, the No Action alternative is not preferred from an environmental perspective.

Alternative B represents the alternative with the most "hands off" management. It has the fewest acres of access and designated routes, most acres of primitive TMAs and lands managed to maintain wilderness characteristics, and very few areas identified for restoration. Though this alternative is the most "natural" management alternative, it does not provide for proactive visitor or resource management. This alternative was not selected as the environmentally preferred alternative because it does not achieve a balance between visitor use/access and protection of resources, nor does it involve restoration of natural processes and conditions.

Alternative C represents a better balance of visitor use and resource conditions, but does not recognize the unique nature of Parashant in terms of its accessibility and opportunities to provide a range of appropriate recreational experiences to Monument visitors. It does not acknowledge that, in general, areas closer to population centers may be more appropriate for more diverse visitor uses, whereas areas further from population centers may be more appropriate for

providing more primitive conditions and remote experiences. This alternative does not attain the widest range of beneficial uses of the environment without degradation.

Alternative D represents the alternative with the most “hands-on” management, maximum human use/influence, and the most recreation opportunities. It also identifies the fewest acres managed to maintain wilderness characteristics. This alternative proposes extensive proactive restoration, which means fewer acres restored via natural means, and more significant alterations to the primitive landscape. It provides a high range of visitor access and recreation opportunities, but fewer opportunities for primitive and remote experiences. For these reasons, this alternative does not achieve the balance between population and resource use that permits enhancement of resource conditions and visitor experience.

Alternative E takes the best components of each of the four above alternatives to ensure protection of Monument resources while providing a wide range of beneficial uses. This alternative acknowledges that the more isolated areas of the Monuments should be managed to preserve their remoteness and maintain wilderness characteristics, the protection of which was stressed during the public scoping comment period. At the same time, it would provide more access in areas closer to population centers to ensure that a range of appropriate outdoor recreation is available. This alternative provides a good balance of proactive restoration, while maintaining primitive and “natural-appearing” landscapes. This alternative preserves important natural aspects of our national heritage while providing an environment that supports diversity and a variety of individual choices. Overall, alternative E best meets the requirements of Section 101 of NEPA and was thus selected as the environmentally preferred alternative by the NPS.

RENEWABLE ENERGY RESOURCES

The President’s National Energy Policy encourages the development of renewable energy resources and requires that the BLM increase and diversify national sources of both traditional and alternative energy resources, improve the energy transportation network, and ensure sound environmental management. As part of the BLM’s proposed National Energy Policy Implementation Plan, the BLM and the National Renewable Energy Laboratory identified BLM planning units with the highest potential for the development of renewable resources. Using Geographic Information Systems (GIS) data, the Arizona Strip FO was ranked 18th out of 25 planning units with the highest potential for concentrating solar power sites, 15th in photovoltaic sites, and 23rd in biomass sites. This Proposed Plan/FEIS encourages the development of renewable energy sources in the Arizona Strip FO. See Table 2.11 (Lands and Realty) for specific decisions on renewable energy.

ADAPTIVE MANAGEMENT

Adaptive management is a formal, systematic, and rigorous approach to learning from the results of management actions, accommodating change, and improving management. It involves synthesizing existing knowledge, exploring alternative actions, and making explicit forecasts about their results. Management actions and monitoring programs are carefully designed to generate reliable feedback and clarify the reasons underlying results. Actions and objectives are then adjusted based on this feedback and improved understanding to continue to try to achieve the DFCs. In addition, decisions, actions, and results are carefully documented and communicated to others, so that knowledge gained through experience is passed on rather than lost when individuals move or leave the organization.

Land use plan level decisions would not be adaptable. These include the DFCs, special designations, and allocations. Plan amendments would be required to change these decisions. Implementation or activity level decisions could be adapted. Future activity level plans would follow NEPA procedures and involve the public.

This Proposed Plan/FEIS recommends an adaptive management strategy. This adaptive management process is flexible and generally involves four phases: planning, implementation, monitoring, and evaluation. As the BLM and NPS obtain new information, they are able to evaluate monitoring data and other resource information to periodically refine and update DFCs, management actions, and allowable uses. This allows for the continual refinement and improvement of management prescriptions and practices.

TYPES OF BLM AND NPS DECISIONS

LAND USE PLAN DECISIONS

Land use plan decisions represent the desired outcomes and the actions needed to achieve them. Such decisions were attained using the planning process found in 43 CFR 1600 and guide future land management actions and subsequent site-specific implementation decisions. When presented to the public as proposed decisions, land use plan decisions can be protested to the BLM Director; however, they are not appealable to Interior Board of Land Appeals (IBLA).

Many land use plan decisions are implemented or become effective upon approval of the management plan and may include DFCs, land use allocation or designation decisions such as OHV area designations, and all special designations such as Areas of Critical Environmental Concern (ACECs). Management actions that require additional site-specific project planning as funding becomes available will require further environmental analysis. Decisions to implement site-specific projects are subject to administrative review at the time such decisions are made. The BLM and NPS would continue to involve and collaborate with the public during implementation of this Plan.

Desired Future Conditions

Land use plans express DFCs or desired outcomes in terms of specific goals, standards, and objectives for resources and/or uses. They direct the BLM and NPS actions in most effectively meeting legal mandates; numerous regulatory responsibilities; national policy; state director (BLM) and director (NPS) guidance; and other resource or social needs. The allocations or designations, actions to achieve the DFCs, restrictions on uses, allowable uses, or special designations are the decisions that allow the BLM and NPS to work toward achieving the DFCs.

The first items on each alternative decision table are the DFCs appropriate to each alternative and planning area. DFCs are often common to all alternatives and all planning areas, and are clearly identified as such. Following the DFCs are special designations (where applicable), actions aimed at achieving the DFCs, and allowable uses.

Special Designations

Special designations include those that are designated by Congress for special protection, such as wilderness areas or national historic or scenic trails. Such designations are not land use plan decisions; however, recommendations for designation can be made to Congress at the land use plan level. Congress may then act on these recommendations at a later time.

Administrative designations made by the BLM (e.g., designating ACECs or watchable wildlife viewing sites) are also considered special designations and can be made in the land use plan.

Allowable Uses (Land Use Allocations)

Allowable uses or land use allocations are land use plan decisions that set apart geographic areas for specific resources or uses, such as areas where wildland fire is not desired, lands available or not for livestock grazing, or where OHV designated areas are necessary. Allocations have geographic boundaries and are represented by polygons on the maps at the end of Chapter 2 in the Draft Plan/DEIS and those maps specific to the Proposed Plan in this chapter (maps 2.2 – 20). The management of allocated resources is described through the decisions proposed under the alternatives. It is common for specific resource or use allocations to overlap with other resource or use allocations.

Management Actions

Management actions set the framework that allows achievement of the DFCs. In the alternative decision tables, management actions are categorized as actions to achieve desired outcomes, including actions to maintain, restore, or improve land health.

IMPLEMENTATION DECISIONS

Implementation decisions are management actions tied to a specific location. For the BLM, these are decisions that take action to implement land use plan decisions and are generally appealable to IBLA under 43 CFR 4.410. Implementation or activity level decisions generally constitute BLM's or NPS's final approval allowing on-the-ground actions to proceed. These types of decisions require appropriate site-specific planning and NEPA analysis. They may be incorporated into implementation plans (activity or project plans) or may exist as stand-alone decisions.

Unlike land use plan decisions, BLM implementation decisions are not subject to protest under the planning regulations. Instead, implementation decisions are subject to various administrative remedies, particularly appeals to the Office of Hearing and Appeals (Interior Board of Land Appeals). Where implementation decisions are made as part of the land use planning process, they are still subject to the appeals process or other administrative review as prescribed by the specific resource program regulations after the BLM resolves the protests to land use plan decisions and make a decision to adopt or amend the management plan. For example, the designation of a specific route as open or closed is an implementation level decision, rather than a land use plan decision. Consequently, individual route designations are subject to a different appeals process. NPS has no similar provision for protest of land use plan decisions nor appeals process for implementation decisions. A 30-day "no-action" period exists to address omissions or resolve issues prior to finalizing NPS decisions.

ADMINISTRATIVE ACTIONS

Although the BLM's and NPS's intent and commitment to accomplish administrative actions is generally addressed in Environmental Impact Statement (EIS)- or Environmental Assessment (EA)-level documents, such activities are not management decisions at either the land use plan level or implementation level. Administrative actions are day-to-day activities conducted by the BLM and NPS, often required by FLPMA or the NPS Organic Act. BLM and NPS administrative actions do not require NEPA analysis or a written decision by a responsible official to be accomplished. Examples of administrative actions include mapping, surveying, inventorying, monitoring, and collecting information needed such as research and studies.

ALTERNATIVE DECISION TABLES

The management decisions and administrative actions under each alternative for Parashant, Vermilion, and Arizona Strip FO are presented in the following alternative decision tables (tables 2.1 –2.18). Table 2.19, Summary of Impacts, summarizes the impacts from these decisions. These tables represent resource programs that address the management of Critical Elements of the Human Environment and land use planning topics for the BLM and mandatory EIS topics for the NPS (see Chapter 4; Table 4.1), and are arranged as follows:

- Table 2.1: Air, water, and soils
- Table 2.2: Geology and Paleontology
- Table 2.3: Vegetation and Fire and Fuels Management (also includes Vegetation Products)
- Table 2.4: Fish and Wildlife
- Table 2.5: Special Status Species
- Table 2.6: Wild Burros
- Table 2.7: Cultural Resources
- Table 2.8: Visual Resources
- Table 2.9: Soundscapes
- Table 2.10: Wilderness Characteristics
- Table 2.11: Lands and Realty
- Table 2.12: Livestock Grazing
- Table 2.13: Minerals
- Table 2.14: Recreation and Visitor Services/Interpretation and Environmental Education
- Table 2.15: Travel Management
- Table 2.16: Special Designations
- Table 2.17: Public Health and Safety
- Table 2.18: Scientific Research

The alternative decision tables are divided into five columns representing the No Action Alternative and the four action alternatives. Those decisions common to all alternatives transcend the column boundaries, while decisions that vary by alternative are confined to their appropriate cell. Decisions that are common to two, three, or four alternatives also transcend column boundaries. In addition, decisions that are common to all planning areas are clearly labeled, as are decisions specific to Parashant, Vermilion, Arizona Strip FO, or a combination of these planning areas.

Area and length figures referenced in tables 2.1 – 2.18 and throughout this document are based on the best available GIS data at the time of publication. These figures are based on the Universal Transverse Mercator Zone 12 projection referencing the North American Datum of 1983. Analysis and calculation have been made on various GIS layers, which may or may not correspond to each other. Differences in area or length correlations between the various calculations in this document are due to minor discrepancies between GIS layers.

Acreage numbers provided in the Vegetation and Fire and Fuels Management section, Table 2.3, were generated as actual acres treated or by specialists projections based on available habitat. They are not GIS generated numbers.

TABLE 2.1: AIR, WATER, AND SOILS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. AIR MANAGEMENT				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
N/A	Federal and State air quality standards would be maintained within the Planning Area.			
B. MANAGEMENT ACTIONS				
<i>Common to All Planning Areas</i>				
Impacts to air quality would be prevented or reduced through the application of specific mitigation measures identified in activity level planning and NEPA level review.				
<i>Parashant</i>				
The potential adverse impact of fugitive dust would be mitigated during surface disturbing projects.				
III. WATER MANAGEMENT				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
N/A	All surface water would meet Arizona State water quality standards.			
N/A	Surface water availability at seeps and springs would be appropriate for the soil type, climate, and landform.			
N/A	Ecological functions and processes would be intact at all seeps and springs.			
N/A	Flowing water systems would provide continuous flowing water and associated riparian vegetative cover, where possible.			
N/A	The natural hydrologic functions of all watersheds would be intact.			
B. MANAGEMENT ACTIONS				
<i>Common to All Planning Areas</i>				
Impacts to water quality would be prevented or reduced through the application of specific mitigation measures identified in activity level planning and NEPA level review.				
The BLM would file for water rights in accordance with State of Arizona water laws on available water sources for recreational use, wildlife, livestock, administrative uses, and in-stream flows, subject to funding/staffing constraints.				
Flood plain occupancy and development would be avoided and the 100-year flood plain would be protected.				
Natural values associated with floodplains and wetlands would be restored and preserved by avoiding floodplain occupancy and development. If development or occupancy is necessary, impacts would be mitigated through consulting and permitting with appropriate agencies.				

TABLE 2.1: AIR, WATER, AND SOILS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	The BLM would continue to work with appropriate state authorities to ensure that water resources needed would be available.			
III. SOIL MANAGEMENT				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
	Soils would exhibit infiltration, permeability, and erosion rates appropriate for the soil type, climate, and landform.			
N/A	Physical soil crusts would show an increase in organic cover including cryptobiotic colonies, moving them towards being organic crusts.			
B. MANAGEMENT ACTIONS				
<i>Common to All Planning Areas</i>				
Surface disturbance and reclamation activities would proceed consistent with current permits and subject to the following:				
<ul style="list-style-type: none"> • Arizona Standards for Rangeland Health would be followed to maintain or improve soil conditions. See Livestock Grazing Table 2.12. • Activities would be the minimum necessary to accomplish the task. • Reclamation would be required for road realignments. • Measures to stabilize soils and minimize surface water runoff would be required, both during project activities and following project completion. • Reclamation of all surface disturbances would be initiated during or immediately upon completion of the authorized project. Reclamation could include recontouring the disturbed area to blend with the surrounding terrain, ripping compacted areas, replacement of topsoil, seeding, planting, and/or providing effective ground cover. • All temporary roads would be closed and reclaimed immediately upon completion of the project. Reclaimed roads could be barricaded or signed until reclamation objectives are achieved. • Facilities or improvements no longer necessary would be removed and the sites would be reclaimed, provided no historic properties are affected. 				
N/A	Restoration and reclamation actions would be consistent with vegetation management decisions for each Ecological Zone.			
Watershed and riparian objectives would continue to be coordinated into applicable Allotment Management Plans (AMPs) with emphasis on areas of moderate to severe erosion.	Emphasis for management of all grazing allotments in Watershed Condition Class IV would be to reduce erosion and improve the watershed condition class (See Arizona Strip RMP 1992). Evaluations would be completed through the Arizona Standards for Rangeland Health (see Livestock Grazing Table 2.12). More detailed assessments of watershed condition would be done in priority watersheds, subject to funding/staffing constraints in the watershed program.			

TABLE 2.1: AIR, WATER, AND SOILS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>Parashant</i>				
N/A	The following watersheds would be priority for assessment, treatments and/or restrictions on use to reduce erosion: <ul style="list-style-type: none"> Upper Lang's Run, Black Rock Mountain, and Parashant 			
<i>Vermilion</i>				
N/A	All watersheds in the Monument would be priority for assessment, treatments, and/or restrictions on use to reduce erosion.			
<i>Arizona Strip FO</i>				
N/A	The following watersheds would be priority for assessment, treatments, and/or restrictions on use to reduce erosion, control flooding, and reduce salt contributions to the Colorado River: <ul style="list-style-type: none"> Upper Lang's Run, Black Rock Mountain, Upper Parashant, Lower Hurricane Valley, Fort Pearce Salinity Area, Clayhole Flood Control Structures Area, and Wild Band Valley 			

TABLE 2.2: GEOLOGY AND PALEONTOLOGY				
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. GEOLOGY AND PALEONTOLOGY				
A. DESIRED FUTURE CONDITIONS				
N/A	<i>Common to All Planning Areas</i>			
	<i>Parashant and Vermilion</i>			
N/A	Geological and paleontological Monument objects would be protected. These may include all vertebrate or uncommon invertebrate fossils or localities and relevant and highly visible geological features and formations.			
N/A	<i>Arizona Strip FO</i>			
	Vertebrate and uncommon invertebrate paleontological resources would be protected.			
B. LAND USE ALLOCATIONS				
	<i>Common to All Planning Areas</i>			
N/A	Areas would be classified according to their potential to contain vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils. These Paleontological Sensitivity Classes are: <ul style="list-style-type: none"> • Class 1 (Low sensitivity): Igneous and metamorphic geologic units and sedimentary geologic units where vertebrate fossils or uncommon non-vertebrate fossils are unlikely to occur. • Class 2 (Moderate sensitivity): Sedimentary geologic units that are known to contain or have unknown potential to contain fossils that vary in significance, abundance, and predictable occurrence. • Class 3 (Moderate sensitivity): Areas where geologic units are known to contain fossils but have little or no risk of human-caused adverse impacts and/or low risk of natural degradation. • Class 4 (High sensitivity): Areas where geologic units regularly and predictably contain vertebrate fossils and/or uncommon non-vertebrate fossils, and are at risk of natural degradation and/or human-caused adverse impacts. 			
C. MANAGEMENT ACTIONS				
	<i>Common to All Planning Areas</i>			
N/A	BLM and NPS would identify and protect significant fossils and allow for scientific research at paleontological sites, in accord with permitting procedures.			
N/A	Should paleontological resources be discovered within the Planning Area, the sites would be evaluated for sensitivity. The sites would then be classified and managed consistent with the land use allocation classifications described above.			
N/A	The collection of any objects in the Monuments, including paleontological resources (such as fossils or track ways) or rock specimens would not be authorized, except by permit for scientific research or use.			

TABLE 2.2: GEOLOGY AND PALEONTOLOGY

N/A	Prior to authorizing land uses in any Class 4 areas, a records search and paleontological survey and/or monitoring would be required so that impacts to vertebrate fossils and/or uncommon invertebrate fossils could be minimized or mitigated.
N/A	Adverse impacts to vertebrate and/or uncommon invertebrate paleontological resources would be mitigated.
D. ADMINISTRATIVE ACTIONS	
<i>Common to All Planning Areas</i>	
	Inventories for paleontological resources would continue.
N/A	A sensitivity map for paleontological resources would be developed and screening for all projects against potential for the project to impact vertebrate fossils or noteworthy occurrences of invertebrate or plant fossils would be required.
II. CAVE AND KARST RESOURCES	
A. DESIRED FUTURE CONDITIONS	
<i>Common to All Planning Areas</i>	
N/A	Significant cave and karst resources would be protected.
B. MANAGEMENT ACTIONS	
<i>Common to All Planning Areas</i>	
N/A	All caves and karst features would be considered significant, if they meet the criteria defined in 43 CFR Part 37 (See Appendix 2.B). All caves on NPS land are classified as significant under the Federal Cave Resources Protection Act.
N/A	Cave and karst resources would be evaluated to determine proper and needed protective measures to ensure their continued viability. Protective measures could include restricting surface disturbing activities, limiting fire suppression, controlling visitor use, and restricting management actions.
C. ADMINISTRATIVE ACTIONS	
<i>Parashant</i>	
	Inventories for cave and karst resources would continue.

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>I. VEGETATION MANAGEMENT: ALL ECOLOGICAL ZONES</p> <p>A. DESIRED FUTURE CONDITIONS</p>				
<p><i>Common to All Planning Areas</i></p>				
<p>N/A</p>	<ul style="list-style-type: none"> • All BLM watersheds would meet, or would be progressing towards meeting, the Standards for Rangeland Health for BLM lands and NPS Vital Signs standards on NPS lands. (See Chapter 2 text and Appendix 2.A) • NPS watersheds would meet, or would be in improving condition toward meeting, NPS Vital Signs objectives and BLM Standards for Rangeland Health. • Native vegetative communities would be protected, including those considered Monument objects. A mosaic of native perennial and non-invasive annual vegetative communities would be present across the landscape with diversity of species, canopy, density, and age class reflecting its local ecological site potential and naturally occurring habitat conditions. • Vegetative communities would provide sufficient plant cover and litter accumulation to protect soils from wind and water erosion and enhance nutrient cycling and productivity, even during drought years. • Ecological processes and functions would be protected, enhanced, and/or restored by allowing tools that are necessary and appropriate to mitigate adverse impacts of allowable uses and undesirable disturbances, and contribute to meeting the Standards for Rangeland Health and NPS Vital Signs and enhance Monument objects and values. • Invasive plant species would be contained, controlled, or eliminated and native species restored to meet desired plant community objectives. • Loss of key ecosystem components to wildfire would be minimized. • Fire return intervals and natural disturbances would be appropriate for the ecological site. • In addition to the above, vegetation communities on NPS lands retain ecological integrity where natural processes maintain native plants and plant communities and are the principal influence on community and population fluctuation. 			
<ul style="list-style-type: none"> • Fire is recognized as a natural process in fire-adapted ecosystems and is used to achieve objectives for other resources. • Fuels in Wildland-Urban Interface (WUI) areas are maintained at non-hazardous levels to provide for public and fire fighter safety. • Prescribed fire activities comply with Federal and State air quality regulations. • Each vegetation community is maintained within its natural range of variation in plant composition, structure, and fuel loads are maintained below levels that are considered to be hazardous. 				

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
B. MANAGEMENT ACTIONS				
a. Desired Plant Community Objectives				
<i>Common to All Planning Areas</i>				
Sensitive areas including desert tortoise and Siler pincushion cactus habitats would be seasonally restricted or closed to vegetation treatments.	Seasonal restrictions, temporary reductions, or elimination of authorized activities would be implemented in conjunction with vegetation treatment projects to protect sensitive resources and/or ensure attainment of Desired Plant Community (DPC) objectives or Vital Sign standards.			
b. Vegetative and Restoration Treatments				
<i>Common to All Planning Areas</i>				
Vegetative treatments could be conducted where plant cover or soil productivity is being lost to achieve a DPC, improve habitat conditions for wildlife, or meet activity plan objectives.	Restoration and vegetation treatments would be authorized where protection of sensitive resources is ensured. Priority areas for restoration or vegetative treatment projects would be defined by ecological zone and major vegetation type and based on the following criteria: <ul style="list-style-type: none"> • To increase indigenous rare or uncommon species; • Where soil productivity has been reduced due to removal of soil organic matter or active erosion; • Where vegetative cover is inadequate to prevent soil erosion; • To improve habitat conditions for wildlife and/or special status species; • To restore degraded, drought-stricken, weed infested, or otherwise unhealthy areas; • To maintain previously treated areas; • To achieve DPC objectives; and • To meet activity plan objectives. On NPS lands, individual restoration plans would be developed to meet DFCs, NPS Vital Signs standards, and related ecological objectives. Mitigation measures would be implemented for reducing impacts such as soil erosion or non-native plant encroachment, and minimum requirements analysis would be used in proposed wilderness.			
The use and perpetuation of native species would be emphasized. However, when restoring or rehabilitating disturbed or degraded rangelands, non-intrusive, non-native species would be emphasized. However, when restoring or rehabilitating disturbed or degraded rangelands, non-intrusive, non-	On BLM lands, the use and perpetuation of native species would be emphasized. However, when restoring or rehabilitating disturbed or degraded rangelands, non-intrusive, non-native plant species may be used where native species: <ul style="list-style-type: none"> • Are not available, • Are not economically feasible, • Cannot achieve DFCs, DPCs, or other ecological objectives as well as non-native species, and/or • Cannot compete with already established non-native species. 			

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>native plant species would be considered appropriate for use where native species (a) are not available, (b) are not economically feasible, (c) cannot achieve ecological objectives as well as non-native species, and/or (d) cannot compete with already established non-native species. Habitat restoration in desert tortoise habitat would not include planting or seeding of non-native plants.</p>	<p>Non-native forbs and perennial grasses could be used in preference to monocultures of non-native annuals.</p>			
<p>The development of site-specific DPC objectives, in accord with ecological site potential, would continue.</p>	<ul style="list-style-type: none"> On BLM lands, the development of site-specific DPC objectives, in accord with ecological site potential, would continue. DPC objectives would be achieved through vegetation treatments and management of resource uses. DPC objectives would be included in all appropriate activity plans, including AMPs. On NPS lands, vegetation management objectives would be developed through Vital Signs monitoring. Monitoring vegetation communities would demonstrate retention of ecological integrity where natural processes maintain native plants and plant communities and are the principal influence on community and population fluctuation. When natural processes have been disrupted, DPC objectives would be achieved through vegetation treatments and managing resource uses, as appropriate. 			
Parashant				
<ul style="list-style-type: none"> Vegetation and soil cover would be managed towards ecological stability using mechanical, chemical, biological, or fire as tools for accomplishment. Chaining and other methods that cause substantial surface disturbance should not be permitted. 	<p>Treatment methods and tools appropriate to the land use allocation and protection of Monument objects could be authorized to achieve DFCs, DPCs, or Vital Sign standards. Treatment methods could include, but are not limited to mechanical, chemical, biological and fire, or any combination thereof. Vegetation treatments and uses would be monitored as part of an adaptive management process. Seed priming and other enhancement techniques could be used to increase germination rates. Treatments would be designed so that they do not encourage an increase in any invasive species. Minimum requirement analysis would be used in BLM designated wilderness and in NPS proposed wilderness. (See Appendix 2.C for a list of potential methods and tools.)</p> <p>On NPS lands, chaining and other methods that cause substantial surface disturbance would not be permitted.</p>			

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> For all fire management activities in the Monument, measures would be taken to assure that no adverse effects occur to those resources, values, and objects identified in the respective proclamations or legislation as reasons for establishing the area. 				
<p>On NPS land, authorization of non-native seed use must be consistent with NPS policy, which states that revegetation efforts would use seeds, cuttings, or transplants representing species and gene pools native to the ecological portion of the park in which the restoration project is occurring. Where a natural area has become so degraded that restoration with native gene pools has proven unsuccessful, improved varieties or closely related native species may be used.</p>				
<p><i>Vermilion</i></p>				
<ul style="list-style-type: none"> Vegetation and soil cover would be managed towards ecological stability using mechanical, chemical, biological, or fire as tools for accomplishment. Vegetation manipulation should proceed only when consistent with conservation and protection of Monument resources. Chaining and other methods that cause substantial surface disturbance should not be permitted. For all fire management activities in the Monument, measures would be taken to assure that no adverse effects 				
<p>Treatment methods and tools appropriate to the land use allocation and protection of Monument objects could be authorized to achieve DFCs and DPCs. Treatment methods could include, but are not limited to mechanical, chemical, biological and fire, or any combination thereof. Vegetation treatments and uses would be monitored as part of an adaptive management process. Seed priming and other enhancement techniques could be used to increase germination rates. Treatments would be designed so that they do not encourage an increase in any invasive species. (See Appendix 2.C for a list of potential methods and tools.)</p>				

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
occur to those resources, values, and objects identified in the respective proclamation or legislation as reasons for establishing the area				
Arizona Strip FO				
Vegetation and soil cover would be managed towards ecological stability using mechanical, chemical, biological, or fire as tools for accomplishment.				Treatment methods and tools appropriate to the land use allocation would be authorized to achieve DFCs and DPCs. Treatment methods could include, but are not limited to mechanical, chemical, biological and fire, or any combination thereof. Vegetation treatments and uses would be monitored as part of an adaptive management process. Seed priming and other enhancement techniques could be used to increase germination rates. Treatments would be designed so that they do not encourage an increase in any invasive species. (See Appendix 2.C for a list of potential methods and tools.)
c. Sale or Use of Vegetation Products				
Common to All Planning Areas				
On BLM lands, commercial use would be in specified areas and managed under the multiple use/sustained yield concept.				No areas would be allocated to sustained yield timber harvest.
On BLM lands, fees or permits would not apply for the collection of pinyon pine seeds (pine nuts) for non-commercial, personal use.				
				Collection of listed, proposed, or candidate plant species would not be authorized.
N/A				Fees may not apply on BLM lands for non-commercial, personal use quantities of items necessary for traditional, religious, or ceremonial purposes, such as herbals, medicines or traditional use items.
				Gathering of dead and downed wood for campsite use would be authorized in areas where campfires are allowed.
Parashant				
The Monument would be closed to the general commercial sale of vegetative products, except for the following situations:				
<ul style="list-style-type: none"> On BLM lands, the sale, collection, or use of vegetative materials (e.g. native seed, medicinals, landscape mulch, posts, fuel wood, etc.) would require a permit and may be authorized if tied to a clearly defined science-based research or restoration project, and the use would be consistent with achieving the DFCs and protecting Monument objects. Permits would be authorized only for those areas where resource management objectives have been developed. 				
On NPS lands, the collection or use of vegetative materials would only be authorized in conjunction with documented research or restoration programs in accordance with NPS regulations and policy. The sale of vegetative materials would not be authorized.				

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>The BLM may authorize limited harvest of posts and/or poles for on site administrative purposes, including fence repair.</p> <p>The Pakoon Desert Wildlife Management Area (DWMA) would be closed to the collection of vegetative materials.</p>				
<p><i>Vermilion</i></p>				
<p>The Monument would be closed to the sale of vegetative products.</p> <p>The BLM would authorize limited harvest of posts and/or poles for on-site administrative purposes</p>				
<p><i>Arizona Strip FO</i></p>				
<p>Personal Christmas tree cutting would be open everywhere except wilderness areas and ACECs. Area-wide limits for personal use post cutting would be established.</p>	<ul style="list-style-type: none"> • The sale, collection, or use of vegetative materials (e.g. native seed, medicinals, landscape mulch, posts, fuel wood, Christmas trees, etc.) would require a permit. Permits would be authorized only for those areas where resource management objectives have been developed. Interested parties would need to check with the BLM office concerning specific locations, stipulations, fees, and other requirements. • Collection of vegetative materials in ACECs would be restricted unless it meets specific resource management objectives. 			
<p>d. Salvage of Vegetation</p>				
<p><i>Common to All Planning Areas</i></p>				
<p>N/A</p>	<p>On BLM lands, salvage of vegetation that would be destroyed through surface disturbing activities may be authorized where doing so would assist in achieving DPCs. Salvage and use would be allowed in the following priority (may require a permit from the State of Arizona):</p> <ul style="list-style-type: none"> • Removal and maintenance for replanting during rehabilitation of the site being disturbed. • Removal and transplanting out of the area to be disturbed, especially to an area needing rehabilitation. • Removal and salvage by private individuals or to benefit the public (includes schools, churches, non-profit organizations). 			
<p>On NPS lands, vegetation that would be destroyed through surface disturbing activities may be salvaged and used to rehabilitate the site or used at another site with similar ecological conditions requiring restoration or rehabilitation. Salvage and use would be allowed in the following priority (may require a permit from the State of Arizona):</p> <ul style="list-style-type: none"> • Removal and maintenance for replanting during rehabilitation of the site being disturbed. • Removal and transplanting out of the area to be disturbed, especially to an area needing rehabilitation. 				
<p>e. Noxious Weeds</p>				
<p><i>Common to All Planning Areas</i></p>				
<p>Management practices would target those populations of</p>	<p>Implementation of ongoing noxious weed and invasive species control actions would be continued as per national guidance and the Weed Management Area Plan. Integrated weed management would continue using available tools to control noxious weeds</p>			

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
noxious weeds that can be controlled or eliminated by approved methods.	consistent with vegetation management decisions for each Ecological Zone and as appropriate to the land use allocation and in order to protect resources and Monument values.			
N/A	Certified weed-free feed, mulch, and seed would be required for all permitted uses to limit the spread of noxious weeds and other undesirable species. (See Table 2.12 Livestock Grazing and Table 2.14 Recreation and Visitor Services.)			
N/A	Construction equipment, fire vehicles, and/or vehicles from outside the Planning Area used to implement authorized projects and/or uses would be required to be cleaned (using air, low pressure/high volume, or high pressure water) prior to initiating the project. BLM and NPS vehicles would also be cleaned after being used within any infested area. As national policy is developed, the more stringent would be implemented. Vehicles leaving the area and later returning to continue the project would require re-cleaning.			

C. ADMINISTRATIVE ACTIONS

a. Desired Plant Community Objectives

Common to All Planning Areas

Ecological site inventories would be completed to determine site potentials and ecological conditions. (See Appendix 2.D for Standards and Guides.)

b. Vegetative and Restoration Treatments

Common to All Planning Areas

Vegetation treatments and uses would be monitored as part of an adaptive management process. When new information from monitoring or other studies becomes available, practices and guidelines would be modified to incorporate best science available.

D. LAND USE ALLOCATIONS - (Fire and Fuels Management)

a. Wildland Fire Use Areas (See Map 2.2 at end of Table 2.3)

Common to All Planning Areas

In Wildland Fire Use: Areas Suitable for Wildland Fire Use for Resource Management Benefit where fuel loading is high and current conditions constrain the use of fire (prescribed fire and fire use), prevention and mitigation programs would be emphasized to reduce unwanted ignitions and use mechanical, manual, chemical, or biological treatments to reduce fuel loads and meet resource objectives. Where conditions allow, consistent with land use allocations, naturally ignited wildland fire, prescribed fire, and a combination of mechanical, manual, chemical, and biological treatments would be used to maintain non-hazardous fuel levels, reduce the hazardous effects of unplanned wildland fires, achieve DFCs, and meet resource objectives (See BLM Fire Amendment, BLM Fire Management Plan, and NPS Fire Management Plan).

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>Parashant</i>				
<p>Wildland Fire Use areas would include Great Basin Pinyon-Juniper Woodland, Great Basin Desert Scrub, Plains and Great Basin Grasslands, Interior Chaparral, and Montane Conifer Forest Vegetation Communities and some WUI areas.</p>	<p>Wildland Fire Use areas would include Riparian, Great Basin, Grassland, Interior Chaparral, Ponderosa Pine, Colorado Plateau Transition, and Mojave Transition (NPS-Andrus Plain only) ecological zones, and WUI areas (BLM only, depending on the surrounding vegetation, fuel loads, and other factors as determined in the BLM Fire Amendment and BLM and NPS Fire Management Plans). Wildland fire use in the riparian ecological zone would only be considered in areas where riparian restoration is planned, where fire use would help meet restoration objectives (e.g., reduce exotic vegetation), and where subsequent restoration work would be implemented (e.g., planting native vegetation).</p>			
<i>Vermilion</i>				
<p>Wildland Fire Use areas would include Great Basin Pinyon-Juniper Woodland, Great Basin Desert Scrub, and Plains and Great Basin Grasslands Vegetation Communities and some WUI areas.</p>	<p>Wildland Fire Use areas would include Riparian, Great Basin, Grassland, and Colorado Plateau Transition Ecological Zones, and WUI areas (depending on the surrounding vegetation, fuel loads, and other factors as determined in the BLM Fire Amendment and BLM Fire Management Plan). Wildland fire use in the riparian ecological zone would only be considered in areas where riparian restoration is planned, where fire use would help meet restoration objectives (e.g., reduce exotic vegetation), and where subsequent restoration work would be implemented (e.g., planting native vegetation).</p>			
<i>Arizona Strip FO</i>				
<p>Wildland Fire Use areas would include Great Basin Pinyon-Juniper Woodland, Great Basin Desert Scrub, Plains and Great Basin Grasslands, Interior Chaparral, and Montane Conifer Forest Vegetation Communities and some WUI areas.</p>	<p>Wildland Fire Use areas would include Riparian, Great Basin, Grassland, Interior Chaparral, Ponderosa Pine, and Colorado Plateau Transition Ecological Zones, and WUI areas (depending on the surrounding vegetation, fuel loads, and other factors as determined in the BLM Fire Amendment and BLM Fire Management Plan). Wildland fire use in the riparian ecological zone would only be considered in areas where riparian restoration is planned, where fire use would help meet restoration objectives (e.g., reduce exotic vegetation), and where subsequent restoration work would be implemented (e.g., planting native vegetation).</p>			

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
b. Non-Wildland Fire Use Areas				
<i>Common to All Planning Areas</i>				
In <u>Non Wildland Fire Use</u> : Areas Not Suitable for Wildland Fire Use for Resource Management Benefit, programs to reduce unwanted ignitions would be implemented by the BLM and NPS, and prevention, detection, and rapid suppression response techniques would be emphasized. Where fuel loading is high, mechanical, manual, chemical, or biological treatments and prescribed fire would be used to maintain non-hazardous levels of fuels and meet resource objectives.				
<i>Parashant</i>				
<u>Non Wildland Fire Use</u> areas would include Mojave Desert Scrub and Riparian vegetation communities and some WUI areas.	<u>Non Wildland Fire Use</u> areas would include: Mojave Desert, and Mojave Transition (except NPS Andrus Plain area) Ecological Zones, and WUI areas (depending on the surrounding vegetation, fuel loads, and other factors as determined in the BLM Fire Amendment and BLM and NPS Fire Management Plans).			
<i>Vermilion</i>				
<u>Non Wildland Fire Use</u> areas would include the Riparian vegetation community and some WUI areas.	<u>Non Wildland Fire Use</u> areas would include WUI areas (depending on the surrounding vegetation, fuel loads, and other factors as determined in the BLM Fire Amendment and BLM Fire Management Plan).			
<i>Arizona Strip FO</i>				
<u>Non Wildland Fire Use</u> areas would include Mojave Desert Scrub and Riparian vegetation communities and some WUI areas.	<u>Non Wildland Fire Use</u> areas would include Mojave Desert and Mojave-Great Basin Transition Ecological Zones, and WUI areas (depending on the surrounding vegetation, fuel loads, and other factors as determined in the BLM Fire Amendment and BLM Fire Management Plan).			
c. Fire Suppression				
<i>Common to All Planning Areas</i>				
Appropriate Management Response (AMRs) for managing wildland fires would be used by the BLM and NPS (as identified in the BLM Fire Amendment and the BLM and NPS Fire Management Plans). The AMR is based on firefighter and public safety and objectives and constraints derived from the fire management allocations (Wildland Fire Use, Non Wildland Fire Use), relative risk to natural and cultural resources, DFCs, fire management unit objectives, potential complexity, the ability to defend management boundaries, and costs of protection. AMRs would be used in areas classified as Wildland Fire Use and Non Wildland Fire Use.				

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>Firefighter and public safety would be the first priority in every fire management activity. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources would be based on the values to be protected, human health and safety, and costs of protection.</p> <p>Education, enforcement, and administrative fire prevention mitigation measures would continue to be provided to reduce unplanned human-caused fires.</p>				
<p>d. Fire Suppression in Sensitive Habitats</p> <p><i>Common to All Planning Areas</i></p>				
<p>Prescribed fire and fire use would be used in areas classified as Wildland Fire Use within BLM wilderness areas and NPS proposed wilderness to achieve DFCs and wilderness area management objectives described in each agency's Fire Management Plan. Vegetation could also be treated manually if minimum tool requirements are met. (See management decisions relating to Wilderness in Table 2.16: Special Designations.)</p> <p>Minimum impact suppression tactics would be used in designated and proposed wilderness. (See wilderness decisions in Table 2.16: Special Designations.)</p> <p>Conservation measures described in Appendix 2.E. would be implemented for all fire suppression, restoration and rehabilitation, fuels treatments, prescribed burning, and other fire related actions in special status species habitats. (See Table 2.5: Special Status Species and Appendix 2.E)</p> <p>Suppression tactics that limit damage or disturbance to sensitive vegetation, soils, and wildlife habitat would be used. The use of heavy equipment, such as dozers, on BLM lands would require approval from the BLM authorized officer. The use of heavy equipment on NPS lands would require approval from the NPS Park Superintendent.</p>				
NA	<p>Prescribed fire and fire use could be used within designated and proposed wilderness areas where the areas have been classified as Wildland Fire Use to achieve DFCs and wilderness management objectives. Selection of vegetation treatment methods in designated and proposed wilderness would be consistent with minimum tool requirements and non-impairment standards. (See decisions relating to Wilderness in Table 2.16: Special Designations.)</p>			
<p>II. VEGETATION MANAGEMENT: RIPARIAN ECOLOGICAL ZONE</p> <p>A. DESIRED FUTURE CONDITIONS – Riparian Ecological Zone</p> <p><i>Common to All Planning Areas</i></p>				
<ul style="list-style-type: none"> Annual weed cover and density are controlled and ladder fuels and downed woody debris are limited or not present. Disturbances such as livestock grazing, mining, and off road vehicle travel, 	<ul style="list-style-type: none"> Riparian areas, including Monument objects, would consist of a diversity of vertical and horizontal structures, vegetative age classes, and endemic species. Riparian areas would be protected, enhanced, and/or restored by allowing tools that are necessary and appropriate to mitigate adverse impacts of allowable uses and undesirable disturbances, and contribute to meeting the Arizona Standards for Rangeland Health, NPS Vital Signs, and enhance Monument objects and values. Ecological functions and processes would be intact with vegetative species composition and cover appropriate to the site. Where sites have the potential for over-story vegetation, the canopy cover of over-story and under-story vegetation would be at or approaching maximum density. 			

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>that can potentially reduce natural vegetation cover and vigor, are managed to maintain adequate cover and mix of natural plant species.</p>	<ul style="list-style-type: none"> All riparian areas, including Monument objects, would be in, or moving towards, proper functioning condition. All surface water would meet, or be improving towards, Arizona State water quality standards. Flowing water systems would provide contiguous water and associated riparian vegetative cover, where possible. Availability of surface water at seeps and springs would be appropriate for the soil type, climate, and landform and would support a diverse population of endemic plant and wildlife species. A sufficient quantity of water with safe access for wildlife would be available, where appropriate. Riparian communities would provide habitat for common species such as rush, cottonwood, willow, and yellow-breasted chat, as well as rare species such as Southwestern Willow (SW) Flycatcher, Common Black Hawk, Lucy's Warbler, and speckled dace where consistent with site potential. (See Table 2.4: Fish and Wildlife.) Invasive plants and animals such as tamarisk, Russian olive, and Brown-headed Cowbird would be reduced or eliminated. In addition to the above, riparian communities on NPS lands retain ecological integrity where natural processes maintain native plants and plant communities and are the principal influence on community and population fluctuation. 			
<p>B. MANAGEMENT ACTIONS – Riparian Ecological Zone</p>				
<p><i>Common to All Planning Areas</i></p>				
<p>N/A</p>	<p>Habitat conditions at priority riparian areas would be maintained or improved. A preliminary list of priority riparian areas is included in Chapter 3, Table 3.8, and would be appended as new areas are identified. Priority riparian areas meet two or more of the following criteria:</p> <ul style="list-style-type: none"> Federal land with water rights. Ecologically and economically feasible of reaching DFCs. All riparian areas > or = to 0.5 acres in size. Presence of Special Status Species. Presence of surface water and/or saturated soil. Presence of riparian species. Distance to adjacent riparian areas greater than three miles. 			
<p>N/A</p>	<p>The Riparian Ecological Zone would be managed for minimal disturbance to vegetation in riparian areas. Surface disturbing activities would be prohibited.</p>	<p>The Riparian Ecological Zone would be managed for a mixture of herbaceous and woody vegetation in accord with agencies' policies on native and non-native species.</p>	<p>The Riparian Ecological Zone would be managed for mostly herbaceous vegetation in riparian areas.</p>	<p>Same as Alternative C</p>

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	No treatment priority areas or criteria would be established for the Riparian Ecological Zone.	Vegetation treatments could be used in the Riparian Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment priority areas would be where riparian areas are non-functional or functioning at risk.	Vegetation treatments could be used in the Riparian Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment priority areas would be where riparian areas are non-functional or functioning at risk.	Vegetation treatments could be used in the Riparian Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment priority areas would be where riparian areas are non-functional, functioning at risk with a downward trend, or dominated by invasive plant species.
N/A	No planned vegetation treatments would be conducted in the Riparian Ecological Zone. Noxious weed control and fire use could be authorized where appropriate.	Preferred treatment tools would include less intrusive methods such as wildland fire, fire use, prescribed fire, and chemical methods.	A combination of wildland fire, fire use, prescribed fire, chemical, mechanical, and biological treatment methods could be used as appropriate within land use allocations and areas managed to maintain wilderness characteristics.	A combination of wildland fire, fire use, prescribed fire, chemical, mechanical, and biological treatment methods could be used as appropriate within land use allocations and areas managed to maintain wilderness characteristics.
Riparian areas would be maintained, restored, or improved to achieve healthy and productive ecological conditions for maximum long-term benefits using fire, mechanical, chemical, or biological means.	Prior to conducting vegetation treatments in the Riparian Ecological Zone, the area's ability to serve as habitat for special status species would be evaluated. Treatments would not be authorized in suitable habitat of listed or proposed species.	Prior to conducting vegetation treatments in the Riparian Ecological Zone, the area's ability to serve as habitat for special status species would be evaluated. Treatments would not be authorized in occupied, SW Flycatcher habitat unless such treatments would provide long-term benefits to the species or their habitat, would reduce fire frequency or intensity, or would provide replacement habitat of a higher quality than that removed.	Prior to conducting vegetation treatments in the Riparian Ecological Zone, the area's ability to serve as habitat for special status species would be evaluated. Treatments would not be authorized in occupied, SW Flycatcher habitat unless such treatments would provide long-term benefits to the species or their habitat, would reduce fire frequency or intensity, or would provide replacement habitat of a higher quality than that removed.	Prior to conducting vegetation treatments in the Riparian Ecological Zone, the area's ability to serve as habitat for special status species would be evaluated. Treatments would not be authorized in occupied, SW Flycatcher habitat unless such treatments would provide long-term benefits to the species or their habitat, would reduce fire frequency or intensity, or would provide replacement habitat of a higher quality than that removed.
Parashant				
N/A	No planned vegetation treatments would be conducted in the Riparian Ecological Zone. Noxious weed control and fire use could be authorized where appropriate.	Up to 100 BLM acres and 10 NPS acres of Riparian Ecological Zone would be treated over the life of this Plan (approx. 50% of available habitat).	Up to 200 BLM acres and 20 NPS acres of Riparian Ecological Zone would be treated over the life of this Plan (approx. 100% of available habitat).	Same as Alternative C

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
On BLM lands, based on total acres burned by wildland fires from 1984-2003, no wildland fires are anticipated during the life of the Plan. Because this ecological zone contains flammable fuels, wildland fires may occur during the life of the Plan. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
No post-fire rehabilitation is anticipated. If wildland fires occur, post-fire rehabilitation may be implemented to meet DFCs.	N/A		Same as Alternative A	
On NPS lands, 52,670 acres would be managed as Fire Suppression as designated in the Fire Management Plan.				
Vermilion				
N/A	No planned vegetation treatments would be conducted in the Riparian Ecological Zone. Noxious weed control and fire use could be authorized where appropriate.	Up to 500 acres of Riparian Ecological Zone would be treated over the life of this Plan (approx. 32% of available habitat).		Up to 1,560 acres of Riparian Ecological Zone would be treated over the life of this Plan (approx. 100% of available habitat).
On BLM lands, based on total acres burned by wildland fires from 1984-2003, no wildland fires are anticipated during the life of the Plan. Because this ecological zone contains flammable fuels, wildland fires may occur during the life of the Plan. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
No post-fire rehabilitation is anticipated. If wildland fires occur, post-fire rehabilitation may be implemented to meet DFCs.	N/A		Same as Alternative A	
Arizona Strip FO				
N/A	No planned vegetation treatments would be conducted in the Riparian Ecological Zone. Noxious weed control and fire use could be authorized where appropriate.	Up to 1,000 acres of Riparian Ecological Zone could be treated over the life of this Plan (approx. 13% of available habitat).		Up to 5,000 acres of Riparian Ecological Zone could be treated over the life of this Plan (approx. 63% of available habitat).

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>Based on total acres burned by wildland fires from 1984-2003, approximately 37 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate could be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.</p>				
<p>Up to 37 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires exceed the estimated acreage.</p>	<p>N/A</p>		<p>Same as Alternative A</p>	
<p>C. IMPLEMENTATION DECISIONS – Riparian Ecological Zone</p>				
<p><i>Parashant</i></p>				
<p>a. Pakoon Springs Restoration</p>				
<p>N/A</p>	<p>Pakoon Springs would be restored, emphasizing natural processes. No planned vegetation treatments would be conducted in the Riparian Ecological Zone.</p>	<p>The functions and processes of Pakoon Springs would be restored to within the range of natural variability or to meet Rangeland Health Standards and either be in, or moving towards Proper Functioning condition.</p> <ul style="list-style-type: none"> The spring area could be used as habitat for special status species native to the area. 	<p>The functions and processes of Pakoon Springs would be restored to within the range of natural variability or to meet Rangeland Health Standards.</p> <ul style="list-style-type: none"> An interpretive program on the role and function of Mojave Desert springs for wildlife and indigenous people would be developed. A campground and/or picnic areas would be developed. The spring area could be used as habitat for special status species native to the area. 	<p>The functions and processes of Pakoon Springs could be restored to a combination of naturally appearing pond and flowing water habitats that meet Rangeland Health Standards.</p> <ul style="list-style-type: none"> Relict leopard frogs, Grand Wash springsnails, or other special status species could be re-introduced to the area provided suitable habitat exists after restoration. The processes of restoring previously developed Mojave Desert springs, and the function of Mojave Desert springs for wildlife, indigenous people, and the historic ranching activity,

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
				could be developed for interpretation. <ul style="list-style-type: none"> • Facilities to house the interpretive materials and enhance the visitor experience, including picnicking, could be provided. • Adequate protection (barriers, etc.) to ensure restoration efforts are not adversely impacted by visitors could be installed.
b. Tassi Ranch and Springs Restoration				
N/A	The irrigation system would be maintained, allowing for preservation of Grand Wash Springsnail, an endemic species.			
N/A	The spring would be considered for use as an introduction site for relict leopard frog.			
The genetic integrity of cottonwood trees would continue to be maintained.				
N/A	A site management plan for the spring, irrigation system, riparian area and ranch structures/historic landscape would be prepared to include: <ul style="list-style-type: none"> • Conservation treatments for the historic building and irrigation structures; • Vegetation management and spring restoration for ecological benefits including rare species conservation; • Maintenance of the cultural landscape; • Interpretation of the biological, hydrologic, and cultural features of the area, including visitor use management needs. 			
c. Cane Springs Restoration				
• Grazing use in Cane Springs pasture of the Mud and Cane Allotment would authorized between November and December as a holding pasture.	• The Cane Springs pasture of the Mud and Cane Allotment would be unavailable for grazing. • The fence around the upper spring would be removed.	• The riparian area of the Cane Springs pasture of the Mud and Cane Allotment would be fenced and unavailable for grazing.	• Seasonal grazing use during the dormant season (November and December) of the Cane Spring Pasture of the Mud and Cane Allotment would be authorized.	• Grazing and all associated facilities in the Cane Spring Pasture of the Mud and Cane allotment would be managed so that riparian resources are in or moving toward proper

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	<ul style="list-style-type: none"> • Cane Springs would be allowed to evolve with minimum intervention. 	<ul style="list-style-type: none"> • The site would be developed for interpretation and education of ranching history and the importance of riparian areas for wildlife. • A rest area/picnic area could be developed if demand increased. 	<ul style="list-style-type: none"> • The fence around the upper spring would be repaired and maintained. 	<p>functioning condition. Management would complement maintenance of riparian wildlife habitat, pre-historic and historic resources, and future recreation use.</p> <ul style="list-style-type: none"> • A site management plan for the spring, riparian area, and cultural resources would be prepared that would include the development and implementation of: <ol style="list-style-type: none"> 1) Interpretation to provide information on the native riparian vegetation and to emphasize the function of Mojave Desert springs for wildlife, indigenous people, and the historic and current ranching activity. 2) Interpretive trail and facility development to house the interpretive materials and enhance visitor experience, including picnicking. 3) Adequate protection (barriers, etc.) to ensure restoration efforts and cultural resources are not adversely impacted by visitors.

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>Vermilion</i>				
a. Paria River Invasive Plant Species Removal				
N/A		Using a minimum requirement analysis, BLM could use appropriate tools to remove invasive plants such as tamarisk and Russian olive along the Paria River for the purpose of restoring ecological conditions and functions and reducing fuel hazards.		
N/A	The BLM would monitor treatment effects and ecological conditions within treated areas.	Prescribed fire would be used on large patches of invasive plants. Using hand tools, the BLM would construct minimal control lines that would be rehabilitated upon completion of burning. The BLM would hand seed the area as needed.	Prescribed fire would be used on large patches of invasive plants, and helicopters could be used. Hand application of herbicides would be used in addition to burning and/or cutting to remove invasive species. Using minimum tools, the BLM would construct minimal control lines that would be rehabilitated upon completion of burning. The BLM would hand seed the area as needed.	
<i>Arizona Strip FO</i>				
a. Virgin River Invasive Plant Species Removal				
N/A				Mechanical, chemical, and biological treatment methods would be used to remove invasive plants such as tamarisk and Russian olive along the Virgin River outside of designated wilderness for the purpose of restoring ecological conditions and functions and reducing fuel hazards. Within the Beaver Dam Mountains Wilderness Area, non-motorized hand tools (such as clippers, axes and pulaskis) would be used to cut and remove invasive species, after which a hand chemical treatment would be used to follow up on any resprouting.
III. VEGETATION MANAGEMENT: PONDEROSA PINE ECOLOGICAL ZONE				
A. DESIRED FUTURE CONDITIONS – Ponderosa Pine Ecological Zone				
<i>Parashant and Arizona Strip FO</i>				
“Dog-hair thickets” are controlled, ladder fuels and downed woody debris are limited or not present, a high percent of large trees are maintained, and tree stand	<ul style="list-style-type: none"> • The Ponderosa Pine Ecological Zone would consist of a mosaic of tree densities, age classes, and openings (which may contain scattered trees), with healthy, diverse understories of native shrubs, grasses and forbs. • Ponderosa pine vegetation communities would be resilient to natural or human-caused disturbances, and losing key wildlife habitat components to wildfire would be minimized. • There would be no net loss of total acres within the ponderosa pine plant communities (i.e., long-term or permanent removal from the landscape). A no net loss objective would not preclude restoration, rehabilitation, or related management actions. 			

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>vigor is maintained through controlled fire and mechanical treatments.</p>	<ul style="list-style-type: none"> • Patches of old and/or large trees and standing and fallen dead trees would be maintained and protected. • In addition to the above, Ponderosa pine communities on NPS lands would retain ecological integrity where natural processes maintain native plants and plant communities and are the principal influence on community and population fluctuation. 			
<p>B. MANAGEMENT ACTIONS - Ponderosa Pine Ecological Zone</p> <p><i>Parashant and Arizona Strip FO</i></p>				
<p>N/A</p>	<p>Vegetation treatments could be used in the Ponderosa Pine Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment objectives in ponderosa pine vegetation communities would focus on restoring natural disturbance processes such as fire; increasing vegetative ground cover of native grasses, forbs, and shrubs; enhancing forest structure, function, and composition; and removing invasive, non-native species.</p>			
<p>N/A</p>	<p>Stands of ponderosa pine would be managed for a balanced mosaic between tree, shrub, and perennial grass cover to support a healthy ecosystem while providing habitat for Merriam's Turkey, Kaibab squirrel, and mule deer. The mosaics would include stands of old-growth ponderosa to support White-breasted Nuthatch; a component of Gambel oak with grass and forb understory to provide foraging habitat for mule deer; large openings of grasses, forbs, and shrubs to provide foraging habitat for raptors such as Sharp-shinned Hawk, Northern Goshawk, Coopers Hawk, American Kestrel, and Red-tailed Hawk; and areas of sparse to dense tree canopy cover with an understory of grasses, forbs, and shrubs to provide nesting habitat for Merriam's Turkey, hiding cover for mule deer, and habitat for Kaibab squirrel. (See Table 2.4: Fish and Wildlife.)</p>			
<p><i>Parashant</i></p>				
<p>N/A</p>	<p>Up to 4,600 BLM acres and 7,000 NPS acres of Ponderosa Pine Ecological Zone would be treated over the life of this Plan (approx. 25% of available habitat on BLM land and 75% on NPS land).</p>	<p>Up to 9,200 BLM acres and 7,000 NPS acres of Ponderosa Pine Ecological Zone would be treated over the life of this Plan (approx. 50% of available habitat on BLM land and 75% on NPS land).</p>	<p>Up to 13,800 BLM acres and 7,000 NPS acres of Ponderosa Pine Ecological Zone would be treated over the life of this Plan (approx. 75% of available habitat).</p>	
<p>On BLM and NPS lands, based on total acres burned by wildland fires from 1984-2003, approximately 3,104 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate could be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.</p> <p>Up to 3,104 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires and fire use exceed the estimated acreage.</p>				

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
On NPS lands, all acres could be considered for Wildland Fire Use, prescribed fire, fire suppression, and mechanical and chemical treatment to achieve resource objectives, consistent with land use allocations, minimum tool requirement for proposed wilderness, and to protect Monument values .				
Arizona Strip FO				
N/A	No planned vegetation treatments would be conducted in the Ponderosa Pine Ecological Zone over the life of this Plan. Noxious weed control and fire use could be authorized where appropriate.	Up to 1,000 acres of Ponderosa Pine Ecological Zone would be treated over the life of this Plan (approx. 26% of available habitat).	Up to 3,800 acres of Ponderosa Pine Ecological Zone would be treated over the life of this Plan (approx. 100% of available habitat).	
Based on total acres burned by wildland fires from 1984-2003, approximately 301 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate could be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
Up to 301 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires and fire use exceed the estimated acreage.	N/A		Same as Alternative A	
C. ADMINISTRATIVE ACTIONS - Ponderosa Pine Ecological Zone				
NA	The BLM would monitor fire effects and ecological conditions within treated areas.			
N/A	Treatments would continue to be monitored to provide short- and long-term information on the effects of ponderosa pine restoration treatments on the plant and animal communities affected by the treatments.			
D. IMPLEMENTATION DECISIONS - Ponderosa Pine Ecological Zone				
Parashant				
a. Mt. Trumbull Ponderosa Pine Restoration				
Ponderosa pine restoration research treatments would	Implementation of ponderosa pine research treatments would be completed at Mt. Trumbull. Future treatments would focus on mimicking the natural disturbance regime.			

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
continue to be conducted in the vicinity of Mt. Trumbull.				
N/A	Treatment emphasis would be in areas where ponderosa pine density exceeds the relative amount of "similar" for the applicable structural stage, patch size exceeds 200 acres, or cover of native grasses, and forbs is less than 5%.		Treatment emphasis would be in areas where ponderosa pine density exceeds the relative amount of "similar" for the applicable structural stage, patch size exceeds 200 acres, and or cover of native grasses, and forbs is less than 10%.	Same as Alternative B and C
N/A	Treatment preference would be to use a combination of wildland fire, fire use, prescribed fire, mechanical, or chemical methods consistent with land use allocation and minimum tool requirement for designated and proposed wilderness areas.			
b. Mt. Trumbull Wilderness Ponderosa Pine Restoration				
Minimum tool policy emphasizing hand tools would be used in the wilderness area to suppress wildfires. Aircraft and other suppression methods could be used in emergencies, if approved by the BLM authorized officer.				
Prescribed fire would be allowed in the wilderness area to restore ecological conditions, provided wilderness values are enhanced. Wilderness policy, including a minimum requirements analysis, would be followed in the final design of all restoration projects.				
NA	The BLM would use prescribed fire and/or fire use on up to 6,000 acres within the Mt. Trumbull Wilderness over the life of the Plan for the purpose of restoring ecological conditions and functions and reducing fuel hazards.			
NA	The BLM would limit prescribed burning to appropriate conditions in order to decrease the likelihood of crown fires; the objective would be to remove brush and small diameter trees while maintaining, or contributing to the restoration of, the structure and composition of old-growth forest stands.			
N/A	Using a minimum requirement analysis, the BLM could use appropriate tools to construct minimal control lines, including the removal of trees and brush, and would rehabilitate these control lines upon completion of burning. In the analysis, BLM would consider how to deliver and remove personnel, equipment, and supplies during treatment operations.			
NA	The BLM would apply native seed manually, as appropriate.			
NA	The BLM would protect old-growth forest stands by raking around their bases and	NA	The BLM would protect old-growth forest stands by raking around their bases, constructing interior control lines, and using	

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
		constructing interior fire control lines.		minimum tools to fell and buck small-diameter trees and brush that constitute "ladder fuels," which directly threatens old-growth forest stands .

IV. VEGETATION MANAGEMENT: GREAT BASIN ECOLOGICAL ZONE (Sagebrush Communities)

A. DESIRED FUTURE CONDITIONS – Great Basin Ecological Zone: Sagebrush Communities

Common to All Planning Areas

<p>Allow fire to naturally reduce annual weed densities and cover, limit or reduce the invasion of juniper, and maintain shrub densities, such as big sagebrush, within their historic range of variability.</p>	<ul style="list-style-type: none"> • Sagebrush (primarily <i>Artemisia tridentata</i>) communities would consist of a healthy, diverse mosaic of different height and age structures with a thriving community of native grasses and forbs. Mosaics may include stands of young and old sagebrush, openings (ranging from bare ground to short or sparse vegetation to high-density grasslands), wet meadows, seeps, healthy streamside (riparian) vegetation, and other interspersed shrub and woodland habitats. • There would be no net loss of total acres within sagebrush communities (i.e., long-term or permanent removal from the landscape). A no net loss objective would not preclude restoration, rehabilitation, or related management actions. • Treatment objectives in sagebrush communities would focus on restoring natural disturbance processes, such as by using fire, increasing vegetative ground cover of native grasses and forbs, and removing invasive non-native plants. • Sagebrush communities on NPS lands would retain ecological integrity where natural processes maintain native plants and plant communities and are the principal influence on community and population fluctuation. • Existing stands of sagebrush would have a balance between shrub and perennial grass cover, for open to moderate shrub canopy cover (5 to 25%), and multiple height classes. This mosaic would include young, sparse stands to support Vesper Sparrows and Lark Sparrows, and older, dense stands to benefit Brewer’s Sparrows, Sage Sparrows, Black-throated Sparrows, Gray Flycatchers, and Sage Thrashers. • Sagebrush communities would include small, grassy openings to support Long-billed Curlews and Burrowing Owls. • Sagebrush communities would include large, continuous blocks (≥300 acres) of unfragmented sagebrush habitat, including mosaics of open to moderate shrub canopy cover (5 to 25%) and multiple age and height classes to benefit sage-dependent species. • Sagebrush communities would include openings of short vegetation surrounded by sagebrush for ground foraging by Sage Thrashers, Loggerhead Shrikes, Brewer’s Sparrows, and Sage Sparrows. • Sagebrush communities would include openings of short vegetation (2 to 8 in.) with wide visibility to provide breeding habitat for Long-billed Curlews, and Burrowing Owls. (See Table 2.4: Fish and Wildlife.) • Sagebrush communities would include native grass and forb cover in balance with open to moderate (5 to 25%) shrub canopy
--	--

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	cover and within ecological site potential. Perennial grass components would be at or above 10%. Native forb composition would be at or above 5%. • Fragmentation of sagebrush habitat would be less than 50% of the treatment area.			
B. MANAGEMENT ACTIONS - Great Basin Ecological Zone: Sagebrush Communities				
<i>Common to All Planning Areas</i>				
N/A	Vegetation treatments could be used in the Great Basin Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment priority areas would be where sagebrush canopy cover exceeds 25%, perennial grasses and forbs are less than 5%, and bare ground exceeds 50%.	Vegetation treatments could be used in the Great Basin Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment priority areas would be where sagebrush canopy cover exceeds 20%, perennial grasses and forbs are less than 5%, and bare ground exceeds 40%.	Vegetation treatments could be used in the Great Basin Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment priority areas would be where sagebrush canopy cover exceeds 15%, perennial grasses and forbs are less than 5%, and bare ground exceeds 30%.	Same as Alternative C
N/A	Chemical treatment methods would be used in preference to, but not to the exclusion of, other available tools in the Great Basin Ecological Zone sagebrush communities.	A combination of wildland fire, fire use, prescribed fire, and chemical treatment methods would be used in preference to, but not to the exclusion of, other available tools in the Great Basin Ecological Zone sagebrush communities.		
<i>Parashant</i>				
N/A	Up to 5,000 BLM acres of sagebrush habitat could be treated over the life of this Plan (approx. 3% of available habitat).	Up to 25,000 BLM acres of sagebrush habitat could be treated over the life of this Plan (approx. 15% of available habitat).	Up to 50,000 BLM acres of sagebrush habitat could be treated over the life of this Plan (approx. 30% of available habitat).	Same as Alternative C

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
On BLM and NPS lands, based on total acres burned by wildland fires from 1984-2003, approximately 20,961 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate could be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires in the Great Basin sagebrush communities.				
Up to 21,000 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires and fire use exceed the estimated acreage.	N/A		Same as Alternative A	
On NPS lands, all acres could be considered for Wildland Fire Use, prescribed fire, fire suppression, and mechanical and chemical treatments to achieve resource objectives, consistent with land use allocations, minimum tool requirement for NPS proposed wilderness, and to protect Monument values.				
Vermilion				
N/A	No sagebrush habitat would be treated over the life of this Plan.	Up to 50,000 acres of sagebrush habitat could be treated over the life of this Plan (approx. 26% of avail. habitat).		Up to 100,000 acres of sagebrush habitat could be treated over the life of this Plan (approx. 52% of available habitat).
Based on total acres burned by wildland fires from 1984-2003, no wildland fires are anticipated during the life of the Plan. Because this ecological zone contains flammable fuels, wildland fires may occur during the life of the Plan. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
No post-fire rehabilitation is anticipated. If wildland fires occur, post-fire rehabilitation may be implemented to meet DFCs.	N/A		Same as Alternative A	
Arizona Strip FO				
N/A	Up to 20,000 acres of sagebrush habitat could be treated over the life of this Plan (approx. 3% of available habitat).	Up to 100,000 acres of sagebrush habitat could be treated over the life of this Plan (approx. 15% of available habitat).		Up to 200,000 acres of sagebrush habitat could be treated over the life of this Plan (approx. 30% of available habitat).

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>Based on total acres burned by wildland fires from 1984-2003, approximately 19,168 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate could be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.</p>				
<p>Up to 19,168 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires and fire use exceed the estimated acreage.</p>	<p>N/A</p>		<p>Same as Alternative A</p>	
<p>V. VEGETATION MANAGEMENT: GREAT BASIN ECOLOGICAL ZONE (Pinyon-Juniper Communities)</p>				
<p>A. DESIRED FUTURE CONDITIONS - Great Basin Ecological Zone: Pinyon-Juniper Communities</p>				
<p><i>Common to All Planning Areas</i></p>				
<p>Annual weeds such as cheatgrass are controlled, ladder fuels and downed woody debris are limited or not present, and juniper and pinyon pine tree densities and cover occur at their historic range of variation.</p>	<ul style="list-style-type: none"> • Healthy, diverse woodland communities would consist of a mosaic of trees, shrubs, grasses, and forbs. Mosaic patches could include stands of young and old pinyon-juniper, openings, wet meadows, seeps, and other interspersed shrub habitats. The communities would be composed of a variety of different height structures and age classes, with a thriving understory community of native grasses, forbs, and shrubs. • To reduce the threat of catastrophic fire, ladder fuels and downed woody debris would be limited or not present. Woody debris would be present to stabilize soil and enhance vegetation recovery in restoration areas. • Treatment objectives in the pinyon-juniper vegetation communities would focus on restoring the natural disturbance regime; increasing vegetative ground cover of native grasses, forbs, and shrubs; and removing non-native invasive species. • Stands of pinyon-juniper would include a balance between tree, shrub, and perennial grass cover to support Pinyon Jay and mule deer. This mosaic would include old-growth forest stands of pinyon-juniper to support Juniper Titmouse; large openings of grasses, forbs and shrubs to support mule deer and provide foraging habitat for raptors such as Sharp-shinned Hawk, Northern Goshawk, Coopers Hawk, American Kestrel, and Red-tailed Hawk; and areas of sparse to dense tree canopy cover to support Pinyon Jay. (See Table 2.4: Fish and Wildlife.) • Individual old growth trees would be present and would be protected during treatment implementation. 			

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
B. MANAGEMENT ACTIONS – Great Basin Ecological Zone: Pinyon-Juniper Communities				
<i>Common to All Planning Areas</i>				
N/A	Vegetation treatments could be used in the Great Basin Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment priority areas would be where juniper canopy cover exceeds 40%, perennial grasses and forbs are less than 5%, and bare ground exceeds 50%.	Vegetation treatments could be used in the Great Basin Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment priority areas would be where juniper canopy cover exceeds 30%, perennial grasses and forbs are less than 5%, and bare ground exceeds 45%.	Vegetation treatments could be used in the Great Basin Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment priority areas would be where juniper canopy cover exceeds 20%, perennial grasses and forbs are less than 5%, and bare ground exceeds 40%.	Same as Alternative B
N/A	Treatment preferences would be to use a combination of wildland fire, fire use, prescribed fire, and chemical.	Treatment preferences would be to use a combination of wildland fire, fire use, prescribed fire, mechanical, and chemical.		
Parashant				
N/A	Up to 10,000 BLM acres and 100 NPS acres of pinyon-juniper habitat could be treated over the life of this Plan (approx. 5 % of available habitat).	Up to 31,000 BLM acres and 10,000 NPS acres of pinyon-juniper habitat could be treated over the life of this Plan (approx. 15% of available habitat).	Up to 102,000 BLM acres and 34,000 NPS acres of pinyon-juniper habitat could be treated over the life of this Plan (approx. 50% of available habitat).	
On BLM and NPS lands, based on total acres burned by wildland fires from 1984-2003, approximately 9,797 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate could be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
Up to 9,797 acres of post-fire rehabilitation are anticipated to	N/A		Same as Alternative A	

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires and fire use exceed the estimate				
On NPS lands, all acres could be considered for Wildland Fire Use, prescribed fire, fire suppression, and mechanical and chemical treatment to achieve resource objectives consistent with land use allocations, minimum tool requirement for proposed wilderness, and to protect Monument values.				
Vermilion				
N/A	Up to 10,000 acres of pinyon-juniper habitat could be treated over the life of this Plan (approx. 6% of available habitat).	Up to 30,000 acres of pinyon-juniper habitat could be treated over the life of this Plan (approx. 17% of available habitat).	Up to 50,000 acres of pinyon-juniper habitat could be treated over the life of this Plan (approx. 28% of available habitat).	
Based on total acres burned by wildland fires from 1984-2003, approximately 34 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate could be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
Up 34 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires and fire use exceed the estimated acreage.	N/A		Same as Alternative A	
Arizona Strip FO				
N/A	Up to 10,000 acres of pinyon-juniper habitat could be treated over the life of this Plan (approx. 6% of avail habitat).	Up to 30,000 acres of pinyon-juniper habitat could be treated over the life of this Plan (approx. 17% of avail. habitat).	Up to 100,000 acres of pinyon-juniper habitat could be treated over the life of this Plan (approx. 50% of available habitat).	
Based on total acres burned by wildland fires from 1984-2003, approximately 1,421 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate could be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
Up to 1,421 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires and fire use exceed the estimated acreage.	N/A		Same as Alternative A	
VI. VEGETATION MANAGEMENT: MOJAVE DESERT ECOLOGICAL ZONE				
A. DESIRED FUTURE CONDITIONS – Mojave Desert Ecological Zone				
<i>Parashant and Arizona Strip FO</i>				
<ul style="list-style-type: none"> • Manage for adequate cover and mix of natural plant species that have good vigor. • Allow fire to control or reduce exotic annual weeds such as red brome and to limit woody vegetation to non-hazardous levels. 	<ul style="list-style-type: none"> • Endemic plant species and associated communities such as creosote bush, Joshua tree, Mojave yucca and cacti, would be present along with other shrubs, grasses, and wildflowers. These communities could include stands of young and old shrubs, sparse vegetation, scattered to larger expanses of creosote bush or Joshua trees, seeps, healthy streamside (riparian) vegetation, and other interspersed grassland and shrub habitats. • Endemic animal species such as desert tortoise, and chuckwalla would be present and thriving with more than adequate food, water, and cover resources. • There would be no net loss of acres of Mohave Desert plant communities (i.e., long-term or permanent removal from the landscape). A no net loss objective would not preclude restoration, rehabilitation, or related management actions. • Treatment emphasis would be to reduce the proliferation of non-indigenous annual plant species, reduce fire intensity and frequency, and improve tortoise structural and forage habitat components. 			
B. MANAGEMENT ACTIONS - Mojave Desert Ecological Zone				
<i>Parashant and Arizona Strip FO</i>				
N/A	Vegetation treatments could be used in the Mojave Desert Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment priority areas would be where desert tortoise habitat has been burned and/or converted to invasive annual grass communities.			
N/A	No planned vegetation treatments would be conducted in the Mojave Desert Ecological Zone. Fire Use and	Treatment preference would be to use chemical methods. Prescribed fire and mechanical treatment methods would only be authorized where doing so would benefit desert tortoise or their habitat, reduce invasive plant species, reduce fire frequency or intensity by removing hazardous or flashy fuels, or be necessary for research.		

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
Noxious weed control could be authorized where appropriate.				
<i>Parashant</i>				
N/A	No planned vegetation treatments would be conducted in the Mojave Desert Ecological Zone. Noxious weed control and fire use could be authorized where appropriate.	Up to 70,000 BLM acres of Mojave Desert Ecological Zone would be treated over the life of this Plan. Up to 100 acres may be treated with prescribed fire on BLM lands if associated with scientific research.	Up to 80,000 BLM acres of Mojave Desert Ecological Zone would be treated over the life of this Plan. Up to 200 acres may be treated with prescribed fire on BLM lands if associated with scientific research.	Same as Alternative C
On BLM and NPS lands, based on total acres burned by wildland fires from 1984-2003, approximately 22,889 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate may be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires in the Mojave Desert Ecological Zone.				
Up to 50,000 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires exceed the estimated acreage.	N/A	Same as Alternative A		
On NPS lands, all Mojave Desert Ecological Zone acres would be managed as Fire Suppression as designated in the Fire Management Plan utilizing the appropriate Management Response method. All acres could be considered for Mojave Desert Ecological Zone restoration, strategically applying mechanical and chemical treatment for invasive plant control, endangered species habitat restoration/protection, or to restore more natural fire regimes and fire frequency. All treatments would be consistent with land use allocations, and minimum tool requirements for proposed wilderness, and to protect Monument values.				
<i>Arizona Strip FO</i>				
N/A	No planned vegetation treatments would be conducted in the Mojave Desert Ecological Zone.	Up to 5,000 acres would be treated in the Mojave Desert Ecological Zone over the life of this Plan (approx. 3% of available habitat). Up to 500 acres may be treated with	Up to 10,000 acres would be treated in the Mojave Desert Ecological Zone over the life of this Plan (approx. 6% of available habitat). Up to 500 acres may be treated with prescribed fire if associated with scientific research.	

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
		prescribed fire if associated with scientific research.		
Based on total acres burned by wildland fires from 1984-2003, approximately 3,794 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate may be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
Up to 3,794 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires exceed the estimated acreage.	N/A			Same as Alternative A

VII. VEGETATION MANAGEMENT: MOJAVE-GREAT BASIN TRANSITION ECOLOGICAL ZONE

A. DESIRED FUTURE CONDITIONS – Mojave-Great Basin Transition Ecological Zone

Parashant and Arizona Strip FO

- Endemic plant species and associated communities such as black brush, Joshua tree, Mojave yucca, and cacti would be present along with other shrubs, grasses, and wildflowers. These communities could include stands of young and old shrubs, sparse vegetation, scattered to larger expanses of black brush to various mixes of black brush, Joshua trees, pinyon-juniper, yucca, and shrub habitats.
 - Endemic animal species such as desert tortoise, chuckwalla, and desert bighorn sheep would be present and thriving with more than adequate food, water, and cover resources.
 - Priority plant species and associated communities such as black brush, Joshua tree, Mojave yucca, and cacti would be present along with other shrubs, grasses, and wildflowers. These communities could include stands of young and old shrubs, sparse vegetation, scattered to larger expanses of black brush to various mixes of black brush, Joshua trees, pinyon-juniper, yucca, and shrub habitats.
 - There would be no net loss in acres of Transition plant communities (i.e., long-term or permanent removal from the landscape). A no net loss objective would not preclude restoration, rehabilitation, or related management actions.
 - Management of Mohave-Great Basin Transition Ecological Zone plant communities would focus on removing invasive non-native plants, especially cheatgrass, Sahara mustard, and red brome, and preventing habitat degradation due to wildfire.
- See Mojave Desert and Great Basin (Sagebrush and Pinyon-Juniper) Ecological Zones.

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
B. MANAGEMENT ACTIONS – Mojave-Great Basin Transition Ecological Zone				
<i>Parashant and Arizona Strip FO</i>				
N/A	N/A	Vegetation treatments could be used in the Mojave-Great Basin Transition Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment priority areas would be for protection of unburned desert tortoise habitat and restoration and rehabilitation of habitat previously burned and/or converted to invasive, annual grass communities.		
N/A	No planned vegetation treatments would be conducted in the Mojave-Great Basin Transition Ecological Zone. Noxious weed control and fire use could be authorized where appropriate.	Chemical treatment methods would be used in preference to, but not to the exclusion of, other available tools in the Mojave-Great Basin Transition Ecological Zone.	Chemical or biological treatment methods would be used in preference to, but not to the exclusion of, other available tools in the Mojave-Great Basin Transition Ecological Zone.	Same as Alternative C
N/A	Prescribed fire and mechanical treatment methods would only be authorized on BLM lands where doing so would reduce invasive plant species or fire frequency and/or intensity by removing hazardous fuels, or would be done for research.			
<i>Parashant</i>				
N/A	No planned vegetation treatments would be conducted in the Mojave-Great Basin Transition Ecological Zone. Noxious weed control and fire use could be authorized where appropriate.	Up to 150,000 BLM acres of Mojave-Great Basin Transition Ecological Zone could be treated over the life of this Plan. Up to 100 acres may be treated with prescribed fire on BLM lands if associated with scientific research.	Up to 180,000 BLM acres of Mojave-Great Basin Transition Ecological Zone could be treated over the life of this Plan. Up to 200 acres may be treated with prescribed fire on BLM lands if associated with scientific research.	Same as Alternative C
On BLM and NPS lands, based on total acres burned by wildland fires from 1984-2003, approximately 100,000 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate may be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires in the Mojave-Great Basin Transition Ecological Zone.				
Up to 100,000 acres of post-fire rehabilitation are anticipated to meet DFCs.	N/A		Same as Alternative A	

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
Additional post-fire rehabilitation may be implemented if wildland fires exceed the estimated acreage.				
On NPS lands, the Andrus Plain area is currently described as Mojave Transition. All acres could be considered for Wildland Fire Use, prescribed fire, fire suppression, and mechanical and chemical treatment to achieve resource objectives, consistent with land use allocations, minimum tool requirement for proposed wilderness, and to protect Monument values.				
Arizona Strip FO				
N/A	No planned vegetation treatments would be conducted in the Mojave-Great Basin Transition Ecological Zone. Noxious weed control and fire use could be authorized where appropriate.	Up to 5,000 acres of Mojave-Great Basin Transition Ecological Zone could be treated over the life of this Plan (approx. 4% of available habitat). Up to 500 acres may be treated with prescribed fire on BLM lands if associated with scientific research.	Up to 30,000 acres of Mojave-Great Basin Transition Ecological Zone could be treated over the life of this Plan (approx. 23% of available habitat). Up to 500 acres may be treated with prescribed fire on BLM lands if associated with scientific research.	
Based on total acres burned by wildland fires from 1984-2003, approximately 3,561 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate may be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
Up to 3,561 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires exceed the estimated acreage.	N/A	Same as Alternative A		
VIII. VEGETATION MANagements: COLORADO PLATEAU TRANSITION ECOLOGICAL ZONE				
A. DESIRED FUTURE CONDITIONS – Colorado Plateau Transition Ecological Zone				
See Mojave Desert and Great Basin (Sagebrush and Pinyon-Juniper) Ecological Zones.	<ul style="list-style-type: none"> Endemic plant species and associated communities such as fourwing saltbush, shadscale, and black brush, would be present along with other shrubs, grasses, and forbs. These communities could include stands of young and old shrubs, sparse vegetation, scattered to larger expanses of fourwing and black brush. 			

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	<ul style="list-style-type: none"> • Endemic animal species such as House Rock valley chisel-toothed kangaroo rat, Peregrine Falcon, and desert bighorn sheep would be present and thriving with more than adequate food, water, and cover resources. • There would be no net loss in acres of Transition plant communities (i.e., long-term or permanent removal from the landscape). A no net loss objective would not preclude restoration, rehabilitation, or related management actions. • Management of the Colorado Plateau Transition Ecological Zone plant communities would focus on removing invasive non-native plants, especially cheatgrass and red brome, and preventing habitat degradation. 			
B. MANAGEMENT ACTIONS – Colorado Plateau Transition Ecological Zone				
<i>Vermilion and Arizona Strip FO</i>				
N/A	Vegetation treatments could be used in the Colorado Plateau Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. No treatment priority criteria would be established for this Ecological Zone.			
N/A	No treatment preferences would be established for the Colorado Plateau Transition Ecological Zone.	All available treatment methods could be used, alone or in combination, to achieve DFCs as defined for adjacent ecological zones.		
<i>Vermilion</i>				
N/A	No planned vegetation treatments would be conducted in the Colorado Plateau Transition Ecological Zone. Noxious weed control and fire use could be authorized where appropriate.	Up to 5,000 acres of Colorado Plateau Transition Ecological Zone could be treated over the life of this Plan (approx. 4% of available habitat).	Up to 30,000 acres of Colorado Plateau Transition Ecological Zone could be treated over the life of this Plan (approx. 23% of available habitat).	
N/A		All available treatment methods could be used, alone or in combination, to achieve DFCs as defined for adjacent ecological zones.		
Based on total acres burned by wildland fires from 1984-2003, approximately 17 acres of wildland fire are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate could be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
Up to 17 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires and fire use exceed the estimated acreage.	N/A		Same as Alternative A	
Arizona Strip FO				
N/A	No planned vegetation treatments would be conducted in the Colorado Plateau Transition Ecological Zone. Fire use and noxious weed control could be authorized where appropriate.	Up to 5,000 acres of Colorado Plateau Transition Ecological Zone could be treated over the life of this Plan (approx. 4% of available habitat).		Up to 30,000 acres of Colorado Plateau Transition Ecological Zone could be treated over the life of this Plan (approx. 23% of available habitat).
Based on total acres burned by wildland fires from 1984-2003, less than one acre of wildland fire is anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate could be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
Less than one acre of post-fire rehabilitation is anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires and fire use exceed the estimated acreage.	N/A		Same as Alternative A	
IX. VEGETATION MANagements: INTERIOR CHAPARRAL ECOLOGICAL ZONE				
A. DESIRED FUTURE CONDITIONS – Interior Chaparral Ecological Zone				
Parashant and Arizona Strip FO				
N/A				<ul style="list-style-type: none"> The Interior Chaparral Ecological Zone would consist of diverse populations of endemic vegetative species, particularly shrubs, and a mosaic of age class distributions of these species.

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	<ul style="list-style-type: none"> • Endemic plant species and associated communities such as manzanita, silk tassel, and live oak would be present, along with other shrubs, grasses, and forbs. • Endemic animal species such as Black-chinned Sparrow and mule deer would be present and thriving with more than adequate food, water, and cover resources. • There would be no net loss of acres of Interior Chaparral plant communities (i.e., long-term or permanent removal from the landscape). A no net loss objective would not preclude restoration, rehabilitation, or related management actions. 			
B. MANAGEMENT ACTIONS - Interior Chaparral Ecological Zone				
<i>Parashant and Arizona Strip FO</i>				
N/A	Vegetation treatments could be used in the Interior Chaparral Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment objectives would focus on providing for shrub regeneration, wildlife access for cover and browse, and exclusion of invasive non-native plants.			
N/A	No planned vegetation treatments would be conducted in the Interior Chaparral Ecological Zone over the life of this Plan. Noxious weed control and fire use could be authorized where appropriate.	Mechanical or chemical treatment methods would be used to create openings and to achieve DFCs, in preference to, but not to the exclusion of, other available tools	Mechanical, chemical, or biological treatment methods would be used to create openings and to achieve DFCs, in preference to, but not to the exclusion of, other available tools.	Same as Alternative C
<i>Parashant</i>				
N/A	No planned vegetation treatments would be conducted in the Interior Chaparral Ecological Zone over the life of this Plan. Noxious weed control and fire use could be authorized where appropriate.	Up to 1,500 BLM acres of Interior Chaparral Ecological Zone would be treated over the life of this Plan (approx. 15% of available habitat).	Up to 2,500 BLM acres of Interior Chaparral Ecological Zone would be treated over the life of this Plan (approx. 25% of available habitat).	Same as Alternative C
Based on total acres burned by wildland fires from 1984-2003, approximately 877 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate may be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
Up to 877 acres of post-fire rehabilitation are anticipated to	N/A		Same as Alternative A	

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires and fire use exceed the estimated acreage.				
Arizona Strip FO				
N/A	No planned vegetation treatments would be conducted in the Interior Chaparral Ecological Zone over the life of this Plan. Noxious weed control and fire use could be authorized where appropriate.	Up to 1,000 acres of Interior Chaparral Ecological Zone would be treated over the life of this Plan (approx. 4% of available habitat).	Up to 5,000 acres of Interior Chaparral Ecological Zone would be treated over the life of this Plan (approx. 21% of available habitat).	
Based on total acres burned by wildland fires from 1984-2003, approximately 846 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate may be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
Up to 846 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires and fire use exceed the estimated acreage.	N/A		Same as Alternative A	

X. VEGETATION MANAGEMENT: PLAINS-GRASSLAND ECOLOGICAL ZONE

A. DESIRED FUTURE CONDITIONS – Plains-Grassland Ecological Zone

Common to All Planning Areas

Manage for a predominance of perennial grass cover, reduced

- Endemic plant species and associated communities such as Galleta, sand dropseed, Indian ricegrass, blue grama, black grama, needle and thread grass, four-wing saltbush, shadscale, winterfat, and Mormon tea would be present, along with other

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>cover of annual grasses, and for fire to naturally inhibit the invasion of woody shrubs such as rabbitbrush, snakeweed, and big sagebrush.</p>	<p>shrubs, grasses, and forbs.</p> <ul style="list-style-type: none"> • Endemic animal species such as pronghorn antelope, Cassin's Sparrow, and Brewer's Sparrow would be present and thriving with more than adequate food, water, and cover resources. • Grassland plant communities would be managed for no net loss (i.e., long-term or permanent removal from the landscape). • A no net loss objective would not preclude restoration, rehabilitation, or related management actions. • The Plains-Grassland Ecological Zone habitats would include a mosaic of grassland and shrub communities, varying age structure, sparse vegetation, scattered to larger expanses of separate grassland or shrub communities, or various mixes of these communities. (See Table 2.4: Fish and Wildlife.) 			
<p>B. MANAGEMENT ACTIONS - Plains-Grassland Ecological Zone</p> <p style="text-align: center;"><i>Common to All Planning Areas</i></p>				
N/A	<p>Vegetation treatments could be used in the Plains-Grassland Ecological Zone to enhance vegetative diversity, restore native plant communities, maintain or increase wildlife habitat, and reduce or eliminate hazardous fuels. Treatment emphasis would be to reduce the proliferation of non-indigenous, annual plants and improve pronghorn antelope habitat consistent with site potential (see Table 2.4: Fish and Wildlife).</p>			
N/A	<p>No treatment priority criteria would be established for the Plains-Grassland Ecological Zone.</p>	<p>Treatment priority areas in the Plains-Grassland Ecological Zone would be where grasses and forbs are less than 5% and bare ground exceeds 45%.</p>		
N/A	<p>No planned vegetation treatments would be conducted for the Plains-Grassland Ecological Zone. Noxious weed control and fire use could be authorized where appropriate.</p>	<p>Mechanical or chemical treatment methods would be used in preference to, but not to the exclusion of, other available tools in the Plains-Grassland Ecological Zone.</p>	<p>Mechanical, chemical, or biological treatment methods would be used in preference to, but not to the exclusion of, other available tools in the Plains-Grassland Ecological Zone.</p>	
N/A	<p>No planned vegetation treatments would be conducted for the Plains-Grassland Ecological Zone. Noxious weed control and fire use could be authorized where appropriate.</p>			<p>Use of prescribed fire would be authorized where doing so would benefit priority species or their habitat or would reduce fire frequency or intensity by removing hazardous fuels, consistent with land use allocations and minimum tool requirement for designated and proposed wilderness.</p>

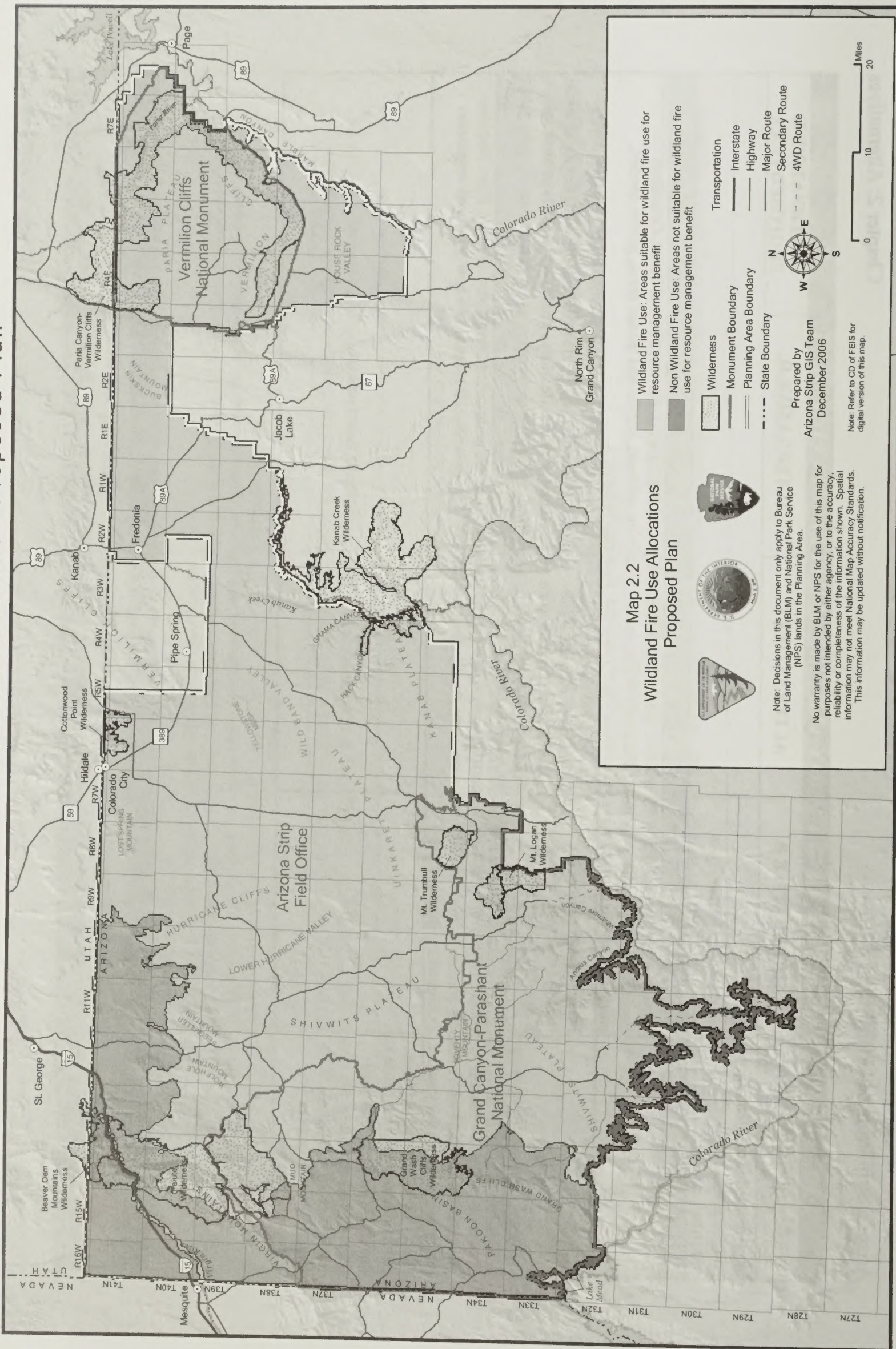
TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>Parashant</i>				
N/A	No planned vegetation treatments would be conducted for the Plains-Grassland Ecological Zone. Noxious weed control and fire use could be authorized where appropriate.	Up to 50 BLM acres of Plains-Grassland Ecological Zone could be treated over the life of this Plan (approx. 6% of available habitat).	Up to 110 BLM acres of Plains-Grassland Ecological Zone could be treated over the life of this Plan (approx. 13% of available habitat).	
Based on total acres burned by wildland fires from 1984-2003, no wildland fires are anticipated during the life of the Plan. Because this is a fire-adapted Ecological Zone, wildland fires may occur during the life of the Plan. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
No post-fire rehabilitation is anticipated. If wildland fires and fire use occur, post-fire rehabilitation may be implemented to meet DFCs.	N/A		Same as Alternative A	
<i>Vermilion</i>				
N/A	No planned vegetation treatments would be conducted for the Plains-Grassland Ecological Zone. Fire use and Noxious weed control could be authorized where appropriate.	Up to 5,000 acres of Plains-Grassland Ecological Zone could be treated over the life of this Plan (approx. 8% of available habitat).	Up to 10,000 acres of Plains-Grassland Ecological Zone could be treated over the life of this Plan (approx. 15% of available habitat).	
Based on total acres burned by wildland fires from 1984-2003, approximately 4,496 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate could be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
Up to 4,496 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be	N/A		Same as Alternative A	

TABLE 2.3: VEGETATION AND FIRE AND FUELS MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
implemented if wildland fires and fire use exceed the estimated acreage.				
Arizona Strip FO				
N/A	The following plant and priority wildlife species would be managed as indicators of the condition of Plains-Grassland Ecological Zone habitat condition: Fickeisen plains cactus, four-wing saltbush, needle and thread grass, grama species, pronghorn antelope, and Brewer's sparrow. (See Table 2.4: Fish and Wildlife.)			
N/A	No planned vegetation treatments would be conducted for the Plains-Grassland Ecological Zone.	Up to 50,000 acres of Plains-Grassland Ecological Zone could be treated over the life of this Plan (approx. 6% of available habitat).	Up to 100,000 acres of Plains-Grassland Ecological Zone could be treated over the life of this Plan (approx. 13% of available habitat).	
Based on total acres burned by wildland fires from 1984-2003, approximately 4,496 acres of wildland fires are anticipated during the life of the Plan. Because the size of individual wildland fires and the number of annual fires can vary greatly, this estimate could be exceeded. It is unknown how proposed vegetation treatments would affect total acres burned by wildland fires.				
Up to 4,496 acres of post-fire rehabilitation are anticipated to meet DFCs. Additional post-fire rehabilitation may be implemented if wildland fires and fire use exceed the estimated acreage.	N/A		Same as Alternative A	

Map 2.2 Wildland Fire Use Allocations - Proposed Plan



Map 2.2
Wildland Fire Use Allocations
Proposed Plan



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

- Wildland Fire Use: Areas suitable for wildland fire use for resource management benefit
- Non Wildland Fire Use: Areas not suitable for wildland fire use for resource management benefit
- Wilderness
- Monument Boundary
- Planning Area Boundary
- State Boundary
- Transportation
 - Interstate
 - Highway
 - Major Route
 - Secondary Route
 - 4WD Route

Prepared by
 Arizona Strip GIS Team
 December 2006

Note: Refer to CD of FEIS for digital version of this map.

TABLE 2.4: FISH AND WILDLIFE

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. FISH AND WILDLIFE: GENERAL				
A. DESIRED FUTURE CONDITIONS - Fish and Wildlife				
<i>Common to All Planning Areas</i>				
<ul style="list-style-type: none"> • Ecological conditions would be within the range of natural variability and would be functional for dependant animal species. • Forage, water, cover, and space would be available to wildlife of sufficient quantity and quality to support productive and diverse wildlife populations. • All waters would be safely accessible to wildlife. • Fences would be the minimum necessary for effective livestock control or other administrative purposes. Fences would be wildlife passable, consistent with the species found in the area. • Adverse impacts to wildlife and wildlife resources would be avoided or mitigated. • Human/wildlife conflicts would be avoided, resolved, or mitigated. • On BLM lands, management of game and nongame species by Arizona Game and Fish Department (AGFD) would be consistent with AGFD Strategic Plans and other appropriate guidelines. • On NPS lands, wildlife management would be consistent with AGFD Strategic Plans, as applicable within NPS management policies. • The natural biological diversity of fish, wildlife, and plant species would be maintained or, where necessary and feasible, restored throughout the Planning Area. Habitats would be managed on an ecosystem basis, ensuring that all parts of the ecosystem and natural processes are functional. 				
N/A				
B. MANAGEMENT ACTIONS - Fish and Wildlife				
a. Priority Species and Habitats				
<i>Common to All Planning Areas</i>				
<p>Management emphasis and priority would be given to priority species and habitats in conflict resolution. Priority species include the following:</p> <ul style="list-style-type: none"> • All special status wildlife species known or suspected to occur in the area. Special status species include those that are federally listed, proposed, or candidate species; species for which there is a signed conservation agreement or strategy; all species referenced in AGFD's Wildlife Species of Concern in Arizona document; and species included on the Arizona BLM and NPS sensitive list. (See Appendix 2.F.) • All species of migratory birds known or suspected to occur within the Planning Area. (See Appendix 2.G.) 				
N/A				

TABLE 2.4: FISH AND WILDLIFE

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	<ul style="list-style-type: none"> • All game mammals including: mule deer, pronghorn antelope, desert bighorn sheep, mountain lion, Kaibab squirrel, and desert cottontail rabbit. • Game birds including Merriam's Turkey, Gambel's Quail, White-winged Dove, Mourning Dove, Band-tailed Pigeon, Chukar Partridge, and waterfowl. • The following carnivores: kit fox, gray fox, and long-tailed weasels. <p>Priority habitats include the following:</p> <ul style="list-style-type: none"> • All aquatic and/or riparian areas, including springs, seeps, and man-made waters. These areas are important for all wildlife species, particularly native fish, and migratory birds. • All portions of the ponderosa pine ecological zone. This habitat is important for Merriam's Turkey and a variety of bats and migratory birds. It is also crucial summer range for mule deer. • All areas considered crucial mule deer winter range, including the Buckskin Mountains, Whitmore Canyon, Grey Points/Low Mountain, north and eastern slopes of Seegmiller Mountain, Bull Rush Point, Andrus Point, and the western slope of the Kaibab Plateau. (See Map 3.17.) • All bighorn sheep habitat areas, including the Virgin and Beaver Dam Mountains, Grand Wash Cliffs, Rock Canyon – Hurricane Cliffs, Kanab Creek, and the Paria – Vermilion Cliffs habitat areas. • House Rock Valley. The only known habitat for an endemic kangaroo rat and includes several special status plant species. 			
Wildlife habitat would continue to be managed through the habitat management plan (HMP) process to achieve desired plant community objectives.		For BLM lands, decisions and specific actions from this Plan intended to benefit fish and wildlife resources would be implemented through the development and implementation of three interdisciplinary wildlife HMPs. These plans would be developed and maintained cooperatively with AGFD, U.S. Fish and Wildlife Service (USFWS), and other interested participants. HMP area boundaries would follow AGFD Game Management Units 12B, 13A, and 13B. Implementation accomplishments would be monitored and reviewed annually and documented in HMP files. The HMPs would be amended or revised, as necessary, and would incorporate existing and new BLM and state strategies as applicable. See Appendix 2.H for HMP contents.		
N/A		Activities that adversely affect breeding, feeding, or sheltering activities of priority wildlife species could be modified, mitigated, or otherwise restricted to minimize disturbance to the species.		
N/A		On BLM lands, recreational collecting of animals or animal parts (e.g. antlers, skulls, feathers, etc.) in ecologically non-sensitive areas would be allowed, assuming compliance with AGFD regulations. On NPS lands, recreational collection of animal parts would not be authorized.		
N/A		Access to public lands with fish and wildlife hunting and viewing opportunities would be maintained as determined in the route evaluation/designation process. Access to public lands with sensitive wildlife and/or fisheries resources could be closed or limited, where determined necessary through monitoring of resource conditions.		

TABLE 2.4: FISH AND WILDLIFE				
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
b. Wildlife Transplants and Augmentations				
<i>Common to All Planning Areas</i>				
<p>Restoration of native wildlife into historic range would continue by transplanting wildlife in cooperation with AGFD.</p>	<p>Reintroductions, transplants, capture operations, and supplemental stockings (augmentations) of native wildlife populations into historic habitats would be carried out in collaboration with the AGFD and/or the USFWS where consistent with achieving DFCs, protection of Monument objects, and within applicable agencies policies. Restoration of native wildlife would be for the following purposes:</p> <ul style="list-style-type: none"> • To maintain current populations, distributions, and genetic diversity; • To conserve or recover threatened or endangered species; and/or • To restore or enhance native populations, diversity, or distribution of special status species. <p>Species that may be reintroduced, transplanted, or augmented include but are not limited to the following: pronghorn antelope, mule deer, desert bighorn sheep, Merriam's Turkey, Kaibab squirrel, and special status species. (See Table 2.5 and Appendix 2.F. for species list.)</p>			
c. Wildlife Habitat Enhancement Projects				
<i>Common to All Planning Areas</i>				
<p>The need for and identification of suitable locations for construction of new wildlife waters in HMPs would be determined.</p>	<ul style="list-style-type: none"> • On BLM lands, construction of wildlife habitat improvement projects, including water developments and vegetation treatments, could be authorized to meet DFCs, assuming compliance with NEPA, ESA, Monument proclamations, and other applicable laws, regulations, and policies. DPC objectives for wildlife would be incorporated into all habitat improvement projects including restoration and vegetation treatment projects. Specific projects would be listed in HMPs. • New water developments for wildlife would not be authorized on NPS lands. Vegetation treatments could be authorized to meet ecological objectives, including wildlife habitat management, assuming compliance with NEPA, ESA, Monument proclamations, and other applicable laws, regulations, and policies. DPC objectives for wildlife would be incorporated into all habitat improvement projects including restoration and vegetation treatment projects. 			
<p>N/A</p>	<p>Existing vegetation treatment projects that benefit wildlife could be maintained.</p>			
<p>Safe access and reliability of wildlife water developments would continue to be provided. Maintenance of existing waters would take priority over new construction.</p>	<ul style="list-style-type: none"> • Existing water developments would be modified to ensure wildlife have safe access to water. Existing water developments would be maintained to ensure reliability of the water. Maintenance of existing waters would generally take priority over new construction. Development of cooperative waters for livestock and wildlife would be encouraged where doing so would benefit wildlife, would be consistent with achieving DFCs, and would be economically efficient. • On NPS lands, existing water developments may be maintained, repaired, or replaced in-kind but increased development (size, scope, or disturbance) would not be authorized. 			

TABLE 2.4: FISH AND WILDLIFE

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	Escape ramps would continue to be maintained and, where needed, installed at all waters accessible to wildlife to minimize drowning hazards.			
d. Animal Damage Control				
<i>Common to All Planning Areas</i>				
N/A	No members of the pig family (Suidae) would be authorized on BLM or NPS lands.			
<i>Parashant and Vermilion</i>				
On BLM lands, existing agreements with the Animal and Plant Health Inspection Service – Wildlife Services (APHIS-WS) would be modified to ensure appropriate animal damage control, specifically targeting individual predators rather than predator populations.	The BLM would request that APHIS-WS focus predator control efforts in the Monuments to specifically target individual predators rather than predator populations.	The BLM would request that APHIS-WS focus predator control efforts in the Monuments to target individual predators rather than predator populations. BLM would also request proactive control to benefit priority species or enhance the success of planned transplants or augmentations of priority species providing Monument objects are enhanced.		APHIS-WS would conduct predator control efforts in the Monuments on an as needed basis. The BLM would request proactive control to benefit priority species, protect livestock, or enhance the success of planned wildlife transplants or augmentations.
On NPS lands, predator control would only take place in accordance with NPS policies, ensuring that animal removals do not interfere with natural habitats, natural abundances, natural distribution of native species, nor natural processes.				
<i>Arizona Strip FO</i>				
In cooperation with AGFD, exotic wildlife species and feral livestock in the Virgin River Corridor ACEC would be controlled.	The BLM would request that APHIS-WS focus predator control efforts in the Arizona Strip FO to specifically target individual predators rather than predator populations.			APHIS-WS would conduct predator control efforts in the Arizona Strip FO on an as needed basis. The BLM would request proactive control to benefit priority species, protect livestock, or enhance the success of planned wildlife transplants or augmentations.
On adjacent NPS lands, predator control would only take place in accordance with NPS policies, ensuring that animal removals do not interfere with natural habitats, natural abundances, natural distribution of native species, nor natural processes.				

TABLE 2.4: FISH AND WILDLIFE

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
e. Watchable Wildlife				
<i>Parashant</i>				
	The Mt. Trumbull area would continue to be managed as a Watchable Wildlife area.			
N/A		The following areas would be identified, nominated, and managed as Watchable Wildlife areas:		
		<ul style="list-style-type: none"> • Tassi Spring • Cane Spring • Pakoon Spring • Oak Grove 		
<i>Vermilion</i>				
N/A		The Condor release site would be identified, nominated, and managed as a Watchable Wildlife area.		
<i>Arizona Strip FO</i>				
N/A		The following areas would be identified, nominated, and managed as Watchable Wildlife areas:		
		<ul style="list-style-type: none"> • Black Rock • Beaver Dam Confluence • Lime Kiln Pass • Buckskin Mountains • House Rock Valley 		
C. ADMINISTRATIVE ACTIONS				
<i>Common to All Planning Areas</i>				
N/A	Benefits for dollars spent on managing and improving wildlife habitat on public lands would be maximized by continuing and expanding cooperative partnerships with AGFD, USFWS, and other interested groups.			
N/A	On NPS lands, wildlife decisions and specific actions from this Plan would be guided by a cooperative planning process focusing on ecosystem management that perpetuates a natural distribution of native wildlife in a mosaic of their associated habitats within a normal range of variability. Plans would be developed cooperatively involving AGFD, BLM, USFWS, and interested stakeholders. Plans would integrate BLM HMPs.			

TABLE 2.4: FISH AND WILDLIFE				
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
II. FISH AND WILDLIFE: MULE DEER				
A. DESIRED FUTURE CONDITIONS – Mule Deer				
<i>Common to All Planning Areas</i>				
N/A		<ul style="list-style-type: none"> • Mule deer habitat would provide the necessary forage, water, and shelter components for healthy, self-sustaining populations within the range of natural variability. • On BLM lands, mule deer populations would be at or near maximum levels sustainable for the habitat. • On BLM lands, forage in crucial summer mule deer habitat would include at least 10% grasses and forbs composition by weight (CBW) and at least 30% palatable browse species CBW at all key areas, where consistent with site potential. • On BLM lands, forage in crucial winter mule deer habitat would include at least 30% palatable browse species CBW at all key areas, where consistent with site potential. • Mule deer habitat in pinyon-juniper woodland sites would include a healthy diverse mosaic of trees, shrubs, grasses, and forbs. • Water sources within mule deer habitat would be safely accessible to deer and other wildlife. • On BLM lands, water sources within mule deer habitat would be spaced no more than 3 miles apart. • All fences in mule deer habitat would be deer passable. 		
B. MANAGEMENT ACTIONS - Mule Deer				
<i>Common to All Planning Areas</i>				
N/A		<p>On BLM lands, self-sustaining mule deer populations would be enhanced or maintained in Game Management Units 12B, 13A, and 13B. Initial or supplemental transplants could be authorized on a case-by-case basis. Existing habitat areas could be expanded and new habitat areas may be added where consistent with protection of Monument objects and MU objectives.</p> <p>On BLM lands, crucial summer mule deer habitat would be managed for at least 10% grasses and forbs and at least 30% palatable browse species CBW, where consistent with site potential. Crucial winter mule deer habitat would be managed to include at least 30% palatable browse species, where consistent with site potential. Palatable browse species would be maintained and enhanced through vegetation conversion. Palatable browse species could include, but is not limited to cliffrose, bitterbrush, ceanothus, four-wing saltbush, desert holly, Mormon tea, and mountain mahogany.</p>		
N/A		<p>On BLM lands, mule deer would be managed for healthy, self-sustaining populations in accordance with population goals and objectives established in the AGFD Strategic Plan for the species.</p>		

TABLE 2.4: FISH AND WILDLIFE

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	A HMP would be developed and implemented for mule deer habitat on BLM lands in Game Management Units 12B, 13A, and 13B, consistent with the AGFD Strategic Plan. Site-specific management actions would be included. The plan would be amended or revised as necessary. Implementation accomplishments would be monitored annually.			
III. FISH AND WILDLIFE: PRONGHORN ANTELOPE				
A. DESIRED FUTURE CONDITIONS – Pronghorn Antelope				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> • Pronghorn habitat would provide the necessary forage, water, and shelter components for healthy, self-sustaining populations within the range of natural variability. • On BLM lands, pronghorn antelope populations would be at or near maximum levels sustainable for the habitat. • On BLM lands, forage composition in pronghorn antelope habitat would include at least 20% grasses and forbs, and 20% palatable shrub species CBW at all key areas, where consistent with site potential. • Where consistent with site potential on BLM lands, the shrub component would be at least 15 inches tall at key fawning areas in pronghorn habitat to provide fawning cover. • Water sources within pronghorn antelope habitat would be safely accessible to pronghorn and other wildlife. • On BLM lands, water sources within pronghorn antelope habitat would be spaced no more than 3 miles apart. • All fences in pronghorn antelope habitat would be pronghorn passable and necessary for effective range management or other administrative functions. 			
B. MANAGEMENT ACTIONS – Pronghorn Antelope				
<i>Common to All Planning Areas</i>				
N/A	On BLM lands, self-sustaining pronghorn populations would be enhanced or maintained in Game Management Units 12B, 13A, and 13B. Initial or supplemental transplants could be authorized on a case-by-case basis. Existing habitat areas could be expanded and new habitat areas may be added where appropriate.			
N/A	On BLM lands, pronghorn antelope would be managed for healthy, self-sustaining populations in accordance with population goals and objectives established in the AGFD Strategic Plan for the species.			
N/A	The BLM would identify and map pronghorn fawning areas in the Planning Area. The BLM would implement actions to increase shrub height and density to enhance fawning cover, consistent with site potential.			
N/A	On BLM lands, pronghorn habitat would be managed for at least 20% grasses and forbs and at least 20% palatable browse species CBW, where consistent with site potential.			
Fence construction would be limited to that which is	Fences in pronghorn antelope habitat would be modified to ensure they are passable to pronghorn. Fences not necessary for range management or other administrative purposes would be removed.			

TABLE 2.4: FISH AND WILDLIFE

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
absolutely necessary. New fences would meet specifications developed by the BLM. Existing fences would be modified to meet standards.				
On BLM lands, pronghorn habitat would be managed through the HMP process to achieve and maintain viable populations in accordance with HMP objectives.	A HMP for pronghorn antelope on BLM lands would be developed and implemented in Game Management Units 12B, 13A, and 13B consistent with the AGFD Strategic Plan. Site-specific management actions would be included. The plan would be amended or revised as necessary. Implementation accomplishments would be monitored annually.			
IV. DESERT BIGHORN SHEEP				
A. DESIRED FUTURE CONDITIONS – Desert Bighorn Sheep				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> Desert bighorn habitat would provide the necessary forage, water, and shelter components for healthy, self-sustaining populations within the range of natural variability. On BLM lands, desert bighorn sheep populations would be at or near maximum levels sustainable for the habitat. On BLM lands, forage in desert bighorn sheep habitat areas would include at least 20% grasses, 20% forbs, and 20% palatable shrub species CBW, where consistent with site potential. Water sources within bighorn sheep habitat areas would be safely accessible to bighorn and other wildlife. On BLM lands, water sources within bighorn sheep habitat would be spaced no more than 4 miles apart. 			
B. SPECIAL DESIGNATIONS – Desert Bighorn Sheep				
<i>Arizona Strip FO</i>				
N/A	11,731 acres would be designated as the Lime Kiln / Hatchet Canyon ACEC for protection of the desert bighorn sheep.			The Lime Kiln / Hatchet Canyon ACEC would not be designated. (See Land Use Allocations for desert bighorn sheep.)
N/A	12,881 acres would be designated as the Grey Points			The Grey Points ACEC would not be designated. (See Land Use Allocations for desert bighorn sheep.)

TABLE 2.4: FISH AND WILDLIFE

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	ACEC for protection of the desert bighorn sheep.			
N/A	23,464 acres would be designated as the Hurricane Cliffs ACEC for protection of the desert bighorn sheep and riparian values.			Hurricane Cliffs ACEC would not be designated. (See Land Use Allocations for desert bighorn sheep.)
C. LAND USE ALLOCATIONS – Desert Bighorn Sheep				
<i>Parashant</i>				
N/A				114,288 acres would be allocated as the Grand Wash Cliffs Wildlife Habitat Area (WHA) for desert bighorn sheep.
<i>Vermilion</i>				
N/A				58,268 acres would be allocated as the Vermilion Cliffs WHA for desert bighorn sheep
<i>Arizona Strip FO and Parashant</i>				
N/A				180,451 acres would be allocated as the Virgin Mountains, Hurricane Cliffs, and Hack and Grama Canyon WHAs for desert bighorn sheep
D. MANAGEMENT ACTIONS – Desert Bighorn Sheep				
<i>Common to All Planning Areas</i>				
N/A	On BLM lands, desert bighorn sheep would be managed for healthy, self-sustaining populations in accordance with population goals and objectives established in the AGFD Strategic Plan for the species.			
On BLM lands, identified bighorn sheep habitat would be managed through the HMP process and the BLM's range-wide plan for desert bighorn sheep.	Implementation of site-specific actions benefiting bighorn sheep would be continued by implementing the Arizona Strip Desert Bighorn Sheep Management Plan (BLM and AGFD 2001) in so far as it is consistent with this Plan. The desert bighorn sheep management plan would be amended or revised as necessary. Implementation accomplishments would be monitored annually. The plan would be amended to include NPS lands, with any actions taken in compliance with NPS Management Policies regarding restoration of native species.			
<i>Arizona Strip FO</i>				
N/A	Self-sustaining bighorn sheep populations would be enhanced or maintained within all WHAs for bighorn sheep. New habitat areas could be added where appropriate. Initial or supplemental transplants would be authorized on a case-by-case basis, and on NPS lands, would meet NPS Management Policies regarding the restoration of native animal species.			

TABLE 2.4: FISH AND WILDLIFE

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
Activities that could adversely affect the lambing or rearing of newborn bighorn sheep along the lower Grand Wash Cliffs from December 1 through May 31 would not be permitted.	Activities that would adversely affect the lambing or rearing of newborn bighorn sheep would generally not be authorized in WHAs for desert bighorn sheep between December 1 and May 31.			
N/A	Exotic/non-native wildlife species and/or feral, non-permitted livestock would be immediately eliminated or controlled upon discovery within nine miles of WHAs for desert bighorn sheep to minimize the threat of disease. Agents authorized to eliminate exotics/non-natives include BLM and NPS rangers, AGFD, Wildlife Services, and county and local law enforcement agencies.			
Changes in kind of livestock from cattle to domestic sheep and/or goats would not be authorized within or adjacent to occupied bighorn sheep habitats unless monitoring studies and research indicate a disease transmission problem would not exist.	Changes in kind of livestock to other than cattle and horses would not be authorized within nine miles of WHAs for desert bighorn sheep. Sheep and goats would not be authorized as pack stock within nine miles of desert bighorn sheep WHAs. Only cattle and horse grazing, where allotted, would be authorized on NPS lands.			
V. FISH AND WILDLIFE: KAIBAB SQUIRREL				
A. DESIRED FUTURE CONDITIONS – Kaibab Squirrel				
<i>Parashant and Arizona Strip FO</i>				
N/A	<ul style="list-style-type: none"> Kaibab squirrel habitat would provide the necessary forage, water, and shelter components for healthy, self-sustaining populations within the range of natural variability. Forage composition in Kaibab squirrel habitat would include at least 20% grasses and forbs, 20% mast-producing species, and 30% ponderosa pine CBW at all key areas, where consistent with site potential. 			
B. LAND USE ALLOCATIONS - Kaibab Squirrel				
<i>Parashant</i>				
N/A	18,823 acres of ponderosa pine forest in the Mt. Trumbull and Mt. Logan areas would be allocated as the Trumbull-Logan WHA for Kaibab squirrels.			

TABLE 2.4: FISH AND WILDLIFE

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
C. MANAGEMENT ACTIONS - Kaibab Squirrel				
<i>Parashant</i>				
No new habitat areas would be authorized. No initial or supplemental transplants would be authorized.				Self-sustaining populations of Kaibab squirrels would be enhanced or maintained within the Trumbull-Logan WHA. Initial or supplemental transplants on BLM land would be authorized on a case-by-case basis.
N/A	On BLM lands, Kaibab squirrels within the Trumbull-Logan WHA would be managed for healthy, self-sustaining populations in accordance with population goals and objectives established in the AGFD Strategic Plan for the species.			
D. ADMINISTRATIVE ACTIONS - Kaibab Squirrel				
<i>Parashant</i>				
N/A	Kaibab squirrel populations would be monitored in cooperation with AGFD. Standardized surveys would be used to inventory populations and evaluate existing habitat.			
VI. FISH AND WILDLIFE: DESERT COTTONTAIL RABBIT				
A. DESIRED FUTURE CONDITIONS – Desert Cottontail Rabbit				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> Desert cottontail habitat would provide the necessary forage, water, and shelter components for healthy, self-sustaining populations within the range of natural variability. Desert cottontail rabbits would be present in sufficient quantity to provide an adequate prey base for raptors, carnivores, and other predatory species, as well as ample recreational opportunities for hunting and wildlife viewing. 			
B. MANAGEMENT ACTIONS – Desert Cottontail Rabbit				
<i>Common to All Planning Areas</i>				
N/A	On BLM lands, cottontails in the Planning Area would be managed for healthy, self-sustaining populations in accordance with population goals and objectives established in the AGFD Strategic Plan for these species.			
N/A	Cottontail rabbit habitat would be maintained, monitored, and improved to ensure a healthy and diverse predator component throughout the habitat area.			

TABLE 2.4: FISH AND WILDLIFE				
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
VII. FISH AND WILDLIFE: MIGRATORY BIRDS				
A. DESIRED FUTURE CONDITIONS – Migratory Birds				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> Migratory bird habitats would provide the necessary forage, water, and shelter components for healthy, self-sustaining populations within the range of natural variability. Migratory birds that nest in the Planning Area would have resources of sufficient quantity and quality to provide for nesting sites and to fledge young successfully. Wintering populations of waterfowl would be sufficiently abundant to provide for recreational wildlife viewing and hunting opportunities. 			
B. MANAGEMENT ACTIONS – Migratory Birds				
<i>Common to All Planning Areas</i>				
N/A	Projects to enhance waterfowl populations through habitat manipulations would be developed and implemented. Opportunities to view waterfowl would be promoted. On NPS lands, existing waterfowl habitat would be maintained within NPS policies to ensure sustainability of the natural range of habitats within the ecosystem.			
N/A	Adverse effects to breeding bird populations caused by disturbances from authorized activities would be minimized through stipulations and other mitigation.			
Migratory birds would be managed through implementation of Executive Order 13186.	Migratory birds would be managed through implementation of Executive Order 13186, with restrictions on surface disturbing activities.	Migratory birds would be managed through implementation of Executive Order 13186. Additional restrictions on surface disturbing activities would be developed on a case-by-case basis through NEPA analysis.	Same as Alternative A	Same as Alternative C
C. ADMINISTRATIVE ACTIONS – Migratory Birds				
<i>Common to All Planning Areas</i>				
N/A	Migratory bird populations would be monitored in cooperation with AGFD. Significant waterfowl habitat sites would be inventoried. Standardized surveys would be used to inventory breeding bird populations and evaluate existing habitat.			

TABLE 2.4: FISH AND WILDLIFE

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
VIII. FISH AND WILDLIFE: GAME BIRDS				
A. DESIRED FUTURE CONDITIONS – Game Birds				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> Merriam's Turkey habitat would provide the necessary forage, water, and shelter components for healthy, self-sustaining populations within the range of natural variability. Vertical structure and understory density would be sufficient in the ponderosa pine ecological zone to provide nesting and roosting habitat for Merriam's Turkey. On BLM lands, forage composition in Turkey habitat would include at least 20% grasses and forbs, and 20% mast-producing species at all key areas CBW, where consistent with site potential. Water sources within game bird habitats would be safely accessible by all wildlife. On BLM lands, water sources within Merriam's Turkey habitat would be spaced no more than 3 miles apart. 			
B. MANAGEMENT ACTIONS – Game Birds				
<i>Common to All Planning Areas</i>				
N/A	Priority game bird species would include Merriam's Turkey, Gambel's Quail, White-winged Dove, Mourning Dove, Chukar Partridge, and Band-tailed Pigeons.			
N/A	Self-sustaining populations of Merriam's Turkey would be established within all habitat areas, including Mt. Trumbull, Mt. Logan, and Black Rock. New habitat areas could be added where appropriate. Initial or supplemental transplants would be authorized on a case-by-case basis and, on NPS lands, would meet NPS Management Policies regarding the restoration of native species.			
Good ground cover for nesting Merriam's Turkey and large ponderosa pine trees for roosting in the Mt. Trumbull-Mt. Logan, and Parashant areas would be maintained	On BLM lands, Merriam's Turkey habitat would be managed for at least 20% grasses and forbs and at least 20% mast-producing species CBW, where consistent with site potential. On BLM and NPS lands, old growth in the ponderosa pine ecological zone would be protected to ensure roost sites for Merriam's Turkey.			
N/A	No initial or supplemental transplants of Chukar Partridge would occur in the Planning Area.	Initial or supplemental transplants of Chukar Partridge would be authorized on a case-by-case basis in cooperation		Same as Alternatives B & C

TABLE 2.4: FISH AND WILDLIFE

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A			with AGFD. No Chukar would be released on NPS lands.	
N/A	On BLM lands, game bird populations in the Planning Area would be managed for healthy, self-sustaining populations in accordance with population goals and objectives established in the AGFD Strategic Plan for these species.			
N/A	An HMP for game birds on BLM lands would be developed and implemented in Game Management Units 12B, 13A, and 13B consistent with the AGFD Strategic Plan. Site-specific management actions would be included. The plan would be amended or revised as necessary. Implementation accomplishments would be monitored annually. The plan would be amended to include NPS lands with actions taken in compliance with NPS Management Policies regarding restoration of native species.			
IX. FISH AND WILDLIFE: CARNIVORES AND FURBEARERS				
A. DESIRED FUTURE CONDITIONS – Carnivores and Furbearers				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> Carnivore habitat would provide the necessary forage, water, and shelter components for healthy, self-sustaining populations within the range of natural variability. Opportunities for hunting, trapping, and viewing carnivores and furbearers such as coyote, bobcat, mountain lion, kit fox, gray fox, and others would continue to be provided. 			
B. MANAGEMENT ACTIONS – Carnivores and Furbearers				
<i>Common to All Planning Areas</i>				
N/A	Priority carnivore species would include mountain lion, kit fox, gray fox, and long-tailed weasel.			
N/A	The historical range and distribution of furbearers and predatory mammals would be maintained. Maximum recreational, economic, and aesthetic uses commensurate with existing populations would be allowed.			
N/A	On BLM lands, carnivores would be managed for healthy, self-sustaining populations in accordance with population goals and objectives established in the AGFD Strategic Plan for these species.			
C. ADMINISTRATIVE ACTIONS – Carnivores and Furbearers				
<i>Common to All Planning Areas</i>				
N/A	Carnivore and furbearer habitats would be monitored to ensure a healthy and diverse predator component throughout the Planning Area.			

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. SPECIAL STATUS SPECIES: ALL SPECIAL STATUS SPECIES				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> • All federally listed threatened or endangered species found in the Planning Area would be recovered. • Management of discretionary activities in the Planning Area would not contribute to the need to list proposed, candidate, state, BLM, or NPS sensitive species, and would include conservation measures and stipulations benefiting special status species. • The Arizona Strip would provide a block of remote, contiguous habitat that would serve as refugia for populations of special status species. • There would be no net loss in the quality or quantity of special status species habitat throughout the Planning Area. • The public would be well informed about special status species in the Planning Area and the need for conservation. 			
B. MANAGEMENT ACTIONS				
<i>Common to All Planning Areas</i>				
N/A	<p>Priority for the application of management actions would be for:</p> <ul style="list-style-type: none"> • Species federally listed under the ESA as endangered or threatened, • Species proposed for federal listing, • Species that are candidates for federal listing, • Species included in the Wildlife Species of Concern in Arizona document, • Species for which a conservation strategy/agreement has been developed, and • Species included on the BLM or NPS Sensitive Species List. 			
N/A	<p>On BLM lands, specific actions and direction for managing special status species would be guided by the use of interdisciplinary wildlife HMPs produced cooperatively with the AGFD, USFWS, and other interested participants. Implementation accomplishments would be monitored and reviewed annually and documented in HMP files. HMPs would be amended or revised as necessary to incorporate new information and adjust management (See Appendix 2.H).</p> <ul style="list-style-type: none"> • On NPS lands, management of special status species, as needed, would be implemented through specific action plans tiered to the Lake Mead Resources Stewardship Plan or General Management Plan. Planning and implementation would be conducted cooperatively with AGFD, BLM, USFWS, and other stakeholders. 			

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>Management of sensitive and endangered species would be consistent with biological opinions, recovery plans, BLM policies, and the ESA.</p>	<p>Management of sensitive and endangered species would be consistent with biological opinions, recovery plans, conservation strategies, BLM and NPS policies, and the ESA, and would be consistent with achieving all DFCs, to the extent possible.</p>			
<p>The BLM would support and assist with transplants of special status species.</p>	<p>Reintroductions, transplants, and supplemental stockings (augmentations) of special status species populations would be carried out in collaboration with the AGFD and or the USFWS for the following purposes:</p> <ul style="list-style-type: none"> • To maintain current populations, distributions, and genetic diversity; • To conserve or recover threatened or endangered species; and/or • To restore or enhance native populations, diversity, or distribution of special status species. <p>Species that may be reintroduced, transplanted, or augmented may include, but would not be limited to, desert tortoise, chuckwalla, banded gila monster, northern leopard frogs, relict leopard frogs, lowland leopard frogs, endemic springsnails, woundfin minnow, Virgin River chub, Virgin spinedace, desert sucker, flannelmouth sucker, California Condor, Yuma Clapper Rail, Yellow-billed Cuckoo, SW Flycatcher, Ferruginous Hawk, Northern Burrowing Owl, White-faced Ibis, and House Rock Valley chisel-toothed kangaroo rat. These actions would be based on the best available scientific information.</p>			
<p>Conservation of federal threatened or endangered, proposed, candidate, and other special status species would be promoted by the maintenance or restoration of their habitats.</p>	<p>Introductions of non-endemic, special status animal species native to the region could be authorized on BLM lands only, on a case-by-case basis in coordination with the AGFD, USFWS, counties, and adjacent landowners.</p>			
<p>N/A</p>	<p>The BLM and NPS would continue to cooperate with the USFWS to ensure specific actions comply with the ESA. The BLM and NPS would continue to undertake active management programs to inventory, monitor, restore, and maintain listed species habitats, control detrimental non-native species, control detrimental public access, and re-establish extirpated populations as necessary to maintain the species and their habitats.</p>			
<p>N/A</p>	<p>Where actions authorized or permitted by the BLM and/or NPS may adversely affect a listed or proposed species, or adversely modify designated or proposed critical habitat, the BLM and NPS would work cooperatively with the USFWS to resolve or mitigate these impacts through implementation of species-specific conservation measures. (See Appendix 2.E.)</p>			
<p>N/A</p>	<p>Where actions that occur within the Planning Area, but are not specifically authorized or permitted by the BLM or NPS, may result in death or injury of a listed or proposed species or adversely modify designated or proposed critical habitat, the BLM and NPS would work cooperatively with the USFWS, as well as other county, state, and federal agencies, non-governmental organizations, and members of the public to reduce or eliminate the possibility of adverse effects in a timely and appropriate manner. The BLM and NPS could use planning, education programs, restrictions on season of use or number of users, area</p>			

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
closures, law enforcement contact, or other vigorous compliance efforts to discourage activities that cause injury or mortality or degrade habitat of listed or proposed species.				
a. Vegetation Management and Fire and Fuels				
<i>Common to All Planning Areas</i>				
Vegetation management within special status species habitats would include conservation measures for the species as described in the 2004 Land Use Plan Amendment for Fire and Fuels.	Conservation measures described in Appendix 2.E. would be implemented for all vegetation management actions including restoration and rehabilitation, fuels treatments, prescribed burning, and other related actions in special status species habitats.			
Fire management within special status species habitats would include conservation measures for the species as described in the 2004 Land Use Plan Amendment for Fire and Fuels.	Collection of dead and down wood in special status species habitats would be allowed for personal camp use only.			
	Conservation measures described in Appendix 2.E. would be implemented for all fire suppression, restoration and rehabilitation, fuels treatments, prescribed burning, and other fire related actions in special status species habitats.			
b. Grazing Management				
<i>Common to All Planning Areas</i>				
N/A	Season of use or other modifications to livestock grazing systems could be implemented to protect special status species. (Specific implementation actions are discussed below for the species they benefit and in the Livestock Grazing Management section.)			
c. Recreation Management				
<i>Common to All Planning Areas</i>				
No new developed campgrounds would be authorized or constructed in desert tortoise habitat.	No new developed campgrounds would be authorized or constructed in listed or proposed special status species habitat. The BLM and NPS could further limit or restrict any recreation activity or use that degrades any special status species habitat or may cause disturbance, injury, or mortality to the species.			

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
d. Surface Disturbing Actions				
<i>Common to All Planning Areas</i>				
Prior to surface disturbing activity on public land, a special status species review would be conducted by a qualified specialist.	Prior to surface disturbing activity, a special status species review would be conducted by a qualified specialist. Special status species habitat surveys would be required whenever surface disturbances occur within an area of known or suspected occupancy by special status species.			
e. Lands and Realty Management				
<i>Arizona Strip FO</i>				
<ul style="list-style-type: none"> All lands within desert tortoise ACECs and within all other desert tortoise designated critical habitat would be retained. Exchanges or sales of desert tortoise habitat out of public ownership would be limited to parcels identified in the RMP. New rights-of-way (ROWs) would be routed away from high-density desert tortoise habitats and along the edges of avoidance areas. 	<ul style="list-style-type: none"> The BLM would retain in federal ownership designated or proposed critical habitat for listed or proposed threatened or endangered species. BLM would retain in federal ownership habitats essential to the survival and recovery of Federally listed species (including historically occupied habitats). The BLM would seek to acquire non-federal lands and interests in lands within the above-identified areas and legal access to landlocked public land from willing sellers by purchase, exchange, or donation. Interests in land include, but are not limited to, surface and subsurface rights, conservation easements, and water rights New land use authorizations would only be allowed within listed species habitat when no reasonable alternative exists and impacts to the species and their habitat can be mitigated. New ROWs would be routed away from high-density listed species' populations and along the edges of avoidance areas. (See Table 2. 11 Lands and Realty). Unauthorized dumpsites in special status species habitat would be given the highest priority for removal and cleanup actions. 			
f. Travel Management				
<i>Arizona Strip FO</i>				
The BLM and cooperating agencies would identify roads and trails that are the cause of desert tortoise mortality due to impacts from vehicles. The	Following completion of route inventory and evaluation, roads/routes causing or contributing to mortality of individuals of listed species or degradation of their habitat would be identified. Where practical, such roads/routes would be closed and signed. Where closing such roads would not be practical, seasonal restrictions or other mitigation would be developed to minimize adverse effects to special status species. Where necessary, fences, culverts or other physical barriers would be installed to protect special status species.			

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
BLM would close, sign, fence or otherwise establish effective barriers to tortoises along heavily traveled roads and/or install culverts that allow passage of tortoises.				
g. Minerals Management				
<i>Arizona Strip FO</i>				
Special mitigation in mining plans of operation would be required to avoid impacts to Siler pincushion cactus in the Johnson Spring, Lost Spring Mountain, and Moonshine Ridge ACECs.	<ul style="list-style-type: none"> • Special mitigation would be required in mining plans of operation to avoid impacts to special status species or proposed or designated critical habitat. • Exploration, drilling, and/or other development activity within a special status species ACEC or WHA/Vegetation Habitat Management Area (VHA) may be restricted seasonally to a period when the species is not active. • Mineral leasing would include notification to potential lessees of presence or potential for occurrence of special status species within a parcel proposed for leasing. Lessees would also be advised of additional stipulations or other restrictions that would apply at the APD stage. (See Appendix 2.1 for lease stipulations by species). • New mineral material sites would not be authorized in listed species ACECs. Existing material sites would be evaluated for retention. 			
C. ADMINISTRATIVE ACTIONS				
<i>Common to All Planning Areas</i>				
Public awareness of desert tortoises would be increased through signs, information, and education in the Beaver Dam Slope ACEC.	Public awareness of special status species would be increased through signs, educational media, and other outreach efforts to promote conservation of the species.			
N/A	Guidance criteria for assessing impacts to listed species from livestock grazing actions would be used as appropriate.			
N/A	To the extent practicable, inventory and monitoring of special status species would be conducted in accordance with accepted survey protocols.			

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
II. SPECIAL STATUS SPECIES: SPECIAL STATUS PLANTS				
A. DESIRED FUTURE CONDITIONS – Special Status Plants				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> • Populations of plants that are listed or proposed for federal listing would be recovered. • Populations of special status plant species would increase to stable, self-sustaining levels. • There would be no net loss in the quality or quantity of special status species habitat throughout the Planning Area. 			
B. SPECIAL DESIGNATIONS – Special Status Plants (See Table 2-16. Special Designations for ACEC Management.)				
<i>Arizona Strip FO</i>				
The Fort Pearce ACEC for protection of threatened Siler pincushion cactus would be maintained at 916 acres.	The Fort Pearce ACEC for protection of threatened Siler pincushion cactus would be enlarged to 5,498 acres. Increases in the ACEC size would be due to incorporating areas with known populations of Siler pincushion cactus not previously included within the ACEC boundary.	The Fort Pearce ACEC for protection of threatened Siler pincushion cactus would be enlarged to 5,724 acres. Increases in the ACEC size would be due to incorporating areas with known populations of Siler pincushion cactus not previously included within the ACEC boundary.	The Fort Pearce ACEC for protection of threatened Siler pincushion cactus would be enlarged to 5,724 acres. Increases in the ACEC size would be due to incorporating areas with known populations of Siler pincushion cactus not previously included within the ACEC boundary.	The Fort Pearce ACEC for protection of threatened Siler pincushion cactus would be enlarged to 5,724 acres. Increases in the ACEC size would be due to incorporating areas with known populations of Siler pincushion cactus not previously included within the ACEC boundary.
The Johnson Spring ACEC for protection of threatened Siler pincushion cactus would be maintained at 2,464 acres.	The Johnson Spring ACEC for protection of threatened Siler pincushion cactus would be reduced to 2,058 acres. Decreases in ACEC acreage would be due to removal of areas where repeated surveys have indicated these resource values are not present.	The Johnson Spring ACEC for protection of threatened Siler pincushion cactus would be reduced to 1,986 acres. Decreases in ACEC acreage would be due to removal of areas where repeated surveys have indicated these resource values are not present.	The Johnson Spring ACEC designation for protection of threatened Siler pincushion cactus would be revoked because route designation provides sufficient protection.	The Johnson Spring ACEC for protection of threatened Siler pincushion cactus would be increased to 3,444 acres. Increases in the ACEC acreage would be due to incorporating areas with known populations of Siler pincushion cactus not previously included within the ACEC boundary.
The Lost Spring Mountain ACEC for protection of	The Lost Spring Mountain ACEC for protection of	The Lost Spring Mountain ACEC for protection of	The Lost Spring Mountain ACEC designation for	The Lost Spring Mountain ACEC for protection of

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
threatened Siler pincushion cactus would be maintained at 8,262 acres.	threatened Siler pincushion cactus would be increased to 17,744 acres. Increases in ACEC acreage would be due to inclusion of areas with significant resource values not previously included.	threatened Siler pincushion cactus would be reduced to 4,431 acres. Decreases in ACEC acreage would be due to removal of areas where repeated surveys have indicated these resource values are not present.	protection of threatened Siler pincushion cactus would be revoked because route designation provides sufficient protection from OHV impacts.	threatened Siler pincushion cactus would be increased to 19,248 acres. Increases in ACEC acreage would be due to inclusion of areas with significant resource values not previously included.
The Moonshine Ridge ACEC for protection of threatened Siler pincushion cactus would be maintained at 5,095 acres.	The Moonshine Ridge ACEC for protection of threatened Siler pincushion cactus would be increased to 9,231 acres. Increases in ACEC acreage would be due to inclusion of areas with significant resource values not previously included.	The Moonshine Ridge ACEC for protection of threatened Siler pincushion cactus would be reduced to 2,575 acres. Decreases in ACEC acreage would be due to removal of areas where repeated surveys have indicated these resource values are not present.	The Moonshine Ridge ACEC designation for protection of threatened Siler pincushion cactus would be revoked because route designation provides sufficient protection from OHV impacts.	The Moonshine Ridge ACEC for protection of threatened Siler pincushion cactus would be increased to 9,310 acres. Increases in ACEC acreage would be due to inclusion of areas with significant resource values not previously included.
N/A	The Shinarump ACEC for protection of threatened Siler pincushion cactus would be designated at 3,619 acres.	N/A	N/A	The Shinarump ACEC would be designated southwest of the originally proposed location and would be designated for protection of threatened Siler pincushion cactus at 3,237 acres.
The Marble Canyon ACEC for the protection of Brady pincushion cactus would be maintained at 11,012 acres.	The Marble Canyon ACEC for the protection of Brady pincushion cactus would be enlarged to 102,141 acres. Increases in ACEC acreage would be due to inclusion of most of the lower portion of House Rock Valley for	The Marble Canyon ACEC for the protection of Brady pincushion cactus would be enlarged to 11,926 acres. Changes in ACEC acreage would be due to inclusion of areas of occupied habitat, removal of areas where repeated surveys have indicated the cactus is not present, and removal of portions of House Rock Valley with Fickeisen plains cactus, pronghorn antelope, and House Rock Valley chisel-toothed kangaroo rat.	The Marble Canyon ACEC for the protection of Brady pincushion cactus would be enlarged to 12,105 acres. Changes in ACEC acreage would be due to inclusion of areas of occupied habitat, removal of areas where	The Marble Canyon ACEC for the protection of Brady pincushion cactus would be enlarged to 12,105 acres. Changes in ACEC acreage would be due to inclusion of areas of occupied habitat, removal of areas where

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	The Clayhole ACEC for protection of the candidate Fickeisen plains cactus would be designated at 7,362 acres.			The Clayhole ACEC for protection of the candidate Fickeisen plains cactus would not be designated because route designation would provide sufficient protection from OHV impacts.
N/A	The Twist Hills ACEC for protection of the candidate Fickeisen plains cactus would be designated at 1,255 acres.			The Twist Hills ACEC for protection of the candidate Fickeisen plains cactus would not be designated because route designation would provide sufficient protection from OHV impacts.
C. LAND USE ALLOCATIONS – Special Status Plants				
<i>Arizona Strip FO</i>				
N/A	The Twist Hills VHA would be allocated for Fickeisen plains cactus to meet DFCs.			Management emphasis and priority would be given to Fickeisen plains cactus.
N/A	The Clayhole VHA would be allocated for Fickeisen plains cactus to meet DFCs.			Management emphasis and priority would be given to Fickeisen plains cactus.
N/A	The Buckskin VHA would be allocated for cliff milkvetch to meet DFCs.			Management emphasis and priority would be given to cliff milkvetch.
N/A	The Coyote Valley VHA would be allocated for Paradine pincushion cactus to meet DFCs.			Management emphasis and priority would be given to Paradine pincushion cactus.
D. MANAGEMENT ACTIONS – Special Status Plants				
<i>Common to All Planning Areas</i>				
Special Status Plant Management:				
<ul style="list-style-type: none"> • Participation in conservation efforts for special status plant species would continue. • Special status plant habitat on state and federal lands in the Planning Area would be preserved, protected, and managed. • Monitoring efforts for special status plant populations within the Planning Area would continue. • A program of public conservation education and planning directed towards preservation of special status plant habitat would be carried out. 				
Vegetation Management:				
<ul style="list-style-type: none"> • Mechanical vegetation manipulation would be prohibited in Marble Canyon, Johnson Spring, Lost Spring • Restoration and vegetation treatments would not be authorized in special status plant habitat, unless doing so would provide benefits to the species. • The impact of herbicides pesticide use on special status plant species would be determined. The use of harmful herbicides in areas where special status plants could be affected would be limited or eliminated. 				

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
Mountain, and Moonshine Ridge ACECs, unless beneficial to Siler pincushion cactus management.	<ul style="list-style-type: none"> Collection of fuel wood would not be authorized in special status plant ACECs. Conservation measures would be implemented for all vegetation management actions in special status plant habitats as described in Appendix 2.E. 			
N/A	<p>Surface Disturbing Activities:</p> <ul style="list-style-type: none"> Impacts to special status plants and their habitats from surface disturbing activities would be reduced or eliminated. Proposed actions would be evaluated to ensure that trampling or crushing of special status plants would be minimized or eliminated. The BLM and NPS would continue to coordinate with USFWS to delineate buffer areas around special status plant populations. Use restrictions could be developed to minimize or eliminate trampling and/or crushing of special status plants within buffer areas. Conservation measures would be implemented for special status plants for all surface disturbing activities as described in Appendix 2.E. 			
N/A	<p>Livestock Grazing Management:</p> <ul style="list-style-type: none"> Disturbance, injury, or mortality of special status plants resulting from grazing by livestock would be minimized or eliminated. Where grazing by livestock is leading to adverse effects, conservation measures would be implemented to reduce or mitigate loss of the plant species. Measures could include fencing, seasonal restrictions, or relocation of livestock developments. The need for implementation of conservation measures would be assessed on a case by case basis, typically at the time of the rangeland health assessment. 			
N/A	<p>Recreation Management:</p> <ul style="list-style-type: none"> Recreational activities that degrade special status plant habitats would be modified or relocated to minimize or eliminate adverse effects. 			
N/A	<p>Recreation Management:</p> <ul style="list-style-type: none"> In special status plant habitats, recreational uses would be limited to designated areas and hiking and biking would be allowed only on designated routes 	<p>Recreation Management:</p> <ul style="list-style-type: none"> In special status plant habitats, hiking would be allowed. Biking would be allowed only on designated routes. Education programs and law enforcement contact would be used to minimize recreational activities that cause injury or mortality or 	<p>Recreation Management:</p> <ul style="list-style-type: none"> In listed plant habitats, hiking would be allowed. Biking would be allowed only on designated routes. Education programs and law enforcement contact would be used to minimize recreational activities that cause injury or mortality or degrade habitat of these species. 	

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	<p>Travel Management:</p> <ul style="list-style-type: none"> • Vehicle use in special status plant habitats would be limited to designated routes with reasonable use of the shoulder. • In special status plant ACECs, use of OHVs off of designated routes would not be authorized except in emergencies. • In special status plant ACECs, vehicles would not be allowed to pull off the road to camp. 	degrade habitat of these species.		
<p>Implementation of the HMP for Brady pincushion cactus developed from the recovery plan for the species would continue. The HMP would serve as the ACEC plan for Brady pincushion cactus. The HMP would be reviewed annually and amended as new information and monitoring results become available.</p>	<p>The BLM and NPS would develop and implement HMPs for special status species in cooperation with the AGFD and the USFWS. These HMPs would serve as the ACEC plan for listed plant ACECs and as the management plan for VHAs.</p>			
<p>E. ADMINISTRATIVE ACTIONS – Special Status Plants</p> <p style="text-align: center;"><i>Common to All Planning Areas</i></p>				
N/A	<p>The BLM and NPS would continue to inventory and map known locations and potential habitat for special status plant populations to ensure protection of these populations and facilitate management.</p>			
N/A	<p>The BLM and NPS would continue appropriate monitoring of all special status plant species within the Planning Area.</p>			
N/A	<p>Public conservation education programs would be implemented to inform publics of the value of conserving special status plant habitats and the rules and policies governing their protection.</p>			
<p>III. SPECIAL STATUS SPECIES: DESERT TORTOISE</p>				
<p>A. DESIRED FUTURE CONDITIONS – Desert Tortoise</p>				
<p style="text-align: center;"><i>Parashant and Arizona Strip FO</i></p>				
N/A	<ul style="list-style-type: none"> • The Mojave population of desert tortoise would be recovered and delisted. • There would be no net loss in the quality or quantity of desert tortoise habitat within the ACECs or WHA. • Desert tortoise populations within the ACECs and DWMA would be healthy and self-sustaining. Populations would be 			

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	stable or increasing. Population declines would be halted.	Desert tortoise populations outside of the ACECs and WHA would be healthy and stable. Declines in the WHA would be minimized to the extent possible through mitigation.	Desert tortoise habitat would provide sufficient forage and cover attributes to support thriving populations of the species.	Habitat connectivity would be maintained, providing sufficiently frequent contact between tortoises to maintain genetic diversity.
<p>B. SPECIAL DESIGNATIONS – Desert Tortoise (See Table 2.16: Special Designations for proposed ACEC management.)</p>				
<p><i>Parashant</i></p>				
The Pakoon DWMA/ACEC would be maintained at 76,014 acres for protection of the threatened desert tortoise and Mojave Desert Ecological Zone values. Activities administered by the Arizona Strip BLM on Lake Mead (NRA) and on public lands in Nevada would be managed in accordance with DWMA/ACEC prescriptions.	The Pakoon ACEC for protection of the threatened desert tortoise and Mojave Desert Ecological Zone would be revoked because Monument status provides additional protection of resources beyond that afforded by ACEC designation.			
<p><i>Arizona Strip FO</i></p>				
The Beaver Dam Slope ACEC for protection of threatened desert tortoise and Mojave Desert Ecological Zone values would be maintained at 51,197 acres.	The Beaver Dam Slope ACEC for protection of threatened desert tortoise and Mojave Desert Ecological Zone values would be enlarged to 52,753 acres. Boundary adjustments would incorporate areas of critical habitat and lower quality habitat not previously included in the ACEC.	The Beaver Dam Slope ACEC for protection of threatened desert tortoise and Mojave Desert Ecological Zone values would be enlarged to 51,984 acres. Boundary adjustments would incorporate areas of critical habitat, desert tortoise habitat previously in the Virgin River Corridor ACEC, and lower quality habitat not previously included in the ACEC. Desert tortoise needs would be considered the highest priority in resolving resource conflicts in the Beaver Dam Slope ACEC.		

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>The Virgin Slope ACEC for protection of threatened desert tortoise and Mojave Desert Ecological Zone values would be maintained at 39,931 acres.</p>	<p>The Virgin Slope ACEC for protection of threatened desert tortoise and Mojave Desert Ecological Zone values would be enlarged to 40,287 acres. Boundary adjustments would incorporate areas of critical habitat and lower quality habitat not previously included in the ACEC.</p>	<p>The Virgin Slope ACEC for protection of threatened desert tortoise and Mojave Desert Ecological Zone values would be enlarged to 40,206 acres. Boundary adjustments would incorporate areas of critical habitat, desert tortoise habitat previously in the Virgin River Corridor ACEC, and lower quality habitat not previously included in the ACEC. Desert tortoise needs would be considered the highest priority in resolving resource conflicts in the Virgin Slope ACEC.</p>	<p>The Virgin Slope ACEC for protection of threatened desert tortoise and Mojave Desert Ecological Zone values would be enlarged to 39,514 acres. Boundary adjustments would incorporate areas of critical habitat, desert tortoise habitat previously in the Virgin River Corridor ACEC, and lower quality habitat not previously included in the ACEC. Desert tortoise needs would be considered the highest priority in resolving resource conflicts in the Virgin Slope ACEC.</p>	<p>The Virgin Slope ACEC for protection of threatened desert tortoise and Mojave Desert Ecological Zone values would be enlarged to 39,514 acres. Boundary adjustments would incorporate areas of critical habitat, desert tortoise habitat previously in the Virgin River Corridor ACEC, and lower quality habitat not previously included in the ACEC. Desert tortoise needs would be considered the highest priority in resolving resource conflicts in the Virgin Slope ACEC.</p>
<p>The Virgin River Corridor ACEC for protection of Virgin River fishes and threatened desert tortoise would be maintained at 8,075 acres.</p>	<p>The Virgin River Corridor ACEC for protection of Virgin River fishes and threatened desert tortoise would be modified to include only the 100-year floodplain (approx. 2,064 acres). Boundary adjustments would eliminate areas outside of the 100-year floodplain previously included in the ACEC. Desert tortoise habitat previously included within this ACEC would be incorporated into and managed as a part of the Beaver Dam Slope or Virgin Slope ACEC. The ACEC would be managed for Virgin River fishes and riparian values.</p>			
<p>C. LAND USE ALLOCATIONS – Desert Tortoise</p>				
<p><i>Parashant and Arizona Strip FO</i></p>				
<p>N/A</p>	<p>The Pakoon WHA would be allocated for protection of desert tortoise at 76,014 acres, including the area formerly designated as the Pakoon ACEC. Management objectives would give priority to desert tortoise and implementation of recovery plan actions. Activities administered by the Arizona Strip BLM on Lake Mead NRA and on public lands in Nevada would be managed in accordance with WHA prescriptions. Desert</p>	<p>The Pakoon WHA would be allocated for protection of desert tortoise at 71,959 acres, including the area formerly designated as the Pakoon ACEC, minus the Grand Gulch Wash portion. Management</p>	<p>The Pakoon WHA would be allocated for protection of desert tortoise at 171,709 acres including the area formerly designated as the Pakoon ACEC, plus all critical desert tortoise habitat in Parashant.</p>	<p>The Pakoon WHA would be allocated for protection of desert tortoise at 171,709 acres including the area formerly designated as the Pakoon ACEC, plus all critical desert tortoise habitat in Parashant.</p>

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	tortoise needs would be considered the highest priority in resolving resource conflicts in the Pakoon WHA.		objectives would give priority to desert tortoise and implementation of recovery plan actions. Activities administered by the Arizona Strip BLM on Lake Mead NRA and on public lands in Nevada would be managed in accordance with WHA prescriptions. Desert tortoise needs would be considered the highest priority in resolving resource conflicts in the Pakoon WHA.	Management objectives would give priority to desert tortoise and implementation of recovery plan actions. Activities administered by the Arizona Strip BLM on Lake Mead NRA and on public lands in Nevada would be managed in accordance with WHA prescriptions. Desert tortoise needs would be considered the highest priority in resolving resource conflicts in the Pakoon WHA.

D. MANAGEMENT ACTIONS – Desert Tortoise

Parashant and Arizona Strip FO

Desert Tortoise Management:

- Active participation in the recovery of desert tortoise would continue.
- Assistance would be provided in the implementation of recovery tasks identified in the recovery plan.
- Adjacent land owners would be encouraged in the development of a habitat conservation plan (HCP) to provide for the conservation of desert tortoise while managing community and regional growth. Assistance would be provided in the development of the HCP. The HCP would be integrated with the Arizona Strip RMP.
- Highest quality desert tortoise habitat would be identified based on habitat features, vegetation, and tortoise densities.
- Lowest quality desert tortoise habitat would be identified based on habitat features, vegetation, and tortoise densities. Some parcels of low quality habitat between the impassable boundaries of Interstate 15 and the Virgin River, outside of critical habitat and desert tortoise ACECs, would be assessed for suitability for other allowable uses or disposal. A preliminary list of these parcels appears in Appendix 2.M.
- The BLM could authorize translocations of desert tortoises onto public lands only when all of the following conditions are met 1) prior authorization from USFWS and AGFD is obtained, 2) the desert tortoise population in the area to which a tortoise(s) be moved is depressed, 3) testing of animals to be translocated is conducted to ensure that spread of URTD or other diseases is not facilitated as a result of translocations, 4) handling of desert tortoises is in compliance with conservation measures, and 5) protocols are followed to ensure that translocated animals have the greatest chance for survival and do not disrupt the behavior of resident animals.

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>Wilderness management plans for the Beaver Dam Mountains, Paiute, and Grand Wash Cliff wilderness areas would be amended or revised to incorporate applicable recovery needs for desert tortoise.</p> <p>The BLM and NPS would continue to monitor and patrol desert tortoise habitat, and to investigate illegal activities on public lands in the area. Law enforcement presence would be at a level adequate to promote public compliance with use regulations.</p>				
<p>Vegetation Management:</p>				
<ul style="list-style-type: none"> • Invasive exotic annual grasses in desert tortoise habitat would be reduced and/or removed. • Desired plant community (DPC) objectives would be developed during rangeland health assessments that consider desert tortoise forage, cover, and habitat needs. DPC objectives and recommended actions for achieving these objectives would be incorporated into allotment management plans (AMPs). • Areas of highest quality, unburned desert tortoise habitat would receive highest priority for restoration. • Vegetative conditions in desert tortoise habitat would be maintained or improved in accordance with DPC objectives. • No mechanical treatment or conversion would be allowed unless the project benefits or improves tortoise management and condition of habitat. • Desert tortoise habitat would be closed to live vegetation harvest, except salvage in areas where surface disturbance has been authorized. • Collection of dead and down wood would be allowed for personal camp use only. • Conservation measures for desert tortoise would be implemented for all vegetation management actions in desert tortoise habitat as described in Appendix 2.E. Vegetation management actions would include vegetation treatments, fuels reduction, restoration, and rehabilitation. 				
<p>Fire Management:</p>				
<ul style="list-style-type: none"> • Appropriate action would be taken to suppress all wildfires in desert tortoise habitat, based on preplanned analysis and consistent with land management objectives, including threats to life and property. All wildfires in desert tortoise habitat would be suppressed with minimum surface disturbance, in accordance with the guidelines in Duck et al. (1995). • Protection of highest quality desert tortoise areas from wildfire would be the highest priority. • Suppression forces would be pre-positioned in critical areas during periods of high fire dangers. • Assistance with design, funding, and implementation of efforts to construct minimal impact fire breaks in desert tortoise habitat would continue. • Conservation measures for desert tortoise would be implemented for all fire suppression and management actions in desert tortoise habitat as described in Appendix 2.E (fire suppression, fuels treatment, prescribed burning). Fire management actions would include fire use, prescribed fire, restoration, and rehabilitation. 				
<p>Grazing Management:</p> <ul style="list-style-type: none"> • Portions of grazing allotments within the Pakoon ACEC would be unavailable for livestock grazing. • Grazing allotments within 	<p>Grazing Management:</p> <ul style="list-style-type: none"> • Desert tortoise habitat would be unavailable for livestock grazing. All grazing preferences would be canceled. Exclusion fences or other 	<p>Grazing Management:</p> <ul style="list-style-type: none"> • Grazing systems would be established for all allotments with desert tortoise habitat with a full range of management options including no grazing (unavailable), inactive season grazing, and rotational grazing prescriptions. Grazing would be authorized based on maintaining or improving vegetation conditions in desert tortoise habitat using ecological site inventory data as the baseline condition. Adaptive management would be used to determine if and when changes 		

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>the Beaver Dam Slope and Virgin Slope would be available for livestock grazing from October 15 to March 15.</p> <ul style="list-style-type: none"> Grazing utilization levels would be set at 45% of current year's growth on allotments in desert tortoise habitat. 	<p>methods would be used to ensure areas unavailable to grazing would not be grazed.</p>	<p>in grazing systems, season of use, and other parameters would be implemented to meet DFCs. Exclusion fences or other methods would be used to ensure areas unavailable to grazing would not be grazed. See pages 2-96, 2-97, 2-156, and 2-157 for specific grazing management and proposed season of use by allotment.</p> <ul style="list-style-type: none"> Grazing utilization levels would be set at 45% of current year's growth on allotments in desert tortoise habitat. 		
<p>Surface Disturbing Actions:</p>				
<ul style="list-style-type: none"> Effects to desert tortoise from authorized projects would be minimized or eliminated. "Project" refer to any surface-disturbing activities proposed that may cause disturbance of desert tortoise habitat and/or death or injury of a desert tortoise, with the exception of grazing by livestock and activities associated with fire suppression. Authorized actions that may result in adverse effects to desert tortoises would require implementation of project stipulations including personnel education programs, pre-construction clearances, defined construction areas, operational restrictions, and procedures for moving tortoises out of harm's way. (See Appendix 2.E for a list of stipulations.) To the extent possible, project activities would be scheduled when tortoises are inactive (October 15 through March 15). The following project activities would only be authorized between October 15 through March 15: surface disturbance associated with mineral leasing; organized, non-speed vehicular events; construction and non-emergency maintenance activities in ROWs; and non-emergency maintenance of existing roads. To the extent possible, project features would be located in previously-disturbed areas or outside of desert tortoise habitat. Proposed actions would be evaluated to ensure they do not contribute to the proliferation of natural predators within desert tortoise habitat. New water developments could be authorized if they are designed to minimize or eliminate the potential for tortoise drowning and predators are not attracted. Reclamation would be required for activities that result in loss or degradation of tortoise habitat. Habitat would be restored or reclaimed to as close a pre-disturbance condition as practicable. Mitigation measures may be included in decision documents to offset the loss of quality or quantity of desert tortoise habitat. Compensation may be required to mitigate residual impacts from authorized actions. The BLM would not authorize any military maneuvers in desert tortoise habitat. <p>Recreation Management:</p> <ul style="list-style-type: none"> No competitive speed vehicle events would be authorized in desert tortoise habitat. The BLM and/or NPS would apply the following stipulations to any non-speed motor vehicular events in desert tortoise habitat (or non-speed portions of speed events) requiring permitting: <ol style="list-style-type: none"> No organized non-speed events would occur from March 15 through October 15. 				

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> 2. Permits would be required for events with 50 or more participants. 3. Vehicle travel would be limited to designated routes, or before route designation, to existing routes. 4. Vehicles would not exceed the legal speed limit (posted or unposted) of the road in which they are on during the event. 5. No more than 400 motorcycles or all terrain vehicles, or 300 four-wheeled vehicles would be allowed in any one event. <ul style="list-style-type: none"> • Events would have enough monitors to ensure compliance with regulations. • The BLM would identify areas where uncontrolled dogs are causing desert tortoise mortality. If predation of tortoises by dogs is discovered, BLM would encourage Mohave County to enforce ordinances prohibiting uncontrolled dogs in those areas. Dogs are required to be on leash on NPS lands. • Vehicle camping would be restricted to disturbed areas along designated routes in desert tortoise habitat. Mountain biking would be allowed on designated routes throughout the area; back packing and horseback riding would also be allowed, providing desert tortoise or their habitats are not adversely impacted. • Activities that could adversely affect the desert tortoise during their active season within tortoise habitat would be limited to the period between October 15 and March 15. The BLM and NPS may restrict season of use, number of visitors, and/or close an area to recreational activities. 				
<p>Travel Management:</p> <ul style="list-style-type: none"> • Motorized and mechanized travel would be limited to designated roads and trails. • The BLM and/or NPS would maintain or authorize maintenance of existing roads in desert tortoise habitat, except that non-emergency maintenance activities could be conducted from October 15 to March 15. Operators of road graders and other maintenance equipment would be required to attend an educational briefing prior to performing the work. Maintenance activities would be limited to previously disturbed areas, unless cleared by a qualified biologist. • Vehicles associated with agency-authorized projects traveling on unpaved roads in desert tortoise habitat would be required to keep speeds at or below 40 mph during the tortoise's active season to protect the species. Speed limits may be less on specific roads through high-density tortoise areas. 				
<p>Parashant WHA (See Table 2.5: Special Status Species)</p>				
<p>Grazing Management:</p> <ul style="list-style-type: none"> • The Tassi Allotment would continue to be unavailable for livestock grazing. 				
<p>Those portions of the Mosby-Nay Allotment within the former Pakoon ACEC would be unavailable for grazing.</p>	<p>Those portions of the Mosby-Nay Allotment within the Mosby-WHA would be unavailable for grazing.</p>	<p>Those portions of the Mosby-Nay Allotment with the former Pakoon ACEC would be unavailable for grazing, and those portions of the allotment within the Pakoon WHA would be available for grazing with seasonal restrictions.</p>	<p>Those portions of the Mosby-Nay Allotment within the former Pakoon ACEC would be unavailable for grazing. The remaining portions of the Mosby-Nay allotment would be available for grazing.</p>	
<p>Those portions of the Pakoon Springs Allotment within the</p>	<p>The entire Pakoon Springs Allotment would be</p>	<p>Those portions of the Pakoon Springs Allotment within the</p>	<p>Same as Alternative A</p>	<p>Same as Alternative C</p>

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
former Pakoon ACEC would be unavailable for grazing.	unavailable for livestock grazing.	former Pakoon ACEC would be unavailable for grazing. In addition, the area unavailable to grazing would be expanded from the southern allotment boundary north up Pakoon Wash approximately 3 miles, and up Cedar Wash and Cottonwood Wash to approximately Wayne's Well. This would include the Pakoon Springs area.		
Those portions of the Pakoon Allotment within the former Pakoon ACEC (Grand Gulch Wash area) would be unavailable for livestock grazing.	The entire Pakoon Allotment within the Pakoon WHA would be unavailable for livestock grazing.	Those portions of the Pakoon Allotment within the former Pakoon ACEC (Grand Gulch Wash area) would be unavailable for livestock grazing.	Those portions of the Pakoon Allotment within the former Pakoon ACEC (Grand Gulch Wash area) would be available for livestock grazing.	
Burro management within the Pakoon DWMA would include the following decisions:				
<ul style="list-style-type: none"> • Wild horses and burros would not be authorized on NPS and BLM lands in the planning area. Burros on NPS lands are managed to prescription set by the 1995 Lake Mead NRA Burro Management Plan. • The herd management level for the Tassi-Gold Butte Herd Management Area would be set to zero on BLM lands in the planning area. Burros would be removed rather than destroyed on site. 				
Surface Disturbing Activities:				
<ul style="list-style-type: none"> • Compensation may be required to mitigate residual impacts from authorized actions. The BLM would assess compensation at the Category 1 rate for any proposed projects in the Pakoon WHA. 				
Travel Management:				
<ul style="list-style-type: none"> • New paved roads would not be authorized in the Pakoon WHA. Temporary upgrading of existing roads and construction of new unpaved roads in the WHA could be authorized only on BLM lands where positive benefits would result for desert tortoise or their habitat. • The BLM and/or NPS would maintain or authorize maintenance of existing roads in desert tortoise habitat, except that non-emergency maintenance activities 				

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>could be conducted from October 15 to March 15. Operators of road graders and other maintenance equipment would be required to attend an educational briefing prior to performing the work. Maintenance activities would be limited to previously disturbed areas, unless cleared by a qualified biologist.</p> <ul style="list-style-type: none"> • BLM would implement route designation within the Pakoon WHA. Roads targeted for closure would include those that 1) have no purpose, 2) are duplicative or redundant, or 3) are causing high levels of mortality of tortoises. Vehicles would be restricted to existing roads and trails prior to route designation. After designation, vehicles would be restricted to designated routes only. Implementation of the closure/designation plan would include the following actions 1) sign entry portals/major intersections with signs that read "Limited to Designated Roads and Trails", 2) sign all designated routes as open, 3) and sign along designated routes indicating that driving off of designated routes is not permitted. 				
<p>Arizona Strip FO (Areas outside desert tortoise ACECs)</p>				
<p>Livestock Grazing:</p> <ul style="list-style-type: none"> • The Cedar Wash Allotment would be available for livestock grazing from October 15 – March 15. Ephemeral extensions to May 15 would be authorized when production exceeds 280 lbs/acre. 	<p>Livestock Grazing:</p> <ul style="list-style-type: none"> • The Cedar Wash Allotment would be unavailable for livestock grazing. 	<p>Livestock Grazing:</p> <ul style="list-style-type: none"> • The Cedar Wash Allotment would be available for livestock grazing from October 15 – March 15. Ephemeral extensions to May 15 would be authorized when conditions outlined in Guideline 3-5 of the Arizona Standards for Rangeland Health are met. 	<p>Livestock Grazing:</p> <ul style="list-style-type: none"> • The Cedar Wash Allotment would be available for livestock grazing from October 15 – May 15. 	<p>Same as Alternative C</p>
<p>Lands and Realty:</p> <ul style="list-style-type: none"> • All lands within desert tortoise ACECs and within all other desert tortoise designated critical habitat would be retained. Exchanges or sales of desert tortoise habitat out of public ownership would be limited to parcels identified in the RMP. 	<p>Lands and Realty:</p> <ul style="list-style-type: none"> • Specific parcels of low density (former category 3) desert tortoise habitat that have little to no potential for self-sustaining tortoise populations have been identified in Appendix 2.M. as eligible for disposal. These parcels occur in the area between the impassable barriers of Interstate 15 and the Virgin River, outside of any ACEC, and would allow for regional growth near Littlefield and Beaver Dam with the least disturbance to desert tortoise. Parcels would be surveyed for special status species and other sensitive resources prior to disposal. The effects of future development on water quality and flows in the Virgin River would be addressed in NEPA documents and ESA consultation prior to disposal. Up to 200 acres not listed in Appendix 2.M or identified for specific purposes in these alternatives would be retained in public ownership unless needed for recreation or public purposes. Disposal proposals under the R&PP Act on lands not identified for disposal would be considered on a case-by-case basis. (See Appendix 2.M and Map 2.7. Also see <i>Acquisitions/Retentions</i> section above for lands exempt from disposals.) Revenues generated from the sale of FLTFA parcels could be used to acquire adjacent lands with high resource values in accordance with the Arizona Statewide Interagency Implementation Agreement. 			

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	<ul style="list-style-type: none"> The BLM would seek to acquire non-Federal lands in the desert tortoise ACECs from willing sellers through purchase or exchange. New ROWs through desert tortoise habitat would be routed away from high-density tortoise populations. Linear ROWs would be placed adjacent or parallel to existing ROWs and share vehicular access. Utilities would be co-located with other utility projects whenever feasible. Utility lines on BLM lands would be designed, located, and constructed so as to avoid attracting desert tortoise predators. No new landfills or sewage treatment ponds would be authorized in the desert tortoise ACECs. 			
<p>Surface Disturbing Activities:</p> <ul style="list-style-type: none"> Compensation may be required to mitigate residual impacts from authorized actions. The BLM would assess compensation at the Category 1 rate for any proposed projects in the Beaver Dam Mountains Wilderness Area. 				
<p>Travel Management:</p> <ul style="list-style-type: none"> The BLM would complete a proposal to close roads and designate routes in the desert tortoise ACECs. Roads targeted for closure would include those that 1) have no purpose, 2) are duplicative or redundant, or 3) are causing high levels of mortality of tortoises. Vehicles would be restricted to existing roads and trails prior to route designation. After designation, vehicles would be restricted to designated routes only. Implementation of the closure/designation plan would include the following actions 1) sign entry portals/major intersections with signs that read "Limited to Designated Roads and Trails", 2) sign all designated routes as open, 3) and sign along designated routes indicating that driving off of designated routes is not permitted. Use of roads constructed for specific non-public purposes on BLM lands, such as access to communication sites, would be limited to administrative use only. Temporary access routes in desert tortoise habitat created during project construction would be modified as necessary to prevent further use. New paved roads and highways in desert tortoise habitat or major reconstruction or modifications of existing paved roads through desert tortoise habitat would be fenced with desert tortoise barrier fencing. Culverts, to allow safe passage of tortoises, would be constructed in coordination with Arizona Department of Transportation (ADOT), Federal Highway Administration (FHA), and USFWS. 				
<p>Minerals Management:</p> <ul style="list-style-type: none"> Desert tortoise habitat would remain open to mineral entry under the mining laws. Special mitigation would be required in mining plans of operation to avoid impacts to desert tortoise in their habitat. Desert tortoise habitat would remain open to leasing subject to seasonal restrictions and subject to a waivable no surface occupancy stipulation (WNSO). Surface disturbing activity would be limited to the period from October 15 to March 15 under a seasonal restriction. The BLM would require plans of operations and bonding for any activity above the level of casual use, pursuant to the surface management regulations (43 CFR 3809). The Bureau would approve plans of operation that reduce the chance of take occurring in accordance with these terms and conditions. 				

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
E. ADMINISTRATIVE ACTIONS – Desert Tortoise				
<i>Arizona Strip FO Desert Tortoise ACECs (Beaver Dam Slope and Virgin Slope ACECs; see Table 2.16. Special Designations.)</i>				
Desert Tortoise Management:				
<ul style="list-style-type: none"> • Assisting with funding, adaptation, and implementation of monitoring programs, including line-distance sampling or other approved techniques, would continue. • Assisting with funding, inventory, and modeling efforts to develop a habitat map of desert tortoise habitat in the planning area would continue. • Assisting with design, funding, and implementation of research to determine limiting factors for desert tortoise within the planning area would continue. • The BLM/NPS would use various mechanisms of public outreach to inform the public about desert tortoise recovery. These may include interpretive displays, interpretive kiosks, news releases, open houses to answer questions about DWMA/ACEC designation and management, and/or other actions. 				
Vegetation Management:				
<ul style="list-style-type: none"> • Assisting with design, funding, and implementation of research to determine methods for reducing exotic invasive annual grasses in desert tortoise habitat would continue. 				
Fire Management				
<ul style="list-style-type: none"> • Assistance with design, funding, and implementation of research to determine the effects of chemical fire retardants on the desert tortoise and its habitat would continue. 				
IV. SPECIAL STATUS SPECIES: NATIVE FISH				
A. DESIRED FUTURE CONDITIONS – Native Fish				
<i>Arizona Strip FO</i>				
N/A	<ul style="list-style-type: none"> • Essential habitats, important migration routes, required flows, and water quality would be protected and maintained in lentic and lotic systems in the planning area. • All biologically suitable perennial waters on public lands in the planning area would be occupied by thriving, self-sustaining populations of native fish, as appropriate. • Populations of woudfin minnow and Virgin chub in the planning area would be recovered and delisted. • Virgin spinedace habitat would support viable populations sufficient to preclude the need for federal listing. 			
B. SPECIAL DESIGNNATIONS – Native Fish (See Table 2.16: Special Designations for proposed management.)				
<i>Arizona Strip FO</i>				
The Virgin River Corridor ACEC for protection of Virgin River fishes and threatened desert tortoise would be modified to include only the 100-year floodplain (approx. 2,064 acres). Boundary adjustments would eliminate areas outside of the 100-				

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
River fishes and threatened desert tortoise would be maintained at 8,075 acres.	year floodplain previously included in the ACEC. Desert tortoise habitat previously included within this ACEC would be incorporated into and managed as a part of the Beaver Dam Slope or Virgin Slope ACEC. The ACEC would be managed for Virgin River fishes and riparian values.			
C. MANAGEMENT ACTIONS – Native Fish				
<i>Arizona Strip FO</i>				
N/A	<p>Native Fish Management:</p> <ul style="list-style-type: none"> • Active participate in the recovery of Virgin River fishes would continue. • Assistance would be provided in Implementating recovery tasks identified in the Recovery Plan. • Protection from threats would be provided and sufficient habitat would be created/secured to assure maintenance of these populations and/or habitats over time. • Applications for instream flow rights with the Arizona Department of Water Resources in rivers supporting native fish species would continue to be supported. • Riparian area river channels, floodplains, and terraces would be retained in federal ownership. All exchanges that could affect water flows (either groundwater or surface water) would be carefully examined to ensure that development on those lands would not adversely affect riparian habitats. • In cooperation with the USFWS, AGFD, and the Virgin River Fishes Recovery Team, assistance would be provided in efforts to reduce or eradicate non-native fish populations. • In cooperation with the USFWS, AGFD, and the Virgin River Fishes Recovery Team, assistance would be provided with construction and installation of habitat improvement projects to benefit native fish species. The BLM would assist in location and construction of non-native fish barriers at suitable locations along the Virgin River in the Planning Area. • Employees and public users would be educated about Virgin River fishes. 			
Fire Management:				
<ul style="list-style-type: none"> • Fire management buffer zones between riparian habitats and adjacent upland areas would be established. • Fire management actions within the Virgin River Corridor ACEC would include conservation measures for native fishes as described in Appendix 2.E. 				
Vegetation Management:				
<ul style="list-style-type: none"> • Native riparian vegetation in floodplains and channels would be retained. • A temporally staged approach would be used in habitats where exotic species are to be removed through chemical or mechanical means, so that some mature habitat remains throughout the restoration period for cover and shade for Virgin River fishes. • Riparian and aquatic habitats for Virgin River fishes would be maintained or enhanced. The establishment of areas of slow/back waters would be promoted. • Regeneration of native species would be promoted in regenerating riparian habitats. Natural reaches of riparian habitat would be restored by restoring intervening degraded segments. In accordance with guideline 3-1 of Standard 3 of the Arizona Standards and Guidelines habitat restoration in riparian areas 				

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>should not include planting or seeding of nonnative plants.</p> <ul style="list-style-type: none"> Vegetation management actions within the Virgin River Corridor ACEC would include conservation measures for native fishes as described in Appendix 2.E. 	<p>Livestock Grazing Management:</p> <ul style="list-style-type: none"> Disturbance, injury, mortality, or other forms of take of Virgin River fishes resulting from grazing by livestock would be minimized or eliminated. 			
<p>N/A</p>	<p>Surface Disturbing Activities:</p> <ul style="list-style-type: none"> Impact of pesticide use on Virgin River fishes would be determined. The use of harmful pesticides adjacent to riparian areas would be limited or eliminated. If used, application would be in a manner that avoids drift, according to directions (i.e. not broad applications). Water diversions and groundwater withdrawals would be managed to maintain streamside vegetation. Where possible and practicable, physical stresses, such as high salinity or reduced stream flows that favor exotic plants, would be reduced or eliminated. Actions that do not allow for natural stream flow regimes including periodic flood events would not be allowed. 			
<p>Lands and Realty:</p> <ul style="list-style-type: none"> Net effects of land disposals/exchanges in the Virgin River corridor would be beneficial to Virgin River fishes. All land exchanges or disposals should benefit aquatic and riparian resources by reducing threats to those habitats associated with dewatering and surface disturbance. 	<p>Lands and Realty:</p> <ul style="list-style-type: none"> Specific parcels identified for disposal would be surveyed for special status species and other sensitive resources prior to disposal. The effects of future development on water quality and flows in the Virgin River would be addressed in NEPA documents and ESA consultation prior to disposal. Revenues generated from the sale of FLTFA parcels could be used to acquire adjacent lands with high resource values in accordance with the Arizona Statewide Interagency Implementation Agreement. 			
<p>Lands and Realty:</p> <ul style="list-style-type: none"> All acquired lands would not have ground or surface water used or reserved for use by non-federal interests after it is acquired by the government. All existing such uses must be terminated upon acquisition and all rights transferred to the federal government. Lands to be acquired would have development potential similar to the disposed lands and would be located in similar proximity to the Virgin River or significant tributaries. 				

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	<p>Recreation Management:</p> <ul style="list-style-type: none"> Impacts to Virgin River fishes and their habitat from recreational activities would be reduced or eliminated. Recreation that degrades riparian habitat would be prohibited in riparian areas on Bureau land along the Virgin River. 			
N/A	<p>Surface Disturbing Actions:</p> <ul style="list-style-type: none"> Actions that degrade riparian habitat or reduce the potential of the area to support riparian vegetation would be modified, restricted, or prohibited. 			
D. ADMINISTRATIVE ACTIONS – Native Fish				
<i>Vermilion and Arizona Strip FO</i>				
N/A	Appropriate monitoring of all riparian areas within the Planning Area would continue, including greenline transects, riparian functionality assessments, etc.			
N/A	Monitoring native fish populations in the Paria River would continue in cooperation with USFWS and AGFD.			
N/A	Assistance in monitoring efforts for native Virgin River fish populations would continue in cooperation with the USFWS, AGFD, and the Virgin River Fishes Recovery Team.			
N/A	Grazing systems, strategies, and intensities for riparian recovery and maintenance would be investigated.			
IV. SPECIAL STATUS SPECIES: AMPHIBIANS AND AQUATIC INVERTEBRATES				
A. DESIRED FUTURE CONDITIONS – Amphibians and Aquatic Invertebrates				
<i>Common to all Planning Areas</i>				
N/A	<ul style="list-style-type: none"> Essential habitats, important migration routes, required flows, and water quality would be protected and maintained in lentic and lotic systems in the Planning Area. No net loss would occur in the quality and quantity of suitable habitat for endemic amphibians and aquatic invertebrate species within the Planning Area. All biologically suitable perennial waters on public lands in the Planning Area would be occupied by thriving, self-sustaining populations of native, endemic amphibians and aquatic invertebrate species, as appropriate. New introduced (or re-introduced) populations of relict leopard frog would increase to the point of being viable and self-sustaining. Relict leopard frogs would be recovered and managed in accordance with the Conservation Agreement to maintain viable populations throughout their range. 			

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
B. MANAGEMENT ACTIONS – Amphibians and Aquatic Invertebrates				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> • Introductions and/or augmentations of relict leopard frogs could be authorized at suitable habitat locations, such as Pakoon Springs and Tassi Springs. Introductions and augmentations would be coordinated closely with the Relict Leopard Frog Conservation Team, AGFD, USFWS, counties, tribes, and adjacent land owners. Introductions could be made in areas where doing so is not detrimental to viability of populations of other native species. • The final Conservation Agreement and Rangeland Conservation Assessment and Strategy for Relict Leopard Frogs would be implemented. 			
Actions that degrade riparian habitat or reduce the potential of the area to support riparian vegetation would be modified, restricted, or prohibited.				
V. SPECIAL STATUS SPECIES: SPECIAL STATUS RAPTORS				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> • Special status raptor populations would be healthy and self-sustaining throughout their range. • Habitat areas for special status raptors would provide sufficient forage and cover to support thriving populations of raptors. • No net loss would occur in the quality and quantity of suitable habitat for special status raptors within the Planning Area. • Potential roosting and nesting sites would be abundant. • Riparian areas would be in proper functioning condition and be of sufficient quantity and quality to provide adequate foraging areas for Bald Eagles, Peregrine Falcon, Common Black Hawk, and other special status raptors. • Rodent populations, as a prey base, within the Planning Area would be abundant. • Bald Eagles and Mexican Spotted Owls would be recovered and delisted. • The experimental non-essential population of California Condor would be at or above 150 individuals, viable, and stable to increasing in number. • Peregrine Falcon, Ferruginous Hawks, Common Black Hawks, Northern Goshawks, and Burrowing Owls would be sufficiently abundant so that there would be no need to list these species. 			
B. MANAGEMENT ACTIONS – Special Status Raptors				
a. Common to All Special Status Raptors				
<i>Common to All Planning Areas</i>				
N/A	<p>Special Status Raptor Management:</p> <ul style="list-style-type: none"> • Priority special status raptors would include Bald Eagles, California Condors, Mexican Spotted Owls, Peregrine Falcon, 			

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	<p>Burrowing Owls, Ferruginous Hawks, Northern Goshawks, and Common Black Hawks.</p> <ul style="list-style-type: none"> Special status raptor habitats on state and federal lands in the Planning Area would be preserved, protected, and managed for population maintenance and expansion. A policy of “no net loss” of special status raptor habitat would be maintained. Occupied special status raptor habitats would be protected as a first priority. The BLM, NPS, and AGFD would determine population numbers, distribution, and trends of special status raptors. The effects of use pesticides and herbicides on special status raptors in the Planning Areas would be assessed. 			
N/A	<p>Vegetation Management:</p> <ul style="list-style-type: none"> Existing and potential habitat for special status raptor population continuance and expansion would be identified, protected, and improved. Land use practices and developments which alter the character of the habitat that make it suitable for special status raptors would be limited, modified, or relocated. Suitable and potential habitats would be maintained and upgraded to insure they remain attractive to special status raptors. The use of harmful pesticides or herbicides would be reduced or eliminated within one mile of special status raptor use areas. If used, application would occur in a manner that avoids drift, according to directions (i.e. not broad applications). Suitable habitats for special status raptors in the Planning Area would be maintained and increased. Suitable structural characteristics may be achieved through restoring, maintaining, enhancing, and creating habitat. Suitable habitats would be managed so their suitable characteristics are not eliminated or degraded. Habitats would be managed for large, contiguous blocks, rather than for small fragmented areas. Connectivity to currently isolated suitable sites would be enhanced. Use of buffer zones between suitable and unsuitable areas would be encouraged. 			
<p>Surface Disturbing Activities:</p> <ul style="list-style-type: none"> Actions that would adversely affect special status raptors during their nesting period could be subject to stipulations, mitigation, or may not be approved. <p>Recreation Management:</p> <ul style="list-style-type: none"> Impacts to special status raptors and/or their habitat from recreational activities would be reduced or eliminated. The presence and intensity of allowable recreational activities within special status raptor habitats would be assessed. Seasonal closures of specifically designated recreation activities could be considered where appropriate. 				
b. Bald Eagle				
<i>Common to All Planning Areas</i>				
N/A	<p>Bald Eagle Habitat Management:</p> <ul style="list-style-type: none"> Assistance would be provided in implementation of recovery tasks identified in the Recovery Plan. 			

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	<ul style="list-style-type: none"> • Areas for construction of roost and perch poles in the Planning Area would be identified to replace natural roosts and perches lost by development or decay. • Patterns of movement for wintering Eagles, including fledglings, immatures, and adults, would be determined. Food habits for Bald Eagles within the Planning Area would be determined. 			
N/A	<p>Surface Disturbing Activities:</p> <ul style="list-style-type: none"> • The BLM and NPS could limit, modify, or relocate authorized and/or permitted activities within 0.5 miles of active Bald Eagle wintering roosts. • Projects and activities causing disturbance to roosting Bald Eagles should be avoided from October 15 to April 15. <p>The BLM and NPS would implement conservation measures for protection of Bald Eagles as defined in Appendix 2.E.</p>			
c. Mexican Spotted Owl				
<i>Common to All Planning Areas</i>				
N/A	<p>Mexican Spotted Owl Habitat Management:</p> <ul style="list-style-type: none"> • Active participants in the recovery of the Mexican Spotted Owl would continue. Assistance would be provided in implementation of recovery tasks identified in the Recovery Plan. 			
N/A	<p>Vegetation Management:</p> <ul style="list-style-type: none"> • Canyon and forest habitats with the potential to support Mexican Spotted Owl would be managed for maintenance or enhancement of the habitat attributes that make them suitable. 			
N/A	<p>Surface Disturbing Activities</p> <ul style="list-style-type: none"> • Land use practices and developments which alter the character of the habitat that make it suitable for Mexican Spotted Owls would be limited, modified, or relocated • The BLM and NPS would implement conservation measures for protection of Mexican Spotted Owl as defined in Appendix 2.E. 			
d. California Condor				
<i>Common to All Planning Areas</i>				
N/A	<p>California Condor Habitat Management:</p> <ul style="list-style-type: none"> • The BLM and NPS would continue to actively participate in the recovery of the California Condor. • The BLM and NPS would assist in implementation of recovery tasks identified in the Recovery Plan. • Restoration of California Condor into historic habitats in northern Arizona would be continued in cooperation with the Peregrine Fund, AGFD, USFWS, California Condor Recovery Program, and others. Supplemental releases would be authorized. 			

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	<ul style="list-style-type: none"> The population objective for California Condor would be to maintain a self-sustaining population with a positive growth rate of at least 150 individuals with at least 15 breeding pairs. Population objectives would be modified or changed in accordance with the recovery plan for the species. The BLM and NPS would identify and, where possible, reduce or eliminate sources of lead contamination for Condors within the Planning Area. The BLM and NPS would encourage voluntary use of non-lead ammunition in the Planning Area. 			
Vegetation Management:				
<ul style="list-style-type: none"> The protective measures for California Condors that are contained in the July 2004 "Recommended Protection Measures for Pesticide Applications in the Southwest Region of the USFWS" when conducting chemical treatments would be implemented. California Condor foraging habitat would be maintained. 				
Surface Disturbing Activities				
<ul style="list-style-type: none"> The BLM and NPS would implement conservation measures for protection of California Condors as defined in Appendix 2.E 				
Surface Disturbing Activities				
<ul style="list-style-type: none"> BLM-permitted activities within known or occupied nesting areas of endangered or threatened raptors would be restricted. 				
e. Peregrine Falcon				
<i>Common to All Planning Areas</i>				
Peregrine Falcon Habitat Management:				
<ul style="list-style-type: none"> Active participation would continue in the post-delisting recovery monitoring of Peregrine Falcons in the Planning Area. Actions that would adversely affect nesting peregrines between March 1 and August 1 could be subject to stipulations, mitigation, or may not be approved. 				
Surface Disturbing Activities:				
<ul style="list-style-type: none"> Authorized actions, including construction projects, to areas more than 0.5 miles of known Peregrine Falcon during the active nesting season between April 15 and August 15 would be limited, modified, or relocated. The BLM and NPS would implement conservation measures for protection of Peregrine Falcon as defined in Appendix 2.E. 				
f. Burrowing Owls				
<i>Parashant</i>				
No species-specific augmentations of Burrowing Owl would be planned or implemented.				
Burrowing Owl populations would be augmented by installing artificial nest burrows and releasing owls displaced by surface				Same as Alternatives A and B

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>Arizona Strip FO</i>				
No species-specific augmentations of any migratory bird populations would be planned.	Burrowing Owl populations would be augmented by installing artificial nest burrows and releasing owls displaced by surface disturbing activities from other parts of their range. Priority sites for release include the St. George Basin, Clayhole Valley, Lower Hurricane Valley, the area east of Kanab Creek, and House Rock Valley.	Burrowing Owl populations would be augmented by installing artificial nest burrows and releasing owls displaced by surface disturbing activities from other parts of their range. Priority sites for release include the St. George Basin, Clayhole Valley, Lower Hurricane Valley, and the area east of Kanab Creek.	Same as Alternative C	
C. ADMINISTRATIVE ACTIONS – Special Status Raptors				
a. Common to All Special Status Raptors				
<i>Common to All Planning Areas</i>				
Potential raptor habitat would be inventoried.	<ul style="list-style-type: none"> • The BLM and NPS would continue to survey and/or monitor potential habitat for special status raptors within the Planning Area. • The BLM and NPS would continue to maintain a database of raptor observations. • The BLM and NPS would continue to identify roost locations. • A program of public conservation education and planning directed towards preservation of special status raptor habitats would be carried out. 			
b. Bald Eagle				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> • Important foraging habitat of Bald Eagles within the Planning Area would be located and mapped. • Bald Eagle habitat assessments would be continued at least every third year. • Bald Eagle occurrence surveys would be continued at least every other year at all suitable habitat locations. 			

TABLE 2.5: SPECIAL STATUS SPECIES				
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
c. Peregrine Falcon				
<i>Common to All Planning Areas</i>				
The BLM and NPS would cooperate and assist with post-delisting monitoring efforts for Peregrine Falcon within the Planning Area.				
VI. SPECIAL STATUS SPECIES: RIPARIAN DEPENDENT SPECIAL STATUS BIRDS				
A. DESIRED FUTURE CONDITIONS – Riparian-Dependent Special Status Bird Species				
<i>Common to All Planning Areas</i>				
N/A				
	<ul style="list-style-type: none"> No net loss would occur in the quality and quantity of suitable habitat for riparian-dependent special status bird species within the Planning Area. Occupied habitats would be protected as a first priority. Riparian areas would be in proper functioning condition and be of sufficient quantity and quality to provide adequate foraging areas for SW Flycatcher, Yuma Clapper Rail, Yellow-billed Cuckoo, and other special status birds. SW Flycatcher and Yuma Clapper Rail would be recovered and delisted. Riparian areas that could physically support SW Flycatcher habitats due to floodplain width and gradient would attain the vegetation structure, plant species diversity, density, and canopy cover to be suitable habitat. Riparian vegetation would be sufficiently dense and structurally complex to minimize or eliminate the effects of SW Flycatcher predators and preclude Brown-headed Cowbirds from finding SW Flycatcher nests. Cattail and dense marsh habitats would be abundant and provide habitat for Yuma Clapper Rails. Cottonwood gallery forests would be abundant and provide habitat for Yellow-billed Cuckoos. Potential roosting and nesting sites for riparian dependent special status birds would be abundant. 			
B. SPECIAL DESIGNATIONS – Riparian-Dependent Special Status Bird Species (See Table 2.16 Special Designations for ACEC Management.)				
a. Southwestern Willow Flycatcher				
<i>Arizona Strip FO</i>				
N/A	The Kanab Creek ACEC for the protection of endangered SW Flycatcher habitat would be designated at 13,148 acres.	The Kanab Creek ACEC for the protection of endangered SW Flycatcher habitat would be designated at 9,211 acres.	The Kanab Creek ACEC for the protection of endangered SW Flycatcher habitat would not be designated because the isolated nature of this area provides sufficient protection.	Same as Alternative B

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
C. MANAGEMENT ACTIONS				
a. Common to All Riparian-Dependent Special Status Bird Species				
<i>Common to All Planning Areas</i>				
Riparian-Dependent Special Status Bird Species and Habitat Management:				
<ul style="list-style-type: none"> • Protection from threats would be provided and sufficient habitat to assure maintenance of populations and/or habitats over time would be created/secured. • Water diversions and groundwater withdrawals would be managed to maintain streamside vegetation. • Impacts of pesticide use on riparian-dependent special status bird species' reproduction adjacent to riparian areas would be determined. • The BLM, NPS, and AGFD would determine population numbers, distribution, and trends of riparian-dependent special status bird species. • The use of harmful pesticides adjacent to riparian areas would be limited or eliminated. If used, application would occur in a manner that avoids drift, according to directions (i.e. not broad applications). 				
Vegetation Management:				
<ul style="list-style-type: none"> • Riparian areas would be managed to achieve and/or maintained in proper functioning condition in accordance with prescriptions described in the vegetation management section of this document (See Table 2.4: Vegetation and Fire and Fuels Management). • Suitable nesting riparian habitats for riparian-dependent special status bird species would be maintained or increased. Suitable structural characteristics may be achieved through restoring, maintaining, enhancing, and creating habitat. Management would aim for large, contiguous blocks of habitat rather than for small fragmented areas. Connectivity to currently isolated suitable sites would be enhanced. The use of buffer zones between riparian habitats and adjacent upland areas would be encouraged. Establishment of areas of slow/back waters would be promoted. • Regeneration of native vegetation in regenerating riparian habitats would be promoted. Natural reaches of riparian habitat would be restored by restoring intervening degraded segments. • Occupied, suitable, and potential breeding habitat would be increased and improved. • Restoration of native riparian vegetation would continue in sites that have potential to support future breeding habitat for riparian-dependent special status bird species. • Support would continue for applications for instream flow rights with the AZ Department of Water Resources in rivers supporting riparian-dependent species. • Native riparian vegetation in floodplains or channels would be retained. • Protective measures for riparian-dependent special status bird species that are contained in the July 2004 "Recommended Protection Measures for Pesticide Applications in The Southwest Region of the USFWS" would be implemented when conducting chemical treatments. • The BLM and NPS would implement conservation measures for protection of riparian-dependent special status bird species as defined in Appendix 2.E. 				
Livestock Grazing Management:				
<ul style="list-style-type: none"> • Disturbance, injury, mortality, or other forms of take of riparian-dependent special status bird species' resulting from grazing by livestock would be minimized or eliminated. 				

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> Grazing systems, strategies, and intensities for riparian recovery and maintenance would be investigated. Direct effects of livestock grazing on SW Flycatchers and their habitat would be investigated. <p>Lands and Realty :</p> <ul style="list-style-type: none"> Net effects of land disposals/ exchanges in Virgin River corridor would be beneficial to Virgin R. fishes. <p>All land exchanges or disposals should benefit aquatic and riparian resources by reducing threats to those habitats associated with dewatering and surface disturbance.</p> <p>Lands and Realty:</p> <ul style="list-style-type: none"> Riparian area river channels, floodplains, and terraces would be retained in federal ownership. All exchanges that could affect water flows (either groundwater or surface water) would be carefully examined to ensure that development on those lands not affect riparian habitats. Lands to be acquired would have development potential similar to the disposed lands and would be located in similar proximity to the Virgin River or significant tributaries. All acquired lands would not have ground or surface water used or reserved for use by non-Federal interests after it is acquired by the government. All existing such uses must be terminated upon acquisition and all rights transferred to the Federal government. <p>Travel Management:</p> <ul style="list-style-type: none"> Roads and trails used by off-highway vehicles within riparian areas, or areas with the potential to support riparian vegetation would be closed and rehabilitated. <p>Surface Disturbing Activities:</p> <ul style="list-style-type: none"> Where possible and practicable, physical stresses, such as high salinity or reduced stream flows that favor exotic plants, would be reduced or eliminated. Actions that would not allow for natural stream flow regimes including periodic flood events would not be authorized. Direct impacts that topple or otherwise destroy nests would be reduced. <p>Recreation Management</p> <ul style="list-style-type: none"> Impacts to riparian-dependent special status bird species and/or their habitat from recreational activities would be reduced or eliminated. Recreation that degrades riparian habitat would be prohibited in riparian areas in the Planning Areas. Restrictions could include: <ul style="list-style-type: none"> Reducing or eliminating recreational fires. 	<p>Lands and Realty:</p> <ul style="list-style-type: none"> Specific parcels identified for disposal would be surveyed for special status species and other sensitive resources prior to disposal. The effects of future development on water quality and flows in the Virgin River would be addressed in NEPA documents and ESA consultation prior to disposal. Revenues generated from the sale of FLTFA parcels could be used to acquire adjacent lands with high resource values in accordance with the Arizona Statewide Interagency Implementation Agreement. 			

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> • Confining camping areas. • Locating recreational activity areas away from suitable or potential SW Flycatcher habitat. • Minimizing trash, debris, and other attractants to scavengers, predators, and Brown-headed Cowbirds. 				
<p>b. Southwestern Willow Flycatcher</p>				
<p><i>Common to All Planning Areas</i></p>				
<p>SW Flycatcher Habitat Management</p> <ul style="list-style-type: none"> • Active participation would continue in the recovery of the SW Flycatcher. Assistance would be provided in the implementation of recovery tasks identified in the Recovery Plan. • The BLM would continue to identify and evaluate areas where concentrations of Brown-headed Cowbirds occur on public lands in the Planning Area. • The BLM would evaluate ways to reduce Cowbird concentrations. • Cowbird management programs would be developed and implemented where parasitism rates are greater than 20%. Effectiveness of Cowbird trapping at present locations would be evaluated by monitoring nests for parasitism and reproductive success. Reconsideration would be given to assessment of habitat quality or other threats if Cowbird control measures do not increase number of breeding Flycatchers. 				
<p>Vegetation Management:</p> <ul style="list-style-type: none"> • Suitable Flycatcher habitat should be managed so that its suitable characteristics are not eliminated or degraded. Management would be for large, contiguous blocks of habitat rather than for small fragmented areas. Connectivity to currently isolated suitable sites would be enhanced. The use of buffer zones between riparian habitats and adjacent upland areas would be encouraged. Establishment of areas of slow/back waters would be promoted. • Potential habitat would be managed to achieve structural and vegetation characteristics necessary to support increasing numbers of breeding SW Flycatcher pairs within 5-20 years. Potential Flycatcher habitat should be managed to allow natural regeneration (through natural processes) into suitable habitat as rapidly as possible. • The use vs. availability of invasive exotic species, such as tamarisk, by SW Flycatcher at occupied nesting sites would be determined. • Native riparian vegetation would be retained in floodplains or channels. • At native dominated sites, tamarisk would be retained in occupied Flycatcher habitat and, where appropriate, in suitable but unoccupied habitat, unless there is a trend for steady increase of tamarisk. • The BLM and NPS would implement conservation measures for protection of SW Flycatcher as defined in Appendix 2.E. 				
<p>Livestock Grazing Management:</p> <ul style="list-style-type: none"> • Livestock would be excluded from suitable Flycatcher habitat (whether occupied or unoccupied) during the growing season (bud break to leaf drop). This includes portions of the following allotments: the River Pasture of Lambing Allotment and Kanab Creek. Unsurveyed suitable habitat should be considered occupied. If livestock are excluded using fencing, fencing should be inspected and maintained annually. 				

TABLE 2.5: SPECIAL STATUS SPECIES

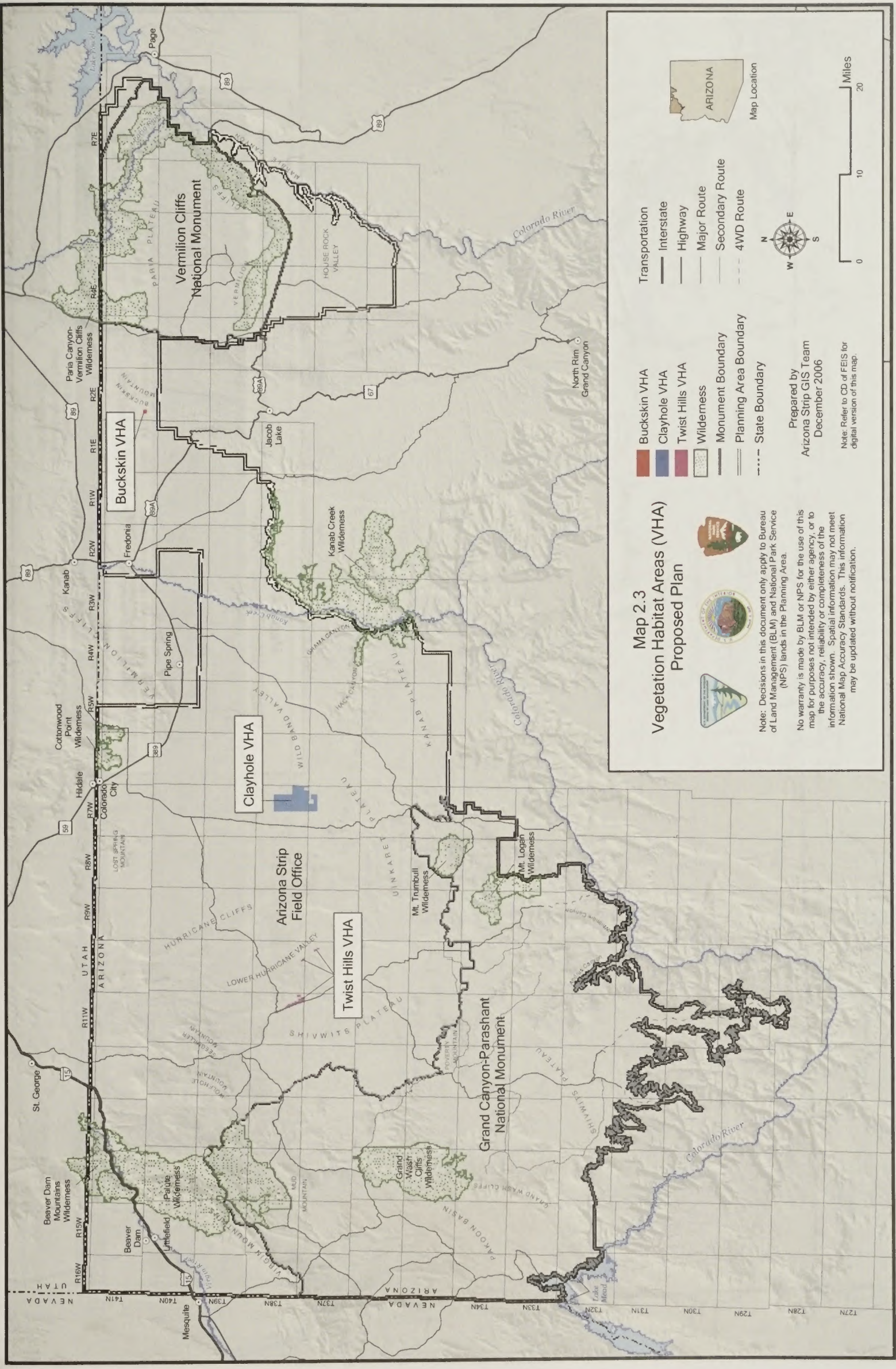
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> In potential habitat, it would be determined if livestock grazing is a major stressor or is otherwise preventing development of the habitat into suitable Flycatcher habitat. Where this is the case, livestock grazing would be excluded from potential SW Flycatcher nesting habitat during the growing season (bud-break to leaf drop). 				
<p>c. Yuma Clapper Rail</p>				
<p><i>Common to All Planning Areas</i></p>				
<p>Yuma Clapper Rail Habitat Management:</p>				
<ul style="list-style-type: none"> Participation in the recovery of the Yuma Clapper Rail would continue. Assistance would be provided in implementation of recovery tasks identified in the Recovery Plan. 				
<p>Vegetation Management:</p>				
<ul style="list-style-type: none"> Occupied Yuma Clapper Rail habitats would be protected as a first priority. Fresh water marsh habitat suitable for Yuma Clapper Rail nesting would be maintained, enhanced, restored, and/or created. A mosaic of uneven aged marsh vegetation would be maintained. Mechanical manipulation would be avoided during the breeding season (April-June). Management of potential habitat would be aimed at achieving structural and vegetation characteristics necessary to support increasing numbers of breeding Yuma Clapper Rails. Potential habitat should be managed to allow natural regeneration (through natural processes) into suitable habitat as rapidly as possible. Cattail marshes would be retained in occupied Clapper Rail habitat and, where appropriate, in suitable but unoccupied habitat. 				
<p>Livestock Grazing Management:</p>				
<ul style="list-style-type: none"> Disturbance, injury, mortality, or other forms of take of Yuma Clapper Rail resulting from grazing by livestock would be minimized or eliminated. Livestock grazing would be excluded from occupied suitable Yuma Clapper Rail nesting habitat. In potential habitat, it would be determined if livestock grazing is a major stressor or is otherwise preventing development of suitable Clapper Rail habitat. Where this is the case, livestock grazing would be excluded from potential Clapper Rail habitat during the growing season (bud-break to leaf drop). 				
<p>d. Yellow-billed Cuckoo</p>				
<p><i>Common to All Planning Areas</i></p>				
<p>Yellow-billed Cuckoo Habitat Management:</p>				
<ul style="list-style-type: none"> Participation in actions to prevent the need to list Yellow-billed Cuckoo would continue. 				
<p>Vegetation Management:</p>				
<ul style="list-style-type: none"> Mature cottonwood-willow gallery forest habitat suitable for Yellow-billed Cuckoo nesting would be maintained, enhanced, restored, and/or created. Large, contiguous blocks of habitat (>15 ha) would be managed in conjunction with removal of competing exotic species (i.e. salt cedar). The use of buffer zones between riparian habitats and adjacent development would be encouraged. Corridors between "islands" of suitable habitat would be established to allow natural dispersal and recolonization of historic habitats. 				

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> Potential habitat would be managed to achieve structural and vegetation characteristics necessary to support increasing numbers of breeding Yellow-billed Cuckoo. Potential habitat should be managed to allow natural regeneration (through natural processes) into suitable habitat as rapidly as possible. Retain mature cottonwood-willow gallery forests in Yellow-billed Cuckoo habitat. 				
<p>Livestock Grazing Management:</p>				
<ul style="list-style-type: none"> Disturbance, injury, or mortality of Yellow-billed Cuckoo resulting from grazing by livestock would be minimized or eliminated. Grazing impacts on cottonwood and willow seedlings in riparian systems would be closely monitored and grazing would be reduced or removed when seedlings are being impacted. 				
<p>Recreation Management:</p>				
<ul style="list-style-type: none"> Intense and repeated human disturbance would be avoided at nesting areas from 15 May through 1 September. 				
<p>D. ADMINISTRATIVE ACTIONS</p>				
<p>a. Southwestern Willow Flycatcher</p>				
<p><i>Common to All Planning Areas</i></p>				
<ul style="list-style-type: none"> Identification and mapping of suitable and potential habitat areas for SW Flycatchers would continue. The BLM would continue to maintain a database of SW Flycatcher observations. Habitat conditions in suitable and potential SW Flycatcher habitat would continue to be monitored at least every third year in order to determine best management of riparian areas. Appropriate monitoring of all riparian areas within the Planning Area, including greenline transects, riparian functionality assessments, etc., would continue SW Flycatcher occurrence surveys would continue at least every other year at all suitable habitat locations. Nest monitoring would continue to determine nesting success, parasitism rates, and predation rates. Baseline data on Cowbird parasitism would be collected. Employees and public users would be educated about SW Flycatchers. 				
<p>b. Yuma Clapper Rail</p>				
<p><i>Arizona Strip FO</i></p>				
<ul style="list-style-type: none"> Identification and mapping of suitable and potential habitat areas for Yuma Clapper Rails would continue. Yuma Clapper Rail occurrence surveys would continue at least every other year at all suitable habitat locations. Monitoring of habitat conditions in Yuma Clapper Rail habitat would continue at least every third year in order to determine how best to manage riparian habitats to protect this species. Appropriate monitoring of all riparian areas within the Planning Area would continue, including greenline transects, riparian functionality assessments, etc. A program of public conservation education and planning directed towards preservation of Yuma Clapper Rail habitat would continue. 				

TABLE 2.5: SPECIAL STATUS SPECIES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
c. Yellow-billed Cuckoo				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> • The BLM and NPS would continue to maintain updated maps of Yellow-billed Cuckoo habitat in the Planning Areas. • Support and Participation for Yellow-billed Cuckoo survey and monitoring efforts on lands within the Planning Area would continue. • Habitat conditions in Yellow-billed Cuckoo habitat would continue to be monitored in order to be able to determine how best to manage these riparian areas to protect this and other riparian dependent species. • The BLM would continue to maintain a database of Yellow-billed Cuckoo observations. 			



Map 2.3 Vegetation Habitat Areas (VHA) Proposed Plan

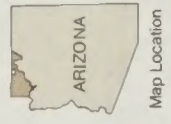


Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

- Buckskin VHA
- Clayhole VHA
- Twist Hills VHA
- Wilderness
- Monument Boundary
- Planning Area Boundary
- State Boundary

- Transportation**
- Interstate
- Highway
- Major Route
- Secondary Route
- 4WD Route

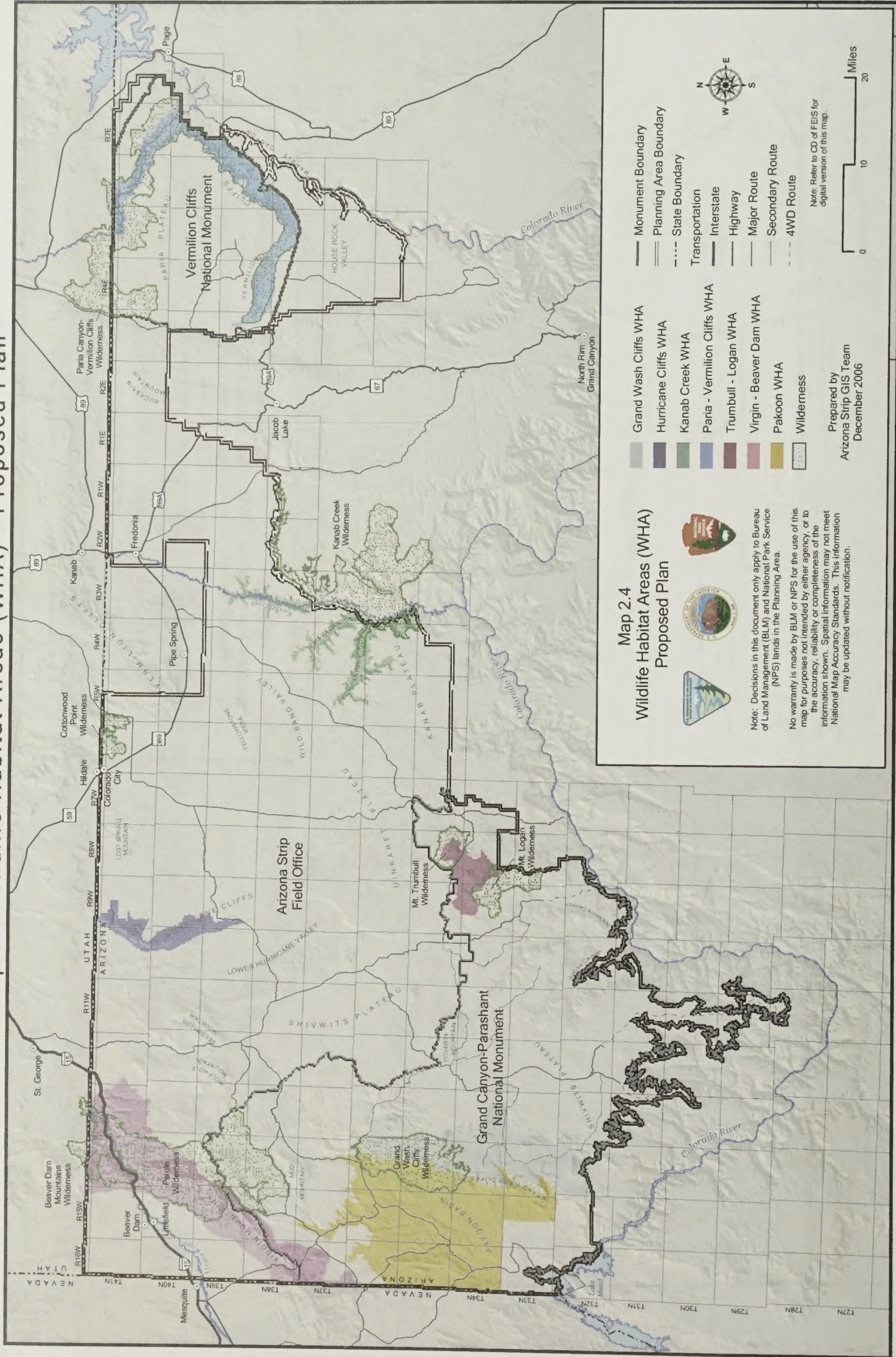


Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for digital version of this map.

Map 2.3 Vegetation Habitat Areas (VHA) - Proposed Plan

Map 2.4 Wildlife Habitat Areas (WHA) - Proposed Plan



Map 2.4 Wildlife Habitat Areas (WHA) Proposed Plan

Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Prepared by
Arizona Strip GIS Team
December 2006

Miles
0 10 20

Note: Refer to CD or FEIS for digital version of this map.

	Monument Boundary		Grand Wash Cliffs WHA
	Planning Area Boundary		Hurricane Cliffs WHA
	State Boundary		Kanab Creek WHA
	Transportation		Paria - Vermilion Cliffs WHA
	Interstate		Trumbull - Logan WHA
	Highway		Virgin - Beaver Dam WHA
	Major Route		Pakoon WHA
	Secondary Route		Wilderness
	4WD Route		

TABLE 2.6: WILD BURROS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. WILD BURROS				
B. MANAGEMENT ACTIONS				
<i>Parashant</i>				
The Herd Management Level would continue to be set at zero on BLM lands. (See Table 2.5: Special Status Species). Wild horse and burros would not be authorized on NPS lands.				

TABLE 2.7: CULTURAL RESOURCES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. ARCHAEOLOGICAL AND HISTORIC RESOURCES				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
<ul style="list-style-type: none"> • Significant cultural resources, including Monument objects, would be identified, conserved, protected, stabilized or restored, and maintained in good or better condition to ensure they are available for appropriate uses by present and future generations. • Imminent threats and potential conflicts from natural or human-caused deterioration or potential conflict with other resource uses would be reduced (FLPMA Sec. 103, National Historic Preservation Act (NHPA), Sections 106 and 110 (a) (2)) by ensuring that all land uses and resource uses initiated or authorized by the BLM comply with Section 106 of the NHPA in accordance with the BLM's National Cultural Resources Programmatic Agreement and Arizona Protocol. • All sites on BLM lands would be managed according to the DFCs of their use allocation(s) (See Appendix 2.J). • Preservation/restoration would preserve existing original work and maintain it by restoration, replacement, or repair. • Imminent threats from deterioration and potential conflicts with other resource uses on NPS lands would be reduced, mitigated or eliminated. All actions potentially impacting cultural resources would be assessed via compliance with section 106 of the NHPA and Director's Order 28 to achieve DFC's. 				
B. SPECIAL DESIGNATIONS				
a. Areas of Critical Environmental Concerns (See Table 2-16. Special Designations for ACEC Management)				
<i>Parashant</i>				
<p>The following ACECs would be maintained:</p> <ul style="list-style-type: none"> • Nampaweap (535 acres) • Witch Pool (279 acres) 				
<i>Arizona Strip FO</i>				
<p>See Special Designation Section 2.81 for specific decisions and Appendix 2.K for Values, Relevance, and Importance Criteria for each ACEC.</p> <p>The Little Black Mountain ACEC for the protection of cultural resources would be maintained at 241 acres. (See Table 2-16. Special Designations for ACEC Management)</p>				
<p>The following ACECs would be maintained:</p> <ul style="list-style-type: none"> • Nampaweap at 535 acres • Witch Pool at 279 acres 		<p>The Johnson Spring ACEC for protection of cultural resources would be revoked because Monument status provides protection of cultural resources:</p> <ul style="list-style-type: none"> • Nampaweap (535 acres) • Witch Pool (279 acres) 		<p>The Johnson Spring ACEC for protection of cultural resources would be increased to 3,444 acres.</p>
<p>The Johnson Spring ACEC for protection of cultural resources would be maintained at 2,464 acres.</p>		<p>The Johnson Spring ACEC for protection of cultural resources would be reduced to 1,986 acres.</p>		<p>The Johnson Spring ACEC for protection of cultural resources would be increased to 3,444 acres.</p>

TABLE 2.7: CULTURAL RESOURCES				
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
The Lost Spring Mountain ACEC for protection of cultural resources would be maintained at 8,262 acres.	The Lost Spring Mountain ACEC for protection of cultural resources would be enlarged to 17,744 acres. Increases in ACEC acreage would be due to inclusion of areas with significant resource values not previously included.	The Lost Spring Mountain ACEC for protection of cultural resources would be reduced to 4,431 acres.	The Lost Spring Mountain ACEC designation for protection of cultural resources would be revoked because route designation provides sufficient protection from OHV impacts.	The Lost Spring Mountain ACEC for protection of cultural resources would be enlarged to 19,248 acres. Increases in ACEC acreage would be due to inclusion of areas with significant resource values not previously included.
The Moonshine Ridge ACEC for protection of cultural resources would be maintained at 5,095 acres.	The Moonshine Ridge ACEC for protection of cultural resources would be enlarged to 9,231 acres. Increases in ACEC acreage would be due to inclusion of areas with significant resource values not previously included.	The Moonshine Ridge ACEC for protection of cultural resources would be reduced to 2,575 acres. Decreases in ACEC acreage would be due to removal of areas where surveys have indicated these resource values are not present.	The Moonshine Ridge ACEC designation for protection of cultural resources would be revoked because route designation provides sufficient protection from OHV impacts.	The Moonshine Ridge ACEC for protection of cultural resources would be enlarged to 9,310 acres. Increases in ACEC acreage would be due to inclusion of areas with significant resource values not previously included.
The Marble Canyon ACEC for the protection of cultural resources would be maintained at 11,012 acres.	The Marble Canyon ACEC for the protection of cultural resources would be enlarged to 102,141 acres.	The Marble Canyon ACEC for the protection of cultural resources would be enlarged to 11,926 acres.		The Marble Canyon ACEC for the protection of cultural resources would be enlarged to 12,105 acres
N/A	The Kanab Creek ACEC for the protection of cultural resources would be designated at 13,146 acres.	The Kanab Creek ACEC for the protection of cultural resources would be designated at 9,211 acres.	The Kanab Creek ACEC for the protection of cultural resources would not be designated.	Same as Alternative B
C. LAND USE ALLOCATIONS				
a. Public Use Sites (See Appendix 2.J for management emphasis for sites allocated to public use)				
<i>Parashant</i>				
The following sites would continue to be managed for public use:				
Nampawcap	Uinkaret Pueblo			
Sawmill Site	Witch Pool			
Temple Trail	Tassi Ranch and Waring Ranch			

TABLE 2.7: CULTURAL RESOURCES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	The following additional sites would be allocated to public use: Grand Gulch Mine Pine Ranch	Lower Kent Ranch Oak Grove Cabin		
Vermilion				
The following sites would continue to be managed for public use:				
Honeymoon Trail	Dominguez/Escalante Trail	West Bench Pueblo		
N/A	The following additional sites would be allocated to public use: Maze Site	Sun Valley Mine	Old Spanish National Historic Trail (NHT)	
Arizona Strip FO				
The following sites would continue to be managed for public use:				
Little Black Mountain Paiute Cave	Temple Trail Dominguez/Escalante Trail	Honeymoon Trail		
N/A	The following additional site would be allocated to public use:		Old Spanish NHT	
D. MANAGEMENT ACTIONS				
<i>Common to All Planning Areas</i>				
Historic structures that do not merit preservation because of minimal significance, advanced deterioration, or excessive cost would be recorded and allowed to deteriorate. Some removal of hazardous elements would be allowed for safety and to avoid an attractive nuisance.				
N/A	Geocache sites would be prohibited in cultural sites including, but not limited to, archaeological sites, alcoves, rock shelters, cultural landscapes, traditional cultural properties (TCPs), and historic sites.			
E. ADMINISTRATIVE ACTIONS				
<i>Common to All Planning Areas</i>				
Proactive research, protection, and inventories with universities, avocational and service groups, site stewards, tribes, and communities would be used to gain a better understanding of cultural resources for present and future management and protection.				
Scientific study to gain knowledge on the full array of cultural resources in the Monuments would be allowed in order to fulfill regional research objectives and to fill regional data gaps identified in Altschul and Fairley (1989), when possible. Such studies could include ethnographic and oral histories, historic and landscape studies, archaeological studies, and ethnobotanical and environmental studies				
Geographic and archaeological scientific inventories would be continued based on imminent threats from natural or human-caused deterioration, potential conflict with other resource uses, and the probability for unrecorded significant resources.				
Archives and museum collections would be located, inventoried, and managed to ensure accessibility and use for research, documentation, and public interpretation.				

TABLE 2.7: CULTURAL RESOURCES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	Properties eligible for listing on the National Register of Historic Places (NRHP) would be nominated.			
N/A	TCPs would be identified and associated socio-cultural values would be documented.			
N/A	The Arizona Site Steward Program, service groups, and other volunteers would be supported in order to monitor resource conditions, assist in resource protection, assist in project work, aid in effective land management, and to serve as advocates and stewards of BLM and NPS missions to protect and conserve cultural resources.			
N/A	Non-destructive research proposals such as inventory, intensive site mapping, Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) documentation of historic structures, cultural landscapes, and other significant historic properties, and scaled rock art recording would be pursued through interagency cooperation, grants, contracts, and other funding sources.			
N/A	Cooperative management agreements would be developed with the neighboring federal agencies, local and regional American Indian tribes and communities, institutions of higher learning, and/or other agencies or groups to improve the efficiency and quality of site management.			
N/A	Databases, maps, site, and inventory records would be maintained to current professional standards.			
N/A	Databases and finder guides that help to locate, use, and organize archives and museum collections would be established.			
<i>Parashant</i>				
N/A	Priority geographic and historic areas for new field inventory would include riparian first terrace locations, woodlands, Shivwits Plateau, and wilderness areas.			
<i>Vermilion</i>				
N/A	Priority geographic and historic areas for new field inventory would include the Paria Canyon, Paria Plateau, House Rock Valley, wilderness areas, and areas with high concentrations of visitors.			
<i>Arizona Strip FO</i>				
N/A	Priority geographic and historic areas for new field inventory would include the first terrace above riparian areas, woodlands, the vicinity of Johnson Springs, Shinarump Plateau, Lost Spring Mountain, Yellowstone Mesa, House Rock Valley, current and potential high visitor use areas, and wilderness areas.			

F. IMPLEMENTATION DECISIONS

Common to All Planning Areas

Protective measures would be taken to preserve significant sites, such as monitoring through patrol, signing, fencing, data recovery to mitigate vandalism, and stabilizing undamaged deposits, and preserving at risk features such as standing walls or historic structures.

TABLE 2.7: CULTURAL RESOURCES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	Interpretation of and education about previous human occupation and use of the area would be accomplished using appropriate sites and methods.			
Parashant				
N/A	<p>The following implementation actions would occur at Tassi Ranch and Springs:</p> <ul style="list-style-type: none"> The historic irrigation ditch system would be maintained to allow for preservation of Grand Wash Spring snail, an endemic species. The historic landscape would be managed so that it maintains historic and ecological integrity. (See Table 2.3: Vegetation Management.) The Tassi Ranch cultural landscape would be nominated for listing on the NRHP. A cyclic maintenance program would continue. 			
N/A	<p>The following implementation actions would occur at Waring Ranch and Regional Cultural Landscape:</p> <ul style="list-style-type: none"> The Waring Ranch NRHP listing would be broadened to encompass the entire Kelly Point ranching landscape (Pine Ranch to Kelly Point). Other features associated with Kelly Point ranching landscape would be examined and assessed for future stabilizing efforts. Condition assessment and stabilization of outlying cultural resources would continue to be conducted. 			
N/A	<p>The Grand Gulch Mine buildings, Oak Grove Cabin, Pine Ranch, Lower Kent Ranch, and other historic properties would be mapped, stabilized, signed, and interpreted as they are identified, documented, and evaluated.</p>			
Vermilion				
N/A	Development of West Bench Pueblo Public Use Site would be pursued and would include stabilization and rerouting of the current road through the site, data recovery efforts, and construction of a trail, interpretive signs, and a small parking area for day use only.			
N/A	"The Maze" Rock art site would be developed with a backcountry access trail and off-site interpretive signing.			
N/A	The Sun Valley Mine Public Use Site would be developed for public use, including reconstruction of head frame, construction of a bat gate, and interpretive signing. (See Table 2.4: Fish and Wildlife.)			
G. ADMINISTRATIVE ACTIONS				
Common to All Planning Areas				
N/A	All implementation actions would be contingent upon the outcome of Sec 106 consultation with the Arizona State Historic Preservation Office (SHPO) and would not proceed until that process was completed.			

TABLE 2.7: CULTURAL RESOURCES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
III. RESOURCES OF TRADITIONAL IMPORTANCE TO AMERICAN INDIANS				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> • Specific information on ancestral and traditional cultural places on the Arizona Strip would be protected to the extent allowable by law and, when appropriate, interpreted for the public. • A good working relationship would be maintained with the Kaibab Paiutes, the Paiute Tribe of Utah, the Moapa Paiute Tribe, the Las Vegas Paiute Tribe, the San Juan Paiute Tribe, the Hopi Tribe, the Hualapai Tribe, the Havasupai Tribe, and the Navajo Nation, the latter being accomplished particularly through specific affected local chapters (Bodaway/Gap, Cameron, Coalmine, Coppermine, LeChee, and Tuba City). • TCPs of importance, including Monument objects, and associated with American Indians whose cultural memory, traditions, and lives are closely associated with the Planning Area would be nominated to the NRHP. • American Indians with cultural and historic ties to the Planning Area would have access to and use of sites allocated to traditional use, consistent with laws, regulations, and authorities. 			
B. MANAGEMENT ACTIONS				
<i>Common to All Planning Areas</i>				
N/A	Tribes would be consulted to determine limitations for use on sites allocated to Traditional Use areas.			
N/A	Fees would not apply on BLM lands to American Indians for the collection of non-commercial, personal use quantities of herbals, medicines, traditional use items, or items necessary for traditional, religious, or ceremonial purposes.			
C. ADMINISTRATIVE ACTIONS				
<i>Common to All Planning Areas</i>				
N/A	Tribes and individual members of tribes with cultural and historic ties to the Arizona Strip would be consulted, according to the provisions specified in Native American Grave Protection and Repatriation Act (NAGPRA), Archaeological Resources Protection Act (ARPA), NHPA, and pertinent Executive Orders.			
N/A	Mutually acceptable methods of protecting and preserving areas of sacred and traditional importance would be adopted.			

TABLE 2.8: VISUAL RESOURCES

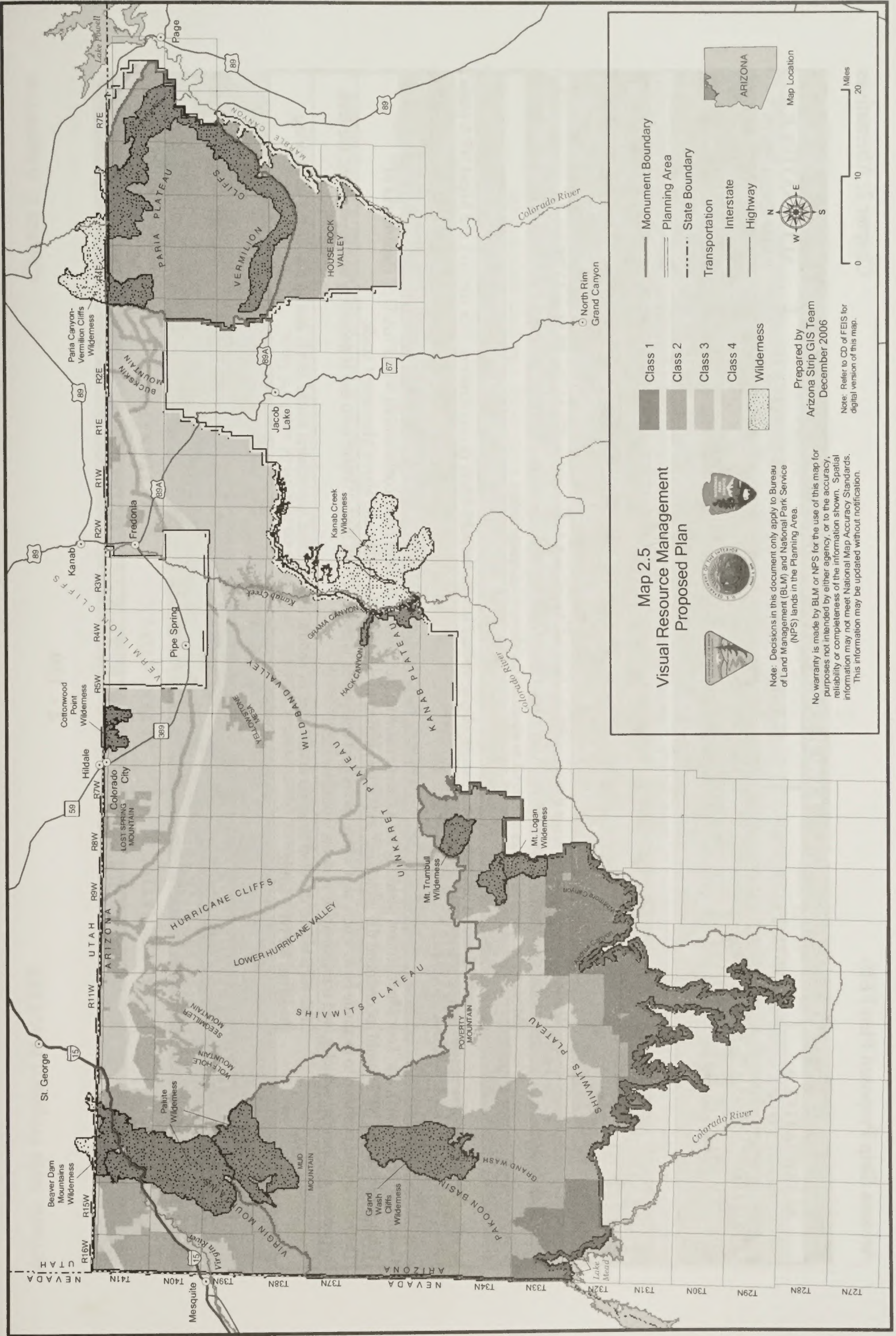
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. VISUAL RESOURCES				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
<ul style="list-style-type: none"> Public lands would be managed in a manner which would protect the quality of the scenic (visual) values of these lands (43 U.S.C. 1701, Section 102 (a) (8)). Esthetically pleasing surroundings would be assured for all Americans (43 U.S.C. 4321, Section 101 (b)). The region's scenic beauty, open space landscapes, and other high-quality visual resources, including Monument objects, would be maintained within the Planning Area. The existing "footprint" of cultural landscapes (facilities, projects, and improvements) would generally be maintained. 				
N/A				
<p>Dark night sky conditions that are affected primarily by natural light sources would be maintained.</p> <p>There are four visual resource management (VRM) classes. These classes would establish the following objectives, which also provide visual management standards for the design and development of future projects and for rehabilitation of existing projects in the Planning Areas (see Appendix 2.L: VRM Classes).</p> <p>Class 1 - The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change of the characteristic landscape should be very low and must not attract attention.</p> <p>Class 2 - The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.</p> <p>Class 3 - The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.</p> <p>Class 4 - The objective of this class is to provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.</p>				
Parashant and Vermilion				
<ul style="list-style-type: none"> Visual resources identified in the Monument proclamations, such as <i>impressive landscapes; engaging scenery; natural splendor; colorful vistas; rugged and beautiful canyons; colorful, lava-capped strata; spectacular escarpments; stunning river; spectacular geology; and colorful banding</i> would be protected. 				
B. LAND USE ALLOCATIONS				
<i>Common to All Planning Areas</i>				
<p>The following VRM classes would be designated under each alternative to support management of the various other resources, such as designated and proposed wilderness, NHT segments, primary travel corridors, areas where wilderness characteristics would be maintained, Virgin River Gorge Recreation Withdrawal,</p>				

TABLE 2.8: VISUAL RESOURCES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
certain special recreation management areas, Great Western and Arizona Trail Corridors, various ACECs, and important watershed and wetland areas (Map 2.5).				
Parashant				
(BLM lands only)	(BLM and NPS lands)	(BLM and NPS lands)	(BLM and NPS lands)	(BLM and NPS lands)
Class I: 95,239 acres	Class I: 431,216 acres	Class I: 394,686 acres	Class I: 283,289 acres	Class I: 291,219 acres
Class II: 348,726 acres	Class II: 617,089 acres	Class II: 393,975 acres	Class II: 474,556 acres	Class II: 592,699 acres
Class III: 38,316 acres	Class III: 0 acres	Class III: 259,644 acres	Class III: 290,460 acres	Class III: 164,389 acres
Class IV: 356,820 acres	Class IV: 12 acres	Class IV: 12 acres	Class IV: 12 acres	Class IV: 11 acres
Vermilion				
Class I: 89,829 acres	Class I: 127,274 acres	Class I: 106,205 acres	Class I: 89,829 acres	Class I: 89,825 acres
Class II: 203,859 acres	Class II: 166,406 acres	Class II: 186,847 acres	Class II: 203,850 acres	Class II: 203,851 acres
Class III: 0 acres	Class III: 0 acres	Class III: 625 acres	Class III: 0 acres	Class III: 0 acres
Class IV: 0 acres	Class IV: 12 acres	Class IV: 12 acres	Class IV: 12 acres	Class IV: 12 acres
Arizona Strip FO				
Class I: 82,828 acres	Class I: 91,537 acres	Class I: 80,760 acres	Class I: 80,760 acres	Class I: 80,760 acres
Class II: 573,243 acres	Class II: 437,256 acres	Class II: 202,092 acres	Class II: 164,932 acres	Class II: 368,032 acres
Class III: 374,725 acres	Class III: 1,379,468 acres	Class III: 1,625,409 acres	Class III: 1,656,576 acres	Class III: 1,459,374 acres
Class IV: 950,227 acres	Class IV: 72,803 acres	Class IV: 72,803 acres	Class IV: 78,797 acres	Class IV: 72,897 acres
During the life of the Plan, any areas designated as Wilderness or classified as "wild" as part of a national wild and scenic river designation would, upon designation, be re-designated as VRM Class I.				
C. MANAGEMENT ACTIONS				
1. Actions to Achieve				
Common to All Planning Areas				
Actions would continue to be implemented to restore and/or maintain natural conditions or appearance in all areas.	<ul style="list-style-type: none"> To the extent opportunities are practicable, extreme visual contrast created by past management practices or human activities would be minimized. Examples could include ROW amendments, mineral material sites, abandoned mines, and areas impacted by unauthorized off-road driving, etc. Basic criteria for "practicality" could include 1) location (would the site be in an area with high visual sensitivity and in a foreground/midground distance zone as mapped in the visual resource inventory?), 2) feasibility (would it be physically possible to achieve a desired level of restoration success, as measured by use of the contrast rating process?), and 3) cost (would the cost be reasonable and is funding obtainable?). 			

TABLE 2.8: VISUAL RESOURCES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
2. Allowable Uses				
a. New Projects and Activities				
<i>Common to All Planning Areas</i>				
N/A	Ecosystem restoration projects would ensure that visual impacts are minimized in the short term (5 years) and that VRM objectives in the project area are met in the long term (life of the project) when such projects are a) considered essential for public safety, achieving DFCs, or reducing hazardous fuels buildups and b) expected to be visually prominent.			
Activities that would cause adverse long-term impacts to the important visual resources in the following areas would be prohibited or mitigated to the extent practicable: Hurricane Rim, Diamond Butte, Moccasin Mountain, and Grama and Kanab creeks.	All new surface disturbing projects or activities, regardless of size or potential impact, would incorporate visual design considerations during project design as a reasonable attempt to meet the VRM objectives for the area and minimize the visual impacts of the proposal. Visual design considerations would be incorporated by: <ul style="list-style-type: none"> • Using the VRM contrast rating process (required for proposed projects in highly sensitive areas, high impact projects, or for other projects where it would appear to be the most effective design or assessment tool), or by • Providing a brief narrative visual assessment for all other projects that require an environmental assessment or environmental impact statement. Measures to mitigate potential visual impacts could include the use of natural materials, screening, painting, project design, location, or restoration. (See Appendix 2.L-1; BLM Handbook H-8431-1, Visual Resource Contrast Rating; or online at http://www.blm.gov/nstc/VRM/8431.html , for information about the contrast rating process.)			
b. Night Sky				
<i>Common to All Planning Areas</i>				
N/A	Permanent outdoor lighting in VRM Class I areas would not be allowed.			
N/A	Any facilities authorized would use the best technology available to minimize light emissions.			
N/A	Impacts to dark night skies would be prevented or reduced through the application of specific mitigation measures identified in activity level planning and NEPA level review. These measures may include directing all light downward, using shielded lights, using only the minimum illumination necessary, using lamp types such as sodium lamps (less prone to atmospheric scattering), using circuit timers, and using motion sensors.			



Map 2.5 Visual Resource Management - Proposed Plan

TABLE 2.9: SOUNDSCAPES

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. SOUNDSCAPES				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
N/A	Natural quiet and natural sounds would be preserved or restored, where practicable.			
B. MANAGEMENT ACTIONS				
1. Actions to Achieve				
<i>Common to All Planning Areas</i>				
N/A	Under any Section 4(f) consultations with the Federal Aviation Administration (FAA), the BLM and NPS would recommend the protection or restoration of natural quiet in and above noise sensitive areas defined as all statutory wilderness areas, National Monuments, and all areas managed to maintain wilderness characteristics.			
<i>Parashant</i>				
N/A	The NPS would develop a Soundscape Management Plan for the NPS lands in coordination with similar Lake Mead NRA plans.			
C. ADMINISTRATIVE ACTIONS				
<i>Parashant</i>				
Under any Section 4(f), Air Tour Management planning for adjacent national park system units or other consultations with FAA/U.S. Department of Transportation, the NPS would recommend the protection and/or restoration of natural quiet within and above Monument lands.				
The NPS would continue to evaluate how, when, and where motorized equipment is used on NPS lands. Where such use is necessary and appropriate, the least impacting equipment, vehicles, and transportation systems would be used.				
N/A	The NPS would develop baseline inventories of natural ambient and non-natural sound levels and an associated monitoring program for NPS lands.			

TABLE 2.10: WILDERNESS CHARACTERISTICS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. WILDERNESS CHARACTERISTICS				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> • The following wilderness characteristics would be maintained on both BLM and NPS lands: <ul style="list-style-type: none"> ▪ High Degree of Naturalness: Lands and resources affected primarily by the forces of nature and where the imprint of human activity is substantially unnoticeable. ▪ Outstanding Opportunities for Solitude: When the sights, sounds, and evidence of other people are rare or infrequent and where visitors can be isolated, alone or secluded from others. ▪ Outstanding Opportunities for Primitive and Unconfined Recreation: Where the use of the area would be through non-motorized, non-mechanical means, and where no or minimal developed recreation facilities are encountered. • Areas where wilderness characteristics would be maintained would be ecologically sustainable and resilient to natural and human-caused disturbances. (See Table 2.3: Vegetation Management.) • Wildlife populations and habitat are important aspects of the ecosystem and are an important component of naturalness. • Wildlife management activities would be consistent with naturalness in areas having wilderness characteristics. 			
B. LAND USE ALLOCATIONS				
Formal allocations would not be made for areas where wilderness characteristics would be maintained, nor would these acres be designated as Wilderness Study Areas (WSAs) or proposed for wilderness in this Plan. Decisions to maintain wilderness characteristics would apply to the following areas (See Map 2.6):				
<i>Parashant</i>				
N/A	411,256 acres	226,394 acres	141,003 acres	215,345 acres
<i>Vermilion</i>				
N/A	96,796 acres	40,345 acres	0 acres	37,566 acres
<i>Arizona Strip FO</i>				
N/A	46,135 acres	77,575 acres	34,628 acres	34,942 acres

TABLE 2.10: WILDERNESS CHARACTERISTICS

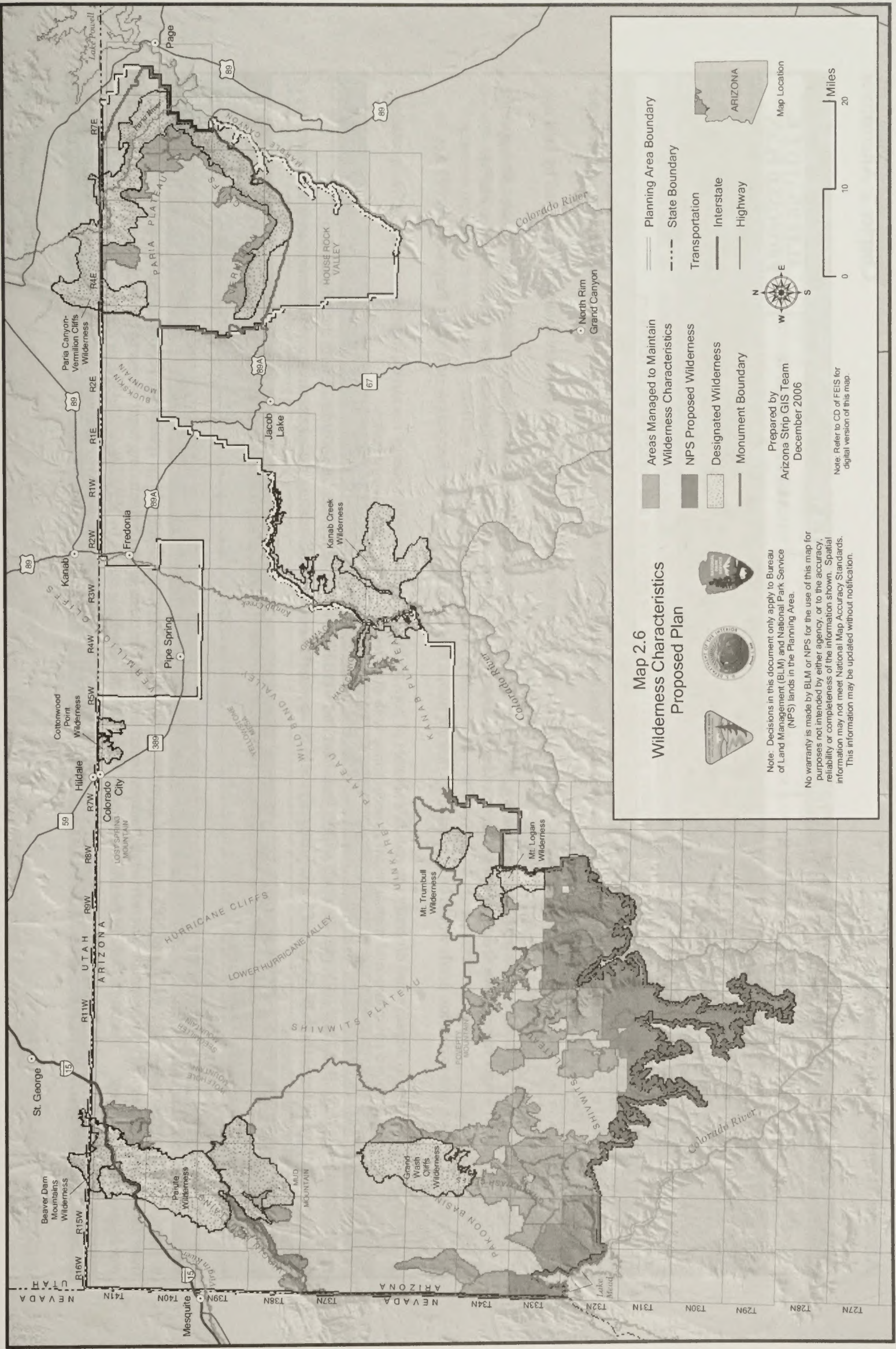
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
C. MANAGEMENT ACTIONS				
1. Actions to Achieve				
a. Visual Resource Management				
<i>Parashant</i>				
N/A	Any changes to the characteristic landscape must be very low on 145,084 acres, low on 265,124 acres, could be moderate on 0 acres, and high on 10 acres.	Any changes to the characteristic landscape must be very low on 97,651 acres, low on 76,210 acres, could be moderate on 52,391 acres, and high on 10 acres.	Any changes to the characteristic landscape must be very low on 419 acres, low on 98,121 acres, could be moderate on 42,444 acres, and high on 2 acres.	Any changes to the characteristic landscape must be very low on 5,575 acres, low on 180,183 acres, could be moderate on 2,957 acres, and high on 0 acres.
<i>Vermilion</i>				
N/A	Any changes to the characteristic landscape must be very low on 19,973 acres, low on 76,821 acres, could be moderate on 0 acres and high on 0 acres.	Any changes to the characteristic landscape must be very low on 15,933 acres, low on 24,408 acres, could be moderate on 0 acres and high on 0 acres.	N/A	Any changes to the characteristic landscape must be low on 37,566 acres, could be moderate on 0 acres and high on 0 acres.
<i>Arizona Strip FO</i>				
N/A	Any changes to the characteristic landscape must be very low on 2 acres, low on 42,091 acres, could be moderate on 2,415 acres and high on 1,626 acres.	Any changes to the characteristic landscape must be very low on 132 acres, low on 71,255 acres, could be moderate on 3,875 acres and high on 2,292 acres.	Any changes to the characteristic landscape must be very low on 132 acres, low on 34,463 acres, could be moderate on 30 acres and high on 1 acre.	Any changes to the characteristic landscape must be low on 34,764 acres, could be moderate on 178 acres and high on 0 acre.
b. Land Tenure				
Common to All Planning Areas				
N/A	The BLM would retain lands in federal ownership and seek to acquire non-Federal lands and interests in lands in areas managed to maintain wilderness characteristics. (See Table 2.11: Lands & Realty.)			

TABLE 2.10: WILDERNESS CHARACTERISTICS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
c. Restoration				
<i>Common to All Planning Areas</i>				
N/A	Restoration, vegetation treatments, wildlife management projects on BLM lands, and other surface disturbing actions could be authorized in areas managed to maintain wilderness characteristics to achieve DFCs. (See Table 2.3: Vegetation Management.)			
N/A	New projects or maintenance of existing projects that enhance wildlife habitat or other resources could be allowed, provided they can be designed to be substantially unnoticeable over time.			
<i>Parashant and Vermilion</i>				
N/A	Natural processes would be primarily relied on to restore, over time, locations where human imprints are found.	Natural processes would be primarily relied on to restore, over time, locations where human imprints are found. When natural process would not restore areas within a reasonable timeframe or when resource damage would continue, a mix of chemical, biological, mechanical, and fire tools would be used consistent with DFCs of areas managed for wilderness characteristics.	Restoration work would be accomplished by the most efficient means available with access modes appropriate to the Primitive TMA.	Same as Alternative C
d. Fire Management				
<i>Common to All Planning Areas</i>				
N/A	Within areas managed to maintain wilderness characteristics, the BLM and NPS would use minimum impact suppression tactics (MIST) to manage fire. Fire management actions would be consistent with DFCs for wilderness characteristics described in the Fire Management Plan. (See 2.8a: Vegetation Management.)			
2. Allowable Uses				
a. Motorized and Mechanized Uses				
<i>Common To All Planning Areas</i>				
Use of non-motorized, wheeled game carriers to retrieve game kills would be allowed in areas managed to maintain wilderness characteristics.				

TABLE 2.10: WILDERNESS CHARACTERISTICS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
(See Table 2.15: Travel Management for applicable decisions.)				
b. Competitive Events				
<i>Common to All Planning Areas</i>				
N/A	No competitive events would be authorized where wilderness characteristics would be maintained.	Non-motorized competitive events could be authorized where wilderness characteristics would be maintained provided they are consistent with achieving DFCs and, in Monuments, consistent with the proclamations.		
c. Land Use Authorizations				
<i>Common to All Planning Areas</i>				
N/A	New ROWs would be discouraged within avoidance areas, which include areas managed to maintain wilderness characteristics. On BLM lands, an exception could be granted for communication sites necessary for public safety where no other suitable sites are available. (See Table 2.11: Lands and Realty.) Existing land use authorizations (ROWs, permits, leases, etc.) would be administered within areas managed to maintain wilderness characteristics in accordance with the terms and conditions of the authorizations.			
d. Leaseable Minerals and Mineral Materials				
<i>Arizona Strip FO</i>				
N/A	Mineral leasing in areas managed to maintain wilderness characteristics would be subject to no surface occupancy. (See Table 2.13.)	Mineral leasing in areas managed to maintain wilderness characteristics would be subject to standard stipulations. (See Table 2.13: Minerals.)		
N/A	Mineral material sales would not be authorized in areas managed to maintain wilderness characteristics. (See Table 2.13.)			



**Map 2.6
Wilderness Characteristics
Proposed Plan**

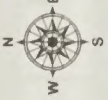


Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

- Areas Managed to Maintain Wilderness Characteristics
- NPS Proposed Wilderness
- Designated Wilderness
- Monument Boundary
- Planning Area Boundary
- State Boundary
- Transportation Interstate
- Transportation Highway

Prepared by
Arizona Strip GIS Team
December 2006



0 10 20
Miles

Note: Refer to CD of FEIS for digital version of this map.

Map 2.6 Wilderness Characteristics - Proposed Plan

TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. LANDS AND REALTY				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
The Lands and Realty Program would respond effectively to the needs of external customers (i.e., the public) and internal customers (i.e., BLM and NPS resource programs) for the use and enjoyment of current and future generations and for the protection and conservation of resources.				
<i>Arizona Strip FO</i>				
<ul style="list-style-type: none"> Public lands would be retained in federal ownership; unless because of land use planning, it is determined that disposal of a particular parcel would serve the national interest. (See FLPMA Section 102(a)(1).) Lands or interests in lands could be acquired by purchase, exchange, or donation where they complement existing resource values as determined by land use planning. (See FLPMA Section 205.) Lands or interests in lands that, as a result of land use planning, have been determined to be difficult and uneconomic to manage, were acquired for a specific purpose and are no longer required for federal purposes, or would serve important public objectives could be disposed of or transferred. (See FLPMA Sections 203 and 206.) Community growth and expansion needs would be supported by making public lands available under the Recreation and Public Purposes (R&PP) Act, as amended. The BLM would strive to increase and diversify our nation's sources of both traditional and alternative energy resources, improve our energy transportation network, and ensure sound environmental management in accordance with the President's National Energy Policy. 				
<i>Parashant and Vermilion</i>				
<ul style="list-style-type: none"> All federal lands (both BLM and NPS administered) within Parashant and Vermilion would be retained in accordance with the proclamations. Lands or interests in lands (both BLM and NPS administered) could be acquired to complement existing resource values and further/enhance the objectives of the proclamations/Monuments. 				
B. MANAGEMENT ACTIONS				
a. Land Tenure Decisions				
<i>i. Acquisitions/Retentions</i>				
<i>Parashant and/or Vermilion</i>				
Land or easement acquisitions and land exchanges that would enhance Monument values would be considered.	All BLM and NPS lands and interests in lands (including minerals) would be retained in federal ownership within the Monuments. Non-federally-administered lands and interests in lands (including legal access to landlocked public land) would be acquired within the Monuments by BLM/NPS from willing sellers by purchase, exchange, or donation. Exchanges with the State of Arizona to acquire state land interests within the Monuments would be pursued when the State is provided the authority.			

TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> Legal vehicle access would be acquired across private and state lands in locations listed in Appendix 14 (1992 RMP). This initial list of access needs is subject to additions or deletions. 	<p>Interests in land include, but are not limited to, surface and subsurface rights, water rights, and easements for access, conservation, or other purposes.</p>			
<p>Both BLM and NPS lands and interests in lands within the Monuments would, upon acquisition, be reserved and/or managed as a part of the Monuments, wilderness, etc., consistent with planning guidance and objectives.</p> <ul style="list-style-type: none"> Subsurface rights on Shivwits would be acquired. Subsurface estate would be acquired where the BLM manages the surface (see Appendix 4 and Maps 2 and 2a of the 1992 RMP). On lands not identified for disposal, the BLM would retain the federal subsurface mineral estate and acquire through exchange the non-federal subsurface estate on existing split-estate public lands or on lands proposed for acquisition. 	<p>In split estate situations a) where the surface estate is in federal ownership and the mineral estate is in non-federal ownership, acquisition of the mineral estate would be pursued on all BLM and NPS lands within the Monuments; and b) where the mineral estate is in federal ownership and the surface estate is in non-federal ownership, acquisition of the surface estate would be pursued on all BLM and NPS lands within the Monuments.</p>			

Arizona Strip FO

<ul style="list-style-type: none"> Acquisition of non-federal lands in Virgin River riparian areas would be negotiated as opportunities arise. The BLM would seek to acquire non-Federal lands in 	<p>All lands and interests in lands (including minerals) would be retained in federal ownership within National Landscape Conservation System (NLCS) units (e.g., designated wilderness, NHTs), administratively designated areas (e.g., ACECs), areas managed to maintain wilderness characteristics, eligible and suitable wild and scenic river segments, habitats essential to the survival and recovery of federally-listed species (including historically-occupied habitats), priority riparian areas, springs and seeps, etc. The BLM would seek to acquire non-federal lands and interests in lands within the above-identified areas and legal access to landlocked public land from willing sellers by purchase, exchange, or donation. Exchanges with the State of Arizona</p>
---	--

TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>the DWMA/ACECs from willing sellers or through exchange. Acquisitions would include surface and subsurface mineral rights wherever possible.</p> <ul style="list-style-type: none"> • Lands with riparian and other high resource values would be acquired when opportunities occur. • State land in T.38N., R.6E., sec.16 would be acquired as part of the Marble Canyon ACEC. • State and private inholdings would be acquired, if available and in the public interest, in wilderness areas, Paria Plateau and Mt. Trumbull Resource Conservation Areas (RCAs), and in Johnson Spring, Lost Spring Mountain, and Moonshine Ridge ACECs. • The BLM would acquire up to 33,290.91 acres of private land through exchange. (See Appendix 4 and Maps 2 and 2a in the 1992 RMP.) • Legal vehicle access would be acquired across private and state lands in locations listed in appendix 14 of 1992 RMP. 	<p>to acquire lands within the above-identified areas or Monuments would be pursued when the State is provided the authority. Interests in land include, but are not limited to, surface and subsurface rights, water rights, and easements for access, conservation, or other purposes (see Table 2.5: Special Status Species).</p>			

TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>This initial list of access needs is subject to additions or deletions.</p>				
<p>Lands and interests in lands within NLCS units or administratively designated areas would, upon acquisition, be reserved and/or managed as a part of the NLCS unit or administratively designated area. Lands and interests in lands outside NLCS units or administratively designated areas would, upon acquisition, be open to operation of public land laws and mining/mineral laws consistent with planning guidance and objectives, unless specifically modified by the opening order for purchases or donations, or unless a withdrawal or some other form of segregation is established on exchange lands.</p>				
<ul style="list-style-type: none"> Subsurface estate where the BLM manages the surface would be acquired. (See Appendix 4 and Maps 2 and 2a of the 1992 RMP.) On lands not identified for disposal, the BLM would retain the federal subsurface mineral estate and acquire through exchange the non-federal subsurface estate on existing split-estate public lands or on lands proposed for acquisition. 	<p>In split estate situations a) where the surface estate is in federal ownership and the mineral estate is in non-federal ownership, the BLM would seek acquisition of the mineral estate on all lands identified for retention; and b) where the mineral estate is in federal ownership and the surface estate is in non-federal ownership, the BLM would seek acquisition of the surface estate on all lands identified for retention.</p>			
<p>ii. Disposals</p>				
<p>Parashant and/or Vermilion</p>				
<p>Land exchanges may be considered within the Monuments where site-specific NEPA analysis determines the protective purposes of the Monuments would be furthered.</p>				
<p>Arizona Strip FO</p>				
<ul style="list-style-type: none"> Up to 7,335.45 acres would be made available for exchange, sale, or R&PP sale; exchanges would be first priority. These same lands plus 	<p>Up to 17,974 acres of public land would be identified for exchange, sale, or R&PP lease/sale with NEPA and ESA compliance and consistent with</p>	<p>Up to 19,743 acres of public land would be identified for exchange, sale, or R&PP compliance and consistent with planning guidance and objectives. Specific parcels of low density (former category 3) desert tortoise habitat that have little to no potential for self-</p>	<p>Up to 19,663 acres of public land would be identified for exchange, sale, or R&PP lease/sale with NEPA and ESA compliance and consistent with</p>	

TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>an additional 17,853.47 acres would be available for exchanges only. (See Appendix 3 and Maps 2 and 2a of 1992 RMP.)</p> <ul style="list-style-type: none"> In addition, any land identified for exchange, sale, or R&PP actions, would be evaluated under the requirements of NEPA. Exchanges or sales of desert tortoise habitat out of public ownership would be limited to parcels identified in the RMP, except that critical habitat would be retained. 	<p>planning guidance and objectives. Specific parcels of low density (former category 3) desert tortoise habitat that have little to no potential for self-sustaining tortoise populations have been identified in Appendix 2.M as eligible for disposal. These parcels occur in the area between the impassable barriers of Interstate 15 and the Virgin River, outside of any ACEC, and would allow for regional growth near Littlefield and Beaver Dam with the least disturbance to desert tortoise. Parcels would be surveyed for special status species and other sensitive resources prior to disposal. The effects of future development on water quality and flows in the Virgin River would be addressed in NEPA documents and ESA consultation prior to disposal. Up to 200 acres not listed in Appendix 2.M or identified for specific purposes in these alternatives would be retained in public ownership unless needed for recreation or public purposes. Disposal proposals under the R&PP Act on lands not identified for disposal would be considered on a case-by-case basis. (See Appendix 2.M and Map 2.7. Also see <i>Acquisitions/Retentions</i> section above for lands exempt from disposals.) Revenues generated from the sale of Federal Land Transaction Facilitation Act (FLTFA) parcels could be used to acquire adjacent lands with high resource values in accordance with the Arizona Statewide Interagency Implementation Agreement approved May 9, 2006. Exchanges with the State of Arizona to consolidate land ownership within the Monuments and other areas identified for retention would be pursued when the State is provided the authority.</p>	<p>sustaining tortoise populations have been identified in Appendix 2.M as eligible for disposal. These parcels occur in the area between the impassable barriers of Interstate 15 and the Virgin River, outside of any ACEC, and would allow for regional growth near Littlefield and Beaver Dam with the least disturbance to desert tortoise. Parcels would be surveyed for special status species and other sensitive resources prior to disposal. The effects of future development on water quality and flows in the Virgin River would be addressed in NEPA documents and ESA consultation prior to disposal. Up to 200 acres not listed in Appendix 2.M or identified for specific purposes in these alternatives would be retained in public ownership unless needed for recreation or public purposes. Disposal proposals under the R&PP Act on lands not identified for disposal would be considered on a case-by-case basis. (See Appendix 2.M and Map 2.7. Also see <i>Acquisitions/Retentions</i> section above for lands exempt from disposals.) Revenues generated from the sale of Federal Land Transaction Facilitation Act (FLTFA) parcels could be used to acquire adjacent lands with high resource values in accordance with the Arizona Statewide Interagency Implementation Agreement approved May 9, 2006. Exchanges with the State of Arizona to consolidate land ownership within the Monuments and other areas identified for retention would be pursued when the State is provided the authority.</p>	<p>sustaining tortoise populations have been identified in Appendix 2.M as eligible for disposal. These parcels occur in the area between the impassable barriers of Interstate 15 and the Virgin River, outside of any ACEC, and would allow for regional growth near Littlefield and Beaver Dam with the least disturbance to desert tortoise. Parcels would be surveyed for special status species and other sensitive resources prior to disposal. The effects of future development on water quality and flows in the Virgin River would be addressed in NEPA documents and ESA consultation prior to disposal. Up to 200 acres not listed in Appendix 2.M or identified for specific purposes in these alternatives would be retained in public ownership unless needed for recreation or public purposes. Disposal proposals under the R&PP Act on lands not identified for disposal would be considered on a case-by-case basis. (See Appendix 2.M and Map 2.7. Also see <i>Acquisitions/Retentions</i> section above for lands exempt from disposals.) Revenues generated from the sale of FLTFA parcels could be used to acquire adjacent lands</p>	<p>planning guidance and objectives. Specific parcels of low density (former category 3) desert tortoise habitat that have little to no potential for self-sustaining tortoise populations have been identified in Appendix 2.M as eligible for disposal. These parcels occur in the area between the impassable barriers of Interstate 15 and the Virgin River, outside of any ACEC, and would allow for regional growth near Littlefield and Beaver Dam with the least disturbance to desert tortoise. Parcels would be surveyed for special status species and other sensitive resources prior to disposal. The effects of future development on water quality and flows in the Virgin River would be addressed in NEPA documents and ESA consultation prior to disposal. Up to 200 acres not listed in Appendix 2.M or identified for specific purposes in these alternatives would be retained in public ownership unless needed for recreation or public purposes. Disposal proposals under the</p>

TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	with high resource values in accordance with the Arizona Statewide Interagency Implementation Agreement approved May 9, 2006.			R&PP Act on lands not identified for disposal would be considered on a case-by-case basis. (See Appendix 2.M and Map 2.7. Also see <i>Acquisitions/Retentions</i> section above for lands exempt from disposals.) Revenues generated from the sale of Federal Land Transaction Facilitation Act (FLTFA) parcels could be used to acquire adjacent lands with high resource values in accordance with the Arizona Statewide Interagency Implementation Agreement approved May 9, 2006. Exchanges with the State of Arizona to consolidate land ownership within the Monuments and other areas identified for retention would be pursued when the State is provided the authority.
No Desert-Land Entries, Indian Allotments, or Carey Act Grants (disposals under the agricultural land laws) would be considered.				
b. Land Use Authorizations				
<i>Parashant</i>				
N/A	The unoccupied Lime Kiln Utility Corridor shown on the Western Utility Group priority corridor map beginning at the Navajo McCullough power line on the Arizona Strip FO, crossing through the northern portion of Parashant and ending on the Arizona Strip FO at the Arizona/Nevada state line, would be terminated. A portion of this corridor now lies within the Parashant which precludes use of this segment of the corridor altogether.			

TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>Parashant and/or Vermilion</i>				
<ul style="list-style-type: none"> • Within the Monuments, no new ROWs or ancillary public facilities would be processed, except for ROWs pursuant to existing policies and practices and necessary for access to and/or maintenance needs of private or state inholdings. In addition, ROWs may be permitted within the boundary of existing ROWs or designated ROW corridors established by previous land use planning, and where site-specific NEPA analysis determines that impact to the objects or values for which the Monument was designated would be negligible. • Maximum use of existing ROWs, including joint use whenever possible, would be encouraged. Linear ROWs would be placed adjacent or parallel to existing ROWs and share vehicular access. Utilities would be co-located with other utility projects, when possible. • Where feasible, linear ROWs would be placed underground along existing roads in the 				<p>No new ROWs or ancillary public facilities should be processed within the Monuments, except for ROWs pursuant to existing policies and practices such as, but not limited to, scientific monitoring stations, repeaters, utilities, water facilities, and access or other needs identified on private or state inholdings, public facilities, or administrative sites. In addition, ROWs may be authorized within the boundary of existing ROWs or designated ROW corridors. ROWs would only be authorized where site-specific NEPA analysis determines that the proposed action is consistent with protections required by the Monument proclamations and with DFCs described in the RMP. Mitigation measures may include underground placement of linear ROWs along existing roads and special protection measures for archaeological resources, among others. (See Table 2.5: Special Status Species and Table 2.7: Cultural Resources.)</p>

TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>Parashant, Mt. Trumbull, and Uinkaret areas. Temporary ROWs would be excluded from underground placement.</p> <ul style="list-style-type: none"> • Above ground ROWs in the Paria Plateau RCA would be discouraged. • Landfills or airports would not be authorized in the Pakoon or Virgin Slope ACECs or in the Paria Plateau RCA. • Special stipulation would be provided to protect archaeological resources on all roads in Mt. Trumbull area, which are maintained through land use authorizations. 				
<p>Physical facilities on Mt. Logan communication site would not be expanded. However, existing ROWs, not yet constructed, would be grandfathered and may be built.</p>	<p>New ROWs authorizing new physical facilities (new tower or building) at Mt. Logan, Hudson (West Point), and Fisher Point communication sites would not be allowed. Upgrades to the facilities/site that do not change the existing footprint or esthetics of the site may be allowed on a case-by-case basis, if necessary, to allow additional uses in the existing facilities.</p>			
<p>Any ROWs in wilderness that expire would be evaluated and, if still needed, would be processed under 43 CFR 2920.</p>	<p>On BLM lands, minimum impact permits within the Monuments would be evaluated and authorized on a case-by-case basis where site-specific NEPA analysis determines that impacts to the objects or values for which the Monuments were designated would be negligible. In addition, existing ROWs in BLM wilderness areas (i.e., exclusion areas) would be evaluated prior to expiration, and if still needed, would be authorized under 43 CFR 2920.</p>			
Arizona Strip FO				
<p>New ROWs requiring new physical facilities (new tower or building) at Black Rock Mountain communication site would not be allowed. Upgrades to the facilities/site that do not change the existing footprint or esthetics of the site may be allowed on a case-by-case basis, if necessary, to allow additional uses in the existing facilities.</p>				

TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>Other communication sites would be considered on a case-by-case basis. Communication site plans would be required prior to approval of application on all designated sites. BLM policy is to consolidate these sites as much as possible.</p>	<p>Applications for new communication sites, outside designated multi-user sites, would be considered on a case-by-case basis with NEPA analysis, emphasizing co-location and subleasing of existing facilities. Communication site management plans, including multi-user options and designation of the first leaseholder as the site manager, would be required prior to authorization as determined by the BLM authorized officer.</p>			
<p>The Navajo-McCullough ROW corridor would remain 1-mile wide, except ½-mile wide in the Ferry Swale area and the width of the ROW across the Beaver Dam Slope would be only the width occupied by the existing power lines and a second yet un-built line. Future proposals for power lines across the Beaver Dam Slope would be considered on a case-by-case basis addressing impacts to desert tortoise.</p>	<p>The existing utility corridor beginning at the Glen Canyon Dam and ending at the Arizona/Nevada border as shown on the Western Utility Group priority corridor map would remain 1 mile wide, except ½-mile wide in the Ferry Swale area. In addition, the corridor would be designated ½-mile wide in the Beaver Dam Slope ACEC. This would apply to BLM lands only.</p>			<p>The existing utility corridor beginning at the Glen Canyon Dam and ending at the Arizona/Nevada border as shown on the Western Utility Group priority corridor map would be designated 1-mile wide on BLM lands only.</p>
<p>A ROW planning corridor would be designated via Rosy Canyon which is confined to the valley bottom, approximately ½ mile wide.</p>	<p>The existing utility corridor shown on the Western Utility Group priority corridor map through Rosy Canyon would be designated on BLM lands only beginning at the Utah/Arizona state line and extending to the section line between sections 7 and 18, T. 41 N., R. 5 W., GSRM, approximately ½-mile wide, confined to the valley bottom.</p>			
<p>A 1-mile wide ROW planning corridor would be designated via the Lime Kiln route.</p>	<p>The unoccupied Lime Kiln Utility Corridor shown on the Western Utility Group priority corridor map beginning at the Navajo McCullough power line on the Arizona Strip FO, crossing through the northern portion of the Parashant, and ending on the Arizona Strip FO at the Arizona/Nevada state line would be terminated. A portion of this corridor now lies within Parashant which precludes use of this segment of the corridor altogether.</p>			

TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>The use of designated ROW corridors/sites and existing ROW use areas would be encouraged to the extent possible but, depending on site-specific needs, actual locations may vary. Such variances should be considered consistent with other plan provisions, provided such locations and uses are consistent with the selection criteria, and goals and objectives for ROW corridors and ROW use areas.</p>	<ul style="list-style-type: none"> Individual land use authorizations (ROWs, permits, leases, easements) would be evaluated on a case-by-case basis in accordance with decisions established in the RMP with NEPA analysis. New ROWs and temporary use permits would be discouraged within the Beaver Dam Slope, Virgin Slope, and Virgin River ACECs and allowed only when no reasonable alternative exists and impacts to tortoises and their habitat can be mitigated. ROWs would be routed away from high-density tortoise populations, and along the edges of DWMAs/ACECs. ROWs in the Pakoon; Marble, Grama, Kanab, and Marble canyons; Moccasin Mountains; and Witch Pool and Nampaweap ACECs would not be authorized. ROWs across Johnson Spring, Lost Spring Mountain, and Moonshine Ridge ACECs would be discouraged. 			<p>Individual land use authorizations (ROWs, permits, leases, easements) would be evaluated on a case-by-case basis in accordance with other plan provisions and NEPA compliance. New land use authorizations would be discouraged within avoidance areas (i.e., ACECs, lands supporting listed species, NHTs, riparian areas, and areas managed to maintain wilderness characteristics) and allowed in such areas only when no reasonable alternative exists and impacts to these sensitive resources can be mitigated. New ROWs would be routed away from high-density listed species' populations and cultural sites, and along the edges of avoidance areas. In addition, mitigation measures may include underground placement of linear ROWs along existing roads in the House Rock Valley area and special protection measures for archaeological resources (See Table 2.5: Special Status Species and Table 2.7: Cultural Resources).</p>

TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> • Landfills or airports would not be authorized in the Marble Canyon, Beaver Dam Slope, Virgin Slope, or Virgin River ACECs. • New landfills or sewage treatment ponds would not be authorized in desert tortoise DWMA/ACECs. • Where feasible, linear ROWs would be placed underground along existing roads in the House Rock Valley area. Temporary ROWs may be excluded from underground placement. 				
Existing ROWs in wilderness areas (i.e., exclusion areas) would be evaluated prior to expiration, and if still needed, would be authorized under 43 CFR 2920.				
C. ADMINISTRATIVE ACTIONS				
<i>Common to All Planning Areas</i>				
Unauthorized dumpsites, abandoned vehicles, etc., on public lands would be identified and cleaned up as funding allows. Regulations pertaining to illegal dumping on public lands would be enforced.	The BLM would attempt to locate the potentially responsible party to remove/clean up any unauthorized use, restore/rehabilitate the public lands back to their original condition, and pay the administrative costs incurred by the BLM to investigate the unauthorized use along with applicable rental/additional fees as provided by BLM Manual 9232 and H-9232-1. Where the potentially responsible party is not found, the BLM would conduct the removal/cleanup as funding allows. However, if the potentially responsible party were later identified, the BLM would seek reimbursement of the costs incurred.			
Land ownership adjustments would not be considered on withdrawn land unless or until the withdrawal has been modified or lifted. Lands that become unencumbered through the withdrawal review process would then be subject to and managed in accordance with planning guidance and objectives. Existing withdrawals would continue for as long as needed or as statutorily/legislatively established/mandated which include Monuments (approx. 1,342,014 acres), wilderness (approx. 80,797 acres), Grand Canyon Game Preserve (approx. 13,335 acres, BLM portion), power site reservation, reclamation, public water reserve (approx. 142,442 acres), administrative site, and other miscellaneous withdrawals (approx. 24,261 acres).				

TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	Existing land use authorizations (ROWs, permits, leases, etc.) would be administered within the Monuments, wilderness, and areas managed to maintain wilderness characteristics in accordance with the terms and conditions of the authorizations.			
Floodplain occupancy and development would be avoided and base floodplain (100-year) would be retained or protected.				
N/A	There are a number of favorable places throughout the Planning Area that are commonly known and consistently used for aircraft landing and departure activities that, through such casual use, have evolved into backcountry airstrips (the definition contained in Section 345 of Public Law 106-914, the Interior and Related Agencies Appropriation Act of 2001). In accordance with that law, any closure of an aircraft landing strip contemplated in the future, would require full public notice, consultation with local and State government officials and the FAA.			
Parashant				
Existing withdrawals, reservations, or appropriations would not be revoked, but the Monument would remain the dominant reservation.	Existing withdrawals would continue for as long as needed or as statutorily/legislatively established/mandated, which include wilderness areas (95,242 acres) and power site reservation, reclamation, public water reserve (approximately 78,411 acres), administrative site, and other miscellaneous withdrawals (approximately 162 acres).			
Airstrips authorized by a public airport lease or reserved for use by the U.S. on BLM lands (Pakoon, Imlay, and Whitmore-Bar Ten) would continue to be managed.	No public airstrips would be authorized on NPS lands.			
Vermilion				
Existing withdrawals, reservations, or appropriations would not be revoked, but the Monument would remain the dominant reservation.	Existing withdrawals would continue for as long as needed or as statutorily/legislatively established/mandated, which include wilderness areas (89,829 acres) and power site reservation, reclamation, and public water reserve (approximately 8,183 acres).			
N/A	The BLM would work with ADOT to facilitate continued maintenance of existing drainage structures/areas inside the Vermilion and wilderness areas on the north side of Highway 89A to channel flash floods into existing culverts as identified in the Final Wilderness Management Plan for the Paria Canyon-Vermilion Cliffs Wilderness (BLM 1986).			
Arizona Strip FO				
Airstrips authorized by a public airport lease or permit (Cliffs Dwellers and a portion of Mesquite) would continue to be managed. The Colorado City Airport has been patented under the Airport and Airways Improvement Act.				
The BLM would advise prospective future owners of parcels identified for disposal on the need for ESA compliance. (See Table 2.5: Special Status Species.)				

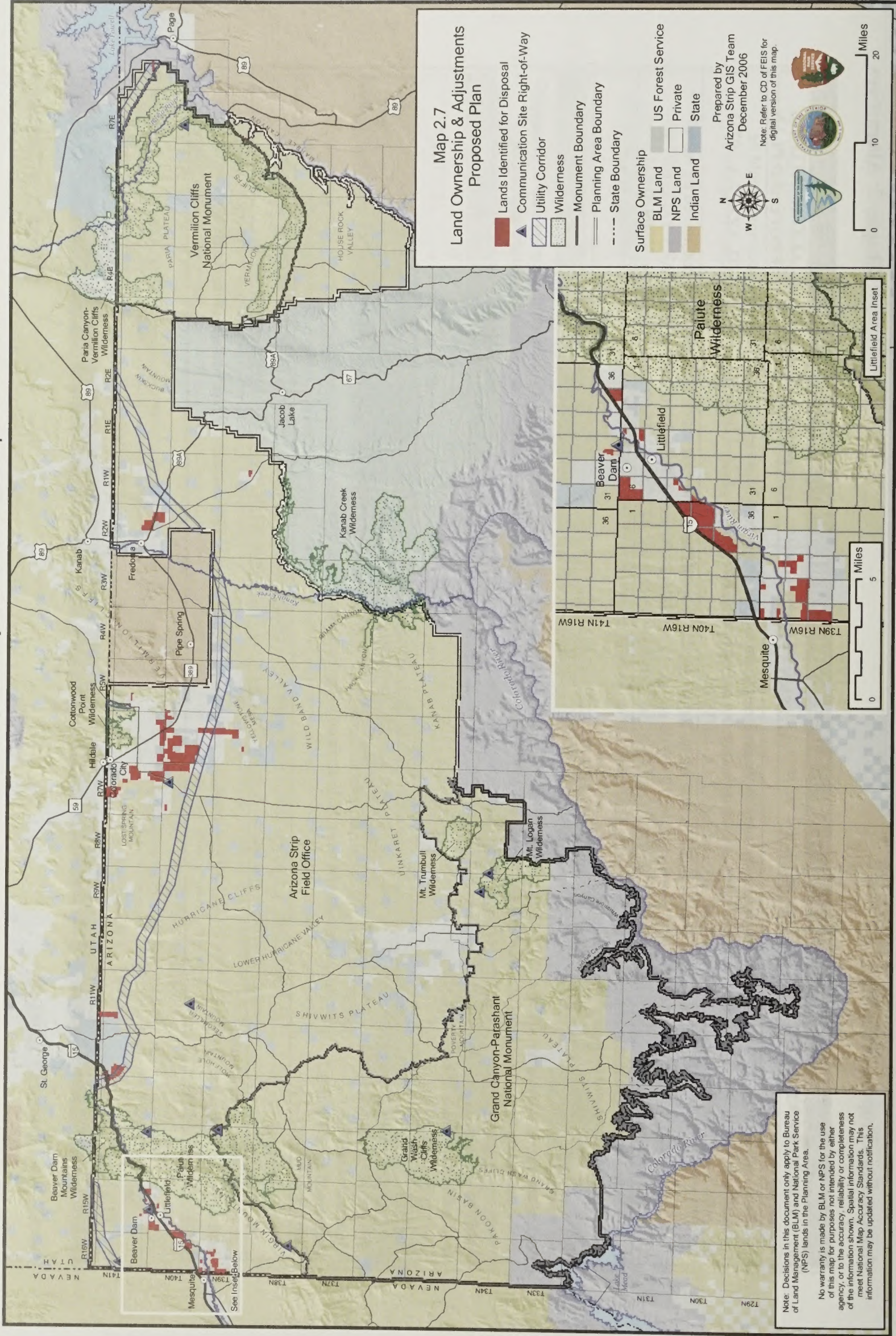
TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	The BLM would work with Mohave County to determine the best location for a landfill to serve the Virgin River communities, including Beaver Dam, Littlefield, Desert Springs, Scenic, and Arvada.			
N/A	The BLM would work with the Washington County Water Conservancy District to determine the best route for the proposed water pipeline from Lake Powell to Sand Hollow Reservoir, Utah, and to authorize use of BLM land for that route and a portion of the proposed flood control reservoir at Fort Pearce in Utah, in accordance with other plan provisions and with NEPA and ESA compliance.			
N/A	Commercial development of renewable energy sources would be encouraged on all public land outside of exclusion or avoidance areas including concentrating solar power, photovoltaics, wind, and biomass resources and technologies. Wind energy development would be in accordance with policies and best management practices (BMPs) in the Final Wind Energy PEIS (BLM 2005).			
D. IMPLEMENTATION DECISIONS				
<i>Parashant</i>				
N/A	Nixon Spring Administrative Site withdrawal (PLO 5413, March 21, 1974) would be recommended for revocation.			
The hybrid oak withdrawal would be recommended for revocation (316 total acres; 162 in Parashant and 154 in Arizona Strip FO).				
<i>Vermilion</i>				
The Vermilion Cliffs Nat. Area withdrawal (portions totaling 70,437 acres) would continue.	The Vermilion Cliffs Natural Area withdrawal, now within the Monument, would be recommended for revocation (70,437 acres).			
<i>Arizona Strip FO</i>				
Lands would be made available for an airport in the Colorado City area in coordination with city officials, ADOT, and FAA.	Public land would be made available for airport expansion at the existing Colorado City Airport in coordination with Colorado City officials, ADOT, and the FAA, subject to NEPA and ESA compliance.			
The Virgin River Gorge 23,186 acre recreation (scenic) withdrawal would be continued.	Part of the Virgin River Gorge Recreation Lands Withdrawal (PLO 5263) that overlaps statutory wilderness (16,465 acres) would be recommended for revocation. (See Table 2.14: Recreation and Visitor Services)			
The Hybrid Oak (316 total acres; 162 in Parashant and 154 in Arizona Strip FO) and Boulder Canyon withdrawals of the Virgin River Scenic Area would be recommended for revocation.				

TABLE 2.11: LANDS AND REALTY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	Reclamation withdrawals in the Virgin River Communities area would be reviewed and if no longer necessary would be recommended for revocation including, but not limited to, AZA-12948, AZA-12948-01, AZA-12948-02, AZAZAA-10755, AZAZAA-10755-05, and AZAZAA-10755-06.			
N/A	Those R&PP classifications that are no longer necessary would be terminated which include, but are not limited to, AZAR-034401 (10.00 acres), AZA-6272 (20.00 acres), AZA-7379 (20.00 acres), AZA-9230 (160.00 acres), AZA-27333 (797.90 acres), AZA-23352 (80.00 acres), AZA-2482701 (199.530 acres), AZA-30897 (15.00 acres), and AZA-30909 (0.697 acre).			
Upon termination or expiration of the two Federal Energy Regulatory Commission withdrawals in Ferry Swale, ROWs to authorize the existing power transmission lines would be issued, if still needed.				
Point of Rock and Seegmiller Mountain area would be established as communication sites. Application of a commercial communicator would be encouraged as soon as possible as a means to keep future applicants in one building.	Point-of-Rock, Seegmiller Mountain, and Low Mountain would be designated as multi-user communication sites and managed in accordance with their approved Communications Site Plans. Seegmiller Mountain would be the only site allowed for commercial broadcasting with transmitter power levels above 1,000 watts effective radiated power. Co-location and subleasing would be encouraged and the preferred option. Upgrades to existing facilities may be allowed upon review and approval by the BLM authorized officer.			
The improved road access from the east to Little Black Mountain would be maintained. (See Table 2.7: Cultural Resources.)	An easement across state of Arizona lands from Quail Hill Road to Little Black Mountain ACEC would be acquired to provide legal access from the west, if determined to be the most feasible option.			
N/A	In Ferry Swale, the paved access road to the now closed Page Landfill would remain in place for monitoring purposes as required by state and federal regulations. The city of Page would not be required to remove the pavement.			
Leasing 12 acres of agriculture land to Hafen, Hemmeter, and Hughes would continue.	Existing agricultural leases to Hafen and Hughes would continue. A lease was not issued to Hemmeter.			

Map 2.7 Land Ownership & Adjustments - Proposed Plan



Map 2.7 Land Ownership & Adjustments Proposed Plan

- Lands Identified for Disposal
- Communication Site Right-of-Way
- Utility Corridor
- Wilderness
- Monument Boundary
- Planning Area Boundary
- State Boundary

- ### Surface Ownership
- BLM Land
 - US Forest Service
 - Private
 - Indian Land
 - State

Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for digital version of this map.

0 10 20 Miles

Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

TABLE 2.12: LIVESTOCK GRAZING

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. LIVESTOCK GRAZING				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
<ul style="list-style-type: none"> Healthy, sustainable rangeland ecosystems would be maintained or improved to meet Arizona's Standards for Rangeland Health (1997; Appendices 2.D and 2.G) and Vital Sign Standards on NPS lands, and produce a wide range of public values such as wildlife habitat, livestock forage, recreation opportunities, clean water, and functional watersheds. Livestock use and associated management practices would be conducted in a manner consistent with other resource needs and objectives to ensure that the health of rangeland resources is preserved or improved so that they are productive for all rangeland values. Where needed, public rangeland ecosystems would be improved to meet objectives. Sensitive resources on NPS lands would demonstrate no long-term degradation due to livestock grazing management techniques and restoration actions. 				
<i>Parashant and Vermilion</i>				
Monument values would be maintained, protected, and improved.				
B. LAND USE ALLOCATIONS				
<i>Common to All Planning Areas</i>				
On BLM lands, all allotments would continue to be classified as available for grazing by livestock under the principle of multiple use and sustained yield, except where specifically noted (See Map 2.8 at end of Table 2.12).				
<i>Parashant</i>				
By administrative action in 1990, grazing on the NPS portion of the Parashant Allotment was made unavailable in perpetuity. The allotment boundaries are modified to include only BLM lands.				
Livestock grazing on the Home Ranch Allotment was terminated based on a 1967 written agreement between NPS and the grazing permittee and is therefore unavailable in perpetuity. The allotment no longer exists.				
The Tassi Allotment described in the 1998 LUP Amendment would continue to be unavailable for grazing. (See Table 2.5: Special Status Species.) By administrative action at the same time, that portion of the Tassi Allotment on NPS lands was made unavailable in perpetuity for grazing. The allotment boundaries are modified to include only BLM lands.				
Those portions of the Mosby-Nay Allotment within the former Pakoon ACEC would be unavailable for grazing. (See Table 2.5: Special Status Species.)	Those portions of the Mosby-Nay Allotment within the former Pakoon ACEC would be unavailable for grazing. (See Table 2.5: Special Status Species)	The portion of the Mosby-Nay Allotment within the former Pakoon ACEC would be unavailable for grazing. The portions of the allotment within the Pakoon WHA would be	The portion of the Mosby-Nay Allotment within the former Pakoon ACEC would be unavailable for grazing. The remainder of the allotment would be available for grazing. (See Table 2.5: Special Status Species)	

TABLE 2.12: LIVESTOCK GRAZING

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
Those portions of the Pakoon Springs Allotment within the former Pakoon ACEC would be unavailable for grazing. (See Table 2.5: Special Status Species.)	The entire Pakoon Springs Allotment would be unavailable for livestock grazing.	available subject to seasonal restrictions. (See Table 2.5: Special Status Species) Those portions of the Pakoon Springs Allotment within the former Pakoon ACEC would be unavailable for grazing. In addition, the unavailable area would be expanded from the southern allotment boundary north up Pakoon Wash approx. 3 miles, and up Cedar Wash and Cottonwood Wash to approx. Wayne's Well. This would include the Pakoon Springs area. (See Table 2.5 Special Status Species.)	Those portions of the Pakoon Springs Allotment within the former Pakoon ACEC would be unavailable for grazing.	Same as Alternative C.
Those portions of the Pakoon Allotment within the former Pakoon ACEC (Grand Gulch Wash area) would be unavailable for livestock grazing. (See Table 2.5: Special Status Species.)	The entire Pakoon Allotment within the Pakoon WHA would be unavailable for livestock grazing.	Same as Alternative A	The entire Pakoon Allotment would be available for grazing, including the area within the former Pakoon ACEC (Grand Gulch Wash area). (See Table 2.5: Special Status Species.)	
Tuweep Allotment would be authorized for yearlong grazing in accordance with the approved AMP.	The Tuweep Allotment would be unavailable for livestock grazing.		Same as Alternative A	
Vermilion				
The Lees Ferry Allotment would be available for livestock grazing.	The River Pasture of the Lees Ferry Allotment would be unavailable for livestock grazing.		Same as Alternative A	Same as Alternative B

TABLE 2.12: LIVESTOCK GRAZING

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	grazing, in order to eliminate conflicts between livestock grazing and recreation users.			
Arizona Strip FO				
The Beaver Dam Confluence of the Littlefield Community allotment would continue to be unavailable for grazing.				
<p>The following livestock grazing allotments with desert tortoise habitat would be available for livestock grazing :</p> <ul style="list-style-type: none"> • Beaver Dam Slope • Highway • Mormon Well • Littlefield Community • Mesquite 	<p>The following livestock grazing allotments with desert tortoise habitat would be unavailable for livestock grazing:</p> <ul style="list-style-type: none"> • Beaver Dam Slope • Highway • Mormon Well • Littlefield Community (Littlefield Slope Pasture only) • Mesquite (Littlefield Slope Pasture only) 		Same as Alternative A	
C. MANAGEMENT ACTIONS				
Common to All Planning Areas				
<p>Changes in kind of livestock from cattle to sheep or goats would not be authorized within or adjacent to occupied desert bighorn sheep habitat unless monitoring studies and research indicate a disease transmission problem would not exist.</p>	<p>Changes in kind of livestock to sheep or goats would not be authorized within nine miles of desert bighorn sheep habitat. Sheep and goats would not be authorized as pack stock within nine miles of desert bighorn sheep habitat. Sheep or goats would not be authorized on NPS lands. (See Table 2.4: Fish and Wildlife.)</p>			
<p>Implementing the Arizona Standards for Rangeland Health would continue on all grazing allotments in accordance with established schedules and congressional requirements. The Arizona Standards for Rangeland Health and guidelines for grazing management would apply to all livestock grazing activities on BLM and NPS lands consistent with the appropriate enabling legislation. These guidelines address management practices at the grazing allotment management plan (AMP) level and are intended to maintain desirable conditions or improve undesirable rangeland conditions within reasonable time frames. (See Appendix 2.D.)</p>				

TABLE 2.12: LIVESTOCK GRAZING

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>The interdisciplinary allotment evaluation process would continue to be used to provide specific guidance and actions for managing livestock grazing. Existing AMPs and other activity plans would be consistent with achieving the DFCs and standards for rangeland health. They would contain the site-specific management objectives, as well as actions, methods, tools, and appropriate monitoring protocols.</p>				
<p>Existing management practices and levels of use on grazing allotments would be reviewed and evaluated on a priority basis to determine if they meet or are making progress toward meeting the Arizona Standards for Rangeland Health on BLM and NPS lands and Vital Sign standards on NPS lands. Appropriate and timely actions would be implemented to deal with those areas not meeting the standards.</p>				
<p>The allotment management categorization process would continue to be used to define the level of management needed to properly administer livestock grazing according to management needs, resource conflicts, potential for improvement, and BLM funding/staffing constraints. The allotment categories are Custodial (C), managed custodially to protect resource conditions and values; Maintain (M), managed to maintain current satisfactory resource conditions and are actively managed to ensure that the condition of resource values do not decline; and Improve (I), actively managed to improve unsatisfactory resource conditions. The category of grazing allotments would be changed as objectives are accomplished and/or conditions change. See Appendix 2.N for current specific allotment category assignments, grazing systems, preference, etc.</p>				
<p>Allowable use on key forage species is 50% on allotments with rotational grazing systems except in tortoise habitat. On allotments in desert tortoise habitat or being less intensively managed, utilization is set at 45%.</p>				
<p>Animals other than cattle and horses would not be authorized for livestock grazing purposes on NPS lands.</p>				
<p>Any hay or other feed used in administering the livestock operation would be certified weed-free</p>				
<p>Parashant</p>				
<p>On NPS lands, livestock grazing would be administered within NPS policy, the proclamation, and Lake Mead NRA enabling legislation, and verified through the Vital Signs monitoring program. On NPS lands, when appropriate, the implementation of BLM standards and guides may be modified for use on NPS lands by incorporating NPS Vital Signs initiatives. Any land health standards applied on NPS lands would be in compliance with NPS Management Policies (2001).</p>				
<p>The BLM portion of the Parashaunt Allotment would continue to be managed as a forage reserve. Under the forage reserve concept, any livestock use would be on a temporary basis. Livestock grazing use would be at BLM's discretion and would be designed to complement management of other resources and to provide rest and deferment on other allotments undergoing restoration treatments, areas with fire damage, or other actions that establish an AMP or livestock grazing system, and help stabilize the livestock industry.</p>				
<p>Under the forage reserve concept, the BLM would assume maintenance of those facilities determined to be necessary for orderly protection and management of resources, including existing water developments on land the BLM continues to manage in the Parashaunt Allotment to ensure availability for wildlife use. A management plan has been developed for the Parashaunt allotment in cooperation with permittees and interested parties. The management plan specifies how the allotment would be managed, as well as season of use and other management consistent with achieving DFCs. This plan would be updated upon completion of the LUP or as needed to keep it current</p>				
<p>Existing water developments in Water developments in listed species habitats could be modified to minimize adverse effects to the species. (See Table 2.5: desert tortoise habitat would be Special Status Species.)</p>				

TABLE 2.12: LIVESTOCK GRAZING

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>evaluated to determine the potential to lead to the proliferation of desert tortoise predators. Where problems are identified, the hazards would be redesigned, moved, or otherwise mitigated.</p>				
<p>Season of use would be yearlong on that portion of the Mosby-Nay Allotment, which remains available for grazing.</p>	<p>Season of use and other management prescriptions consistent with achieving DFCs, would be established on that portion of the Mosby-Nay Allotment outside WHA.</p>	<p>Season of use and other management prescriptions consistent with achieving DFCs, would be established for all areas available for grazing, within the Mosby-Nay Allotment.</p>	<p>Same as Alternative A</p>	<p>Season of use and other management prescriptions consistent with achieving DFCs, would be established on that portion of the Mosby-Nay Allotment outside the former Pakoon ACEC, and available for grazing.</p>
<p>Season of use would remain yearlong on that portion of the Pakoon Springs Allotment outside of the former Pakoon ACEC.</p>	<p>N/A</p>	<ul style="list-style-type: none"> That portion of Pakoon Springs Allotment remaining available to grazing would be managed as a forage reserve for livestock grazing. Season of use and other management prescriptions consistent with achieving DFCs, would be established along with a management plan detailing specifics of grazing use. The management plan would be developed in cooperation with permittees and interested parties. Under the forage reserve concept, any livestock use 	<ul style="list-style-type: none"> That portion of the Pakoon Springs Allotment outside the former Pakoon ACEC would be reallocated and/or reconfigured for livestock grazing. Season of use and other management prescriptions consistent with achieving DFCs, would be established along with a management plan detailing specifics of grazing use. The management plan would be developed in cooperation with permittees and interested parties. 	<ul style="list-style-type: none"> That portion of the Pakoon Springs Allotment, which remains available for grazing, would be managed as a forage reserve for livestock grazing. Season of use and other management prescriptions consistent with achieving DFCs, would be established along with a management plan detailing specifics of grazing use. The management plan would be developed in cooperation with permittees and interested parties. Under the forage reserve concept, any livestock use

TABLE 2.12: LIVESTOCK GRAZING

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	The BLM would assume maintenance of those facilities determined to be necessary for orderly protection and management of resources, including existing water developments on land the BLM continues to manage in the	would be on a temporary basis. Livestock grazing use would be at BLM's discretion to complement management of desert tortoise habitat, both inside this allotment and other allotments with desert tortoise habitat, and to provide rest and deferment on other allotments undergoing restoration treatments, areas with fire damage, or other actions that establish an AMP or livestock grazing system. Specifics relative to this decision can be found in Table 2.5: Special Status Species.		would be on a temporary basis. Livestock grazing use would be at BLM's discretion and would be designed to complement management of desert tortoise habitat, both inside this allotment and other allotments with desert tortoise habitat, and to provide rest and deferment on other allotments undergoing restoration treatments, areas with fire damage, or other actions that establish an AMP or livestock grazing system. <ul style="list-style-type: none"> The option to reconfigure the allotment or any portion of the allotment to protect other priority resource values and/or promote more effective management as provided in 43 CFR 4110.2-4, would be considered. (See Table 2.5: Special Status Species.)
N/A	Under the forage reserve concept, the BLM would assume maintenance of those facilities determined to be necessary for orderly protection and management of resources, including existing water developments on land	N/A	Same as Alternative C	

TABLE 2.12: LIVESTOCK GRAZING

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	Pakoon Springs Allotment to ensure availability for wildlife use.	the BLM continues to manage in the Pakoon Springs Allotment to ensure availability for wildlife use.		
Season of use on that portion of the Pakoon Grazing Allotment, outside of the former Pakoon ACEC, would be November 1 through June 15.	N/A	<ul style="list-style-type: none"> Season of use on that portion of the Pakoon Grazing Allotment, outside of the former Pakoon ACEC, would be October 15 through April 15. Ephemeral extensions would be authorized on the Pakoon Allotment to May 15 when conditions outlined in Guideline 3-5, of the Arizona Standards for Rangeland Health are met. 	<ul style="list-style-type: none"> The season of use for the entire Pakoon Allotment would be October 15 through May 15. Ephemeral extensions would be authorized on the Pakoon Grazing Allotment to June 1 when conditions outlined in Guideline 3-5, of the Arizona Standards for Rangeland Health are met. 	<ul style="list-style-type: none"> Grazing use within the former Pakoon ACEC portion (Grand Gulch Wash area) of the Pakoon Allotment would not be allowed between March 15 and October 15. Fencing at Eds' Pond would be required to facilitate this restriction. (See Table 2.5: Special Status Species). Season of use and other management prescriptions consistent with achieving DFCs would be established on the entire allotment, along with a management plan detailing specifics of grazing use. Ephemeral extensions could be authorized on the lands outside the former Pakoon ACEC, in the Pakoon Allotment to June 1 when conditions outlined in Guideline 3-5, of the Arizona Standards for Rangeland Health are met.
Tuweep Allotment would be authorized for yearlong grazing	N/A	<ul style="list-style-type: none"> The Tuweep Allotment would be managed as a forage 	<ul style="list-style-type: none"> All or parts of the Tuweep Allotment would be reallocated 	<ul style="list-style-type: none"> Tuweep Allotment would be managed as a forage reserve

TABLE 2.12: LIVESTOCK GRAZING

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>in accordance with the approved AMP.</p>		<p>reserve allotment and opportunities would be evaluated to reconfigure the allotment with other available areas having priority resource values.</p> <ul style="list-style-type: none"> The option to reconfigure any portion of the allotment land base and preference in exchange for other grazing areas with equal or larger land base and AUM preference would be allowed. Under the forage reserve concept, any livestock use would be on a temporary basis. All livestock grazing use on the Tuweep Allotment would be temporarily assigned at the discretion of BLM. 	<p>or reconfigured.</p> <ul style="list-style-type: none"> The livestock grazing preference on the Tuweep Allotment would be available for reallocation through application by qualified applicants. The applicant may apply for all or parts of the active preference, and if qualified, that preference may be re-allocated to another permittee. Tuweep would be reconfigured by assigning parts of the allotment, such as pastures and their AUMs to other active, neighboring allotments. Reconfiguration would eliminate Tuweep as an individual allotment. 	<p>allotment with livestock grazing being at the BLM's discretion, consistent with achieving DFCs.</p> <ul style="list-style-type: none"> Under the forage reserve concept, any livestock use would be on a temporary basis. The option to reconfigure the allotment or any portion of the allotment to protect other priority resource values and/or promote more effective management as provided in 43 CFR 4110.2-4 would be considered. A management plan would be developed for the allotment in cooperation with permittees and interested parties. The management plan would specify how the allotment would be managed, as well as season of use and other management consistent with achieving DFCs.
<p>N/A</p>	<p>The BLM would assume maintenance of those facilities determined to be necessary for orderly protection and management of resources, including existing water developments on land the BLM</p>	<p>Under the forage reserve concept, the BLM would assume maintenance of those facilities determined to be necessary for orderly protection and management of resources, including existing</p>	<p>N/A</p>	<p>Same as Alternative C</p>

TABLE 2.12: LIVESTOCK GRAZING

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	continues to manage in the Tuweep Allotment to ensure availability for wildlife use.	water developments on land the BLM continues to manage in the Tuweep Allotment to ensure availability for wildlife use.		
N/A		Acquired lands would be incorporated into the management scheme for the Tuweep Allotment.	N/A	Same as Alternative C
N/A		Livestock grazing use on the Tuweep Allotment would be managed to complement current and future forest restoration research, and to provide rest and deferment on other allotments undergoing restoration treatments, areas with fire damage, or other actions that establish an AMP or livestock grazing system.	N/A	Same as Alternative C
Vernilion				
On Glen Canyon NRA lands, livestock grazing would be administered by the BLM subject to Glen Canyon NRA policy and enabling legislation, as spelled out in interagency agreements and MOUs between the BLM and NPS, and verified through the Vital Signs monitoring program. On Glen Canyon NRA lands, implementation of standards and guides may be modified to ensure compliance with Glen Canyon NRA enabling legislation and applicable laws and policies. On GCNRA lands, sensitive resources would demonstrate no long-term degradation due to livestock management practices.				
Season of use on the Lees Ferry Allotment would be limited to November 1 through April 15, for two consecutive years and rested completely the	N/A	The River Pasture of the Lees Ferry Allotment would be managed as a forage reserve for livestock grazing, with a season of use from November	The River Pasture of the Lees Ferry Allotment would be managed as a forage reserve for livestock grazing, with a season of use from November	N/A

TABLE 2.12: LIVESTOCK GRAZING

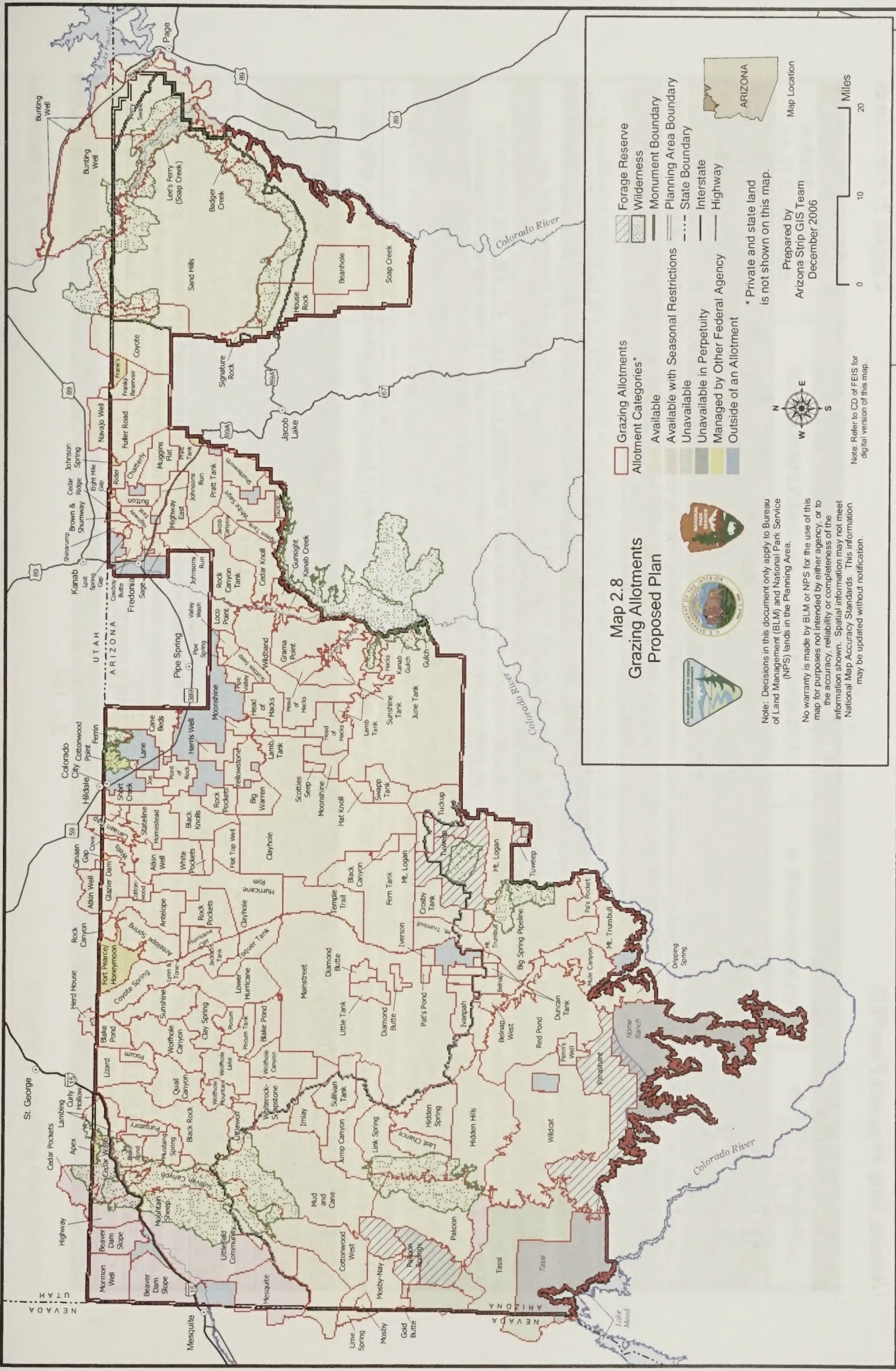
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>third year. Use in the River Pasture would be limited to November 1 through January 31 during the scheduled, two-year period.</p>	<p>15 through March 1. The River Pasture would not be used more than two years in five consecutive years.</p>	<p>1 through April 15. The River Pasture would not be used more than three years in five consecutive years.</p>		
Arizona Strip FO				
<p>On Glen Canyon NRA lands, livestock grazing would be administered by the BLM subject to Glen Canyon NRA policy and enabling legislation, as spelled out in interagency agreements and MOUs between the BLM and NPS, and verified through the Vital Signs monitoring program. On Glen Canyon NRA lands, implementation of standards and guides may be modified to ensure compliance with Glen Canyon NRA enabling legislation and applicable laws and policies. On Glen Canyon NRA lands, sensitive resources would demonstrate no long-term degradation due to livestock management practices.</p>				
<p>Existing water developments in desert tortoise habitat would be evaluated to determine the potential to lead to the proliferation of desert tortoise predators. Where problems are identified, the hazards would be redesigned, moved, or otherwise mitigated.</p>	<p>Water developments in listed species habitats could be modified to minimize adverse effects to the species. (See Table 2.5: Special Status Species.)</p>			
<p>Season of use on the following livestock grazing allotments with desert tortoise habitat would be from October 15 through March 15, with no authorization of ephemeral extensions (see Table 2.5 Special Status Species):</p> <ul style="list-style-type: none"> • Beaver Dam Slope • Highway • Mormon Well • Littlefield Community 	<p>N/A</p>	<p>Same as Alternative A</p>	<p>Season of use on the following livestock grazing allotments with desert tortoise habitat would be from October 15 through March 15 with the option of authorizing ephemeral extensions to May 15 when conditions outlined in Guideline 3-5, of the Arizona Standards for Rangeland Health are met:</p> <ul style="list-style-type: none"> • Beaver Dam Slope • Highway 	<p>Same as Alternatives A</p>

TABLE 2.12: LIVESTOCK GRAZING

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
(Littlefield Slope Pasture only) • Mesquite (Littlefield Slope Pasture only)			<ul style="list-style-type: none"> • Mormon Well • Littlefield Community (Littlefield Slope Pasture only) • Mesquite (Littlefield Slope Pasture only) 	
Season of use would remain yearlong on the portions of the Mesquite and Littlefield Community Allotments outside the Littlefield Slope pastures.	Season of use on the Littlefield Community, excluding the Littlefield Slope Pasture would be October 15 through June 15 and Mesquite Allotment, excluding the Littlefield Slope Pasture, would be October 15 through May 15.	Season of use and other management prescriptions consistent with achieving DFCs, as identified through the rangeland Health Assessment process, would be established, along with a management plan detailing specifics of grazing use, on the remaining portions of Littlefield Community and Mesquite Allotments, outside the Littlefield Slope Pastures.	Same as Alternative A	Same as Alternative C
Season of use for livestock grazing on the Cedar Wash Allotment would be from October 15 through March 15. Ephemeral extensions to May 15 would be authorized when production exceeds 280 lbs/acre.	Season of use for livestock grazing on the Cedar Wash Allotment would be from October 15 through March 15. Ephemeral extensions would not be authorized.	Season of use for livestock grazing on the Cedar Wash Allotment would be from October 15 through March 15. Ephemeral extensions to May 15 would be authorized when conditions outlined in Guideline 3-5 of the Arizona Standards for Rangeland Health are met.	Season of use for livestock grazing on the Cedar Wash Allotment would be from October 15 through May 15.	Same as Alternative C
Portions of the following livestock grazing allotments with SW Flycatcher habitat would be available for grazing during the non-growing season (leaf drop to bud break). Conservative grazing guidelines would be used consistent with the SW Flycatcher recovery plan. Monitoring would be used to ensure compliance with utilization levels and to determine actual growing season and livestock grazing would not be authorized later than April 15 in the following portions of identified livestock grazing allotments (see Table 2.5: Special Status Species);				

TABLE 2.12: LIVESTOCK GRAZING

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
with the BLM to comply with the SW Flycatcher recovery plan.	<ul style="list-style-type: none"> • Clearwater portion (suitable habitat) of the Kanab Creek Allotment • Clearwater portion (suitable habitat) of the Wildband Allotment • The river portion of the Lambing Allotment with SW Flycatcher habitat 			



**Map 2.8
Grazing Allotments
Proposed Plan**



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

- Grazing Allotments
- Allotment Categories*
 - Available
 - Available with Seasonal Restrictions
 - Unavailable
 - Unavailable in Perpetuity
 - Managed by Other Federal Agency
 - Outside of an Allotment
- Forage Reserve
- Wilderness
- Monument Boundary
- Planning Area Boundary
- State Boundary
- Interstate
- Highway

* Private and state land is not shown on this map.

Prepared by
Arizona Strip GIS Team
December 2006



Note: Refer to CD of FEIS for digital version of this map.

Map 2.8 Grazing Allotments - Proposed Plan

TABLE 2.13: MINERALS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. MINERALS MANAGEMENT				
A. DESIRED FUTURE CONDITIONS				
<i>Arizona Strip FO</i>				
<ul style="list-style-type: none"> Mineral exploration and development is encouraged on public land in keeping with the Bureau's multiple-use concept. Overall guidance on the management of mineral resources appears in the <u>Domestic Minerals Program Extension Act of 1953</u>, the <u>Mining and Minerals Policy Act of 1970</u>, the <u>Federal Land Policy and Management Act of 1976</u>, the <u>National Materials and Minerals Policy</u>, <u>Research and Development Act of 1980</u>, <u>BLM's Mineral Resources Policy of May 29, 1984</u>, and the <u>Energy Policy Act of 2005</u>. <u>Leasable Minerals</u>: the <u>Mineral Leasing Act of 1920</u>, <u>Geothermal Steam Act of 1970</u>, and <u>43 CFR 3100-3500</u> provide the legal and regulatory framework for the issuance and management of mineral leases. These regulations apply where public interest exists for the development of oil, gas, geothermal, coal and non-energy leasable mineral resources. Stipulations are attached to leases and permits in order to ensure protection of non-mineral resources that are susceptible to impacts resulting from the exploration and development of leasable mineral resources. <u>Locatable Minerals</u>: Exploration and development of locatable mineral resources are provided for by the <u>Mining Law of 1872</u>. <u>43 CFR 3809</u> provides for mineral exploration and development while assuring that activities are conducted in a manner that prevents unnecessary or undue degradation, provides protection of non-mineral resources, and provides for reclamation of disturbed areas. <u>Salable Minerals</u>: The <u>Materials Sale Act of 1947</u> and <u>43 CFR 3600</u> provide for the disposal and regulation of mineral materials. Disposal is administered on a case-by-case basis. Salable minerals are sold at fair market values. Free use permits are issued to federal and state agencies, local communities, and non-profit groups as the need arises. <p>Allow entire Planning Area to remain open to mineral leasing, location, and sale except where restricted by Monument and wilderness designation, withdrawals, or specific areas identified in this FEIS.</p>				
B. LAND USE ALLOCATIONS				
<i>Arizona Strip FO</i>				
1. Fluid Mineral Leasing				
Desert tortoise ACECs would remain open to leasing subject to seasonal restrictions and subject to a waivable no surface occupancy stipulation (WNSO). Surface disturbing activity would be limited to the period from October 15 to March 15 under a seasonal restriction. Surface occupancy could be allowed by a BLM authorized officer after consultation with USFWS on the authorization.				
Fluid Mineral leasing categories would be designated as follows: Category 1, open to lease subject to standard lease terms and conditions and appropriate special stipulations; Category 2, open with special terms and conditions or seasonal restrictions; Category 3, no surface occupancy or other surface disturbance; and, Category 4, withdrawn from minerals leasing (See Map 2.9 at end of Table 2.13).				
<ul style="list-style-type: none"> Category 1: 1,616,106 acres Category 2: 185,807 acres 	<ul style="list-style-type: none"> Category 1: 1,476,698 acres Category 2: 377,275 acres 	<ul style="list-style-type: none"> Category 1: 1,617,786 acres Category 2: 204,868 acres 	<ul style="list-style-type: none"> Category 1: 1,651,747 acres Category 2: 213,829 acres 	<ul style="list-style-type: none"> Category 1: 1,690,502 acres Category 2: 145,566 acres

TABLE 2.13: MINERALS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> Category 3: 98,375 acres Category 4: 80,710 acres 	<ul style="list-style-type: none"> Category 3: 46,175 acres Category 4: 80,864 acres 	<ul style="list-style-type: none"> Category 3: 77,492 acres Category 4: 80,871 acres 	<ul style="list-style-type: none"> Category 3: 34,541 acres Category 4: 80,902 acres 	<ul style="list-style-type: none"> Category 3: 64,325 acres Category 4: 80,671 acres
2. Locatable Minerals				
The following designations would apply to the Arizona Strip FO with regard to locatable minerals (See Map 2.10 at end of Table 2.13):				
Open to the operation of mining laws:	Open to the operation of mining laws:	Open to the operation of mining laws:	Open to the operation of mining laws:	Open to the operation of mining laws:
<ul style="list-style-type: none"> 1,528,946 acres Open 152,356 acres Open with restrictions 198,824 acres Open with plan of operation 	<ul style="list-style-type: none"> 1,385,350 acres Open 117,933 acres Open with restrictions 376,837 acres Open with plan of operation 	<ul style="list-style-type: none"> 1,516,824 acres Open 156,146 acres Open with restrictions 207,151 acres Open with plan of operation 	<ul style="list-style-type: none"> 1,518,372 acres Open 155,833 acres Open with restrictions 205,917 acres Open with plan of operation 	<ul style="list-style-type: none"> 1,534,396 acres Open 145,226 acres Open with restrictions 182,699 acres Open with plan of operation
Withdrawn to mining location subject to valid existing rights: 100,896 acres				
3. Salable Minerals				
<i>Parashant and Vermilion</i>				
The BLM, NPS, and county would continue to use mineral materials from existing material sites, washes, arroyos, and stock tanks on BLM lands for road maintenance projects provided the use would be consistent with Plan objectives and protection of Monument objects.				
<i>Parashant</i>				
NPS lands within Parashant are closed to mineral entry (Lake Mead NRA Minerals Management Plan, 1986).				
<i>Vermilion and Arizona Strip FO</i>				
Glen Canyon NRA lands are open to mineral disposition but no specific minerals have yet been identified (Per the Glen Canyon NRA Mineral Management Plan, 1980, Arizona Strip District administers the minerals on Glen Canyon NRA).				
<i>Arizona Strip FO</i>				
The following designations would apply to the planning area with regard to mineral material sales (See Map 2.11 at end of Table 2.13):				
<ul style="list-style-type: none"> 1,111,627 acres Open subject to standard stipulations 658,657 acres Open with restrictions 210,748 acres Closed to mineral material disposals 	<ul style="list-style-type: none"> 858,746 acres Open subject to standard stipulations 716,930 acres Open with restrictions 405,353 acres Closed to mineral material disposals 	<ul style="list-style-type: none"> 1,147,409 acres Open subject to standard stipulations 613,688 acres Open with restrictions 219,929 acres Closed to mineral material disposals 	<ul style="list-style-type: none"> 1,179,230 acres Open subject to standard stipulations 603,409 acres Open with restrictions 198,390 acres Closed to mineral material disposals 	<ul style="list-style-type: none"> 1,264,889 acres Open subject to standard stipulations 433,457 acres Open with restrictions 282,715 acres Closed to mineral material disposals

TABLE 2.13: MINERALS

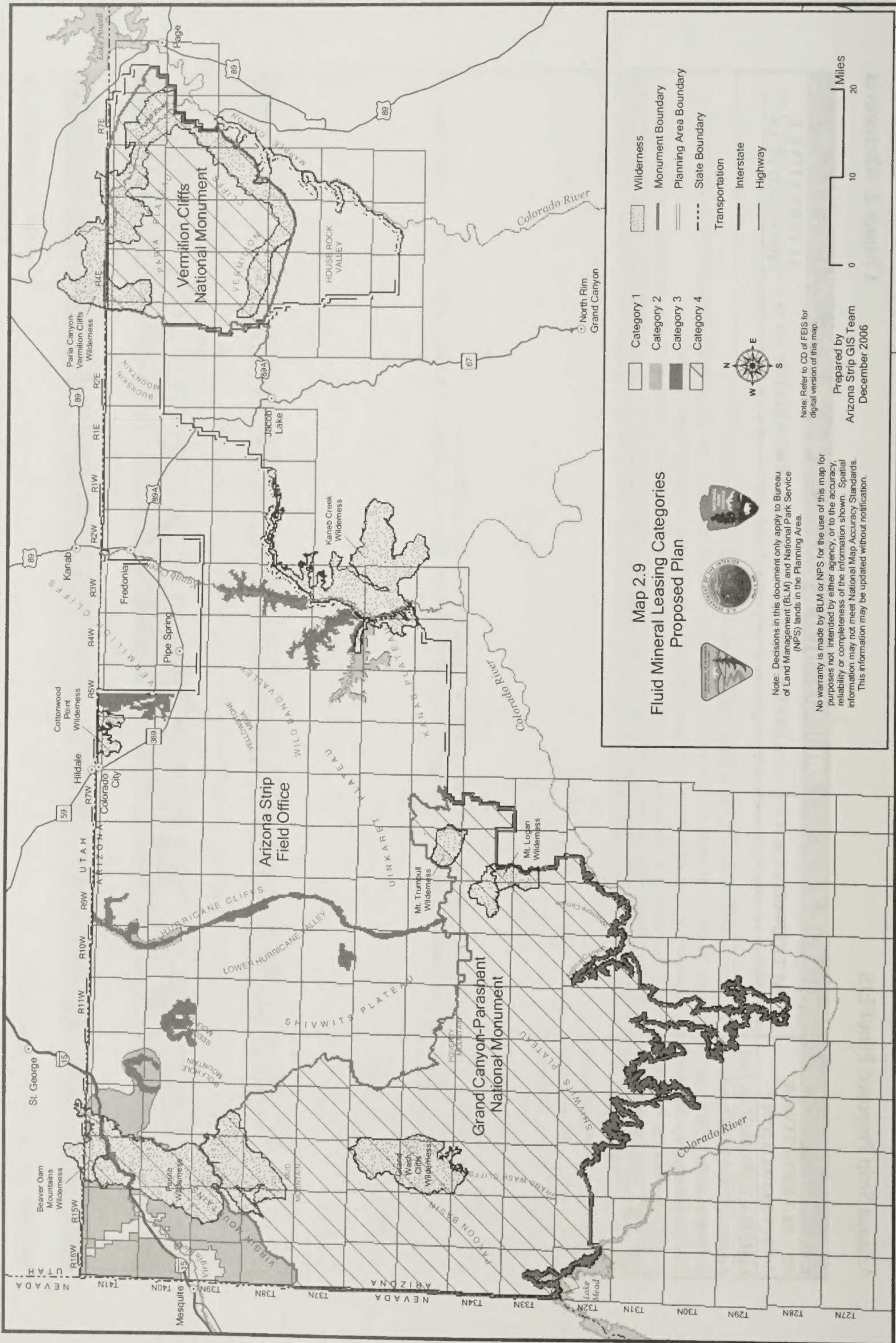
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
C. MANAGEMENT ACTIONS				
<i>Arizona Strip FO</i>				
New reclamation stipulations for exploration and development plans directed toward maintaining naturalness and unique features and/or remoteness on the Arizona Strip FO would be developed and would be added to or replace the existing stipulations. These stipulations would be applied to site-specific proposals. (See Appendix 2.O.)				
1. Locatable Minerals				
Special mitigation would continue to be required in mining plans of operation to avoid impacts to: Brady pincushion cactus in Marble Canyon ACEC; Siler pincushion cactus in Johnson Spring, Lost Spring Mountain, and Moonshine Ridge ACECs; desert tortoise in Beaver Dam Slope, Virgin Slope, Pakoon, and Virgin River ACECs; cultural resources in Johnson Spring, Lost Spring Mountain, Moonshine Ridge, Witch Pool, and Nampaweap ACECs.	Special mitigation would be required in mining plans of operation to avoid impacts to cultural resources, special status species, and/or other sensitive resources in ACECs. (See Table 2.16: Special Designations.)			
2. Salable Minerals				
<ul style="list-style-type: none"> Salable materials would continue to be available in a timely and orderly manner consistent with environmental constraints. Free use permits would continue to be issued to Federal and State agencies and to local communities. (See Appendix 2.Q for current mineral material sites.) Extraction of mineral resources would proceed consistent with protection of sensitive resources and achieving DFCs. (See Appendices 2.I, 2.O, and 2.P.) Material disposal in VRM Class II areas would not be allowed if reasonable alternative sources were available. 				
Mineral material disposal would continue to not be allowed in Marble Canyon, Virgin River, Virgin Slope,	New mineral material sites would not be allowed in ACECs. Existing material sites would be evaluated for retention. Permits could continue to be issued for noncommercial, hand collection of rock within 100 feet of designated open roads in the Beaver Dam and Virgin Slope ACECs.			

TABLE 2.13: MINERALS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
Little Black Mountain, or Fort Pearce ACECs. Only hand picking of rocks within 100 feet of roadways would be permitted within the Beaver Dam and Virgin Slope ACECs.				



Map 2.9 Fluid Mineral Leasing Categories - Proposed Plan



**Map 2.9
Fluid Mineral Leasing Categories
Proposed Plan**



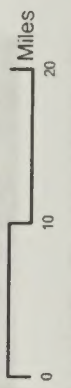
Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

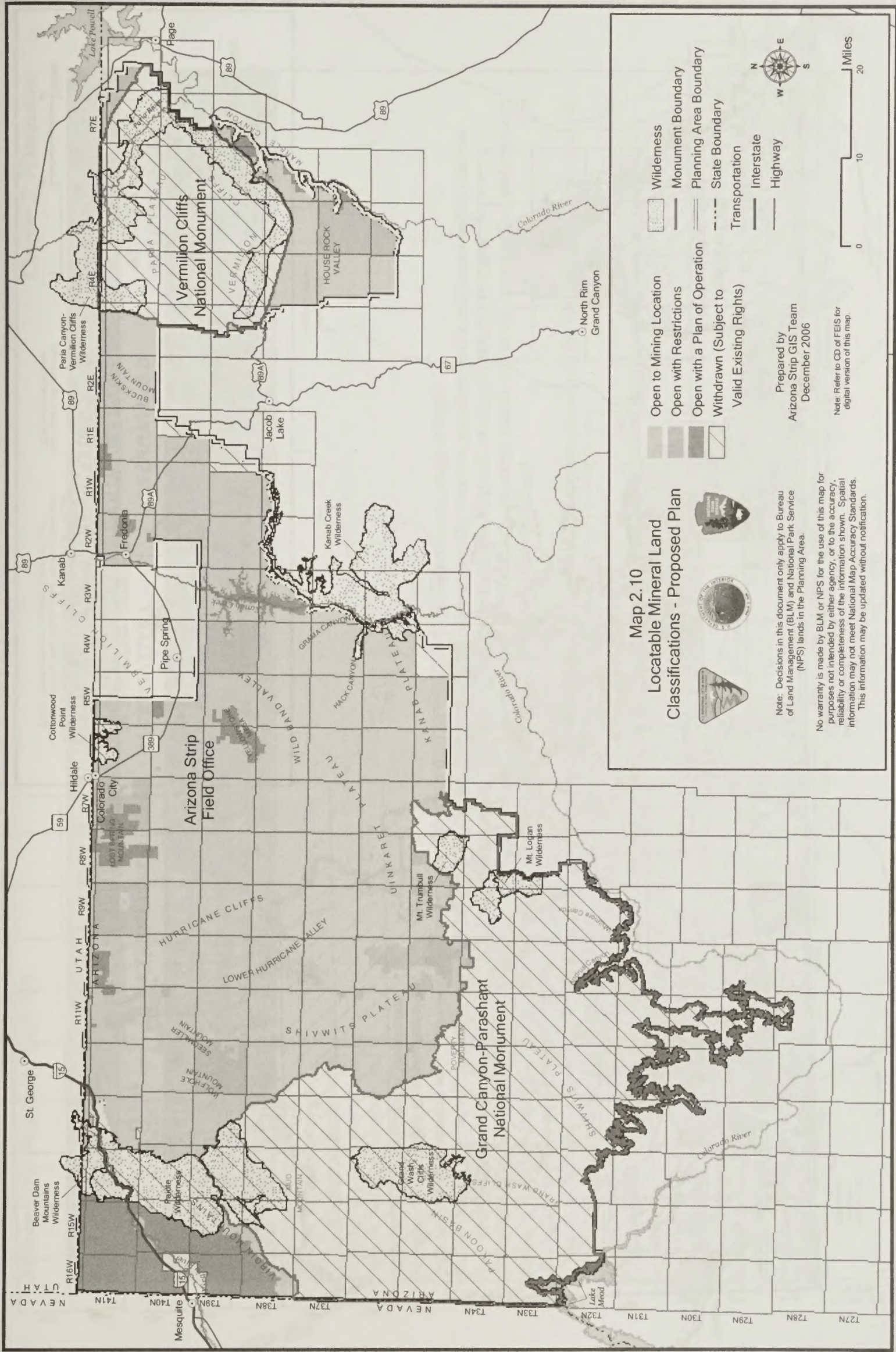
- Category 1
 - Category 2
 - Category 3
 - Category 4
- Wilderness
 - Monument Boundary
 - Planning Area Boundary
 - State Boundary
 - Transportation
 - Interstate
 - Highway



Note: Refer to CD of FEIS for digital version of this map.



Prepared by
Arizona Strip GIS Team
December 2006



Map 2.10 Locatable Mineral Land Classifications - Proposed Plan

Map 2.11 Salable Mineral Land Classifications - Proposed Plan

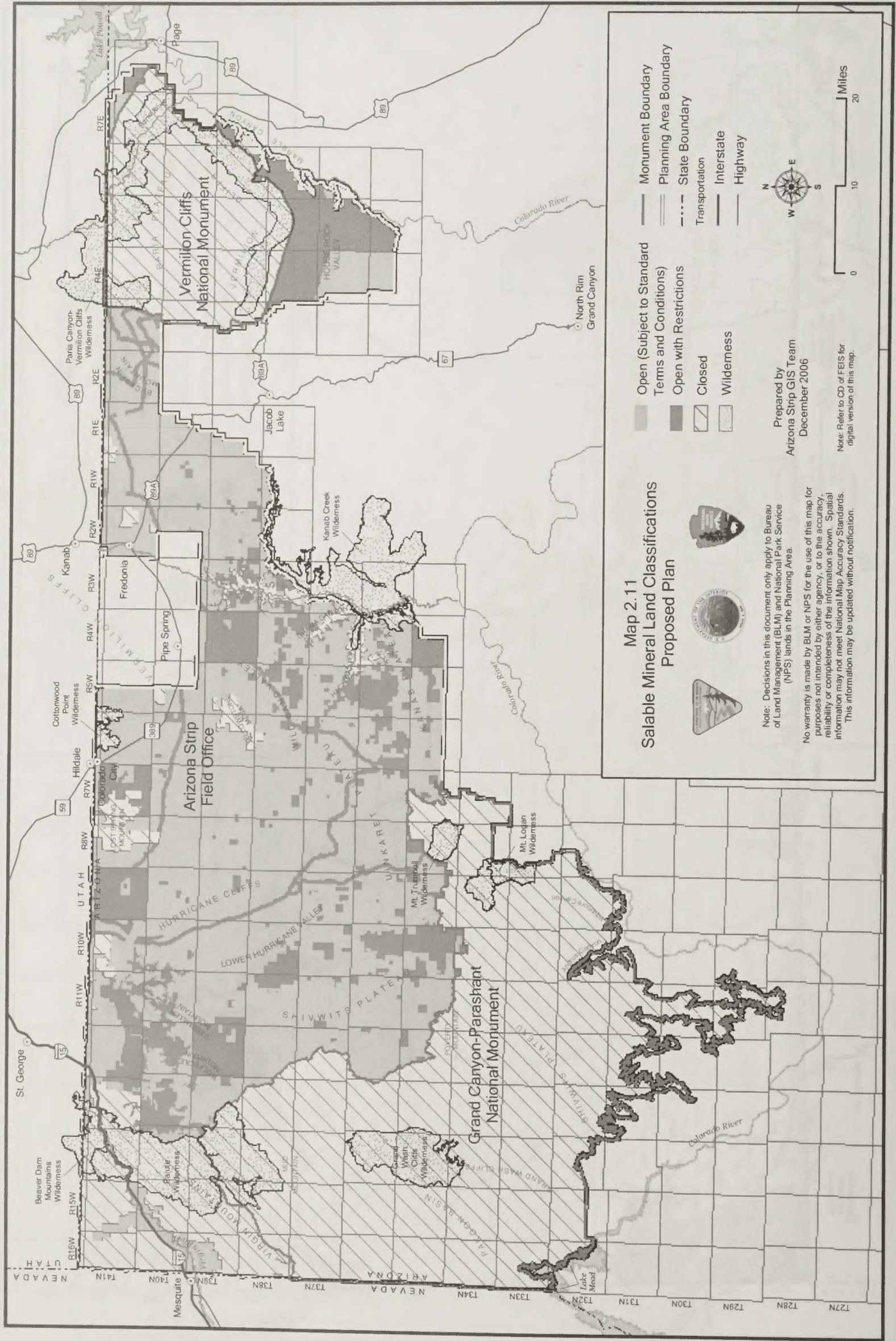


TABLE 2.14: RECREATION AND VISITOR SERVICES/ INTERPRETATION AND ENVIRONMENTAL EDUCATION

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. RECREATION MANAGEMENT				
A. DESIRED FUTURE CONDITIONS				
1. General Recreation DFCs				
<i>Common to All Planning Areas</i>				
<ul style="list-style-type: none"> • A range of recreation settings would be provided where traditional, backcountry, extensive recreation activities such as camping, hunting, and sightseeing are possible and the experience opportunities for such activities as defined by the Recreation Opportunity Spectrum (ROS) are high. • Recreation management direction would include: <ol style="list-style-type: none"> 1. Accommodation of current uses, protection of cultural values, and complementing wilderness management plans where appropriate, and 2. Providing visitor information. • A majority of BLM lands would be managed for extensive (dispersed) recreation while maintaining its naturalness/remoteness. The 				
				<ul style="list-style-type: none"> • Recreation and visitor services would be managed to provide varying levels of both: <ol style="list-style-type: none"> 1. Structured recreation opportunities that offer a range of specific benefits, activities, and experiences within outdoor settings (Special Recreation Management Areas (SRMAs, See Map 2.12 at end of Table 2.14) and/or, 2. Dispersed, unstructured recreation opportunities that focus only on visitor health and safety, user conflict, and resource protection issues (Extensive Recreation Management Areas (ERMAs)). • Information needed to plan, prepare, and choose safe, enjoyable, and appropriate uses of the Arizona Strip region would be available to the public. • The NPS and BLM would work to provide seamless service to the public and use their resources accordingly.

**TABLE 2.14: RECREATION AND VISITOR SERVICES/
INTERPRETATION AND ENVIRONMENTAL EDUCATION**

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>exception to this would be the Cedar Pockets campground.</p> <ul style="list-style-type: none"> In Management Area A, emphasis on recreation opportunities associated with motorized vehicle use such as exploring backcountry roads, vehicle camping, sightseeing, picnicking, and mountain biking opportunities on existing roads would be maintained. In ERMA A, shifting in ROS classes from semi-primitive, non-motorized to semi-primitive, motorized as a guide (not to exceed 1 percent per year) or from semi-primitive, motorized to rural natural as a guide (not to exceed 2 percent per year) where deemed necessary to meet recreation needs or other resource development would be allowed for. In Management Area B, emphasis on recreation opportunities associated more with non-motorized uses such as camping, sightseeing, hiking, horseback riding, 				
	<ul style="list-style-type: none"> Existing opportunities for visitors to enjoy sightseeing and viewing wildlife in the Backways Travel Management Areas (TMAs) would be maintained/enhanced. The excellent opportunities that exist to enjoy remote, rustic settings that provide moderate challenge and solitude in the Specialized TMAs would be maintained/enhanced. In Backways and Specialized TMAs, recreation opportunities associated with somewhat remote settings, such as exploring backcountry roads and trails, vehicle camping, hunting, sightseeing, recreation aviation, and picnicking would be maintained/enhanced as well as mountain biking opportunities on existing routes, provided they would be compatible with the protection and enhancement of sensitive resource values and Monument objects, where appropriate. 			<ul style="list-style-type: none"> In the Primitive TMA, high quality recreation opportunities associated more with primitive recreation experience opportunities and non-motorized uses such as camping, sightseeing, hiking, horseback riding, and hunting, would be maintained/enhanced, provided they would be compatible with the protection and enhancement of sensitive resource values and Monument objects, where appropriate.

**TABLE 2.14: RECREATION AND VISITOR SERVICES/
INTERPRETATION AND ENVIRONMENTAL EDUCATION**

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>hunting, and rockhounding would be maintained, provided they are compatible with the protection and enhancement of natural and cultural values. Vehicle exploring and backcountry travel are recreational components of this area.</p> <ul style="list-style-type: none"> • Within Management Area B, opportunities for high quality, backcountry recreation experience would be enhanced through a variety of methods including rehabilitation and re-vegetation of disturbed sites, non-promotion, and continued current roads conditions. 				
Parashant				
<i>Arizona Strip FO</i>				
N/A	<p>NPS lands would be managed primarily for their wilderness values, and in accordance with Primitive TMA objectives.</p> <ul style="list-style-type: none"> • In Rural (TMA), a wide variety of recreation opportunities associated with near-urban settings, such as walking, OHV play, equestrian, rock crawling, mountain biking, and viewing events, could be maintained/enhanced, provided they would be compatible with the protection of sensitive resource values. (See Table 2.15 for a complete description of TMAs.) • The Virgin River Gorge Recreation Lands Withdrawal (PLO 5263) would be managed for the values listed in the withdrawal application (A-6451) 			
2. Specific Recreation Management Area DFCs				
<ul style="list-style-type: none"> • Two types of Recreation Management Areas (RMAs) would be identified in the land use plan for BLM lands: SRMAs and ERMAs. In the Parashant only, Special Management Areas (SMAs) would be identified on NPS lands. 				

TABLE 2.14: RECREATION AND VISITOR SERVICES/ INTERPRETATION AND ENVIRONMENTAL EDUCATION

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> NPS SMAs typically involve the NPS proposed wilderness areas, as well as any areas managed to maintain wilderness characteristics. SMA management would be blended with SRMA management in the Parashant where appropriate. Any area in a planning area not delineated as a SRMA would be identified as one or more ERMAs. ERMAs would receive only custodial management regarding visitor health and safety, user conflict and resource protection issues, with no activity level planning. Therefore, actions within ERMAs would generally be implemented directly from land use plan decisions. Refer to Table 2.14a for DFCs for each proposed SRMA. Refer to the General Recreation DFCs listed in I. A. 1 above for each proposed ERMA. 	<ul style="list-style-type: none"> Section A.2. of Table 2.14 describes the specific DFCs for each SRMA. The conditions described for a given SRMA would be targeted for that SRMA under any alternative where it would be allocated. Each SRMA would target a distinct, primary recreation-tourism market as well as a corresponding and distinguishing recreation management strategy, such as Community, Destination, or Undeveloped (see Glossary). In identifying SRMAs and prescribing the management regime for each, a benefits-based management (BBM) approach would be utilized. BBM or “beneficial outcomes” focuses on the desired outcomes of recreation and leisure activities tied to experiences and benefits. Within each SRMA, one or more potential Recreation Management Zones (RMZs) would be identified, with each zone providing for a particular recreation niche (see Glossary) within the overall SRMA. (See Map 2.12 for SRMAs and Map 2.13 for RMZs). Each RMZ would be characterized by a description of its own DFCs in the form of outcomes (management objective(s), benefits, experiences, activities) and the setting prescriptions (physical, social, and administrative conditions) required to produce the outcomes. (see Appendix 3.H, Natural Resource Recreation Settings descriptions and Maps 2.14, 2.15, and 2.16 for setting allocations). Some SRMA components, such as “primary market-based strategy,” “recreation niche,” and “benefits” are conspicuously absent from Alternative A and B because current management does not utilize a beneficial outcomes approach. 			
N/A				

B. LAND USE ALLOCATIONS

(SRMA and ERMA allocations would be allocated very differently across the Plan alternatives. This is due to a number of factors: 1) in developing a range of alternatives, all existing (Alternative A) SRMAs would essentially be reconfigured, renamed, dropped, or absorbed into larger new SRMAs or ERMAs in Alternatives B – E (shaded areas are “null”); 2) SRMAs allocated in Alternatives C – E would reflect the BLM’s transition to BBM; 3) the previous notion that all wilderness areas would automatically be allocated as SRMAs would be abandoned, as new SRMAs are tied to market demand rather than areas of high visitor use or special designations.)

The RMAs (both Special and Extensive), accompanying RMZs within each SRMA, and NPS SMAs would be identified as follows (See Appendix 2.R for more information about RMAs):

TABLE 2.14: RECREATION AND VISITOR SERVICES/ INTERPRETATION AND ENVIRONMENTAL EDUCATION				
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>Parashant</i>				
<p>Mt Trumbull RCA/SRMA: 102,307 acres RMZs: None</p> <p>Parashant RCA/SRMA: 39,868 acres RMZs: None</p>			<p>Parashant SRMA/NPS SMA BLM SRMA: 839,237 acres NPS SMA: 209,084 acres</p>	
<p>Mount Trumbull Wilderness SRMA: 8,000 acres RMZs: None</p> <p>Mount Logan Wilderness SRMA: 14,632 acres RMZs: None</p> <p>Grand Wash Cliffs Wilderness SRMA: 37,276 acres RMZs: None</p> <p>Paiute Wilderness SRMA: 35,334 acres RMZs: None</p> <p>NPS SMA: 188,121 acres RMZs: None</p>		<p>Shivwits Frontier RMZ: 307,871 acres</p> <p>Parashant Wildlands RMZ 740,446 acres</p>	<p>Shivwits Frontier RMZ: 361,080 acres</p> <p>Parashant Wildlands RMZ 687,237 acres</p>	<p>Shivwits Frontier RMZ: 559,622 acres</p> <p>Parashant Wildlands RMZ 488,655 acres</p>
<p>Parashant ERMA: ERMA A: 529,914 acres ERMA B: 214,099 acres</p>	<p>Parashant ERMA: 764,840 acres</p>			

TABLE 2.14: RECREATION AND VISITOR SERVICES/ INTERPRETATION AND ENVIRONMENTAL EDUCATION				
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>Vermilion</i>				
Canyons & Plateaus Of The Paria RCA/SRMA 293,689 acres RMZs: None			Gateways SRMA 814 acres	
			Vermilion Cliffs RMZ: 269 acres House Rock RMZ: 545 acres	
Paria Canyon-Vermilion Cliffs Wilderness SRMA 89,829 acres RMZs: None			Sand Hills SRMA 265,109 acres	
			Uplands RMZ: 197,031 acres Cliffs & Rims RMZ: 68,078 acres	
Vermilion ERMA 203,863 acres			Paria SRMA 27,741 acres	
			Coyote Buttes RMZ: 14,576 acres Paria Canyon RMZ: 13,165 acres	
<i>Arizona Strip FO</i>				
Mt Trumbull RCA/SRMA: 13,652 acres; RMZs: None			St. George Basin SRMA 141,024 acres	
Canyons & Plateaus Of The Paria RCA/SRMA 23,484 acres; RMZs: None			St. George Basin Rural Park RMZ: 104,113 acres Canyons and Mesas RMZ: 36,911 acres	
Virgin River Corridor ACEC/SRMA 8,078 acres; RMZs: None			Virgin River SRMA 4,955 acres	
Little Black Mountain ACEC/SRMA 241 acres; RMZs: None		Virgin River RMZ: 1,787 acres Virgin River Gorge Scenic Gateway RMZ: 135 acres The Motorways: 3,033 acres	Virgin River RMZ: 1,781 acres Virgin River Gorge Scenic Gateway RMZ: 135 acres Motorways: 3,039 acres	Virgin River RMZ: 2,110 acres Virgin River Gorge Scenic Gateway RMZ: 135 acres The Motorways: 2,710 acres

**TABLE 2.14: RECREATION AND VISITOR SERVICES/
INTERPRETATION AND ENVIRONMENTAL EDUCATION**

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>Beaver Dam Mountains Wilderness SRMA: 14,928 acres RMZs: None</p> <p>Cottonwood Point Wilderness SRMA: 6,575 acres RMZs: None</p> <p>Kanab Creek Wilderness SRMA: 6,804 acres; RMZs: None</p> <p>Paiute Wilderness SRMA: 52,491 acres; RMZs: None</p>			<p>Virgin Ridge SRMA 23,033 acres</p> <p>Lime Kiln/Elbow Canyons RMZ: 7,738 acres</p> <p>Lime Kiln Cliffs RMZ: 1,749 acres</p> <p>Virgin Ridge RMZ: 13,547 ac</p>	<p>Virgin Ridge SRMA 23,033 acres</p> <p>Lime Kiln/Elbow Canyons RMZ: 7,684 acres</p> <p>Lime Kiln Cliffs RMZ: 1,746 acres</p> <p>Virgin Ridge RMZ: 13,604 ac</p>
<p>Arizona Strip ERMA ERMA A: 1,698,520 acres ERMA B: 282,487 acres</p>	<p>Arizona Strip ERMA 1,900,304 acres</p>	<p>Arizona Strip ERMA 1,831,306 acres</p>	<p>Fredonia SRMA 15,932 acres</p> <p>Fredonia Rural Park RMZ: 6,816 acres</p> <p>Shinarump Cliffs RMZ: 3,965 acres</p> <p>The Badlands RMZ: 5,151 acres</p>	<p>Fredonia SRMA 14,969 acres</p>
C. MANAGEMENT ACTIONS				
1. Actions to Achieve				
a. Recreation Management Actions				
<i>i. Resources</i>				
<i>Common to All Planning Areas</i>				
<p>The generally natural, “remote” settings that exist throughout the resource area through mitigation of new projects and implementing restoration projects as necessary would continue to be restored and/or maintained.</p>	<p>To the extent practicable, the natural or “remote” settings in Specialized and Primitive TMAs would be restored and/or maintained using natural processes as the need or opportunity arises.</p>			<p>To the extent practicable, the natural or “remote” settings in Specialized and Primitive TMAs would be restored and/or maintained using a combination of projects and natural processes as the need or opportunity arises.</p>

**TABLE 2.14: RECREATION AND VISITOR SERVICES/
INTERPRETATION AND ENVIRONMENTAL EDUCATION**

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	Geocache sites would be removed if, through monitoring, it were determined that important resources would be at risk of unacceptable change due to use of the site.	Geocache sites would be relocated with help from local geocachers if, through monitoring, it were determined that important resources would be at risk of unacceptable change due to use of the site.		
ii. Signing and Recreation Facilities				
Common to All Planning Areas				
<ul style="list-style-type: none"> Few, if any, visitor facilities such as directional, safety, or interpretive signing; interpretive sites; or kiosks would be installed in Management Area B. Those few that might be needed would be designed to blend in with the surrounding landscape. The majority of visitor management facilities, such as directional, interpretive, or safety signing, interpretive sites, or kiosks, would be installed in the roaded natural areas of ERMA B and would be designed to blend in with the landscape. 	<ul style="list-style-type: none"> Within SRMAs, the levels and types of signing and recreation facility developments would be guided by the individual RMZ objectives and the administrative and physical recreation settings components prescribed for each RMZ (see Appendix 3.H, Physical Setting (Facilities) and Administrative Setting (Management Controls) for descriptions of settings components). Where ERMAs would be allocated, the main emphasis areas for any signing and/or recreation facility placement would be in the Rural and Backways TMAs. Generally, signing and recreation facility development in the ERMAs would be the minimum necessary to provide for public safety, reduce user conflicts, and protect resources. Sign material and design would be unobtrusive in order to blend with local landscape settings and retain the natural and/or historic integrity of the site. Recreation facility development and maintenance would be limited in listed species and other sensitive habitats. (See Table 2.5: Special Status Species and Table 2.3: Vegetation Management.) 			
N/A	Major visitor facilities (visitor center or contact stations) would not be built by the BLM.	Any major visitor facilities (visitor center or contact stations) built by the BLM would be located near communities.	Major visitor facilities (visitor center or contact stations) would be collaborative efforts within nearby communities, with the exception of the Virgin River SRMA where a small contact facility could be considered.	

TABLE 2.14: RECREATION AND VISITOR SERVICES/ INTERPRETATION AND ENVIRONMENTAL EDUCATION

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
b. Recreation Marketing Actions				
<i>i. Promotion</i>				
<i>Common to All Planning Areas</i>				
N/A	Sensitive areas where increased visitation could create unacceptable changes or impacts to natural or cultural resources would not be publicly promoted. Public information would be provided only for those cultural sites designated for public use.			
<i>ii. Interpretation and Environmental Education</i>				
<i>Common to All Planning Areas</i>				
(See below: Table 2.14, Part II: Interpretation and Environmental Education)				
c. Recreation Monitoring Actions				
<i>i. Inventory and Monitoring</i>				
<i>Common to All Planning Areas</i>				
Recreation management direction, which includes the use of various methods to acquire visitor use data, maintenance of a system of traffic counters, monitoring results monthly and field verifying results annually, and conducting compliance patrols by law enforcement rangers, would be maintained.	Where appropriate, a framework for establishing carrying capacities for intensive use areas and primary recreation activity types would be established.	A Limits of Acceptable Change (LAC) framework would be used to establish acceptable resource and social and managerial settings conditions using appropriate indicators and standards.	Resource and social impacts would be mitigated on a case-by-case basis.	Same as Alternative C
2. Allowable Uses				
a. Recreation Administration Actions				
<i>i. Visitor Limits and Regulations</i>				
<i>Common to All Planning Areas</i>				
Recreational activities could be limited or restricted in special status species and other sensitive habitats. (See Table 2.5: Special Status Species and Table 2.3: Vegetation Management.)				

TABLE 2.14: RECREATION AND VISITOR SERVICES/ INTERPRETATION AND ENVIRONMENTAL EDUCATION

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>Management responses to unacceptable resource and/or social conditions would range from least restrictive methods (e.g., information and education) to most restrictive (e.g., visitor limits, supplemental rules, or restrictions). Where feasible, the least restrictive methods would be the first priority.</p>	<p>No person or persons should occupy one area on BLM lands within the Arizona Strip District for longer than 14 consecutive days in any 28-day period. Any site on public land within 30 air miles constitutes the same area for the purpose of this rule. Persons occupying a regular campsite within the Virgin River Canyon Recreation Area are exempt from this rule. To protect resources, for public safety, or for other administrative purposes, an authorized officer may, by posting notification, close a given site to occupancy.</p>	<p>No person or persons should occupy one area on BLM lands longer than 14 consecutive days in any 28-day period; however, extensions beyond the 14-day length of stay could be authorized for permitted uses on a case-by-case basis. Any site on public land within 30 air miles constitutes the same area for the purpose of this rule. Persons occupying a regular campsite within the Virgin River Canyon Recreation Area are exempt from this rule. To protect resources, for public safety, or for other administrative purposes, an authorized officer may, by posting notification, close a given site to occupancy.</p>	<p>Camping could be limited in listed species and other sensitive habitats. (See Table 2.5: Special Status Species and Table 2.3: Vegetation Management.)</p>	<p>Camping could be restricted or limited to protect cultural and/ or natural resources through campsite monitoring and LAC.</p>
<p>N/A</p>	<p>Camping could be restricted or limited to protect cultural and/ or natural resources through campsite monitoring and LAC.</p>	<p>Certified weed-free feed would be required for all recreation stock use. (See Table 2.3: Vegetation Management.)</p>	<p>Recreational stock use could be limited in listed species and other sensitive habitats or in the vicinity of cultural properties. (See Table 2.5: Special Status Species, Table 2.4: Fish and Wildlife, Table 2.3: Vegetation Management, and Table 2.7: Cultural Resources.)</p>	<p>On BLM lands, collection of antlers or other unregulated animal parts would be allowed. (See Table 2.15: Travel Management for vehicular decisions, and Table 2.4: Fish and Wildlife and Table 2.5: Special Status Species for animal parts) On NPS lands, no collection of antlers or animal parts would be allowed.</p>
<p>Recreational shooting on BLM lands would be allowed except where public health and safety is jeopardized and subject to state and local laws. (See Table 2.5: Special Status Species and Table 2.17: Public Health for specific decisions.) Voluntary use of non-lead ammunition would be encouraged. Recreational shooting would not be allowed on NPS lands.</p>	<p>Geocache sites would be prohibited in archaeological sites, alcoves, caves, rock shelters, threatened and endangered species habitat, and raptor nesting sites, or where identified Monument objects would be at risk.</p>	<p>Where geocaches are allowed, they could remain so long as acceptable resource and social conditions would be maintained.</p>	<p>On-the-ground placement of geocaches would be prohibited in designated and NPS proposed wilderness areas.</p>	<p>Visitor limits, supplemental rules, or restrictions would be based on LAC. Carrying capacities may be established</p>
Parashant				
<p>The institution and/or adjusting of visitor limits, regulations, or restrictions in the resource area, only when monitoring of</p>	<p>Visitor limits, supplemental rules, or restrictions would be managed when carrying capacities are exceeded.</p>	<p>Visitor limits, supplemental rules, or restrictions would be based on LAC.</p>	<p>Visitor limits, supplemental rules, or restrictions would be managed on a case-by-case basis.</p>	<p>Visitor limits, supplemental rules, or restrictions would be based on LAC. Carrying capacities may be established</p>

TABLE 2.14: RECREATION AND VISITOR SERVICES/ INTERPRETATION AND ENVIRONMENTAL EDUCATION

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
resource and social conditions indicates a trend toward unacceptable change to desired recreation settings brought about by such use, would continue.				as wilderness management plans and activity plans are completed.
<i>Parashant and Vermilion</i>				
N/A	Vehicle camping along designated routes would be allowed in designated sites only.			Vehicle camping along designated routes would be allowed only at existing sites where previous camping use is evident. However, existing sites that overlie or are causing significant impacts to sensitive resources would be closed and new sites could be made available in locations where resource impacts are lessened.
Non-motorized, dispersed camping would be allowed subject to Trail and Travel Management decisions, except for the Coyote Buttes Fee Area.				
Recreational collecting of Monument resources, such as rocks, mineral specimens, petrified wood, fossils, or plants would be prohibited. (See Table 2.15: Travel Management for vehicular decisions and Table 2.3: Vegetation Management for collection of plants.)				
Collection of dead and down wood for campfires would continue to be allowed where fires are allowed.	Collection of dead and down wood for campfires would not be allowed.			Collection of dead and down wood for campfires would be allowed, subject to fire restrictions.
<i>Vermilion</i>				
The current group sizes and visitor use limits in Paria Canyon, Buckskin Gulch, Wire Pass, and Coyote Buttes would continue, subject to adaptive management decisions deemed necessary through monitoring and evaluation of resource and social conditions. (For existing limits, see Chapter 3 Vermilion Recreation and Visitor Services/Interpretation and Environmental Education; Recreation Administration-Visitor Limits and Regulations; Permits and Fees)				
All recreational and commercial horseback riding and pack stock use would continue to be prohibited in Coyote Buttes.				
Commercial use of horses and pack stock would continue to be prohibited in Paria Canyon upstream from Bush Head Canyon.	Commercial use of horses and pack stock would be prohibited in Paria Canyon.	Same as Alternative A	Commercial use of horses and pack stock would be allowed in Paria Canyon from Whitehouse to Big Spring and from Lee's Ferry to Bush Head Canyon.	Same as Alternatives A

TABLE 2.14: RECREATION AND VISITOR SERVICES/ INTERPRETATION AND ENVIRONMENTAL EDUCATION				
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>Vermilion and Arizona Strip FO</i>				
Visitor limits, regulations, or restrictions in the resource area would be instituted and/or adjusted only when monitoring of resource and social conditions indicates a trend toward unacceptable change to desired recreation settings brought about by such use.	Visitor limits, supplemental rules, or restrictions would be managed when carrying capacities are exceeded.	Visitor limits, supplemental rules, or restrictions would be based on LAC.	Visitor limits, supplemental rules, or restrictions would be managed on a case-by-case basis.	Same as Alternative C
<i>Arizona Strip FO</i>				
N/A	In developed campgrounds, camping outside designated campsites would be prohibited.			
Dispersed camping would be allowed, subject to Trail and Travel Management decisions.				
N/A	Reasonable limits for collecting petrified wood for personal use would be defined as no more than 25 pounds per person per day (plus one piece of petrified wood) up to a total of 250 pounds per person per year.			
N/A	The recreational collecting of plants and dead and down firewood would be allowed. (See Table 2.3: Vegetation Management for specific decisions.)			
ii. Permits and Fees				
<i>Common to All Planning Areas</i>				
Visitor limits, regulations, or restrictions could be instituted and/or adjusted when monitoring of resource and social conditions indicate a trend toward unacceptable resource and social changes brought about by such use.				
N/A	<ul style="list-style-type: none"> Commercial, competitive, organized group/event, and special area permits could be authorized when such uses accomplish or are compatible with management objectives and other plan provisions. Commercial services in designated or proposed wilderness should meet guidelines for commercial activities within wilderness. Recreation activities requiring use authorization could be limited in listed species and other sensitive habitats. (See Table 2.5: Special Status Species and Table 2.3 Vegetation Management.) 			
• Authorizations would continue to be considered on a	Special Recreation Permit (SRP) administration would	SRP administration would operate on a calendar year.	SRP application packages (application, operating plan, maps, etc.) would be considered for authorization on a case-by-case	

TABLE 2.14: RECREATION AND VISITOR SERVICES/ INTERPRETATION AND ENVIRONMENTAL EDUCATION

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>case-by-case basis upon receipt of application.</p> <ul style="list-style-type: none"> Commercial recreation permits would be issued to the extent that their cumulative impacts are consistent with the overall objectives of this Plan and in the public interest. 	<p>operate on a calendar year. Applications, operating plans, renewals, post-use reports, and fee payments would only be submitted between January 1 and February 1.</p>	<p>Applications, operating plans, renewals, post-use reports, and fee payments would only be submitted between January 1 and April 1.</p>	<p>basis upon receipt of application. (See 43 CFR 2930 for requirements)</p>	
<p>No competitive events would be authorized in wilderness or NPS proposed wilderness.</p>				
<p>Parashant and Vermilion</p>				
N/A	<p>No motorized speed events would be authorized in the Monuments.</p>			
<p>Vermilion</p>				
<p>The current special area permit and fee requirements for Paria Canyon, Buckskin Gulch, Wire Pass, and Coyote Buttes would continue, subject to adaptive management decisions deemed necessary through monitoring and evaluation of resource and social conditions.</p>				
N/A	<p>No new commercial SRPs would be authorized in Coyote Buttes North and the existing permits would be allowed to expire.</p>	<p>No new commercial SRPs would be authorized in Coyote Buttes North but existing permits would continue.</p>	<p>Commercial SRPs would be considered on a case-by-case basis in Coyote Buttes North</p>	<p>Commercial SRPs would be considered on a case-by-case basis in Coyote Buttes North. A limit may be established as conditions dictate.</p>
<p>Arizona Strip FO</p>				
<p>Current recreation use permit and fee program required for use in the Virgin Gorge Recreation Area would continue, subject to adaptive management decisions deemed necessary through monitoring, evaluation, and further planning.</p>				
<p>The annual Rhino Rally motorcycle race in the Arizona Strip FO would be allowed, but restricted primarily to roads</p>	<p>No motorized speed events would be authorized.</p>	<p>Motorized speed events would only be authorized in the Motorized Speed Event Area in the St. George Basin and</p>	<p>Motorized speed events could be authorized on a case-by-case basis.</p>	<p>Same as Alternative C (See Motorized Speed Event Area on Map 2.19)</p>

**TABLE 2.14: RECREATION AND VISITOR SERVICES/
INTERPRETATION AND ENVIRONMENTAL EDUCATION**

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
and washes and limited to 300 entrants.		limited to 300 entrants. (See Motorized Speed Event Area on Map 2.19)		
D. ADMINISTRATIVE ACTIONS				
a. Recreation Management Actions				
<i>i. Resources</i>				
<i>Common to All Planning Areas</i>				
Wilderness management objectives as expressed in individual wilderness management plans would be complemented by recreation management activities adjacent to wilderness areas.				N/A
<i>ii. Signing and Recreation Facilities</i>				
<i>Common to All Planning Areas</i>				
All recreation facilities and signs would be made consistent with the Americans with Disabilities Act of 1973, Rehabilitation Act of 1973, and the Architectural Barriers Act of 1968.				
Sign plans that address present and future needs involving road information, interpretation, and public safety, and coordinate the plans with the Arizona Strip visitor map would be written. Generally, signing would be the minimum necessary to provide for public safety and information.	<ul style="list-style-type: none"> • A sign plan for each planning area that addresses present and future needs involving road information, interpretation, and public safety would be written. The plans would be coordinated with the development of maps and access guides for all three planning areas. • Implementation plans would include outreach efforts to actively recruit service-oriented volunteers, organizations, and schools to assist with accomplishing appropriate implementation projects. 			

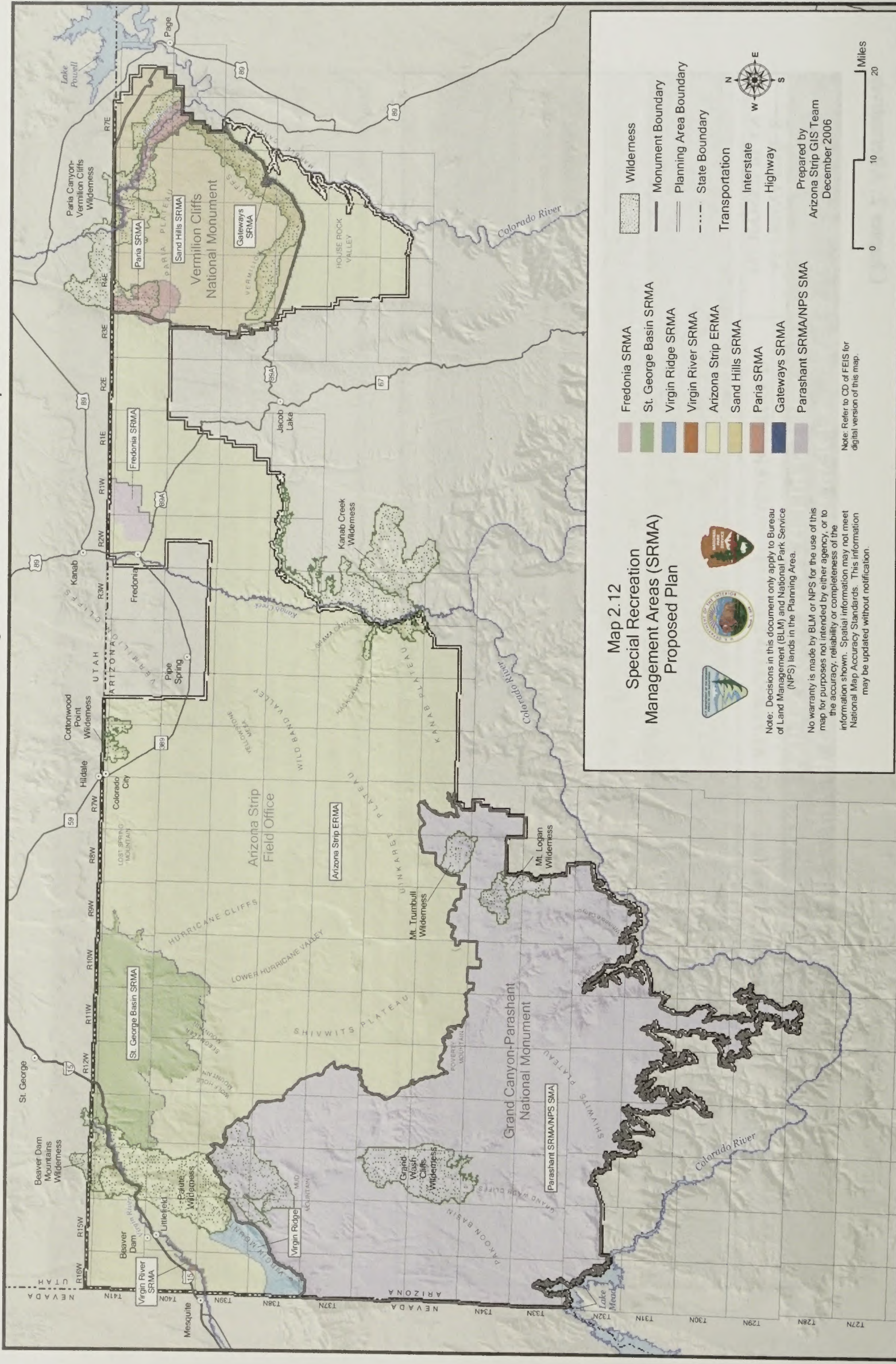
TABLE 2.14: RECREATION AND VISITOR SERVICES/ INTERPRETATION AND ENVIRONMENTAL EDUCATION

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
Parashant				
N/A	BLM and NPS sign standards would be incorporated to create a joint identity and sign design for the Monument.			
b. Recreation Marketing Actions				
<i>i. Visitor Services and Information</i>				
Common to All Planning Areas				
Accurate information regarding recreation opportunities, interpretation of natural and human history, and specific rules and regulations pertaining to their use of BLM/NPS lands would be provided to visitors.				
N/A	<ul style="list-style-type: none"> The Interagency Information Center and partnerships with cooperating associations would continue to be used to distribute resource information to the public. The BLM Arizona Strip Visitor Center and outlying visitor contact facilities (not necessarily BLM) would sell or provide free, maps, resource brochures, and safety information so that visitors would have a safe and enjoyable experience. A web site would continue to be maintained for online inquiries. 			
Parashant				
N/A	The comprehensive interpretive plan developed in the Interpretation and Environmental Education section would also include: <ul style="list-style-type: none"> Travel, orientation, and safety information, as appropriate to each TMA. A variety of driving tour route guides would be developed to enhance motorized sightseeing. 			
c. Recreation Administration Actions				
<i>i. Permits and Fees</i>				
Common to All Planning Areas				
Public input and coordination and consultation with affected Federal and State agencies would be sought prior to instituting any new permit or fee programs.				
N/A	Annual training would be provided to SRP holders concerning appropriate use ethics, such as <i>Leave No Trace</i> and <i>Tread Lightly</i> .		Appropriate land-use ethics publications and materials, such as <i>Leave No Trace</i> and <i>Tread Lightly</i> , would be provided to SRP holders.	Same as Alternatives B & C
Parashant				
N/A	BLM and NPS permitting processes would be consolidated to provide the public with a simplified procedure for obtaining permits.			

TABLE 2.14: RECREATION AND VISITOR SERVICES/ INTERPRETATION AND ENVIRONMENTAL EDUCATION				
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
III. INTERPRETATION AND EDUCATION				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning</i>				
N/A	<ul style="list-style-type: none"> • The Arizona Strip’s interpretation and environmental education program would be grounded in: <ul style="list-style-type: none"> ▪ Arizona Strip natural and cultural resources, including Monument objects in Parashant and Vermilion, ▪ Themes related to both Monuments’ purpose, significance, and mission statements and Arizona Strip FO significance and mission statements, and ▪ BLM and NPS missions and goals • The public would understand and appreciate the purposes and significance of the Monuments and their resources for this and future generations. • The public would understand the importance of natural and cultural resources in the Planning Area through interpretive, watchable wildlife, and other environmental education programs. 			
B. MANAGEMENT ACTIONS				
1. Actions to Achieve				
<i>Common to All Planning</i>				
N/A	Outreach efforts would be established, such as field institutes or elder hostels, to focus on interpretive and environmental educational niches not previously addressed.			
N/A	Visitors would be provided with environmental educational opportunities that are appropriate for each RMZ or for the ERMA, allowing them to enjoy the variety of challenges that are presented when visiting these areas.			
<i>Parashant</i>				
N/A	“Views,” a program that provides multimedia based educational experience opportunities available through visitor centers and online, would be created.			
C. ADMINISTRATIVE ACTIONS				
<i>Common to All Planning</i>				
N/A	Arizona Strip and Monument staff would seek partnerships with other state and federal agencies, educational institutions, and other organizations to enrich interpretation and environmental educational opportunities			
N/A	Outreach programs would be developed through organizations, schools, and partnerships to build emotional, intellectual, and recreational ties with the area and its cultural and natural heritage.			

TABLE 2.14: RECREATION AND VISITOR SERVICES/ INTERPRETATION AND ENVIRONMENTAL EDUCATION				
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	Education and outreach programs like <i>Tread Lightly</i> and <i>Leave No Trace</i> would continue to be supported.			
N/A	Monument and Arizona Strip staff would remain informed of changing visitor demographics to better tailor interpretive media to visitor needs and desires.			
<i>Parashant and Vermilion</i>				
N/A	Comprehensive interpretive plans (CIPs) would be completed, creating a long-range vision and basis for decision-making related to interpretation and education of the Monuments.			
N/A	<p>The CIPs would address:</p> <ul style="list-style-type: none"> • Interpretive goals, objectives, and associated management actions necessary for interpreting themes to target audiences. • Interpretive goals, objectives, and associated management actions necessary for meeting the needs of the public as identified in the Recreation Marketing Actions section of various RMZs within the SRMAs. • Interpretive publications that would need to be developed for public use. • Outreach environmental education programs (interactive computer, workshop, and classroom) that would need to be developed to enhance knowledge of natural and cultural resources and promote stewardship. • Partnerships with other state, national parks, educational institutions, and other organizations to enrich interpretation and environmental education opportunities that would need to be developed. 			

Map 2.12 Special Recreation Management Areas - Proposed Plan



**Map 2.12
Special Recreation
Management Areas (SRMA)
Proposed Plan**

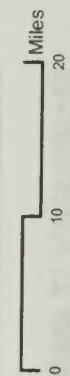
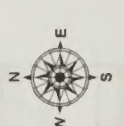


Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

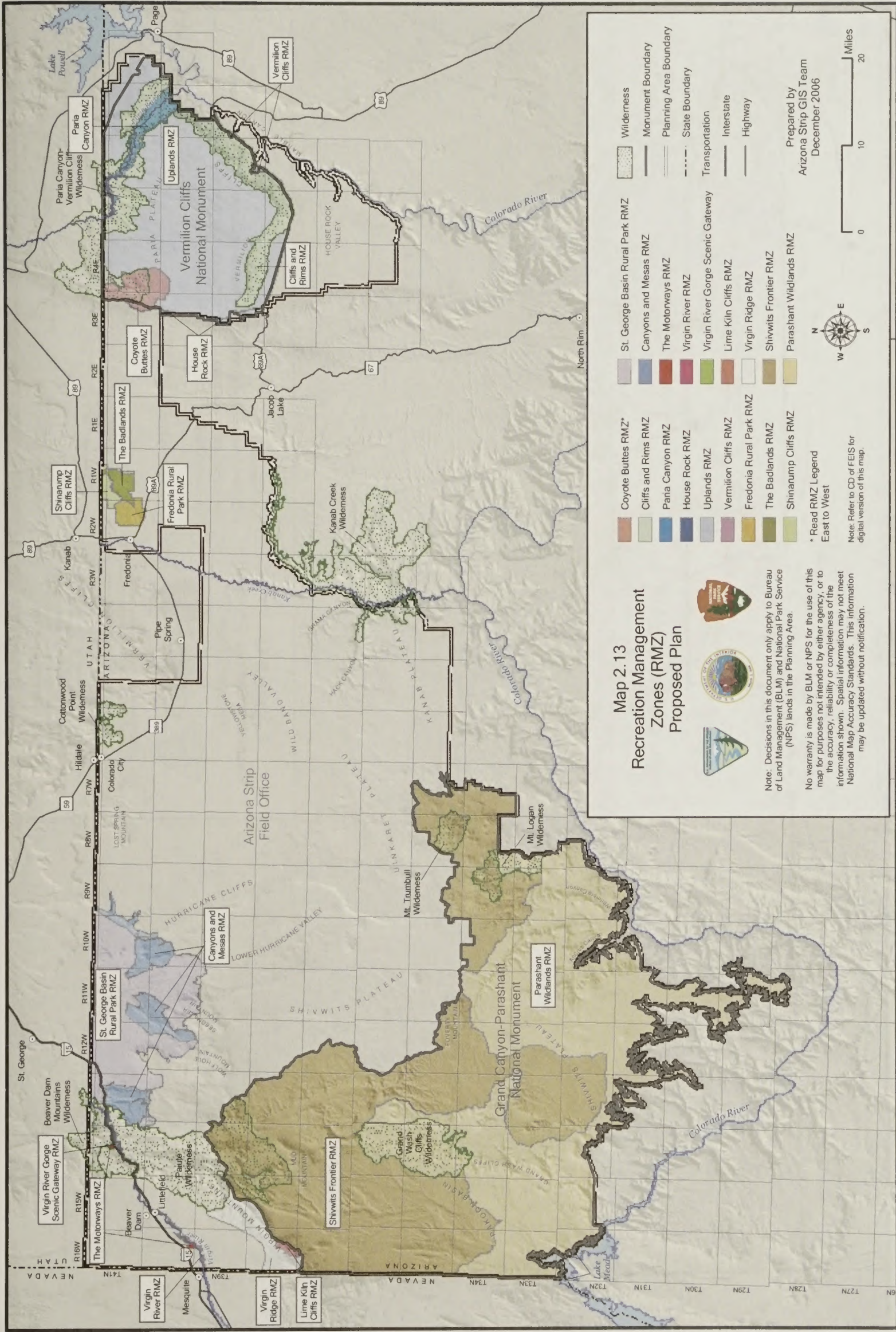
- Fredonia SRMA
- St. George Basin SRMA
- Virgin Ridge SRMA
- Virgin River SRMA
- Arizona Strip ERMA
- Sand Hills SRMA
- Paria SRMA
- Gateways SRMA
- Parashant SRMA/NPS SMA

- Wilderness
- Monument Boundary
- Planning Area Boundary
- State Boundary
- Transportation**
- Interstate
- Highway



Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for digital version of this map.



**Map 2.13
Recreation Management
Zones (RMZ)
Proposed Plan**



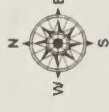
Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

- Coyote Buttes RMZ
- Cliffs and Rims RMZ
- Pana Canyon RMZ
- House Rock RMZ
- Uplands RMZ
- Vermilion Cliffs RMZ
- Fredonia Rural Park RMZ
- The Badlands RMZ
- Shinarump Cliffs RMZ
- St. George Basin Rural Park RMZ
- Canyons and Mesas RMZ
- The Motorways RMZ
- Virgin River RMZ
- Virgin River Gorge Scenic Gateway
- Lime Kin Cliffs RMZ
- Virgin Ridge RMZ
- Shivwits Frontier RMZ
- Parashant Wildlands RMZ
- Wilderness
- Monument Boundary
- Planning Area Boundary
- State Boundary
- Transportation
- Interstate
- Highway

* Read RMZ Legend East to West

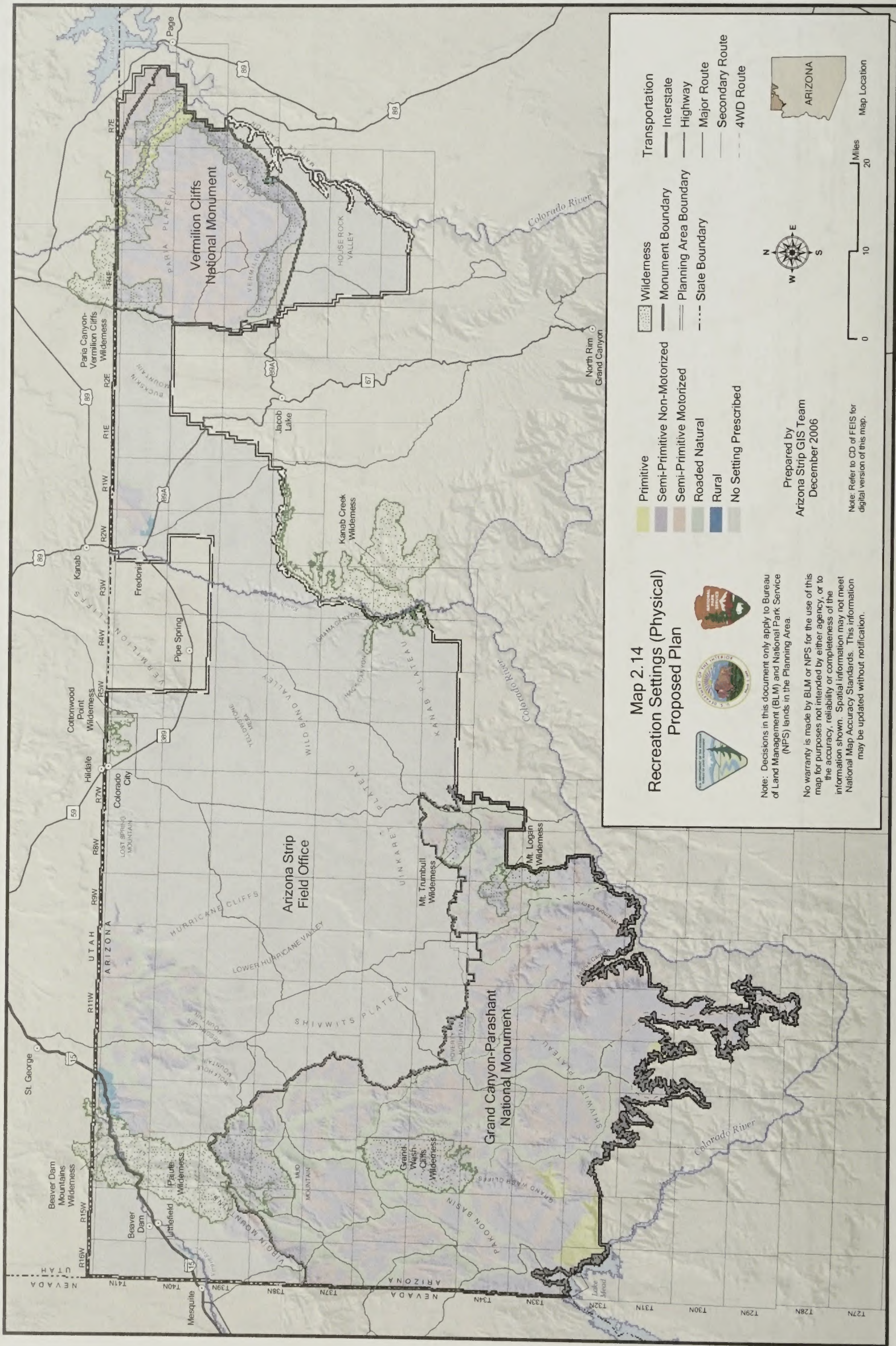
Note: Refer to CD of FEIS for digital version of this map.



Prepared by
Arizona Strip GIS Team
December 2006

Map 2.13 Recreation Management Zones - Proposed Plan

Map 2.14 Recreation Settings (Physical) - Proposed Plan



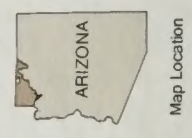
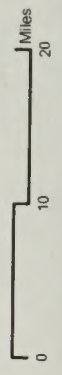
**Map 2.14
Recreation Settings (Physical)
Proposed Plan**



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

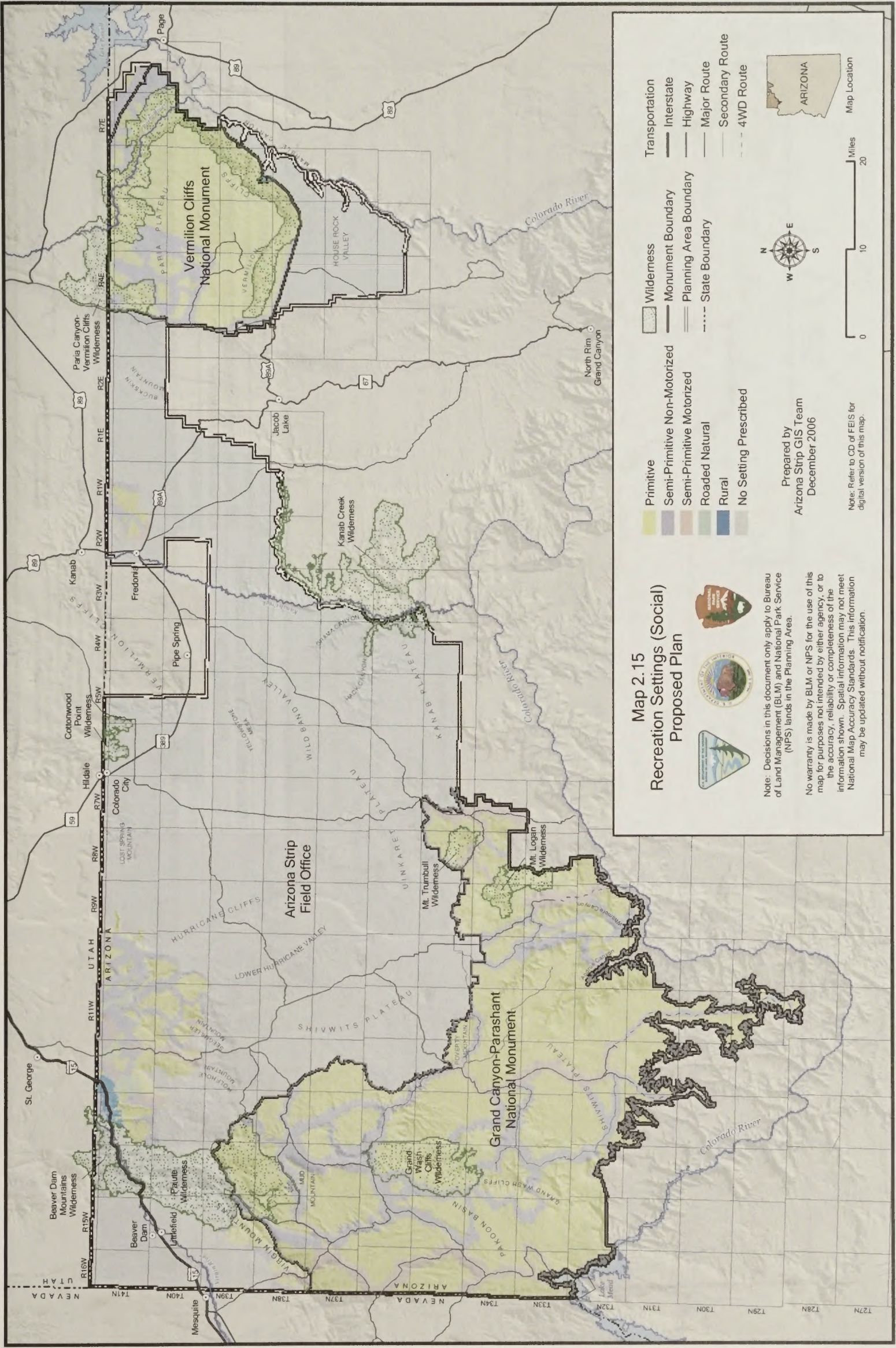
No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

- Primitive
 - Semi-Primitive Non-Motorized
 - Semi-Primitive Motorized
 - Roaded Natural
 - Rural
 - No Setting Prescribed
- Wilderness
 - Monument Boundary
 - Planning Area Boundary
 - State Boundary
- Interstate
 - Highway
 - Major Route
 - Secondary Route
 - 4WD Route



Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for digital version of this map.



**Map 2.15
Recreation Settings (Social)
Proposed Plan**



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for digital version of this map.

Map 2.15 Recreation Settings (Social) - Proposed Plan

Map 2.16 Recreation Settings (Administrative) - Proposed Plan

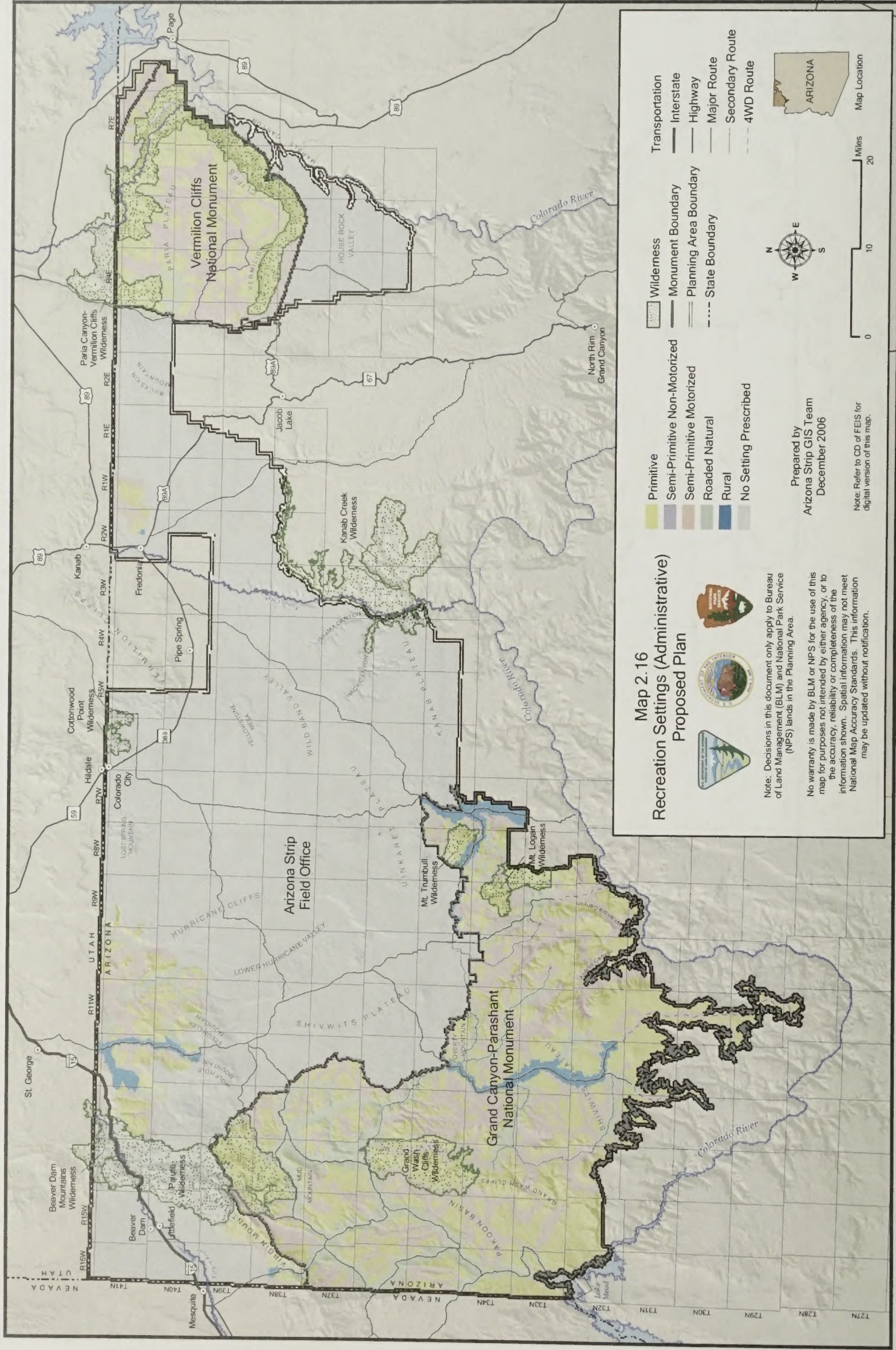


TABLE 2.14a: SPECIAL RECREATION MANAGEMENT AREA DESIRED FUTURE CONDITIONS

Parashant

A. Mount Trumbull and Parashant RCAs/SRMAs (Alternative A only)

Primary Market-Based Strategy	None defined under current management.
Recreation Management Zones	None identified under current management.
Recreation Niche	None defined under current management.
Recreation Management Objectives (Mt. Trumbull RCA/SRMA)	Recreation would be managed to meet the objectives of the RCA and ACECs. Conservation of natural and human resource values would be promoted through various means in the Mt. Trumbull RCA for the purposes of education, scientific study, and recreational opportunities. (See Mt. Trumbull RCA Plan for more specific objectives.)
Recreation Management Objectives (Parashant RCA/SRMA)	The area would be managed in coordination with the NPS Lake Mead NRA to ensure continued public use and enjoyment for a variety of recreational activities, which do not impair the natural values of the area. Visitor services would be improved related to information, interpretation, facility development and maintenance, and safety. Remote characteristics would be protected. (See Parashant RCA Plan for more specific objectives.)
Primary Activities	Recreation opportunities associated with motorized vehicle use in roaded natural settings, such as exploring backcountry roads, vehicle camping, sightseeing, picnicking, aircraft use. Recreation opportunities associated with non-motorized use in semi-primitive non-motorized settings, such as primitive camping, backpacking, hiking, horseback riding, mountain bike riding, hunting, photography.
Experiences	In roaded natural settings, there would be about equal probability to experience affiliation with other user groups and for isolation from the sights and sounds of humans. There would be opportunity to have a high degree of interaction with the natural environment. Challenge and risk opportunities associated with more primitive type of recreation would not be very important. Practice and testing of outdoor skills might be important. Opportunities for both motorized and non-motorized forms of recreation would be possible. In semi-primitive non-motorized settings, there would be a high, but not extremely high, probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility, and self-reliance through the application of woodsman and outdoor skills in an environment that offers a high degree of challenge and risk.
Benefits	None defined under current management.
Setting Character Conditions	The RCA/SRMA would be managed to provide recreation opportunities in settings generally ranging from Roaded Natural to Semi-Primitive, Non-Motorized. (see Appendix 3.H for setting descriptions.)

B. Mount Trumbull and Mount Logan Wilderness, Grand Wash Cliffs Wilderness, and Paiute Wilderness SRMAs (Alternatives A and B only)

Primary Market-Based Strategy	None defined under current management.
<i>1. No Recreation Management Zone Identified</i>	
Recreation Niche	None defined under current management.
Recreation Management Objectives	Complement wilderness management plans where appropriate - See Wilderness Section (See Mt. Trumbull/Mt. Logan Wilderness, Grand Wash Cliffs Wilderness, and Paiute-Beaver Dam Mountains Wilderness Management Plans for more specific objectives.)
Primary Activities	Recreation opportunities associated with non-motorized use such as primitive camping, backpacking, hiking, horseback riding, hunting, photography.
Experiences	Extremely high probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility, and self-reliance through the application of woodsman and outdoor skills in an environment that offers a high degree of challenge and risk.
Benefits	None defined under current management.
Setting Character Conditions	The SRMAs would be managed to provide recreation opportunities in Primitive physical, social, and administrative settings. (See Appendix 3.H for setting descriptions; see Table 2.15: Travel Management Section for decisions regarding access for administrative uses.)

C. Parashant SRMAs/NPS SMA (Alternatives C, D, & E)

Primary Market-Based Strategy	The primary strategy for the Parashant SRMA/NPS SMA would be to target a demonstrated undeveloped recreation-tourism market demand from local community and regional/national visitors for trophy hunting opportunities, guided back country tours, hiking, viewing and appreciating wildland landscapes and cultural sites, canyoneering and motorized/mechanized/non-mechanized exploring. This demand is supported by the area's distinctive remote, rugged landscape, its proximity to Grand Canyon, its vast size and the largely open and undeveloped character of its recreation settings. Regional and local recreation-tourism visitors value this area for the distinctive kinds of dispersed recreation it produces. (See Appendix 2.R for more information.)
--------------------------------------	--

1. Shivwits Frontier Recreation Management Zone

Recreation Niche	Sustainable access for scenic, natural, open-space appreciation, and exploration recreation adventure somewhat close to nearby communities.
Recreation Management Objectives	By the year 2010, this zone would be managed to produce opportunities for visitors to enjoy sustainable, multiple travel mode access to scenic, natural, open-space settings for both day and overnight recreation, providing no less than 75% of responding visitors and affected community residents at least a "moderate" realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4=total realization).
Primary Activities	Vehicle exploring, camping, hunting, hiking, viewing scenery.

Experiences	Enjoying going out exploring on my/our own; feeling good about solitude, being isolated and independent; developing your skills and abilities.
Benefits	<ul style="list-style-type: none"> • <u>Personal</u>: Improved skills for outdoor enjoyment; greater self-reliance; closer relationship with the natural world; greater sense of adventure; improved mental well-being; greater sensitivity to/awareness of outdoor aesthetics, nature's art and its elegance. • <u>Environmental</u>: Increased awareness and protection of natural landscapes. <p>The RMZ to would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for setting descriptions and Maps 2.14, 2.15, and 2.16 for setting allocations):</p> <ul style="list-style-type: none"> • <u>Physical</u>: Semi-Primitive Non-Motorized to Roaded Natural, with regard to remoteness and Primitive to Roaded Natural, with regard to naturalness and recreation facilities. • <u>Social</u>: Semi-Primitive Non-Motorized to Roaded Natural, with regard to group size; Primitive to Semi-Primitive Motorized, with regard to evidence of use and contacts. • <u>Administrative</u>: Primitive to Roaded Natural, with regard to visitor services; Primitive to Semi-Primitive Motorized, with regard to management controls; and Primitive to Rural, with regard to mechanized/motorized use (see Table 2.15: Travel Management Section for decisions regarding access for administrative uses).
2. Parashant Wildlands Recreation Management Zone	
Recreation Niche	Extreme, world class, deep wildlands exploration in remote and rugged Grand Canyon country.
Recreation Management Objectives	By the year 2010, this zone would produce opportunities for visitors to enjoy, by various travel modes, remote wildland recreation adventure in the rugged, canyons and cliffs adjacent to Grand Canyon, providing no less than 75% of responding visitors and affected community residents at least a "moderate" realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4= total realization). A separate NPS wilderness management plan would be developed to address resource conditions and visitor experience in NPS proposed wilderness areas.
Primary Activities	Hiking, backpacking, hunting, canyoneering, vehicle exploring.
Experiences	Enjoying Risk Taking Adventure; savoring the total sensory--sight, sound, and smell--experience of natural landscape.
Benefits	<ul style="list-style-type: none"> • <u>Personal</u>: Improved outdoor knowledge, skills, and self-confidence; improved appreciation of nature's splendor; enhanced sense of personal freedom; greater sensitivity to/awareness of outdoor aesthetics, nature's art and its elegance. • <u>Household & Community</u>: Increased independence/autonomy. • <u>Environmental</u>: Increased awareness and protection of natural landscapes. <p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for setting descriptions and Maps 2.14, 2.15, and 2.16 for setting allocations):</p> <ul style="list-style-type: none"> • <u>Physical</u>: Primitive to Roaded Natural, with regard to remoteness and naturalness and Primitive to Semi-Primitive Motorized, with regard to and recreation facilities.
Setting Character Conditions	

	<ul style="list-style-type: none"> • <u>Social</u>: Primitive to Semi-Primitive Motorized regard to group size, evidence of use, and contacts. • <u>Administrative</u>: Primitive to Semi-Primitive Motorized, with regard to visitor services, management controls and Primitive to Rural, with regard to mechanized/motorized use, with regard to mechanized/motorized use. (See Table 2.15: Travel Management Section for decisions regarding access for administrative uses.)
Vermilion	
D. Canyons & Plateaus of the Paria RCA/SRMA (Alternative A only)	
Primary Market-Based Strategy	None defined under current management.
I. No Recreation Management Zone Identified	
Recreation Niche	None defined under current management.
Recreation Management Objectives	Manage the RCA in a manner that would 1) ensure, through various means, continued opportunities in the Canyons and Plateaus of the Paria RCA for the public to enjoy a variety of backcountry, recreational activities, and for the possibility of scientific studies and 2) provide visitors to the Canyons and Plateaus of the Paria RCA with accurate information regarding recreation opportunities, interpretation of natural and human history, and specific rules and regulations pertaining to their use of the area.
Primary Activities	Recreation opportunities associated with non-motorized use in semi-primitive non-motorized settings, such as primitive camping, backpacking, hiking, horseback riding, hunting, and sightseeing. However, vehicle exploring and limited off-highway travel (RN) would be recognized as essential components of most activities and, while being activities in and of themselves, they would not be promoted in these areas.
Experiences	In roaded natural settings, there would be about equal probability to experience affiliation with other user groups and for isolation from the sights and sounds of humans. There would be opportunity to have a high degree of interaction with the natural environment. Challenge and risk opportunities associated with more primitive type of recreation would not be very important. Practice and testing of outdoor skills might be important. Opportunities for both motorized and non-motorized forms of recreation would be possible. In semi-primitive non-motorized settings, there would be a high, but not extremely high, probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility, and self-reliance through the application of woodsman and outdoor skills in an environment that offers a high degree of challenge and risk.
Benefits	None defined under current management.
Setting Character Conditions	The RCA/SRMA would be managed to provide recreation opportunities in settings generally ranging from Roaded Natural to Semi-Primitive, Non-Motorized. (See Appendix 3.H for setting descriptions.)

E. Paria Canyon-Vermilion Cliffs Wilderness SRMA (Alternatives A and B only)	
Primary Market-Based Strategy	None defined under current management.
1. No Recreation Management Zone Identified	
Recreation Niche	None defined under current management.
Recreation Management Objectives	Complement wilderness management plans where appropriate - See Wilderness Section. (See Paria Canyon-Vermilion Cliffs Wilderness Management Plan for more specific objectives.)
Primary Activities	Recreation opportunities associated with non-motorized use such as primitive camping, backpacking, hiking, horseback riding, hunting, photography.
Experiences	Extremely high probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility, and self-reliance through the application of woodsman and outdoor skills in an environment that offers a high degree of challenge and risk.
Benefits	None defined under current management.
Setting Character Conditions	The SRMAs would be managed to provide recreation opportunities in Primitive physical, social, and administrative settings. (See Appendix 3.H for setting descriptions.)
F. Gateways SRMA (Alternatives C, D, & E)	
Primary Market-Based Strategy	The primary strategy for Gateways SRMA would be to target a demonstrated destination recreation-tourism market demand from regional, national and international visitors for viewing spectacular geology, driving an Arizona State Scenic Road, viewing natural/cultural sites and exhibits, viewing California Condors, and hiking. This demand is supported by the area's distinctive pathways through a spectacular Northern Arizona landscape of scenic and historic values; its connectivity to other world-class sites (Grand Canyon, GSENM, Lees Ferry); and its potential for interpretive facility development by partnering with local recreation providers. Recreation-tourism visitors, ranging from local to international, highly value these public lands as recreation-tourism destinations. (See Appendix 2.R for more info.)
1. Vermilion Cliffs RMZ	
Recreation Niche	Old scenic highway driving and roadside access to interpretation.
Recreation Management Objectives	By the year 2010, manage this zone to produce opportunities for visitors to enjoy scenic highway driving and roadside natural/cultural history appreciation and education-type recreation, providing no less than 75% of responding visitors and affected community residents at least a "moderate" realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4=total realization).
Primary Activities	Viewing scenic vistas, historic sites, and interpretive exhibits, driving for pleasure.
Experiences	Feeling good about the way our cultural heritage is being protected; enjoying easy access to natural landscapes.
Benefits	<ul style="list-style-type: none"> • <u>Personal</u>: Greater respect for my own cultural heritage; diminished mental anxiety; increased appreciation of the area's cultural history; greater awareness that this is a special place. • <u>Household & Community</u>: Greater community involvement in recreation and other land-use decisions. • <u>Economic</u>: Increased local tourism revenue; maintenance of community's distinctive recreation-tourism market niche.

	<p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations.):</p> <ul style="list-style-type: none"> • <u>Physical</u>: Rural, with regard to remoteness; Roaded Natural, with regard to naturalness; and Roaded Natural to Rural, with regard to recreation facilities. • <u>Social</u>: Semi-Primitive Non-Motorized to Roaded Natural, with regard to group size; Semi-Primitive Motorized to Roaded Natural, with regard to contacts; and Rural, with regard to evidence of use. • <u>Administrative</u>: Rural, with regard to visitor services and mechanized/motorized use and Roaded Natural, with regard to management controls (see Table 2.15: Travel Management Section for decisions on administrative use access).
2. House Rock RMZ	
Recreation Niche	Scenic backroads driving with access to interpretation, wildlife viewing, and hiking.
Recreation Management Objectives	By the year 2010, manage this zone to produce opportunities for visitors to enjoy “back road” driving, roadside natural/cultural history interpretation, hiking, and wildlife viewing opportunities, providing no less than 75% of responding visitors and affected community residents at least a “moderate” realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4=total realization).
Primary Activities	Visiting scenic vistas, historic sites, interpretive exhibits, and wildlife, including California Condors, driving for pleasure, and hiking.
Experiences	Enjoying access to environmental learning; savoring the natural landscape.
Benefits	<ul style="list-style-type: none"> • <u>Personal</u>: Improved sense of personal responsibility for acting responsible on public lands; improved appreciation of nature’s splendor; improved outdoor stewardship ethic. • <u>Household & Community</u>: Maintenance of community’s distinctive recreation-tourism market niche; enlarged sense of community dependency on public lands. • <u>Environmental</u>: Greater protection of wildlife and plant habitat; increased awareness and protection of natural landscapes; improved soil, air, and water quality.
	The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations):
Setting Character Conditions	<ul style="list-style-type: none"> • <u>Physical</u>: Roaded Natural, with regard to remoteness and Semi-Primitive Motorized to Roaded Natural, with regard to naturalness and recreation facilities. • <u>Social</u>: Semi-Primitive Non-Motorized to Semi-Primitive Motorized, with regard to group size; Semi-Primitive Non-Motorized, with regard to contacts; and Semi-Primitive Motorized to Roaded Natural, with regard to evidence of use. • <u>Administrative</u>: Semi-Primitive Motorized to Roaded Natural, with regard to visitor services; Rural, with regard to mechanized/motorized use; and Roaded Natural, with regard to management controls (see Table 2.15: Travel Management Section for decisions regarding access for administrative uses).

G. Sand Hills SRMA (Alternatives C, D, & E)

The primary strategy for the Sand Hills SRMA would be to target a demonstrated undeveloped recreation-tourism market demand from local community and regional/national visitors for hunting opportunities, guided back country tours, hiking, viewing and appreciating wildland landscapes, and motorized/mechanized/non-mechanized exploring. This demand is supported by the area's distinctive remote, rugged landscape, its vast size, and the largely open, undeveloped character of its recreation settings. Regional and local recreation-tourism visitors value this area for the distinctive kinds of dispersed recreation it produces. (See Appendix 2.R for more information.)

1. The Uplands RMZ	
Recreation Niche	Self-directed motorized recreation with access to non-motorized opportunities.
Recreation Management Objectives	By the year 2012, manage this zone to produce limited and sustainable motorized access for visitors to enjoy day-use adventure activities in natural, scenic landscapes along structured travel routes and areas, accessing non-motorized exploration and challenge recreation in an urban back-yard setting of colorful sandstone abutting the wilderness, providing no less than 75% of responding visitors and affected community residents at least a "moderate" realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4= total realization).
Primary Activities	Off-highway adventure driving and exploring.
Experiences	Developing skills and abilities; enjoying going exploring on my/our own.
Benefits	<ul style="list-style-type: none"> <i>Personal:</i> Enhanced sense of personal freedom; greater self-reliance; increased adaptability; greater environmental awareness and sensitivity; enlarged sense of personal accountability for acting responsibly on public lands; a more outdoor oriented lifestyle. <i>Household & Community:</i> Heightened sense of satisfaction with my community; increased work productivity; greater community involvement in other land-use decisions. <i>Environmental:</i> Improved understanding of this/our community's dependence and impacts on public land.
Setting Character Conditions	<p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations.):</p> <ul style="list-style-type: none"> <i>Physical:</i> Semi-Primitive Non-Motorized to Roaded Natural, with regard to remoteness and naturalness and Primitive to Semi-Primitive Non-Motorized, with regard to recreation facilities. <i>Social:</i> Primitive to Roaded Natural, with regard to group size; Primitive to Semi-Primitive Non-Motorized, with regard to contacts; and Semi-Primitive Motorized, with regard to evidence of use. <i>Administrative:</i> Semi-Primitive Non-Motorized to Semi-Primitive Motorized, with regard to visitor services and management controls and Primitive to Roaded Natural, with regard to mechanized/motorized use (See Table 2.15: Travel Management Section for decisions regarding access for administrative uses).
2. Cliffs & Rims RMZ	
Recreation Niche	Self-directed, non-motorized access for remote, primitive adventure.
Recreation Management	By the year 2012, manage this zone to produce opportunities for local/regional visitors to enjoy primitive-mode recreation

Objectives	<p>adventure through natural-appearing shallow valleys and sandstone mesas, pinnacles, and slick rock erosion features, providing no less than 75% of responding visitors and affected community residents at least a “moderate” realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4= total realization). Other management objectives would continue to be established through the Paria Canyon-Vermilion Cliffs Wilderness Management plan, as amended by this Plan.</p>
Primary Activities	<p>Hiking, scrambling, hunting, and rock climbing.</p>
Experiences	<p>Enjoying risk-taking adventure; enjoying strenuous physical exercise.</p>
Benefits	<ul style="list-style-type: none"> • <i>Personal:</i> Improved outdoor recreation skills; improved muscle strength; improved cardiovascular health; improved teamwork and cooperation; a more holistic sense of wellness. • <i>Household & Community:</i> Better sense of place within my community. • <i>Economic:</i> Reduced health maintenance costs/
Setting Character Conditions	<p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations):</p> <ul style="list-style-type: none"> • <i>Physical:</i> Primitive to Roaded Natural, with regard to remoteness; Primitive to Semi-Primitive Non-Motorized, with regard to naturalness; and Primitive to Semi-Primitive Motorized, with regard to recreation facilities. • <i>Social:</i> Semi-Primitive Non-Motorized, with regard to group size and evidence of use and Primitive to Semi-Primitive Non-Motorized, with regard to contacts. • <i>Administrative:</i> Semi-Primitive Non-Motorized, with regard to visitor services; Primitive to Semi-Primitive Non-Motorized, with regard to management controls; and Primitive, with regard to mechanized/motorized use (See Table 2.15: Travel Management Section for decisions regarding access for administrative uses).
H. Paria SRMA (Alternatives C, D, & E)	
Primary Market-Based Strategy	<p>The primary strategy for the Paria SRMA would be to target a demonstrated destination recreation-tourism market demand from community resident, regional, national, and international visitors for viewing unique geology and enjoying world class slot canyon backpacking and hiking. This demand is supported by the area’s distinctive landscape of spectacular geology and scenery, challenging terrain, and its connectivity to other world-class sites (GSENM, Glen Canyon NRA, Kanab FO). Recreation-tourism visitors, ranging from local to international, highly value these public lands as recreation-tourism destinations. (See Appendix 2.R for more information.)</p>
I. Coyote Buttes RMZ	
Recreation Niche	<p>International adventure tourism.</p>
Recreation Management Objectives	<p>By the year 2008, manage this zone to produce opportunities for visitors to enjoy rugged, world-class, day-hiking adventure in a spectacular geologic showcase of colorful cliffs and eroded formations, while preserving it’s rustic character, providing no less than 75% of responding visitors and affected community residents at least a “moderate” realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4= total</p>

	<p>realization). Other management objectives would continue to be established through the Paria Canyon-Vermilion Cliffs Wilderness Management plan, as amended by this Plan.</p>
Primary Activities	Hiking and scrambling; viewing and photographing scenic vistas.
Experiences	Enjoying the artistic expression of nature; escaping everyday responsibilities for awhile.
Benefits	<ul style="list-style-type: none"> • <u>Personal</u>: Increased capacity for artistic expression; restored mind from unwanted stress; greater sensitivity to/awareness of outdoor aesthetics—natures art and elegance. • <u>Household & Community</u>: Improved physical fitness and health maintenance; maintenance of community's distinctive recreation tourism market. • <u>Economic</u>: Reduced health maintenance costs. • <u>Environmental</u>: Increased awareness and protection of natural landscapes.
Setting Character Conditions	<p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations.):</p> <ul style="list-style-type: none"> • <u>Physical</u>: Semi-Primitive Non-Motorized to Roaded Natural, with regard to remoteness; Primitive to Semi-Primitive Motorized, with regard to naturalness, Primitive to Roaded Natural, with regard to recreation facilities. • <u>Social</u>: Primitive to Semi-Primitive Non-Motorized with regard to group sizes and evidence of use and Primitive to Semi-Primitive Non-Motorized with regard to contacts. • <u>Administrative</u>: Primitive to Roaded Natural, with regard to visitor services and mechanized/motorized use and Semi-Primitive Motorized to Rural, with regard to management controls (see Table 2.15: Travel Management Section for decisions regarding access for administrative uses).
2. Paria Canyon RMZ	
Recreation Niche	World-class wilderness trekking adventure.
Recreation Management Objectives	<p>By the year 2008, manage this zone to produce opportunities for visitors to enjoy world-class, long-distance wilderness trekking in a spectacular geologic showcase of colorful, deep canyons, cliffs and narrow slots, while preserving its wilderness character, providing no less than 75% of responding visitors and affected community residents at least a "moderate" realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4=total realization).</p> <p>Other management objectives would continue to be established through the Paria Canyon-Vermilion Cliffs Wilderness Management plan as amended by this Plan.</p>
Primary Activities	Hiking, backpacking, viewing scenic vistas.
Experiences	Enjoying risk-taking adventure; feeling good about solitude, being isolated, and independent.
Benefits	<ul style="list-style-type: none"> • <u>Personal</u>: Improved outdoor knowledge, skills, and self-confidence; enhanced sense of personal freedom and awareness; greater appreciation for my wildland/parkland heritage and how managers care for it; greater sense of independence. • <u>Household & Community</u>: Enlarged sense of community dependency on public lands.

	<ul style="list-style-type: none"> <i>Environmental</i>: maintenance of distinctive recreation setting character. <p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations):</p> <ul style="list-style-type: none"> <i>Physical</i>: Primitive to Semi-Primitive Non-Motorized, with regard to naturalness and Primitive, with regard to recreation facilities and remoteness. <i>Social</i>: Primitive to Semi-Primitive Motorized with regard to group size and Primitive to Semi-Primitive Non-Motorized with regard to contacts and evidence of use. <i>Administrative</i>: Semi-Primitive Non-Motorized to Roaded Natural, with regard to visitor services; Semi-Primitive Non-Motorized to Rural, with regard to management controls; and Primitive, with regard to mechanized/motorized use (see Table 2.15: Travel Management Section for decisions regarding access for administrative uses).
Arizona Strip FO	
A. Mount Trumbull RCA/SRMA (Alternative A only)	
See DFCs for this SRMA in the discussion under Parashant (table Section A above).	
B. Canyons & Plateaus of the Paria RCA/SRMA (Alternative A only)	
See DFCs for this SRMA in the discussion under Vermilion (table Section D above).	
C. Virgin River Corridor ACEC/SRMA (Alternative A only)	
Primary Market-Based Strategy	Primary Market-Based Strategy
I. No Recreation Management Zone (RMZ) Identified	
Recreation Niche	None defined under current management.
Recreation Management Objectives	Recreation would be managed to meet the objectives of the ACEC. Ensure greater recreation emphasis and investment. Provide a variety of visitor uses in the Virgin River Campground and surrounding areas including longer term visitor use, tent and self-contained camping, river running and recreation and wilderness use.
Primary Activities	River floating, viewing wildlife, geology, hiking, camping
Experiences	In rural settings, chances of experiencing affiliation with individuals and groups would be common, as would convenience of sites and opportunities. This would generally be more important than physical environment setting. Opportunities for wildland challenges, risk-taking/testing of outdoor skills would generally be unimportant except for specific activities like competitive/spectator events. In roaded natural settings, there would be about equal chance to experience affiliation with other user groups and isolation from human sights and sounds. There would be opportunity for a high degree of interaction with natural environment. Challenge/risk opportunities associated with more primitive recreation would not be important. Practice/testing outdoor skills might be important. Opportunities for both motorized and non-motorized recreation possible.
Benefits	None defined under current management.
Setting Character Conditions	The SRMA would be managed to provide recreation opportunities ranging from Roaded Natural to Rural settings. (See Appendix 3.H for setting descriptions.)

D. Little Black Mountain ACEC/ SRMA (Alternative A only)	
Primary Market-Based Strategy	None defined under current management.
<i>I. No Recreation Management Zone Identified</i>	
Recreation Niche	None defined under current management.
Recreation Management Objectives	Recreation would be managed to meet the objectives of the Cultural ACEC. Ensure greater recreation emphasis and investment. This site would be targeted for public involvement in research, interpretation, and tours.
Primary Activities	Viewing cultural sites.
Experiences	None defined under current management.
Benefits	None defined under current management.
Setting Character Conditions	None defined under current management.
E. Paiute Wilderness and Beaver Dam Mountains Wilderness, Cottonwood Point Wilderness, and Kanab Creek Wilderness SRMAs (Alternatives A & B)	
Primary Market-Based Strategy	None defined under current management.
<i>I. No Recreation Management Zone (RMZ) Identified</i>	
Recreation Niche	None defined under current management.
Recreation Management Objectives	Complement wilderness management plans where appropriate - See Wilderness Section (See Paiute-Beaver Dam Mountains and Cottonwood Point Wilderness Management Plans for more specific objectives.)
Primary Activities	Recreation opportunities associated with non-motorized use such as primitive camping, backpacking, hiking, horseback riding, hunting, photography.
Experiences	Extremely high probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility, and self-reliance through the application of woodsman and outdoor skills in an environment that offers a high degree of challenge and risk.
Benefits	None defined under current management.
Setting Character Conditions	The SRMAs would be managed to provide recreation opportunities in Primitive physical, social, and administrative settings. (See Appendix 3.H for setting descriptions; see Table 2.15: Travel Management Section for decisions regarding access for administrative uses.)
F. St. George Basin SRMA (Alternatives C, D, & E)	
Primary Market-Based Strategy	The primary strategy for the St. George Basin SRMA would be to target a demonstrated community recreation-tourism market demand from primarily local communities (dependent on public lands recreation and/or related tourism use, growth, and/or development), as well as some other seasonal regional visitors, for motorized/mechanized/non-mechanized exploring, technical sports, fitness activities, guided tours, sightseeing, equestrian, hiking, competitive and organized events, viewing and appreciating natural landscapes and cultural sites. This demand is supported by the area's distinctive

	<p>landscape, warm winters, and its close proximity to the rapidly growing communities of St. George, Santa Clara, Middleton, Washington, Hurricane, and Toquerville, Utah. Local recreation-tourism visitors value these public lands as their own 'back-yard' recreation settings. (See Appendix 2.R for more information.)</p>
1. St. George Basin Rural Park RMZ	
Recreation Niche	<p>Quick, easy access from town to sustainable day-use adventure, challenge, exercise, social, and outdoor recreation.</p>
Recreation Management Objectives	<p>By the year 2011, manage this zone to produce close-to-town opportunities for community residents and seasonal, regional visitors to enjoy directed day-use adventure activities in natural, scenic landscapes along structured travel routes and areas, providing no less than 75% of responding visitors and affected community residents at least a "moderate" realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4=total realization).</p>
Primary Activities	<p>Exploring activities (i.e., <i>OHV driving, ATV and motorcycle riding, equestrian, hiking</i>); personal challenge activities (i.e., <i>rock climbing, rock crawling, mountain biking, competitive events</i>); social activities (i.e., <i>organized group/family events</i>); and fitness activities (i.e., <i>walking, running, hiking</i>).</p>
Experiences	<p>Enjoying going exploring on my/our own; enjoying having easy access to natural landscapes; developing your skills and abilities; enjoying getting some needed physical exercise; enjoying participating in group outdoor events; enjoying having access to close-to-home outdoor amenities.</p>
Benefits	<ul style="list-style-type: none"> • <u>Personal</u>: Greater freedom from urban living; Improved appreciation of nature's splendor; Improved understanding of how this community's rural-urban interface impacts its quality of life; Improved skills for outdoor enjoyment; Improved physical fitness and health maintenance; Greater self-reliance; Restored mind from unwanted stress; Improved mental well-being; stronger ties with my family and friends. • <u>Household & Community</u>: Increased nurturance of others; Improved functioning of individuals in family and community. • <u>Economic</u>: Reduced health maintenance costs. • <u>Environmental</u>: Increased awareness and protection of natural landscapes.
Setting Character Conditions	<p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations):</p> <ul style="list-style-type: none"> • <u>Physical</u>: Semi-Primitive Non-Motorized to Rural, with regard to remoteness; Semi-Primitive Motorized to Rural, with regard to recreation facilities; and Semi-Primitive Non-Motorized to Roaded Natural, regarding naturalness. • <u>Social</u>: Semi-Primitive Motorized to Rural, with regard to group size and evidence of use; Primitive to Rural, with regard to contacts; portions may spike to Urban-like settings during special use activities. • <u>Administrative</u>: Rural, with regard to visitor services; Semi-Primitive Motorized to Roaded Natural, with regard to management controls; and Primitive to Urban, with regard to mechanized/motorized use. May spike to Urban-like management controls during special use activities or for protection of listed species. (See Table 2.15: Travel Management Section for decisions regarding access for administrative uses.)

2. Canyons and Mesas RMZ	
Recreation Niche	Self-directed, primitive, adventure in a natural setting close to town.
Recreation Management Objectives	By the year 2011, manage this zone to produce close-to-town recreation opportunities for community resident and regional visitors to enjoy self-directed, primitive day-use adventure in rugged, trackless canyons, cliffs, bajadas, and mesas, providing no less than 75% of responding visitors and affected community residents at least a “moderate” realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4= total realization).
Primary Activities	Hiking, equestrian, hunting, viewing nature.
Experiences	Enjoying going exploring on my/our own; enjoying having easy access to natural landscapes; feeling good about solitude, being isolated, and independent.
Benefits	<ul style="list-style-type: none"> • <u>Personal</u>: Greater freedom from urban living; improved appreciation of nature’s splendor; closer relationship with the natural world. • <u>Household & Community</u>: Greater appreciation for my wildland/parkland heritage and how managers care for it; Enlarged sense of community dependency on public lands. • <u>Environmental</u>: Increased awareness and protection of natural landscapes.
Setting Character Conditions	<p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations):</p> <ul style="list-style-type: none"> • <u>Physical</u>: Semi-Primitive Non-Motorized to Rural, with regard to remoteness; Primitive to Semi-Primitive Non-Motorized, with regard to naturalness; and Primitive to Semi-Primitive Motorized with regard to recreation facilities. • <u>Social</u>: Primitive to Semi-Primitive Non-Motorized, with regard to group size and evidence of use and Primitive to Rural, with regard to contacts. • <u>Administrative</u>: Semi-Primitive Non-Motorized to Routed Natural, with regard to visitor services; Semi-Primitive Non-Motorized to Semi-Primitive Motorized, with regard to management controls; and Primitive to Urban, with regard to mechanized/motorized use. (See Table 2.15: Travel Management Section for decisions regarding access for administrative uses.)
G. Virgin River SRMA (Alternatives C, D, & E)	
Primary Market-Based Strategy	The primary strategy for the Virgin River SRMA would be to target a demonstrated destination recreation-tourism market demand from mainly local community residents and regional visitors for day-use and overnight hiking, family outings, rock climbing, school group field outings, and white water activities. Similarly, there is market demand from local, regional, and national visitors for sightseeing, appreciation of geologic resources, rest from travel and escaping the cold winter weather of other locations. This demand is supported by the area’s distinctive location along high traffic volume Interstate Highway 15, its place in the Grand Canyon-like landscape of Virgin River Gorge, and ease of access for day and overnight recreation. National, regional, and local recreation-tourism visitors value these public lands as recreation-tourism destinations. (See Appendix 2.R for more information.)

1. Virgin River RMZ	
Recreation Niche	Group-oriented white-water and climbing adventures amidst rugged and stunning geologic features.
Recreation Management Objectives	By the year 2010, manage this zone to produce opportunities for visitors to enjoy white-water boating adventure for social group affiliation, water-play for family affiliation, and challenging rock climbing within a naturally-appearing 'mini Grand Canyon' landscape, providing no less than 75% of responding visitors and affected community residents at least a "moderate" realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4=total realization).
Primary Activities	Kayaking, river floating, water play, viewing geology, rock climbing.
Experiences	Enjoying the closeness of friends and family; participating in group outdoor events and strenuous physical exercise.
Benefits	<ul style="list-style-type: none"> • <u>Personal</u>: Greater personal enrichment through involvement with other people; confirmation/development of my own values; improved muscle strength; improved cardiovascular health; a more holistic sense of wellness. • <u>Household & Community</u>: Stronger ties with my family and friends. • <u>Economic</u>: Reduced health maintenance costs.
Setting Character Conditions	<p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations):</p> <ul style="list-style-type: none"> • <u>Physical</u>: Semi-Primitive Non-Motorized to Rural, with regard to remoteness; Primitive to Roaded Natural, with regard to naturalness; and Semi-Primitive Non-Motorized to Roaded Natural, with regard to recreation facilities. • <u>Social</u>: Semi-Primitive Motorized to Roaded Natural, with regard to group size; Primitive to Rural, with regard to contacts; and Primitive to Semi-Primitive Non-Motorized, with regard to evidence of use. • <u>Administrative</u>: Semi-Primitive Non-Motorized to Roaded Natural, with regard to visitor services; Semi-Primitive Non-Motorized to Semi-Primitive Motorized, with regard to management controls; and Primitive to Urban, with regard to mechanized/ motorized uses (See Table 2.15: Travel Management for decisions regarding administrative uses).
2. Virgin River Gorge Scenic Gateway RMZ	
Recreation Niche	Self-sustaining, recreation gateway between the Colorado Plateau and Basin and Range regions, nestled within a 'Grand Canyon-like' landscape.
Recreation Management Objectives	By the year 2010, manage this zone to produce safe day-use and overnight opportunities for community residents and regional and national travelers passing through the Virgin River Gorge to appreciate geologic and riparian resources and structured environmental education within a stunning gateway between geologic provinces, providing no less than 75% of responding visitors and affected community residents at least a "moderate" realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4=total realization).
Primary Activities	Camping, picnicking, nature study, viewing geology, hiking, walking, viewing education presentations, group events.
Experiences	Savoring the total sensory—sight, sound, and smell—experience of a natural landscape; Learning more about things here; Enjoying the closeness of friends and family; Enjoying participating in group outdoor events.

<p>Benefits</p>	<ul style="list-style-type: none"> • <u>Personal</u>: Improved appreciation of nature’s splendor; greater sensitivity to/awareness of outdoor aesthetics, nature’s art and its elegance; greater personal enrichment through involvement with other people; confirmation/development of my own values. • <u>Household & Community</u>: Stronger ties with my family and friends. • <u>Environmental</u>: Increased awareness and protection of natural landscapes.
<p>Setting Character Conditions</p>	<p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations):</p> <ul style="list-style-type: none"> • <u>Physical</u>: Rural, with regard to remoteness and recreation facilities and Routed Natural, with regard to naturalness. • <u>Social</u>: Primitive to Semi-Primitive Motorized, with regard to group size---frequently spiking to Urban for group activities; Routed Natural, with regard to contacts; and Routed Natural to Rural, with regard to evidence of use. • <u>Administrative</u>: Routed Natural to Urban, with regard to visitor services; Rural to Urban, with regard to mechanized/motorized uses; and Routed Natural to Rural, with regard to management controls (see Table 2.15: Travel Management Section for decisions regarding access for administrative uses).
<p>3. The Motorways RMZ</p>	
<p>Recreation Niche</p>	<p>Interpretive respites for travelers at pull-out sites along primary highways.</p>
<p>Recreation Management Objectives</p>	<p>By the year 2015, collaborating with ADOT and Mohave County, manage this zone to produce safe day-use opportunities for primarily regional and national travelers along Interstate Highway 15 and community residents along Old Highway 91 to enjoy roadside access to geologic and riparian resource appreciation and education recreation, providing no less than 75% of responding visitors and affected community residents at least a “moderate” realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4=total realization).</p>
<p>Primary Activities</p>	<p>Viewing geology, viewing wildlife, viewing nature, viewing roadside exhibits.</p>
<p>Experiences</p>	<p>Learning more about things here; releasing or reducing some built-up mental tensions.</p>
<p>Benefits</p>	<ul style="list-style-type: none"> • <u>Personal</u>: Enhanced awareness and understanding of nature; closer relationship with the natural world; restored body from fatigue; diminished mental anxiety. • <u>Household & Community</u>: Increased compassion for others. • <u>Environmental</u>: Increased awareness and protection of natural landscapes.
<p>Setting Character Conditions</p>	<p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations):</p> <ul style="list-style-type: none"> • <u>Physical</u>: Semi-Primitive Non-Motorized to Rural, with regard to remoteness; Routed Natural to Rural, with regard to naturalness; and Semi-Primitive Motorized to Routed Natural, with regard to recreation facilities. • <u>Social</u>: Primitive to Semi-Primitive Motorized, with regard to group size; Primitive to Rural, with regard to contacts; and Routed Natural to Rural, with regard to evidence of use. • <u>Administrative</u>: Routed Natural, with regard to visitor services; Semi-Primitive Non-Motorized to Semi-Primitive Motorized, with regard to management controls; and Primitive to Urban, with regard to mechanized/motorized uses.

(See Table 2.15: Travel Management Section for decisions regarding access for administrative uses.)	
H. Virgin Ridge SRMA (Alternatives D, & E)	
Primary Market-Based Strategy	The primary strategy for the Virgin Ridge SRMA would be to target a demonstrated community recreation-tourism market demand from primarily local communities (dependent on public lands recreation and/or related tourism use, growth, and/or development), as well as some other regional visitors, for motorized/mechanized/non-mechanized exploring, world-class rock climbing, and guided touring in close-to-town natural settings. This demand is supported by the area's distinctive landscape, its close proximity to the rapidly growing communities of Mesquite, Bunkerville, Logandale, and Overton, NV and Beaver Dam, Scenic and Littlefield, AZ. Local recreation-tourism visitors value these public lands as their own 'back-yard' recreation settings. (See Appendix 2.R for more information.)
1. Lime Kiln Cliffs RMZ	
Recreation Niche	Close-to-town world class rock climbing in a natural setting.
Recreation Management Objectives	By the year 2009, manage this zone to produce opportunities for visitors to enjoy easy-to-access, world class rock climbing, providing no less than 75% of responding visitors and affected community residents at least a "moderate" realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4=total realization).
Primary Activities	Rock climbing (sport climbing on bolted routes).
Experiences	Enjoying risk taking adventure; enjoying strenuous physical exercise.
Benefits	<ul style="list-style-type: none"> • <u>Personal</u>: Enhanced sense of personal freedom and awareness; improved outdoor knowledge, skills, and self-confidence; improved muscle strength; improved cardiovascular health; a more holistic sense of wellness. • <u>Household & Community</u>: Greater sense of independence. • <u>Economic</u>: Reduced health maintenance costs.
Setting Character Conditions	<p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations):</p> <ul style="list-style-type: none"> • <u>Physical</u>: Semi-Primitive Non-Motorized to Roaded Natural, with regard to remoteness; Semi-Primitive Non-Motorized to Semi-Primitive Motorized, with regard to naturalness and recreation facilities. • <u>Social</u>: Primitive to Semi-Primitive Motorized, with regard to group size and contacts and Primitive to Semi-Primitive Non-Motorized, with regard to evidence of use. • <u>Administrative</u>: Semi-Primitive Non-Motorized, with regard to visitor services; Semi-Primitive Non-Motorized to Semi-Primitive Motorized, with regard to management controls; and Primitive to Roaded Natural, with regard to mechanized/motorized uses. (See Table 2.15: Travel Management for administrative use access.)

2. Virgin Ridge RMZ	
Recreation Niche	Self-directed, rugged, adventure in a natural setting close to town with opportunities for scenic, natural and historic appreciation.
Recreation Management Objectives	By the year 2009, manage this “close-to-town” zone to produce close-to-town recreation opportunities for community resident and regional visitors to enjoy self-directed, day and overnight adventure recreation in natural settings, providing no less than 75% of responding visitors and affected community residents at least a “moderate” realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4= total realization) to enjoy “close-to-home” access to sustainable day/overnight, motorized/mechanized adventure.
Primary Activities	Hiking, scrambling, equestrian, hunting, OHV exploring, mountain bike riding.
Experiences	Enjoying risk-taking adventure; feeling good about solitude, being isolated, and independent; developing skills and abilities; enjoying going exploring on my/our own.
Benefits	<ul style="list-style-type: none"> • <i>Personal:</i> Improved outdoor knowledge, skills, and self-confidence; enhanced sense of personal freedom and awareness; greater sense of independence; closer relationship with the natural world; enhanced sense of personal freedom; greater self-reliance; enlarged sense of personal accountability for acting responsibly on public lands; a more outdoor oriented lifestyle. • <i>Household & Community:</i> Greater appreciation for my wildland/parkland heritage and how managers care for it; enlarged sense of community dependency on public lands; increased work productivity. • <i>Environmental:</i> Improved understanding of this/our community’s dependence and impacts on public land.
Setting Character Conditions	<p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations):</p> <ul style="list-style-type: none"> • <i>Physical:</i> Semi-Primitive Non-Motorized to Roaded Natural, with regard to remoteness; Semi-Primitive Non-Motorized to Semi-Primitive Motorized, with regard to naturalness and recreation facilities. • <i>Social:</i> Primitive to Semi-Primitive Non-Motorized, with regard to group size; Primitive to Semi-Primitive Motorized, with regard to contacts; and Primitive to Semi-Primitive Non-Motorized, with regard to evidence of use. • <i>Administrative:</i> Semi-Primitive Non-Motorized, with regard to visitor services; Semi-Primitive Non-Motorized to Semi-Primitive Motorized, with regard to management controls; and Primitive to Roaded Natural, with regard to mechanized/motorized uses. (See Table 2.15: Travel Management for administrative use access.)
1. Fredonia SRMA (Alternatives D, & E)	
Primary Market-Based Strategy	The primary strategy for the Fredonia SRMA would be to target a demonstrated community recreation-tourism market demand from primarily local communities (dependent on public lands recreation and/or related tourism use, growth, and/or development), as well as some regional visitors, for motorized/mechanized/non-mechanized exploring, managed target shooting, fitness activities, sightseeing, equestrian, hiking, competitive and organized events, viewing and appreciating natural landscapes and cultural sites. This demand is supported by the area’s distinctive landscape and its

	close proximity to the communities of Fredonia, AZ and Kanab, Utah, local recreation-tourism visitors value these public lands as their own 'back-yard' recreation settings. (See Appendix 2.R for more information.)
1. Fredonia Rural Park RMZ	
Recreation Niche	Quick, easy access from town to sustainable day-use adventure, challenge, exercise, social, and outdoor recreation.
Recreation Management Objectives	By the year 2011, manage this zone to produce close-to-town opportunities for community residents and seasonal, regional visitors to enjoy directed day-use adventure activities in scenic landscapes along structured travel routes and open space areas associated with Woodhill Road, providing no less than 75% of responding visitors and affected community residents at least a "moderate" realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4=total realization).
Primary Activities	Exploring activities (i.e., <i>OHV driving, ATV and motorcycle riding, equestrian, hiking</i>); personal challenge activities (i.e., <i>rock climbing, rock crawling, mountain biking, BMX riding, target shooting, competitive events</i>); social activities (i.e., <i>organized group/family events</i>); and fitness activities (i.e., <i>walking, running, hiking</i>).
Experiences	Enjoying going exploring on my/our own; enjoying having easy access to natural landscapes; developing your skills and abilities; enjoying getting some needed physical exercise; enjoying participating in group outdoor events; enjoying having access to close-to-home outdoor amenities.
Benefits	<ul style="list-style-type: none"> • <u>Personal</u>: Greater freedom from urban living; Improved appreciation of nature's splendor; Improved understanding of how this community's rural-urban interface impacts its quality of life; Improved skills for outdoor enjoyment; Improved physical fitness and health maintenance; Greater self-reliance; Restored mind from unwanted stress; Improved mental well-being; stronger ties with my family and friends. • <u>Household & Community</u>: Increased nurturance of others; Improved functioning of individuals in family and community. • <u>Economic</u>: Reduced health maintenance costs. • <u>Environmental</u>: Increased awareness and protection of natural landscapes.
Setting Character Conditions	<p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations):</p> <ul style="list-style-type: none"> • <u>Physical</u>: Semi-Primitive Non-Motorized to Rural, with regard to remoteness and Semi-Primitive Motorized to Routed Natural, with regard to naturalness and recreation facilities. • <u>Social</u>: Semi-Primitive Non-Motorized Routed Natural, with regard to group size and evidence of use and Primitive to Semi-Primitive Motorized, with regard to contacts. May spike to Rural to Urban-like setting during special use activities. • <u>Administrative</u>: Rural, with regard to visitor services; Semi-Primitive Motorized to Routed Natural, with regard to management controls; and Primitive to Urban, with regard to mechanized/motorized uses. (See Table 2.15: Travel Management Section for decisions regarding access for administrative uses.)

2. Shinarump Cliffs RMZ	
Recreation Niche	Close-to-home, self-directed motorized/mechanized adventure for scenic, natural and historic appreciation.
Recreation Management Objectives	By the year 2011, manage this zone to produce opportunities for visitors to enjoy “close-to-home” access to natural, scenic landscapes along structured travel routes and areas for motorized/mechanized adventure recreation, providing no less than 75% of responding visitors and affected community residents at least a “moderate” realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4=total realization).
Primary Activities	Off-highway adventure driving and exploring, mountain bike riding.
Experiences	Developing skills and abilities; enjoying going exploring on my/our own.
Benefits	<ul style="list-style-type: none"> • <u>Personal</u>: Enhanced sense of personal freedom; greater self-reliance; increased adaptability; greater environmental awareness and sensitivity; enlarged sense of personal accountability for acting responsibly on public lands; a more outdoor oriented lifestyle. • <u>Household & Community</u>: Heightened sense of satisfaction with my community; increased work productivity; greater community involvement in other land-use decisions. • <u>Environmental</u>: Improved understanding of this/our community’s dependence and impacts on public land. <p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations.):</p> <ul style="list-style-type: none"> • <u>Physical</u>: Semi-Primitive Non-Motorized to Semi-Primitive Motorized, with regard to remoteness, naturalness, and recreation facilities. • <u>Social</u>: Semi-Primitive Non-Motorized to Semi-Primitive Motorized, with regard to group size and evidence of use and Primitive to Semi-Primitive Non-Motorized, with regard to contacts. • <u>Administrative</u>: Semi-Primitive Non-Motorized to Semi-Primitive Motorized, with regard to visitor services, management controls, and Primitive to Semi-Primitive Motorized, with regard to mechanized/motorized uses. (See Table 2.15: Travel Management Section for decisions regarding access for administrative uses.)
3. The Badlands RMZ	
Recreation Niche	Self-directed, primitive, adventure, challenge, exploration in a natural setting close to town.
Recreation Management Objectives	By the year 2011, manage this zone to produce close-to-town recreation opportunities for community resident and regional visitors to enjoy self-directed, primitive day-use adventure in rugged, trackless, highly eroded and colorful formations, providing no less than 75% of responding visitors and affected community residents at least a “moderate” realization of these benefits (i.e., 3.0 on a probability scale where 1=not at all, 2=somewhat, 3=moderate, 4= total realization).
Primary Activities	Hiking, equestrian, viewing nature.
Experiences	Enjoying going exploring on my/our own; enjoying having easy access to natural landscapes; feeling good about solitude, being isolated, and independent.

<p>Benefits</p>	<ul style="list-style-type: none"> • <u>Personal</u>: Greater freedom from urban living; improved appreciation of nature's splendor; closer relationship with the natural world. • <u>Household & Community</u>: Greater appreciation for my wildland/parkland heritage and how managers care for it; Enlarged sense of community dependency on public lands. • <u>Environmental</u>: Increased awareness and protection of natural landscapes.
<p>Setting Character Conditions</p>	<p>The RMZ would be managed to produce recreation opportunities in the following essential settings (see Appendix 3.H for more information and Maps 2.14, 2.15, and 2.16 for setting allocations.):</p> <ul style="list-style-type: none"> • <u>Physical</u>: Semi-Primitive Non-Motorized to Roaded Natural, with regard to remoteness; Semi-Primitive Non-Motorized to Semi-Primitive Motorized, with regard to recreation facilities; and Primitive to Semi-Primitive Non-Motorized, with regard to naturalness. • <u>Social</u>: Primitive to Semi-Primitive Non-Motorized, with regard to group sized, contacts, and evidence of use. • <u>Administrative</u>: Semi-Primitive Non-Motorized, with regard to visitor services and management controls and Primitive to Semi-Primitive Motorized, with regard to mechanized/motorized uses. (See Table 2.15: Travel Management Section for decisions regarding access for administrative uses.)

TABLE 2.15: TRAVEL MANAGEMENT				
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. TRAVEL MANAGEMENT				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
<ul style="list-style-type: none"> The region's remoteness, scenic beauty, open spaces, and Monument objects would be maintained by careful travel management. A variety of existing motorized, mechanized, and non-motorized trail and travel opportunities would be sustained, where needed, to meet public and administrative needs. Compatible traditional, current, and future use of the land would be sustained by establishing a transportation system that contributes to protection of sensitive resource, promotes dispersed recreation, and minimizes user conflicts. Public use, resource management, regulatory needs, and Monument objects would be considered through travel management planning, incorporating consideration of the effects of, and interactions among all forms of travel including motorized, mechanized, non-motorized/non-mechanized, equestrian and other livestock, walking, mountain biking, and other travel modes. 				
1. Specific Desired Future Conditions for Travel Management Areas (TMAs)				
<i>Common to All Planning Areas</i>				
N/A	Where TMAs would be delineated, DFCs would be described more specifically as follows:			
N/A	<p>Rural TMA</p> <ul style="list-style-type: none"> Objectives: The Rural TMA would provide for the widest variety of motorized, non-motorized, and mechanical travel modes to serve existing and future recreational, traditional, casual, commercial, educational, and private needs adjacent to communities, but not to the detriment or exclusion of the protection of resources. It would also facilitate linking existing and future regional travel corridors to local communities. Primary Travelers: The Rural TMA would serve the day-to-day needs of those with permits for the use of resources, such as grazing, fuelwood and mineral materials, as well as private, state, and other land ownership needs and a variety of local, state, and federal agency resource management needs. It would also serve the "after work and on weekends" motorized and non-motorized needs of local and regional visitors engaged in activities such as viewing scenery and cultural resources, exploring, camping, picnicking, hunting, studying nature, and participating in organized events. Setting Characteristics: Settings would be maintained within the Rural TMA that typically provide for community growth and development and widest variety of recreation opportunities in near-urban, moderately developed areas with motorized and mechanized use. 			
N/A	<p>Backways TMA</p> <ul style="list-style-type: none"> Objectives: The Backways TMA would provide for a variety of motorized, non-motorized, and mechanical travel modes to serve existing and future recreational, traditional, casual, commercial, educational, and private needs, but not to the 			

TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	<p>detriment or exclusion of the protection of resources. It would also supply the primary travel system that would provide public entry from communities to the more remote and semi-primitive TMAs.</p> <ul style="list-style-type: none"> • Primary Travelers: The Backways TMA would serve the day-to-day needs of those with permits for the use of resources, such as grazing, fuelwood, and mineral materials, as well as private, state, and other land ownership needs and a variety of local, state, and federal agency resource management needs. It would also serve the motorized and non-motorized needs of local, regional, national, and international visitors engaged in activities such as viewing scenery, visiting cultural resources and interpretive sites, exploring by vehicle, camping, picnicking, hunting; studying nature, and participating in organized events. It would also provide the best opportunities for day-use recreation activities related to motor touring. • Setting Characteristics: Settings would be maintained within the Backways TMA that typically provide entry to more remote areas, interpretive developments, and administrative facilities in mostly natural-appearing areas with motorized and mechanized use. 			
N/A	<p>Specialized TMA</p> <ul style="list-style-type: none"> • Objectives: The Specialized TMA would provide for a variety of motorized, non-motorized, and mechanical travel modes to serve existing and future recreational, traditional, casual, commercial, and private needs in remote, rustic settings, but not to the detriment or exclusion of the protection of resources. It would also be characterized by low to moderate densities of improved roads and primitive roads that would provide public entry portals from Backways corridors to the more remote Primitive TMAs. • Primary Travelers: The Specialized TMA would serve the day-to-day needs of those with permits for the use of resources, such as grazing, fuelwood, and mineral materials, as well as private, state, and other land ownership needs and a variety of local, state, and federal agency resource management needs. It would also serve the motorized and non-motorized needs of primarily local, regional, and national visitors engaged in activities such as viewing scenery and cultural resources, exploring, camping, hiking, picnicking, hunting, gathering, and studying nature. • Setting Characteristics: Settings would be maintained within the Specialized TMA that typically provide for motorized and mechanized entry to the most remote areas on lower standard, primitive roads with few and widely scattered, rustic developments in mostly natural-appearing areas. Rudimentary facilities could be present when necessary to protect resources or educate visitors. 			
N/A	<p>Primitive TMA</p> <ul style="list-style-type: none"> • Objectives: The Primitive TMA would provide for adequate, but limited motorized travel to serve existing and future traditional, casual, some commercial, private, and emergency needs and for non-motorized, non-mechanized travel to serve existing and future recreational needs in the most remote, rustic settings, for the enhancement and protection of important resource values. It would also range from large areas containing no routes to areas characterized by low densities of 			

TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	<p>primitive roads that would provide entry to authorized management facilities for administrative users.</p> <ul style="list-style-type: none"> • Primary Travelers: The Primitive TMA would serve the occasional needs of those with permits for the use of resources, such as grazing or research, as well as private, state, and other land ownership needs and a variety of local, state, and federal agency resource management needs. It would also serve the non-motorized/non-mechanized needs of primarily local, regional, and national visitors engaged in activities such as viewing scenery and cultural resources, backcountry exploring, and hunting. • Setting Characteristics: Settings would be maintained within the Primitive TMA that provide for limited motorized entry for administrative users on a small number of primitive roads in the most remote areas. Few and widely scattered, rustic management facilities could be present in mostly natural-appearing areas where they would be necessary to protect and/or administer important resources. Remote settings, natural landscapes, solitude, and opportunities for primitive recreation would be minimally impacted by human activity. 			
B. LAND USE ALLOCATIONS				
1. TMAs				
TMAs would not be formally allocated or designated. Per Land Use Planning Handbook, H-1601-1, TMAs would be delineated as follows (see Appendix 2.S):				
<i>Parashant</i>				
N/A	Backways: 90,965 ac. 9% Specialized: 43,477 ac. 4% Primitive: 913,875 ac. 87%	Backways: 91,103 ac. 9% Specialized: 204,703 ac. 19% Primitive: 752,510 ac. 72%	Backways: 91,024 ac. 9% Specialized: 259,620 ac. 25% Primitive: 697,673 ac. 66%	Backways: 90,948 ac. 9% Specialized: 257,354 ac. 24% Primitive: 700,015 ac. 67%
<i>Vermilion</i>				
N/A	Rural: 0 ac. 0% Backways: 5,855 ac. 2% Specialized: 35,893 ac. 12% Primitive: 251,940 ac. 86%	Rural: 27 ac. >1% Backways: 5,817 ac. 2% Specialized: 89,804 ac. 31% Primitive: 198,040 ac. 67%	Rural: 27 ac. 1% Backways: 5,829 ac. 2% Specialized: 95,078 ac. 32% Primitive: 192,754 ac. 66%	Rural: 27 ac. >1% Backways: 5,829 ac. 2% Specialized: 96,142 ac. 31% Primitive: 191,689 ac. 65%
<i>Arizona Strip FO</i>				
N/A	Rural: 169,832 ac. 9% Backways: 286,450 ac. 14% Specialized: 801,742 ac. 40% Primitive: 723,030 ac. 37%	Rural: 227,584 ac. 11% Backways: 274,624 ac. 14% Specialized: 796,178 ac. 40% Primitive: 682,678 ac. 35%	Rural: 227,584 ac. 11% Backways: 274,627 ac. 14% Specialized: 804,083 ac. 41% Primitive: 674,771 ac. 34%	Rural: 226,542 ac. 11% Backways: 275,608 ac. 14% Specialized: 805,008 ac. 41% Primitive: 673,906 ac. 34%

TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>Entire Planning Area</i>				
N/A	Rural: 169,832 ac. 5% Backways: 383,270 ac. 12% Specialized: 881,112 ac 26% Primitive: 1,888,846 ac. 57%	Rural: 227,611 ac. 7% Backways: 371,545 ac. 11% Specialized: 1,090,685 ac. 33% Primitive: 1,633,228 ac. 49%	Rural: 227,611 ac. 7% Backways: 371,480 ac. 11% Specialized: 1,158,780 ac. 35% Primitive: 1,565,197 ac. 47%	Rural: 226,570 ac. 7% Backways: 372,386 ac. 11% Specialized: 1,158,504 ac. 35% Primitive: 1,565,611 ac. 47%
2. Off-Highway Vehicle (OHV) Area Designations				
The following OHV area (polygons) designations would be subject to valid existing rights and administrative purposes (see Glossary). They are required land use plan decisions and cover area (polygon) designations. Specific route designations are implementation level decisions and can be found below in Section 2.b., Route Designations. Prior to the full implementation of OHV area designations, bureau policy would be followed regarding compliance with Section 106 of the NHPA.				
<i>Parashant</i>				
On BLM and NPS land, 285,629 acres would be closed to motorized and mechanized vehicle use, which includes BLM designated wilderness and NPS proposed wilderness.				
Motorized and mechanized vehicle use would be limited to designated roads and trails on 762,688 acres on BLM and NPS land.				
<i>Vermilion</i>				
On BLM land, 89,828 acres would be closed to motorized and mechanized vehicle use, which includes designated wilderness.				
Motorized and mechanized vehicle use would be limited to designated roads and trails on 203,859 acres of BLM land.				
<i>Arizona Strip FO</i>				
Motorized and mechanized vehicle use would be closed on 123,100 acres, which includes designated wilderness and Marble Canyon ACEC, St. George basin area soils and ACEC, Grama Canyon, Kanab Creek.	Motorized and mechanized vehicle use would be limited to designated roads and trails on 1,888,405 acres of BLM land.	Motorized and mechanized vehicle use would be limited to designated roads and trails on 682,153 acres of BLM land.	Motorized and mechanized vehicle use would be limited to designated roads and trails on 369,582 acres of BLM land.	Motorized and mechanized vehicle use would be limited to designated roads and trails on 1,899,260 acres of BLM land.
Motorized and mechanized vehicle use would be closed on 123,100 acres, which includes designated wilderness and Marble Canyon ACEC, St. George basin area soils and ACEC, Grama Canyon, Kanab Creek.	Motorized and mechanized vehicle use would be limited to designated wilderness. (See Map 2.19 at end of Table 2.15).	Motorized and mechanized vehicle use would be closed on 92,648 acres, which includes designated wilderness. (See Map 2.19).	Motorized and mechanized vehicle use would be closed on 80,829 acres, which includes designated wilderness. (See Map 2.19).	Motorized and mechanized vehicle use would be limited to designated roads and trails on 1,899,260 acres of BLM land.

TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
Motorized and mechanized vehicle use would be limited to existing roads and trails on 1,575,140 acres of BLM land.	No areas limited to existing roads and trails would be designated.	Motorized and mechanized vehicle use would be limited to existing roads and trails on 1,204,782 acres of BLM land.	Motorized and mechanized vehicle use would be limited to existing roads and trails on 1,511,652 acres of BLM land.	Same as Alternative B
Motorized and mechanized vehicle use would be open on 803 acres of BLM lands, which includes an area east of Fredonia	No open areas would be designated	Motorized and mechanized vehicle use would be open on 1,481 acres of BLM land (following archeological survey and Section 106 compliance), which includes 2 small areas south of St. George and 1 small area south of Fredonia.	Motorized and mechanized vehicle use would be open on 7,186 acres of BLM land (following archeological survey and Section 106 compliance), which includes a 628-acre area south of St. George and a 348-acre area east of Fredonia.	Motorized and mechanized vehicle use would be open on 976 acres of BLM land (following archeological survey and Section 106 compliance), which includes a 628-acre area south of St. George and a 348-acre area east of Fredonia.
An OHV event area would be designated on 179,551 acres	No motorized speed event areas would be designated. Motorized speed events would not be authorized.	A motorized speed event area would be designated on 151,161 acres (following archeological survey and Section 106 compliance).	No motorized speed event areas would be designated but would be authorized on a case-by-case basis.	A motorized speed event area would be designated on 156,902 acres (following archeological survey and Section 106 compliance).
C. MANAGEMENT ACTIONS				
1. Actions to Achieve				
a. Designated Transportation System (See Section II, Transportation Facilities, in this table for prescriptions related to the management of the transportation system.)				
b. Preliminary Route Network Management (See Section II, Transportation Facilities, in this table for prescriptions related to the management of preliminary route network.)				
2. Allowable Uses				
a. Conditions of Use				
<i>Common to All Planning Areas</i>				
State of Arizona traffic law statutes would continue to apply to all motorized vehicle use on State, County, BLM, and NPS routes. Motor vehicle "registration requirement would not apply on lands under BLM jurisdiction to an all-terrain vehicle or an off-road recreational motor vehicle operating on a dirt road that is				

TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
located in an unincorporated area of this state. For the purposes of this paragraph, "dirt road" means an unpaved or ungraveled road that is not maintained by this state or a city, town, or county of this state" (ARS 28-2153, D).				
N/A	Motorized, mechanized, or non-motorized/non-mechanized use of routes that are designated as "limited" would be restricted to the specific users, seasons, or vehicle types as identified on a route-by-route evaluation and designation. (See Route Designations and Appendix 2.I.)			
N/A	Motorized or mechanized use of administrative routes would be subject to the terms of an appropriate authorization instrument, such as ROW, permit, lease, maintenance agreement, or transportation plan that specifies the authorized administrative user, routes, destinations, potential frequencies, and acceptable intensities maintenance (see Appendix 2.S).			
N/A	Motorized or mechanized use of administrative routes in "closed" areas would be minimum necessary for the administration of the area or the exercise of the right or permitted use (see Glossary for definition of "administrative routes").			
Parashant and Vermilion				
All vehicular travel in the Monuments would be allowed only on routes designated as part of the transportation system. To protect Monument objects, no areas would be authorized for driving off these designated routes (e.g., cross-country) except for authorized administrative and emergency purposes.				
<ul style="list-style-type: none"> Specific requests and approval by the authorized officer would be required prior to most off-road vehicle use on BLM lands. Use of vehicles off-road would be prohibited on NPS lands. Vehicle parking must be within 50 feet of designated roads on BLM lands, and only in currently existing disturbed areas on NPS lands within the wilderness setback. 				
	In areas designated as "limited" in National Monuments and along national trails, motorized use would keep within the designated route with reasonable use of the shoulder and immediate roadside, allowing for vehicle passage, emergency stopping, or parking, unless otherwise posted.			
For routes that are designated open, management discretion to limit or close a route could be exercised where necessary through emergency closure to protect Monument objects.				
Use of non-motorized, wheeled game carriers to retrieve kills would be allowed in all areas of the Monument except designated and NPS proposed wilderness.				
Parashant				
N/A	<ul style="list-style-type: none"> On NPS lands, per the 1979 Wilderness Proposal and the 1986 GMP, designated roads would be cherry-stemmed through proposed wilderness. 			

TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	<ul style="list-style-type: none"> On roads adjacent to NPS proposed wilderness and within the wilderness boundary setback, visitors could park only on the road shoulder and immediate roadside, allowing for vehicle passage and emergency stopping, unless otherwise posted. 			
N/A	Routes designated for motorized/mechanized vehicle use by administrative users only, would allow only the minimum motorized or mechanized use necessary for the administration of the area or the exercise of the right or permitted use.			
Arizona Strip FO				
All authorized public land users that hold a permit or license (i.e., grazing permittees; ROW holders; persons with hunting license, wood permits, mining claims) would be allowed to drive off-road, if necessary, in order to fulfill requirements of their permit or license (in a limited to existing roads and trails area). Specific requests and approval by the authorized officer would continue to be required prior to most off-road vehicle use in these (limited to designated roads and trails) areas. Hunters would not be able to use motorized vehicles off the design. roads to retrieve animals.	All cross-country (off-transportation system) motorized or mechanized travel would be prohibited, with the following exceptions: <ul style="list-style-type: none"> Any designated open OHV areas. Minimum necessary for administration of the area. For emergency purposes. Minimum necessary for the exercise of a valid existing right or authorized use; In Areas allocated as "limited," motorized-vehicles may be allowed to pull off a designated route 100 feet either side of centerline. This use shall be monitored on a continuing basis. If monitoring results show effects that exceed limits of acceptable change, motorized vehicles would not be allowed to pull off a designated route 100 feet either side of centerline. 			In areas designated as ACECs and along national trails, motorized use would keep within the designated route with reasonable use of the shoulder and immediate roadside, allowing for vehicle passage, emergency stopping, or parking, unless otherwise posted.
Use of non-motorized, wheeled game carriers to retrieve game kills would be allowed in all areas except designated wilderness.				
Use of non-motorized, mechanized vehicles (including bicycles) would be prohibited in designated wilderness.	Use of non-motorized, mechanized vehicles (including bicycles) would be prohibited in designated wilderness, ACECs designated for cultural or listed species values, and areas managed for			Use of non-motorized, mechanized vehicles (including bicycles) would be prohibited off the transportation system in ACECs designated for cultural or listed species values and in designated wilderness.

TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	maintaining wilderness characteristics.			
D. ADMINISTRATIVE ACTIONS				
1. Actions to Achieve				
a. Designated Transportation System				
<i>Common to All Planning Areas</i>				
N/A	A route inventory database would be maintained using standard collection and information storage methods.			
N/A	The areas would be monitored to detect unauthorized route creation.			
b. Preliminary Route Network Management				
<i>Arizona Strip FO</i>				
N/A	<ul style="list-style-type: none"> A variety of funding mechanisms and partnerships would be sought for completing the route inventory. Standard data collection and storage methods would be used to complete the route inventory. 			
E. IMPLEMENTATION DECISIONS				
1. Actions to Achieve				
a. Route Designations (See Maps 2.17a-c and Route Evaluation Reports© and Sub-region Maps on CD version of the FEIS)				
<i>Common to All Planning Areas</i>				
Prior to the full implementation of route designations, the requirements of AZ IM 2006-043, Attachment 19, would be met regarding compliance with Section 106 of the NHPA.				
Routes would be designated as follow (See Designated Transportation System & Preliminary Route Network Proposed Plan Maps 2.17a, 2.17b, 2.17c and Route Evaluation Reports© and Sub-region Maps on CD version of the FEIS):				
<ul style="list-style-type: none"> O: open to all users for motorized/mechanized travel (various special mitigating measures designed to ensure Monument objects or other sensitive or important resources are protected may apply. Route Evaluation Report© designations = O or MO) (See Appendix 2.T: Transportation.) A: administrative use only (open to administrative motorized uses and non-motorized public uses; public mechanized use limits may vary. Route Evaluation Report© designations = L or ML)(see Glossary for definition of administrative users). NM: open to all users for non-motorized uses only (such as, horseback, foot or mechanized vehicles; mechanized use limits may vary) (Route Evaluation Report© designations = ML) 				

TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>Parashant-BLM</i>				
O: 1558 miles	O: 542 miles	O: 1189 miles	O: 1379 miles	O: 1283 miles
A: 25 miles	A: 631 miles	A: 179 miles	A: 75 miles	A: 140 miles
NM: 12 miles	NM: 25 miles	NM: 25 miles	NM: 25 miles	NM: 28 miles
<i>Parashant-NPS</i>				
O: 157 miles	O: 84 miles	O: 131 miles	O: 149 miles	O: 121 miles
A: 0 miles	A: 61 miles	A: 20 miles	A: 11 miles	A: 27 miles
NM: 2 miles	NM: 4 miles	NM: 4 miles	NM: 3 miles	NM: 5 miles
<i>Vermilion</i>				
O: 446 miles	O: 172 miles	O: 374 miles	O: 416 miles	O: 377 miles
A: 14 miles	A: 211 miles	A: 72 miles	A: 51 miles	A: 67 miles
NM: 0 miles	NM: 2 miles	NM: 8 miles	NM: 3 miles	NM: 6 miles
<i>Arizona Strip FO (Ferry Swale Sub-region Only)</i>				
O: 52 miles	O: 34 miles	O: 48 miles	O: 51 miles	O: 49 miles
A: 0 miles	A: 14 miles	A: 5 miles	A: 3 miles	A: 5 miles
NM: 0 miles	NM: 0 miles	NM: 0 miles	NM: 0 miles	NM: 0 miles
b. Trail System Designations				
<i>Parashant</i>				
State Trails System: Mt. Trumbull Trail would continue to be managed as an Arizona State Trail System component.				
<i>Vermilion</i>				
State Trails System: Paria Canyon Trail would continue to be managed as an Arizona State Trail System component.				
<i>Parashant and Arizona Strip FO</i>				
State Trails System: Temple Trail (lower section) would continue to be managed as an Arizona State Trail System component.				
<i>Vermilion and Arizona Strip FO</i>				
State Trails System: Old Arizona Road/Honeymoon Trail and Old Spanish Trail would continue to be managed as Arizona State Trail System components.				
National Historic Trails: Old Spanish Trail would continue to be managed as a NHT (See Table 2.16: Special Area Designations).				

TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>Arizona Strip FO</i>				
<p>State Trails System: Virgin River Interpretive Trail, Little Black Mountain Trail, Mokaac Trail (main segment and upper loop), Arizona Trail (Segment 34), and Paiute Wilderness Trails would continue to be managed as Arizona State Trail System components.</p> <p>Millennium Trails: Arizona Trail (Millennium Legacy Trail) and Great Western Trail (National Millennium Trail) would continue to be managed as Millennium Trails.</p> <p>Other: Vermilion Cliffs Highways would continue to be managed as a multi-partner interpretation and education transportation initiative. Establishment of new trail/road systems (motorized, mechanized, or non-motorized) such as the High Desert Trail, Arizona section; Hurricane ATV Trails; and Kanab-Fredonia Trails System could be considered where appropriate for targeted market strategies in SRMAs and/or where public safety, user conflict, or resource protection issues could be resolved by establishing trails in the ERMAs.</p>				
c. Preliminary Route Network				
<i>Arizona Strip FO (Undesignated Sub-regions Only)</i>				
<p>In the Colorado City, Main Street, Uinkaret, Yellowstone Mesa, Kanab Plateau, Grama Can., Buckskin, White Sage, and House Rock sub-regions, a preliminary route network would be based on existing routes as documented by the Arizona Strip RMP & 1992 aerial photography.</p>	<p>Until such time as route designations would be completed for the Arizona Strip FO (within 5 years of the ROD), a preliminary route network would be based initially on existing routes in the Littlefield, St. George Basin, Colorado City, Main Street, Uinkaret, Yellowstone Mesa, Kanab Plateau, Grama Canyon, Buckskin, White Sage, House Rock sub-regions, as documented by 2002 aerial photography. Following completion of the route inventory, the preliminary route network would be based on the completed inventory until route designations for the sub-regions are complete. (See Appendix 2.S-2 for more information about the preliminary route network.)</p>			
N/A	<p>Any existing vehicle type and size restrictions or seasonal limitations would remain in effect pending final route designations that may alter or remove such restrictions and/or limitations.</p>			
	<p>O: 4,934 miles A: 23 miles NM: 7 miles</p>			
<p>MO: 8 miles of the higher elevation segment of the Black Rock Road would remain closed to vehicle use each year from approximately December 1 to March 15 for public safety and to</p>	<p>MO: 13 miles of the higher elevation segment of the Black Rock Road would be temporarily closed to vehicle use from approximately December 1 to March 15 for public safety as rain or snow conditions warrant.</p>			

TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
prevent resource and road damage during the heavy rainfall/snowfall period in the winter.				
Improved road access from the east to Little Black Mountain would be maintained. (See Table 2.7: Cultural Resources.)	An easement across state of Arizona lands from Quail Hill Road to Little Black Mountain ACEC would be acquired to provide legal entry from the west. (See Table 2.11: Lands and Realty.)			
d. Route Closures				
<i>Routes would be closed as follows (See Designated Transportation System & Preliminary Route Network Proposed Plan Maps 2.17a, 2.17b, 2.17c and Route Evaluation Reports© and Sub-region Maps on CD version of the FEIS):</i>				
• C: closed to all motorized and mechanized use (with an objective of future natural and/or project rehabilitation. Route Evaluation Report© designations = C)				
Parashant-BLM				
C:	61 miles	C: 424 miles	C: 209 miles	C: 140 miles
C:	10 miles	C: 21 miles	C: 15 miles	C: 8 miles
C:	105 miles	C: 179 miles	C: 110 miles	C: 93 miles
C:	3 miles	C: 7 miles	C: 2 miles	C: 1 miles
Parashant-NPS				
Vermilion				
Arizona Strip FO (Ferry Swale Sub-region Only)				
C:				C: 171 miles
C:				C: 17 miles
C:				C: 113 miles
C:				C: 2 miles
II. TRANSPORTATION FACILITIES				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
The building of new roads, or altering or upgrading of existing roads, would be minimized to the greatest extent possible, except as needed to protect natural resources on public lands or support achieving other resource management objectives identified in this Plan.				
1. Specific Desired Future TMA Conditions				
<i>Common to All Planning Areas</i>				
N/A	Transportation facilities that would be available, suitable, and appropriate in the Planning Area would vary by TMA. See Table 2.15.I.A.1 above for Specific DFCs for TMAs.			

TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
B. MANAGEMENT ACTIONS				
1. Actions to Achieve				
a. Management of Transportation Facilities				
<i>Common to All Planning Areas</i>				
Prior to the full implementation of route designations, the requirements of I.M. No. AZ-2006-043, Attachment 19, would be met regarding compliance with Section 106 of the NHPA.				
A travel management plan would be developed and maintained that supports resource protection and uses identified in this Plan. (See Appendix 2.S, TMAs for transportation plan contents.)				
N/A	<ul style="list-style-type: none"> Routes created by unauthorized use would be immediately obscured and rehabilitated. Implementation plans would include outreach efforts to actively recruit service-oriented volunteers, organizations, and schools to assist with accomplishing appropriate implementation projects. 			
N/A	Installations/structures (e.g., unobtrusive barriers, gates, signs) on or along routes would be allowed when they would be the minimum necessary to control unauthorized use and when consistent with TMA objectives.			
N/A	<p>Routes causing resource damage or with safety concerns would be rerouted and/or reclaimed.</p> <p>Minor rerouting of roads into areas where wilderness characteristics would be maintained could be considered when it is determined that: 1) it would resolve the concerns previously mentioned; 2) the road is an important travel link for public and administrative uses; 3) topography and engineering capabilities require consideration of such a reroute; and 4) public motorized and mechanized travel would remain on the road through the area.</p>			
N/A	Rehabilitation of closed routes would only occur after completion of NEPA and Section 106.			
Newly constructed temporary routes (i.e. routes intended to serve a short-term purpose only,) would be reclaimed after termination of the specific need.				
No new roads would be allowed in BLM designated wilderness areas (265,869 acres) or on NPS proposed wilderness (190,478 acres).				
N/A	Routes where motorized/mechanized vehicle use would be authorized for administrative use only may be designated as trails for non-motorized public use.			
Parashant and Vermilion				
N/A	Trail construction (non-motorized) would be authorized only when needed to protect sensitive resources.	Trail construction (non-motorized) would be the minimum necessary to achieve Plan provisions.	Trail construction (non-motorized) would occur to support protection and/or enhancement of Monument objects, RMZ objectives or to resolve issues of public safety, user conflicts, or resource protection.	

TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> Existing material sites on BLM lands would continue to be used for BLM, NPS, and county route maintenance needs. New material sites would not be authorized on BLM and NPS lands. 	<p>Route maintenance would occur only within the existing disturbed surface area as of the dates of the proclamation. No widening, passing lanes, realignments, or travel surface upgrades could occur.</p>	<p>Route maintenance would occur within standard widths based on route type. Widening, passing lanes, realignments, or travel surface upgrades could occur if:</p> <ul style="list-style-type: none"> Protection and/or enhancement of Monument objects would be ensured. They would be needed to achieve route standards. They would be consistent with Table 2.15 and Appendix 2.S: Appropriate Route Construction and Maintenance Standards by TMA. They would be needed for public safety. 	<p>Route maintenance would occur within standard widths based on route type. Widening, passing lanes, realignments, or travel surface upgrades could occur if:</p> <ul style="list-style-type: none"> Protection and/or enhancement of Monument objects would be ensured. They would be needed to achieve route standards. They would be consistent with Table 2.15 and Appendix 2.S: Appropriate Route Construction and Maintenance Standards by TMA. They would be needed for public safety. 	
Parashant				
<p>Existing roads where no public or administrative need exists would be closed and rehabilitated.</p>	<p>Existing routes would be closed and rehabilitated where public or administrative needs cease to exist or where there would be unacceptable impacts to resources/Monument objects.</p>	<p>New permanent routes would not be constructed adjacent to or within designated wilderness or NPS proposed wilderness.</p>	<p>On NPS lands, travel corridors would be restricted to existing roads established according to the Lake Mead NRA GMP (1986).</p>	
<p>No new permanent motorized route construction would be authorized.</p>	<p>New permanent motorized route construction on BLM lands would be the minimum necessary to achieve Plan provisions and to produce targeted recreation opportunities and benefits in RMZs if protection and/or enhancement of Monument objects would be ensured. However, new permanent roads would not be constructed in areas</p>	<p>New permanent motorized route construction on BLM lands would be the minimum necessary to achieve Plan provisions and to enhance recreation opportunities and benefits if protection and/or enhancement of Monument objects would be ensured.</p>	<p>Same as Alternative C</p>	

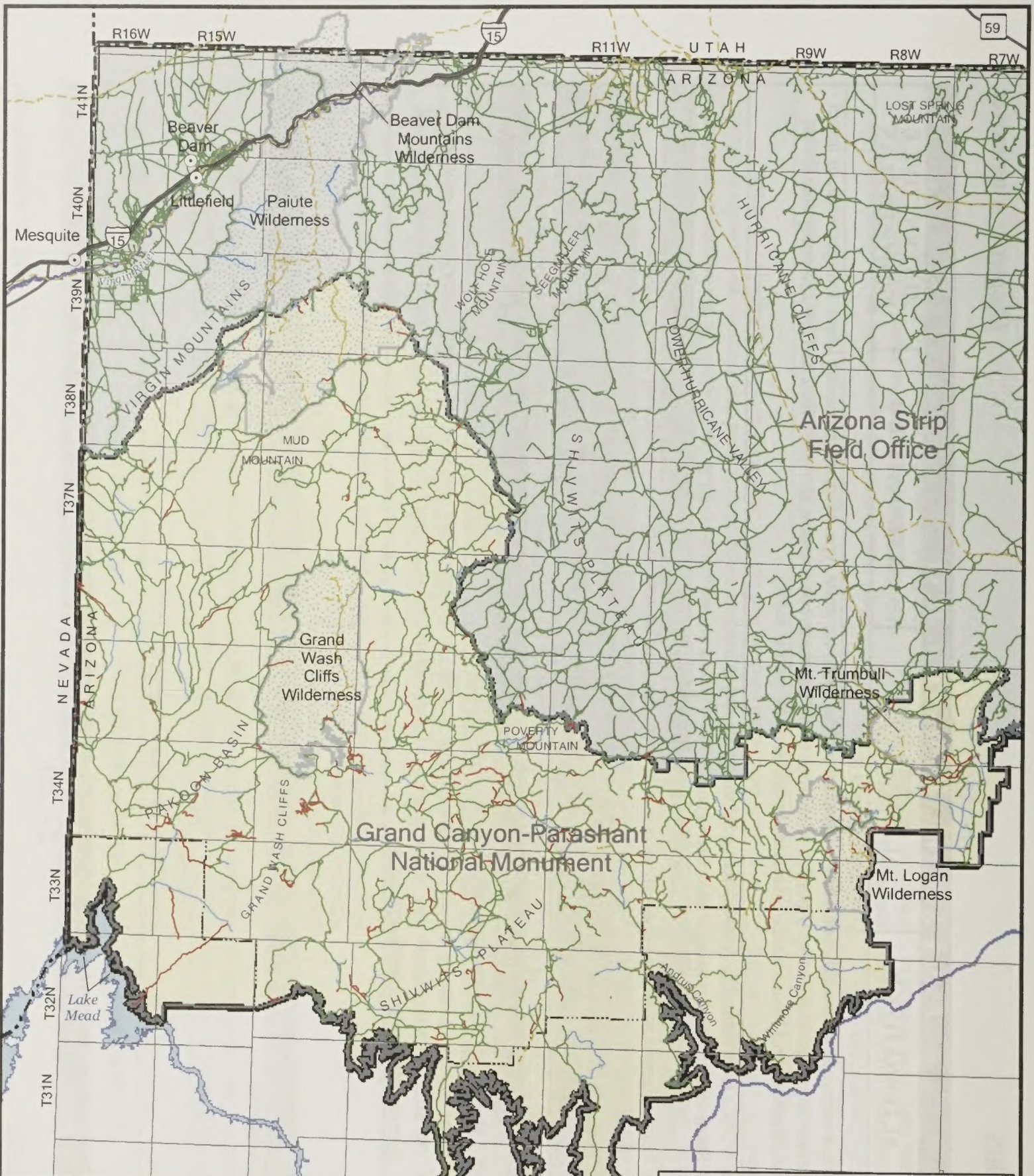
TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	On NPS lands, roads would be maintained only within the existing disturbed travel surface. If needed for resource protection and/or visitor safety, minor modifications outside of existing corridors may occur with appropriate documentation and compliance.	managed to maintain wilderness characteristics.		
Vermilion				
No new permanent motorized route construction would be authorized.		New permanent motorized route construction would be the minimum necessary to achieve Plan provisions. However, new permanent roads would not be constructed in areas managed to maintain wilderness characteristics.		New permanent motorized route construction would be the minimum necessary to achieve Plan provisions and to enhance recreation opportunities and benefits if protection and/or enhancement of Monument objects would be ensured.
Parashant and Vermilion				
N/A				New routes on BLM lands, once authorized and constructed, would become part of the designated transportation system; closed routes would be removed from the transportation system and plan.
Parashant and Arizona Strip FO				
For other parameters concerning route maintenance intensities in desert tortoise habitat, see Table 2.5: Special Status Species.				
Arizona Strip FO				
N/A	No new permanent motorized route construction would be authorized in listed species habitat.			New permanent motorized route construction on BLM lands would be the minimum necessary to achieve Plan provisions and to produce targeted recreation opportunities and benefits in RMZs. However, new permanent roads would not be constructed in areas managed to maintain wilderness characteristics.
N/A	New routes and any associated ROWs, once authorized, would be removed from the transportation plan.			New routes and any associated ROWs, once authorized, would become part of the designated transportation system; closed routes would be removed from the transportation system; closed routes would be removed from the transportation plan.
N/A	Trail construction (non-motorized) would be authorized only when needed to protect sensitive resources.			Trail construction (non-motorized) could occur to support RMZ objectives or to resolve issues of public safety, user conflicts, or resource protection in ERMAs.

TABLE 2.15: TRAVEL MANAGEMENT

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
Route maintenance would occur for existing transportation plan routes only, using existing route types, maintenance levels, and frequencies.	Route maintenance would occur within standard widths based on route type. Widening, passing lanes, realignments, or travel surface upgrades could occur if needed to achieve route standards consistent with Appendix 2.S, TMAs, Appropriate Route Construction, and Maintenance Standards by TMA or for public safety.			
N/A	In ACECs (see Table 2.5: Special Status Species): <ul style="list-style-type: none"> • Some rerouting of existing roads may occur. • Criteria must be met for modifications to existing roads. • Establishment of new permanent roads and/or upgrades may be restricted. • Speed limits may apply. 			
b. Management of Preliminary Route Network				
<i>Arizona Strip FO</i>				
Existing locations, types, and maintenance intensities of the preliminary route network would be maintained until formal route designations are complete.				
C. ADMINISTRATIVE ACTIONS				
a. Management of Preliminary Route Network				
N/A	<ul style="list-style-type: none"> • Maps and portal signing would be developed and installed to inform public land users of the preliminary route network. • The BLM/NPS would actively recruit service-oriented volunteers, organizations, and schools to assist with accomplishing appropriate implementation projects. 			

Map 2.17A Designated Transportation System & Preliminary Route Network - Proposed Plan



Map 2.17A
Designated Transportation System & Preliminary Route Network Proposed Plan

Prepared by
 Arizona Strip GIS Team
 December 2006

Note: Refer to CD of FEIS for a digital version of this map. Also see Proposed Route Designation Maps (1:24,000) on the CD for a more detailed review.

Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

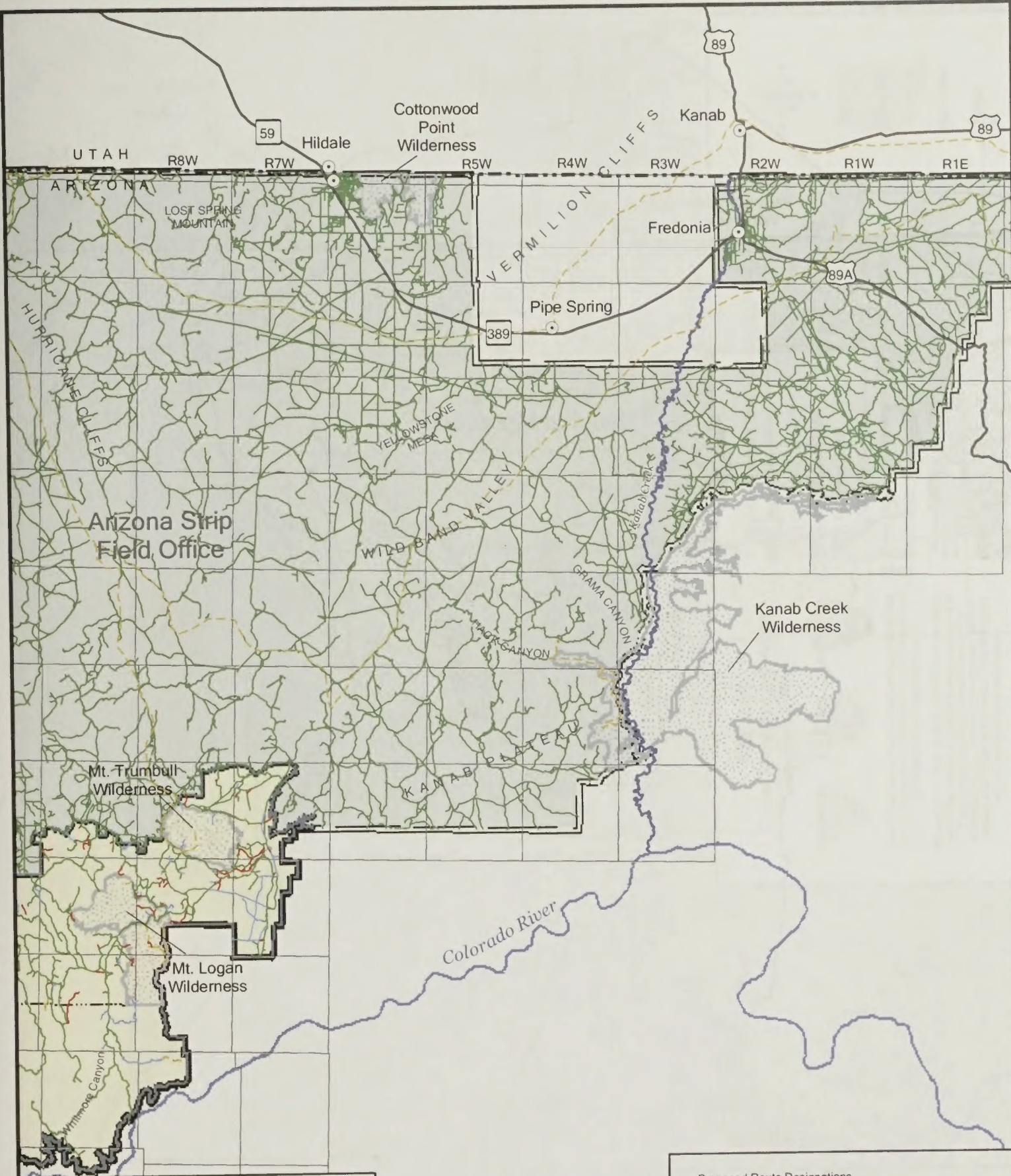
No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Proposed Route Designations

- Open to All Users (various mitigating measures may apply)
- Open to all Users for Non-Motorized Uses (mechanized use limits may vary)
- Administrative Use Only (open to administrative motorized uses and non-motorized public uses; public mechanized use limits may vary)
- Closed to All Motorized and Mechanized Uses (permanent closure as a route)

Route Evaluation/Designation Status

- Route Evaluation/Designation Completed (Proposed Designated Transportation System)
- Route Evaluation/Designation to be Done (Preliminary Route Network)
- Wilderness
- Monument Boundary
- NPS - BLM Boundary
- Planning Area Boundary
- State Boundary

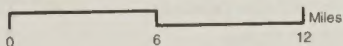


Map 2.17B
Designated Transportation
System & Preliminary Route Network
Proposed Plan



Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for a digital version of this map. Also see Proposed Route Designation Maps (1:24,000) on the CD for a more detailed review.



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Proposed Route Designations

- Open to All Users (various mitigating measures may apply)
- Open to all Users for Non-Motorized Uses (mechanized use limits may vary)
- Administrative Use Only (open to administrative motorized uses and non-motorized public uses; public mechanized use limits may vary)
- Closed to All Motorized and Mechanized Uses (permanent closure as a route)

Route Evaluation/Designation Status

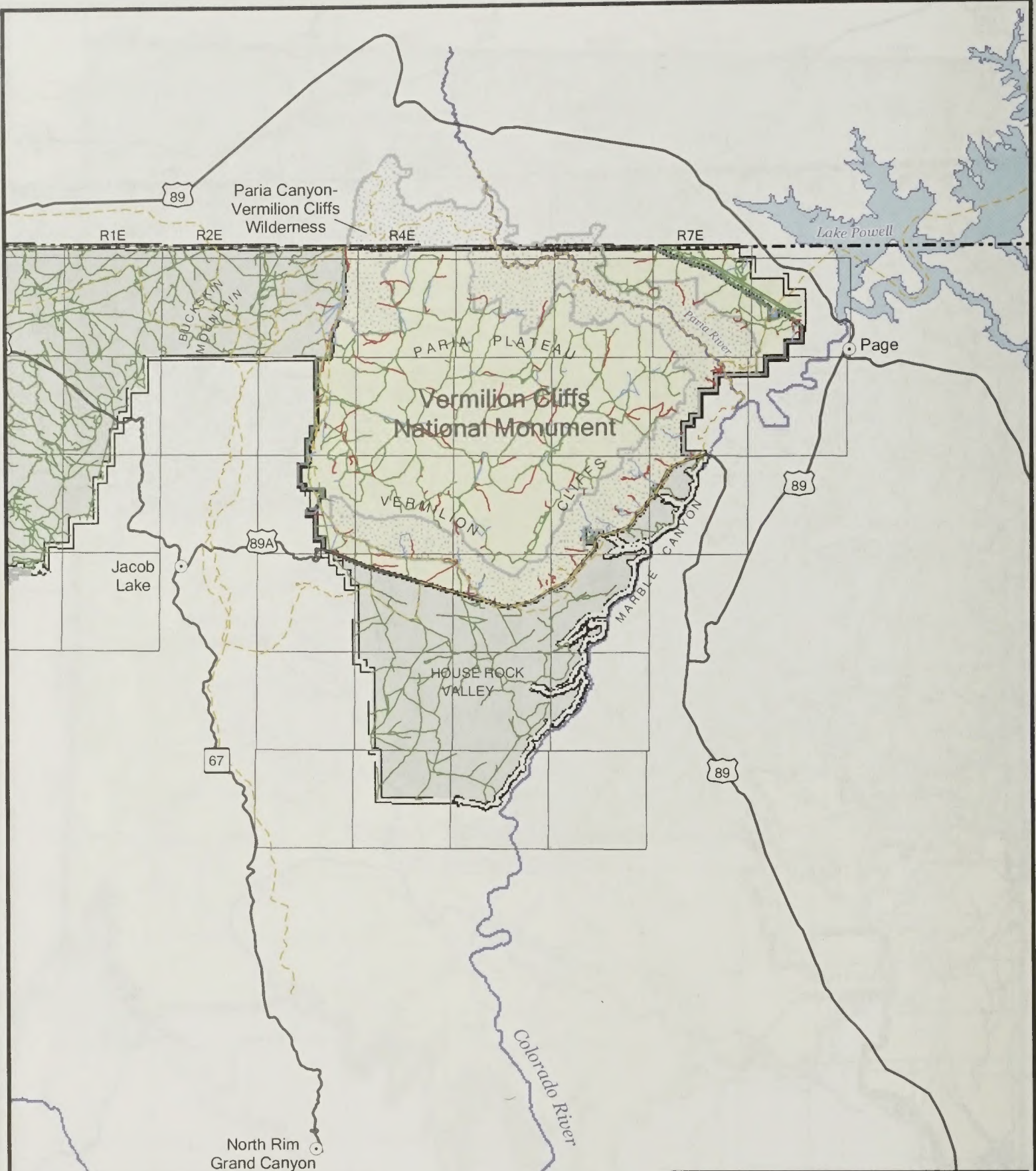
- Route Evaluation/Designation Completed (Proposed Designated Transportation System)
- Route Evaluation/Designation to be Done (Preliminary Route Network)

Wilderness

- Monument Boundary
- NPS - BLM Boundary
- Planning Area Boundary
- State Boundary



Map 2.17C Designated Transportation System & Preliminary Route Network - Proposed Plan

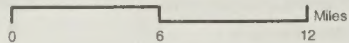


Map 2.17C
Designated Transportation System & Preliminary Route Network Proposed Plan



Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for a digital version of this map. Also see Proposed Route Designation Maps (1:24,000) on the CD for a more detailed review.



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

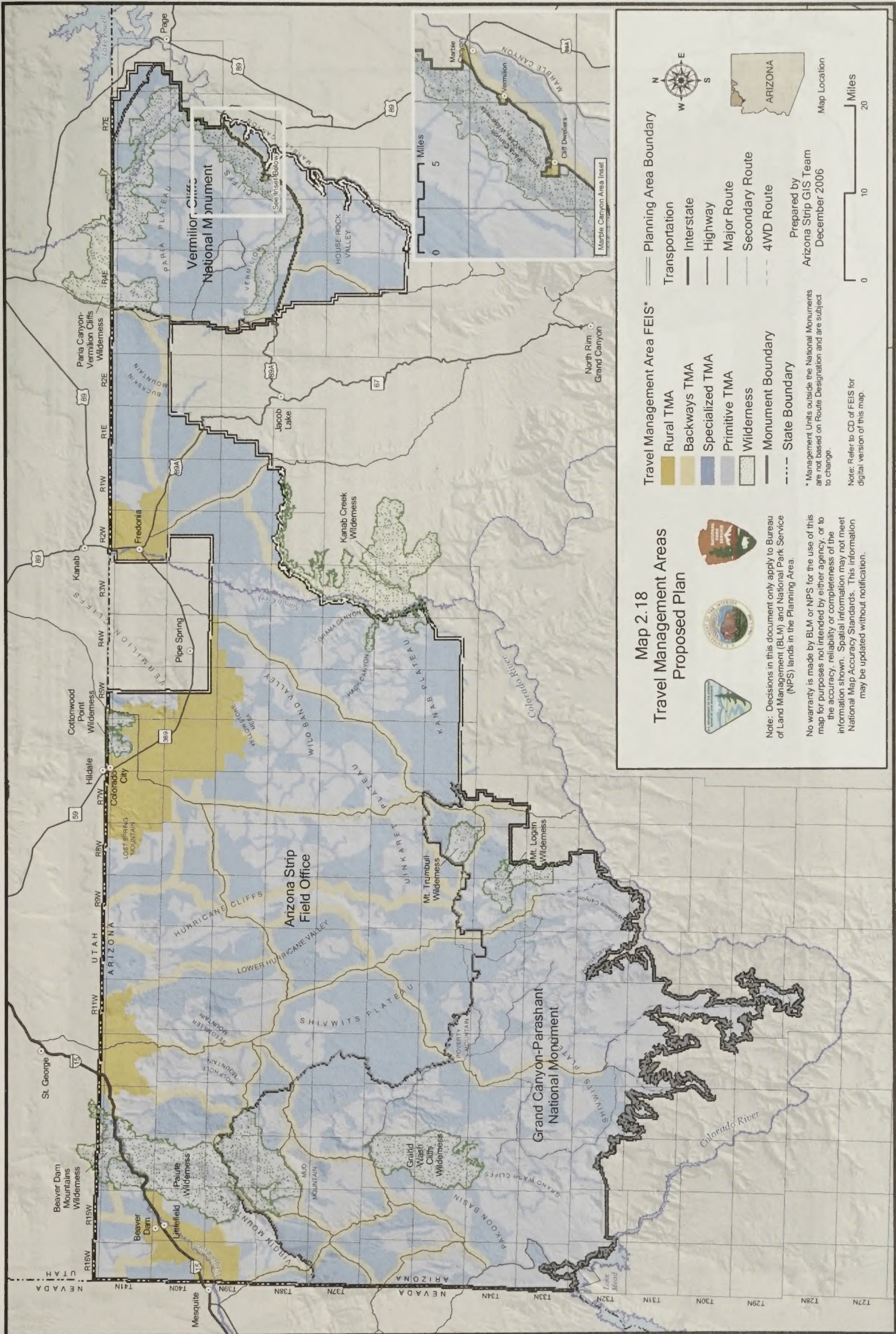
Proposed Route Designations

- Open to All Users (various mitigating measures may apply)
- - - Open to all Users for Non-Motorized Uses (mechanized use limits may vary)
- Administrative Use Only (open to administrative motorized uses and non-motorized public uses; public mechanized use limits may vary)
- Closed to All Motorized and Mechanized Uses (permanent closure as a route)

Route Evaluation/Designation Status

- Route Evaluation/Designation Completed (Proposed Designated Transportation System)
- Route Evaluation/Designation to be Done (Preliminary Route Network)
- Wilderness
- Monument Boundary
- NPS - BLM Boundary
- Planning Area Boundary
- State Boundary





Map 2.18
Travel Management Areas
Proposed Plan

- Travel Management Area FEIS***
- Rural TMA
 - Backways TMA
 - Specialized TMA
 - Primitive TMA
 - Wilderness
- Transportation**
- Interstate
 - Highway
 - Major Route
 - Secondary Route
 - 4WD Route
- Boundaries**
- Monument Boundary
 - State Boundary

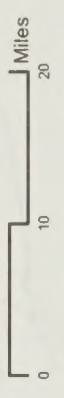


No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

* Management Units outside the National Monuments are not based on Route Designation and are subject to change.

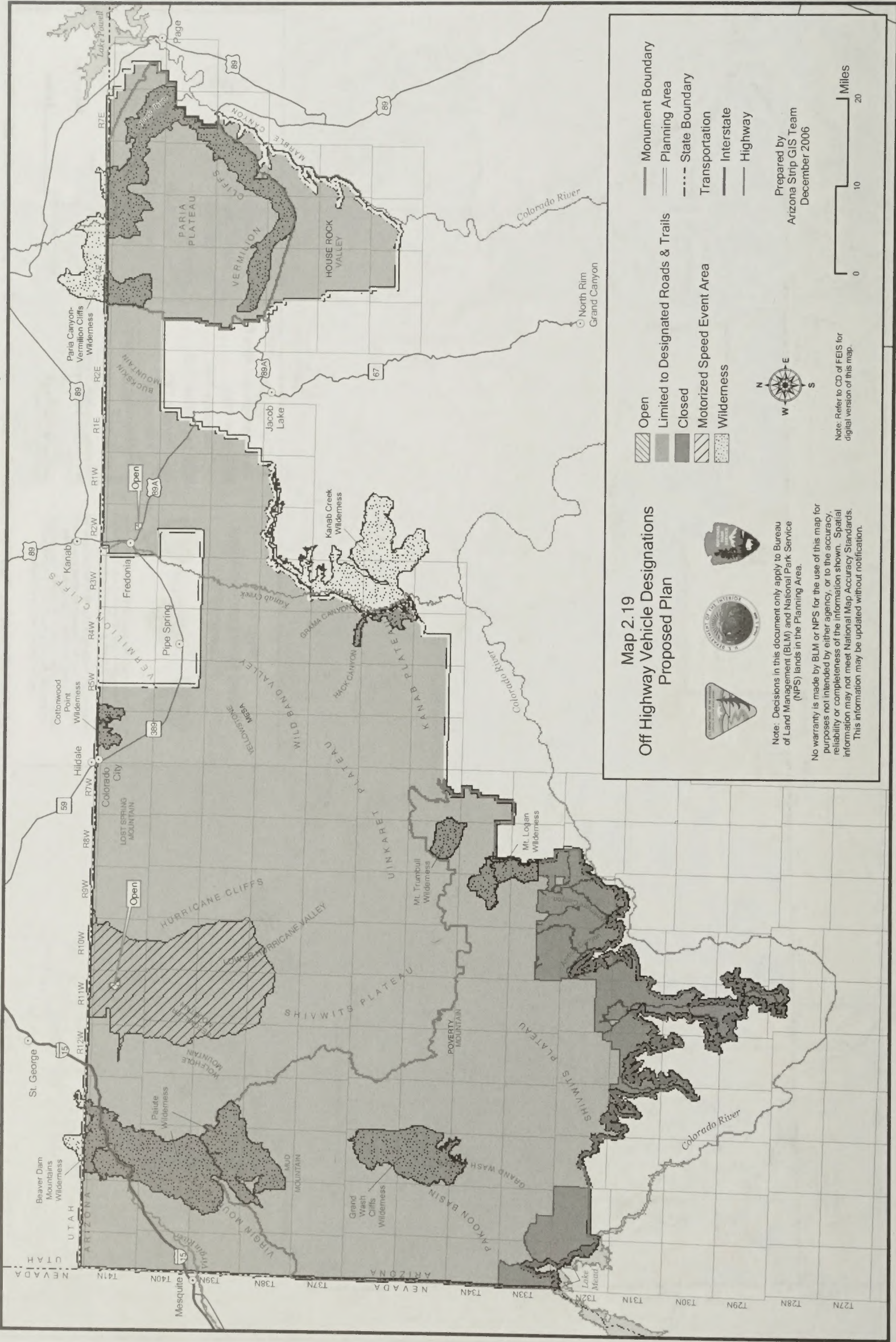
Note: Refer to CD of FEIS for digital version of this map.

Prepared by
 Arizona Strip GIS Team
 December 2006



Map 2.18 Travel Management Areas - Proposed Plan

Map 2.19 Off Highway Vehicle (OHV) Designations - Proposed Plan



Map 2.19
Off Highway Vehicle Designations
Proposed Plan



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

- Open
- Limited to Designated Roads & Trails
- Closed
- Motorized Speed Event Area
- Wilderness
- Monument Boundary
- Planning Area
- State Boundary
- Transportation
- Interstate
- Highway



Note: Refer to CD of FEIS for digital version of this map.

Prepared by
 Arizona Strip GIS Team
 December 2006

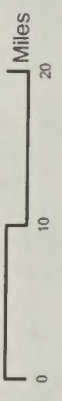


TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
----------------------------	---------------	---------------	---------------	--------------------------------

I. CONGRESSIONAL DESIGNATED WILDERNESS (BLM) AND PROPOSED WILDERNESS (NPS)

A. DESIRED FUTURE CONDITIONS

1. Goals

Common To All Planning Areas

- The first and dominant goal would be to provide for the long-term protection and preservation of the areas' wilderness character under a principle of non-degradation. The areas' natural condition, opportunities for solitude, opportunities for primitive and unconfined types of recreation, and any ecological, geological, or other features of scientific, educational, scenic, or historical value present would be managed so that they remain unimpaired.
- The second goal would be to manage the wilderness areas for the use and enjoyment of visitors in a manner that leave the areas unimpaired for future use and enjoyment as wilderness. The wilderness resource would be a dominant factor in all management decisions where a choice must be made between preservation of wilderness character and visitor use.
- The third goal would be to manage the areas using the minimum tools, equipment, and/or structures necessary to accomplish the objective successfully, safely, and economically. The chosen tools, equipment, or structures would be the ones that least degrade wilderness values temporarily or permanently. Management would seek to preserve spontaneity of use and as much freedom from regulation as possible.
- The fourth goal would be to manage non-conforming but accepted uses permitted by the Wilderness Act and subsequent laws in a manner that would prevent unnecessary or undue degradation of the areas' wilderness character. Nonconforming uses are the exception rather than the rule; therefore, emphasis would be placed on maintaining wilderness character.

2. Objectives

Common To All Planning Areas

- The wilderness character of the eight designated BLM wilderness areas and seven NPS Proposed Wildernesses would be protected and enhanced. Wilderness character is defined by (from Section 2(c), Wilderness Act):
- Naturalness: An area that generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable.
 - Outstanding Opportunities for Solitude: Superior or excellent condition favorable for avoiding the sights, sounds, and evidence of other people in the area or for attaining a state of being alone or remote from others. A lonely or secluded place.
 - Outstanding Opportunities for Primitive and Unconfined Recreation: Superior or excellent situations favorable for non-motorized, non-mechanical (except as provided by law), and undeveloped types of recreation activities. Provides dispersed, undeveloped recreation, either through the diversity in the number of primitive and unconfined recreational activities possible in the area or the outstanding quality of a singular opportunity.
 - Supplemental Values: Ecological, geological, or other features of scientific, educational, scenic, or historical value.
- BLM wilderness areas and NPS proposed wilderness would be managed to be ecologically sustainable and resilient to natural and human-caused perturbations. (See Table 2.3: Vegetation and Fire and Fuels Management.) The NPS and BLM would strive to preserve or restore the natural quiet and natural sounds associated with the physical and biological resources of designated and proposed wilderness.

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
N/A	Ecological DFCs would be adopted as objectives for wilderness areas. (See Table 2.3: Vegetation and Fire and Fuels Mgmt.)			
B. MANAGEMENT ACTIONS				
1. Actions to Achieve				
a. Wilderness Management				
<i>Common To All Planning Areas</i>				
N/A	<ul style="list-style-type: none"> Lands within BLM wilderness areas and NPS proposed wilderness could be restored where ecological integrity is outside the range of natural variability and where compatible with wilderness objectives. (See Table 2.3: Vegetation Management.) The Minimum Requirement Decision Guide (Arthur Carhart National Wilderness Training Center, most recent version) would be used by the BLM and NPS in all decisions, giving greatest weight to accomplishing objectives via natural processes and non-mechanized/non-motorized means. When fire would be managed in designated BLM wilderness areas or NPS proposed wilderness, MIST would be used. Fire management actions would be consistent with the wilderness management objectives and guidelines described in the BLM and Lake Mead Fire Management Plans. 			
Parashant				
NPS proposed wilderness would be as described and delineated in the Lake Mead NRA 1979 Wilderness Proposal.				
Per NPS Management Policies and Wilderness Management Policies (Director's Order 41), proposed wilderness would continue to be managed as designated wilderness, allowing no actions that would diminish its wilderness characteristics until the legislative process of wilderness designation has been completed.				
Subsurface mineral rights would be acquired from willing sellers on NPS lands where NPS manages the surface estate.				
b. Wilderness Management Plan				
<i>Common To All Planning Areas</i>				
The BLM wilderness areas would continue to be managed in accordance with their existing wilderness management plans.	Existing BLM wilderness management plans would be revised to place higher emphasis or dependence on allowing natural processes to maintain or restore natural conditions.	Existing BLM wilderness management plans would be evaluated and amended where necessary to conform to new management direction where appropriate, such as Monument proclamations, DFCs, or listed species recovery plans.		
Parashant				
A wilderness management plan would be developed to guide the preservation, management, and use of NPS wilderness resources (NPS-WD-3).				

TABLE 2.16: SPECIAL DESIGNNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>Arizona Strip FO</i>				
A joint BLM/USFS wilderness management plan would be written with the North Kaibab Ranger District for Kanab Creek Wilderness.				
c. Wilderness Restoration				
<i>Common To All Planning Areas</i>				
N/A	Prescribed fire and fire use could be used in areas classified as Wildland Fire Use within BLM wilderness areas and NPS proposed wilderness to achieve DFCs and wilderness area management objectives described in each agency's Fire Management Plan. Vegetation could also be treated manually.			
Portions of Cottonwood Point and Paria Canyon-Vermilion Cliffs Wildernesses that exist in an unacceptable condition due to past human activities would be restored to a natural condition, where restoration is feasible, and where natural processes would not be likely to succeed.	Natural processes would be relied upon to restore wilderness conditions where they are degraded.	Natural processes would be primarily relied on to restore areas of pre-existing human imprints in BLM wilderness and NPS proposed wilderness. Where proactive restoration of wilderness conditions is desirable, BLM and NPS would require conformance with BLM wilderness policy (BLM Manual 8560), and may require restoration plans to address restoration of pre-existing human impacts.		
Rehabilitation project plans would be developed for areas documented as unacceptable in the Cottonwood Point and Paria Canyon-Vermilion Cliffs Wildernesses.	Only fire (natural and prescribed) would be used to restore ecological functions and structure in BLM wilderness areas and NPS proposed wilderness.	In conformance with BLM wilderness policy (BLM Manual 8560) for BLM wilderness areas and NPS policies for proposed wilderness, the best mix of mechanical means, with fire and natural processes, would be determined in order to restore ecological functions and wilderness values.		In conformance with BLM wilderness policy (BLM Manual 8560) for BLM wilderness areas and NPS policies for proposed wilderness, the best mix of manual, chemical, biological, or mechanical means, with fire and natural processes, would be determined in order to restore ecological functions and structure in wilderness.

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
II. WILD AND SCENIC RIVERS (ADMINISTRATIVE DESIGNATION)				
A. DESIRED FUTURE CONDITIONS				
1. Wild and Scenic Rivers Interim Management				
<i>Vermilion and Arizona Strip FO</i>				
The viability of wild and scenic river candidates for congressional consideration would be ensured through effective interim management.				
Until Congress acts to designate or release from further consideration rivers determined to be eligible and suitable through the previous RMP process and the subsequent Arizona Statewide Wild and Scenic River LEIS, the following desired conditions would be maintained:				
<ul style="list-style-type: none"> • Preservation of the stream's free-flowing nature. • Preservation, protection, and, to the greatest extent practicable, enhancement of identified outstandingly remarkable values, which area as follows: <ul style="list-style-type: none"> ▪ Paria River: scenic, recreational, geologic, riparian, fish and wildlife, and cultural values. ▪ Virgin River: scenic, geologic, aquatic and riparian values. • Preservation of characteristics that establish the potential classifications as Wild, Scenic, or Recreational: <ul style="list-style-type: none"> ▪ Wild: free of impoundments, generally inaccessible except by trail, with shorelines essentially primitive and waters unpolluted. ▪ Scenic: free of impoundments and generally inaccessible except by trail. However, shoreline disturbance from highway construction is apparent at several points. ▪ Recreational: several access points and noticeable human developments. 				
2. Potential Congressional Designation				
<i>Vermilion</i>				
If congressionally designated, water quality would be maintained or improved.				
3. Congressional Release				
<i>Vermilion and Arizona Strip FO</i>				
Should Paria River and Virgin River study area lands not be included by Congress in the National Wild and Scenic Rivers System but instead be released from further consideration and/or interim management, those lands would be managed by the BLM using the goals, guidance and prescriptions described for the corresponding land use allocations.				

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
B. SPECIAL DESIGNATIONS				
1. Wild and Scenic River Suitability Recommendation				
<i>Vermilion</i>				
The Paria River, including the portion through the Glen Canyon NRA to the confluence of the Colorado River, would continue to be tentatively classified as wild and scenic.				
The entire 27-mile Paria River study area (BLM portion) would continue to be recommended for designation as wild.				
The Paria River study area would continue to be determined as suitable for inclusion in the National Wild and Scenic Rivers System.				
<i>Arizona Strip FO</i>				
The Virgin River would retain its tentative classification as wild from the Utah state line to the first I-15 bridge; scenic from the I-15 bridge to the Virgin River Campground; and recreational from the campground to the Nevada state line.				
The Virgin River would retain its designation as the Virgin River Corridor ACEC to protect important wild and scenic river characteristics.				
The Virgin River study area would retain its suitability determination for inclusion in the National Wild and Scenic Rivers System.				
The Virgin River study area would retain its recommendation for designation as a Study River under Section 5(a) of the Wild and Scenic Rivers Act (PL 90-542).				
C. MANAGEMENT ACTIONS				
1. Actions to Achieve				
<i>Vermilion & Arizona Strip FO</i>				
Implementation of the recommendations for Paria River and Virgin River would continue the protective status (interim management) associated with the eligibility findings defined in the Arizona Strip District RMP until Congress makes a decision about wild and scenic river designations.				
<i>Vermilion</i>				
Wild and scenic river designation would continue to require certain management actions to be initiated in connection with the designation of the Paria River study area as wild. Where wild and scenic river management actions overlap ongoing management actions, the more stringent action would be implemented.				
<i>Arizona Strip FO</i>				
The Virgin River would be studied in conjunction with Utah and Nevada to determine suitability under the Wild and Scenic River Act.				
The recommendation for designation of the Virgin River study area to be designated as a study river would preclude there being any wild and scenic river management actions associated with implementation.				

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
2. Allowable Uses				
a. Restrictions of Uses from a Potential Congressional Designation				
<i>Vermilion</i>				
Developed campgrounds, interpretive centers, or administrative headquarters within the river corridor would continue to be prohibited. Simple comfort and convenience facilities could be permitted.				
New transmission lines, natural gas lines, and water lines would continue to be prohibited.				
Woodcutting would continue to not be permitted except when needed to clear trails, for visitor safety, or to control fire.				
Livestock grazing would continue to be managed to protect outstandingly remarkable values within the area.				
Instream flows would continue to be quantified and protected. An instream flow assessment would continue to be made in order to secure instream flow water rights for applicable outstandingly remarkable values.				
No new flood control dams, levees, or other water works would be permitted.				
Hydroelectric power facilities would continue to be prohibited.				
All water supply dams and major diversions would continue to be prohibited.				
Construction of new roads or trails for motorized travel would continue to be prohibited.				
b. Restrictions on Uses Under Interim Management				
<i>Arizona Strip FO</i>				
Potential actions that may affect Virgin River wild and scenic values would be subject to interim protection. Management activities would not be allowed to damage the existing eligibility, classification, or suitability. The free-flowing characteristics of the river segment cannot be modified.				
III. NATIONAL HISTORIC TRAIL (CONGRESSIONAL DESIGNATION)				
The Old Spanish Trail Recognition Act of 2002 (Public Law 107-325) designated approximately 3,000 miles of trail routes from Santa Fe, New Mexico to Los Angeles, California (December 4, 2002).				
A. DESIRED FUTURE CONDITIONS (Old Spanish NHT Interim Management)				
<i>Vermilion and Arizona Strip FO</i>				
The following DFCs would apply to the Old Spanish NHT:				
<ul style="list-style-type: none"> • Visitors seeking to experience the NHT would understand and appreciate the trail's history and significance • Visitors would appreciate and respect the rights of landowners in the area. • High-potential NHT segments and historic sites would be protected from over-use, inappropriate use, and vandalism. • Scenic values related to historical resources would be protected. • The viability of NHT resources for comprehensive planning would be ensured through effective interim management. 				

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> • Maximum protection of historic and prehistoric properties within the trail corridor would be provided. • The trail would be managed using the interim provisions of this Plan until a Comprehensive Management Plan/EIS is produced by the Old Spanish NHT planning team. 				
<p>B. MANAGEMENT ACTIONS</p>				
<p>1. Actions to Achieve</p>				
<p>a. Visitor Information and Education</p>				
<p><i>Vermilion and Arizona Strip FO</i></p>				
<p>Trail resources (natural, cultural, and historical) would be identified, recorded, and protected on federal land. The BLM would gather new information on known or additional high-potential historic sites and segments and cooperate with other federal managers, trail scholars, and state historic preservation offices in adding, deleting, or modifying the list of sites and trail segments.</p>				
<p>The following criteria, based on the NRHP and the National Trails System Act, would be used to begin to identify high-potential sites or high-potential route segments resources on public lands:</p>				
<ul style="list-style-type: none"> • Significance to the trail (based on documentation and/or archeological research). • Integrity of the physical remains. • Integrity and quality of the setting including scenic quality and relative freedom from intrusion. • Opportunity for high-quality recreation evoking the historic trail experience. • Opportunity to interpret the primary period of trail use. 				
<p>b. Resource Protection</p>				
<p><i>Vermilion and Arizona Strip FO</i></p>				
<p>Where significant trail corridor segments and associated sites are documented, viewsheds, as observed from these areas, would be maintained.</p>				
<p>When high potential trail sites and/or trail segments on BLM lands are documented, existing routes that may adversely affect these resources may be limited or closed.</p>				
<p>Any changes to the characteristic landscape must be low in the Old Spanish NHT corridor on public lands. (See Table 2.8: Visual Resources.)</p>				
<p>Recreational development of the trail would not occur prior to the development of the Comprehensive Management Plan/EIS.</p>				
<p>2. Allowable Uses</p>				
<p><i>Vermilion and Arizona Strip FO</i></p> <p>Valid existing rights and existing land use authorizations would be recognized on public lands.</p>				

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
C. ADMINISTRATIVE ACTIONS				
<i>Vermilion and Arizona Strip FO</i>				
<p>The BLM and local partners would:</p> <ul style="list-style-type: none"> • Provide a supply of existing interpretive and educational materials about the Old Spanish NHT and NHT system. • Provide, to the extent feasible, trip-planning and other information about the trail to support visitation to trail-related sites. • Work with the Old Spanish Trail Association to provide brochures at regional visitor centers and museums to promote education about the trail. <p>Scheduled site monitoring of significant sites and trail segments on BLM lands would be provided.</p>				
IV. RESOURCE CONSERVATION AREAS (RCAs; ADMINISTRATIVE DESIGNATION)				
A. LAND USE ALLOCATION				
<i>Parashant</i>				
Mt. Trumbull RCA would retain its designation at 102,307 acres to protect wilderness, wildlife habitat, livestock grazing, recreation, ponderosa forest, cultural resources, scenic values, and watershed resources				The Mt. Trumbull RCA (102,307 acres) designation would be revoked because the Monument provides protection of resources.
Parashant RCA would retain its designation at 39,868 acres to protect wildlife habitat, livestock grazing, recreation, and watershed resources.				The Parashant RCA (39,868 acres) designation would be revoked because the Monument provides protection of resources.
<i>Vermilion</i>				
Canyons/Plateaus of the Paria RCA would retain its designation at 293,689 acres to protect cultural resources, recreation, scenic values, wilderness, recreation, and wildlife habitat.				The Canyons/Plateaus of the Paria RCA (293,689 acres) designation would be revoked because the Monument provides protection of resources.

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
V. AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ADMINISTRATIVE DESIGNATION)				
ACECs would be designated where special management is needed to protect and prevent irreparable damage to important historic, cultural, fish or wildlife, and plant resources and their context or habitat (See Map 2.20 at end of Table 2.16, See Table 2.7: Cultural Resource and Table 2.5: Special Status Species for specific ACEC designations proposed. See Appendix 2.K for specific ACEC values, relevance, and importance criteria).				
A. Desired Future Conditions				
<i>Arizona Strip FO</i>				
ACECs would provide protection for special status plant and animal species, scenic values, riparian values, wilderness characteristics, and significant cultural resources.				
B. Special Designations				
ACECs would be managed for information, protection, conservation, interpretation, and education.				
1. Nampaweap ACEC				
The Nampaweap ACEC would be maintained at 535 acres to protect cultural resources.				
2. Witch Pool ACEC				
The Witch Pool ACEC would be maintained at 279 acres to protect cultural resources				
3. Pakoon ACEC				
The Pakoon DWMA/ACEC would be maintained at 76,014 acres for protection of the threatened desert tortoise and Mojave Desert Ecological Zone values. Activities administered by the Arizona Strip on Lake Mead NRA and on public lands in Nevada				
The Nampaweap ACEC would be revoked because Monument status provides additional protection of resources beyond ACEC designation.				
The Witch Pool ACEC would be revoked because Monument status provides additional protection of resources beyond ACEC designation.				
The Pakoon ACEC for protection of the threatened desert tortoise and Mojave Desert Ecological Zone would be revoked because Monument status provides additional protection of resources beyond that afforded by ACEC designation.				

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>would be managed in accordance with DWMA/ACEC prescriptions.</p>				
<p>Arizona Strip FO</p>				
<p>1. Beaver Dam Slope ACEC</p>				
<p>The Beaver Dam Slope ACEC for protection of threatened desert tortoise and Mojave Desert values would be maintained at 51,197 acres.</p>	<p>The Beaver Dam Slope ACEC for protection of threatened desert tortoise and Mojave Desert Ecological Zone values would be enlarged to 52,753 acres. Boundary adjustments would incorporate areas of critical habitat and lower quality habitat not previously included in the ACEC.</p>	<p>The Beaver Dam Slope ACEC for protection of threatened desert tortoise and Mojave Desert Ecological Zone values would be enlarged to 51,985 acres. Boundary adjustments would incorporate areas of critical habitat, desert tortoise habitat previously in the Virgin River Corridor ACEC, and lower quality habitat not previously included in the ACEC.</p>		
<p>2. Little Black Mountain ACEC</p>				
<p>The Little Black Mountain ACEC for the protection of cultural resources would be maintained at 241 acres.</p>				
<p>3. Marble Canyon ACEC</p>				
<p>The Marble Canyon ACEC for the protection of Brady pincushion cactus would be maintained at 11,012 acres.</p>	<p>The Marble Canyon ACEC for the protection of Brady pincushion cactus and cultural resources would be enlarged to 102,141 acres. Increases in ACEC acreage would be due to inclusion of most of the lower portion of House Rock Valley for additional protection afforded to Fickeisen plains cactus, pronghorn antelope, and House Rock Valley chisel-toothed kangaroo rat.</p>	<p>The Marble Canyon ACEC for the protection of Brady pincushion cactus and cultural resources would be enlarged to 11,926 acres. Changes in ACEC acreage would be due to inclusion of areas of occupied habitat, removal of areas where repeated surveys have indicated the cactus is not present, and House Rock Valley with Fickeisen plains cactus, pronghorn antelope, and House Rock Valley chisel-toothed kangaroo rat.</p>	<p>The Marble Canyon ACEC for the protection of Brady pincushion cactus and cultural resources would be enlarged to 12,105 acres. Changes in ACEC acreage would be due to inclusion of areas of occupied habitat, removal of areas where repeated surveys have indicated the cactus is not present, and removal of portions of House Rock Valley with Fickeisen plains cactus,</p>	<p>The Marble Canyon ACEC for the protection of Brady pincushion cactus and cultural resources would be enlarged to 12,105 acres. Changes in ACEC acreage would be due to inclusion of areas of occupied habitat, removal of areas where repeated surveys have indicated the cactus is not present, and removal of portions of House Rock Valley with Fickeisen plains cactus,</p>

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
				pronghorn antelope, and House Rock Valley chisel-toothed kangaroo rat.
4. Virgin River Corridor ACEC				
The Virgin River Corridor ACEC for protection of Virgin River fishes and threatened desert tortoise would be modified to include only the 100-year floodplain (approx. 2,065 acres). Boundary adjustments would eliminate areas outside of the 100-year floodplain previously included in the ACEC. Desert tortoise habitat previously included within this ACEC would be incorporated into and managed as a part of the Beaver Dam Slope or Virgin Slope ACEC. The Virgin River Corridor ACEC would then be managed for Virgin River fishes and riparian values only.				
5. Virgin Slope ACEC				
The Virgin Slope ACEC for protection of threatened desert tortoise and Mojave Desert values would be maintained at 39,931 acres.	The Virgin Slope ACEC for protection of threatened desert tortoise and Mojave Desert Ecological Zone values would be enlarged to 40,287 acres. Boundary adjustments would incorporate areas of critical habitat and lower quality habitat not previously included in the ACEC.	The Virgin Slope ACEC for protection of threatened desert tortoise and Mojave Desert Ecological Zone values would be enlarged to 40,206 acres. Boundary adjustments would incorporate areas of critical habitat, desert tortoise habitat previously in the Virgin River Corridor ACEC, and lower quality habitat not previously included in the ACEC.		The Virgin Slope ACEC for protection of threatened desert tortoise and Mojave Desert Ecological Zone values would be enlarged to 39,514 acres. Boundary adjustments would incorporate areas of critical habitat, desert tortoise habitat previously in the Virgin River Corridor ACEC, and lower quality habitat not previously included in the ACEC.
6. Fort Pearce ACEC				
The Fort Pearce ACEC for protection of threatened Siler pincushion cactus would be maintained at 916 acres.	The Fort Pearce ACEC for protection of threatened Siler pincushion cactus would be enlarged to 5,498 acres. Increases in the ACEC size would be due to incorporating areas with known populations of Siler pincushion cactus not previously included within the ACEC boundary.	The Fort Pearce ACEC for protection of threatened Siler pincushion cactus designation would be revoked because route designation provides sufficient protection.		The Fort Pearce ACEC for protection of threatened Siler pincushion cactus would be enlarged to 5,724 acres. Increases in the ACEC size would be due to incorporating areas with known populations of Siler pincushion cactus not

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
7. Johnson Spring ACEC				
The Johnson Spring ACEC for protection of cultural resources and threatened Siler pincushion cactus would be maintained at 2,464 acres.	The Johnson Spring ACEC for protection of cultural resources and threatened Siler pincushion cactus would be reduced to 2,058 acres. Decreases in ACEC acreage would be due to removal of areas where repeated surveys have indicated these resource values are not present.	The Johnson Spring ACEC for protection of cultural resources and threatened Siler pincushion cactus would be reduced to 1,986 acres. Decreases in ACEC acreage would be due to removal of areas where repeated surveys have indicated these resource values are not present.	The Johnson Spring ACEC designation for protection of cultural resources and threatened Siler pincushion cactus would be revoked because route designation provides sufficient protection.	The Johnson Spring ACEC for protection of cultural resources and threatened Siler pincushion cactus would be increased to 3,444 acres. Increases in the ACEC size would be due to incorporating areas with known populations of Siler pincushion cactus not previously included within the ACEC boundary.
8. Lost Spring Mountain ACEC				
The Lost Spring Mountain ACEC for protection of cultural resources and threatened Siler pincushion cactus would be maintained at 8,262 acres	The Lost Spring Mountain ACEC for protection of cultural resources and threatened Siler pincushion cactus would be increased to 17,744 acres. Increases in ACEC acreage would be due to inclusion of areas with significant resource values not previously included.	The Lost Spring Mountain ACEC for protection of cultural resources and threatened Siler pincushion cactus would be reduced to 4,431 acres. Decreases in ACEC acreage would be due to removal of areas where repeated surveys have indicated these resource values are not present.	The Lost Spring Mountain ACEC designation for protection of cultural resources and threatened Siler pincushion cactus would be revoked because route designation provides sufficient protection from OHV impacts.	The Lost Spring Mountain ACEC for protection of cultural resources and threatened Siler pincushion cactus would be increased to 19,248 acres. Increases in ACEC acreage would be due to inclusion of areas with significant resource values not previously included.
9. Moonshine Ridge ACEC				
The Moonshine Ridge ACEC for protection of cultural resources and threatened Siler pincushion cactus would be maintained at 5,095 acres.	The Moonshine Ridge ACEC for protection of cultural resources and threatened Siler pincushion cactus would be increased to 9,231 acres. Increases in ACEC acreage	The Moonshine Ridge ACEC for protection of cultural resources and threatened Siler pincushion cactus would be reduced to 2,575 acres. Decreases in ACEC acreage	The Moonshine Ridge ACEC designation for protection of cultural resources and threatened Siler pincushion cactus would be revoked because route designation	The Moonshine Ridge ACEC for protection of cultural resources and threatened Siler pincushion cactus would be increased to 9,310 acres. Increases in ACEC acreage

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	would be due to inclusion of areas with significant resource values not previously included.	would be due to removal of areas where repeated surveys have indicated these resource values are not present.	provides sufficient protection from OHV impacts.	would be due to inclusion of areas with significant resource values not previously included.
10. Black Knolls ACEC				
N/A	The Black Knolls ACEC for the protection of endangered Holmgren milkvetch would be designated at 80 acres		The Black Knolls ACEC for the protection of endangered Holmgren milkvetch would not be designated because route designation provides sufficient protection from OHV impacts.	The Black Knolls ACEC for the protection of endangered Holmgren milkvetch would be designated at 428 acres and would include proposed critical habitat for the species
11. Kanab Creek ACEC				
N/A	The Kanab Creek ACEC for the protection of endangered SW Flycatcher habitat and riparian, scenic, and cultural resources would be designated at 13,148 acres.	The Kanab Creek ACEC for the protection of endangered SW Flycatcher habitat and riparian, scenic, and cultural resources would be designated at 9,211 acres.	The Kanab Creek ACEC for the protection of endangered SW Flycatcher habitat and riparian, scenic, and cultural resources would not be designated because route designation provides sufficient protection from OHV impacts.	Same as Alternative B
12. Coyote Valley ACEC				
N/A	The Coyote Valley ACEC for protection of special status Paradine pincushion cactus would be designated at 776 ac.	The Coyote Valley ACEC for protection of special status Paradine pincushion cactus would not be designated because recent inventories revealed that the Paradine pincushion cactus was located within Vermilion, therefore, Monument status already provides additional protection of resources.		
13. Lone Butte ACEC				
N/A	The Lone Butte ACEC for protection of scenic resources and threatened Jones Cycladenia would be designated at 1,900 acres.		The Lone Butte ACEC for protection of threatened Jones Cycladenia would not be designated.	The Lone Butte ACEC for protection of threatened Jones Cycladenia and scenic values would be designated at 1,762 acres.

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
14. Shinarump ACEC				
N/A	The Shinarump ACEC for protection of threatened Siler pincushion cactus would be designated at 3,619 acres.	The Shinarump ACEC would not be designated.		The Shinarump ACEC would be relocated southwest of the originally proposed location and would be designated for protection of threatened Siler pincushion cactus at 3,237 acre.
15. Buckskin ACEC				
N/A	The Buckskin ACEC for protection of the Cliff milkvetch would be designated at 160 acres.			The Buckskin ACEC for protection of the Cliff milkvetch would not be designated because this species is not recognized as being rare and therefore is not regionally significant.
16. Clayhole ACEC				
N/A	The Clayhole ACEC for protection of the candidate Fickeisen plains cactus would be designated at 7,362 acres.			The Clayhole ACEC for protection of the candidate Fickeisen plains cactus would not be designated because route designation provides sufficient protection from OHV impacts.
17. Grey Points ACEC				
N/A	The Grey Points ACEC for protection of desert bighorn sheep habitat and Gierisch globe mallow would be designated at 12,881 acres.			The Grey Points ACEC for protection of desert bighorn sheep habitat would not be designated because this area, while locally important for bighorn, is not considered regionally unique or significant.
18. Hurricane Cliffs ACEC				
N/A	The Hurricane Cliffs ACEC for protection of desert bighorn sheep habitat and riparian values would be designated at 23,464 acres.			The Hurricane Cliffs ACEC for protection of desert bighorn sheep habitat would not be designated because this area, while locally important for bighorn, is not considered regionally unique or significant. The isolated nature of this area is adequate protection for riparian values.

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
19. Lime Kiln/Hatchet Canyon ACEC				
N/A	The Lime Kiln/Hatchet Canyon ACEC for protection of desert bighorn sheep habitat would be designated at 1,731 acres.			The Lime Kiln/Hatchet Canyon ACEC for protection of desert bighorn sheep habitat would not be designated because this area, while locally important for bighorn, is not considered regionally unique or significant.
20. Twist Hills ACEC				
N/A	The Twist Hills ACEC for protection of the candidate Fickeisen plains cactus would be designated at 1,255 acres.			The Twist Hills ACEC for protection of the candidate Fickeisen plains cactus would not be designated because route designation provides sufficient protection from OHV impacts.
C. MANAGEMENT ACTIONS				
<i>Arizona Strip FO</i>				
General Management Decisions (Apply to all existing and proposed ACECs)				
<ul style="list-style-type: none"> • The BLM would retain the ACECs in public ownership. • The BLM would seek to acquire non-federal lands and interests in lands within the ACECs, from willing sellers by purchase, exchange, or donation. Acquisitions would include surface and subsurface rights, and water rights, whenever possible. • New land use authorizations would be discouraged within ACECs and would be authorized only when no reasonable alternative exists and impacts to cultural resources or listed species and their habitat can be mitigated with special terms and conditions. New ROWs would be routed away from high-density listed species' populations, and along the edges of avoidance areas. • Vegetation diversity would be maintained or improved in accordance with ecosite guides. • Restoration and vegetation treatments would be authorized only where the doing so would result in benefits for resources and values protected by the ACEC. • ACECs would be closed to all vegetative product sales. • ACECs designated for the protection of plants would be closed to the collection of vegetative materials. In other ACECs, collection of dead and down wood would be allowed for personal campfire use only, subject to fire restrictions. • ACECs would remain open to locatable mineral exploration and development. A Mining Plan of Operation with special mitigation measures would be required to avoid impacts to critical resources or proposed or designated critical habitat. • ACECs would remain open to leasable mineral exploration and development. Special mitigation would be required to avoid impacts to special status species and proposed or designated critical habitat and cultural resources. • New mineral material disposal sites in ACECs would not be authorized. Existing material sites would be evaluated and closed if found to be impacting significant resources. 				

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> • The BLM would not authorize or renew material site ROWs in ACECs • Motorized and mechanized vehicle use in ACECs would be limited to designated roads or trails (see Table 2.15: Travel Management). For the purpose of protecting the resources and values of the ACEC, no areas would be authorized for cross-country, off-road vehicular use except for authorized administrative and emergency purposes. Motorized use would keep within the designated route with reasonable use of the shoulder and immediate roadside, allowing for vehicle passage, emergency stopping, or parking, unless otherwise posted. • New roads would be authorized on a temporary basis only or when beneficial for relevant resources. • The BLM would authorize only temporary upgrading of existing roads. 				
<p>1. Beaver Dam Slope and Virgin Slope ACECs (Desert Tortoise Management)</p>				
<p>Fire management in desert tortoise habitat would include conservation measures for desert tortoise as described in Appendix 2.E.</p>				
<p>Vegetation management within the desert tortoise ACECs would include the following management:</p>				
<ul style="list-style-type: none"> • Vegetation management in desert tortoise habitat would include conservation measures for desert tortoise as described in Appendix 2.E. • No mechanical treatment or conversion would be allowed unless the project benefits or improves tortoise management and condition of habitat. • Habitat restoration in desert tortoise habitat could include planting or seeding of nonnative plants. • Desert tortoise ACECs would be closed to live vegetation harvest, except salvage in areas where surface disturbance has been authorized. • Collection of dead and down wood would be allowed for personal camp use only. 				
<p style="text-align: center;"><i>Arizona Strip FO Desert Tortoise ACECs (Beaver Dam Slope and Virgin Slope ACECs; see also Table 2.16. Special Designations.)</i></p>				
<p>Desert Tortoise Management:</p>				
<ul style="list-style-type: none"> • The BLM would seek funding and cooperate with Mojave County, ADOT, FHA, and others on opportunities to erect tortoise barrier fencing along Highway 91 on the Beaver Dam Slope and along other routes where desert tortoise mortality is or becomes significant. 				
<p>Grazing Management:</p> <ul style="list-style-type: none"> • The Beaver Dam, Highway, and Mormon Well Allotments would be unavailable for livestock grazing from October 15 to March 15. 		<p>Grazing Management:</p> <ul style="list-style-type: none"> • The Beaver Dam, Highway, and Mormon Well Allotments would be available for livestock grazing from October 15 to March 15. • The Littlefield Slope Pasture of the Littlefield and Mesquite Community Allotments would be available for livestock grazing from October 15 to March 15. 		
<ul style="list-style-type: none"> • The Littlefield Slope Pasture of the Littlefield and Mesquite Community Allotments would be available for livestock grazing from October 15 to March 15. 				

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
be available for livestock grazing from October 15 to March 15.	unavailable for livestock grazing.			
Grazing Management:				
<ul style="list-style-type: none"> • Grazing utilization levels would be set at 45% of current year's growth on allotments in desert tortoise habitat. 				
Travel management actions within the desert tortoise ACECs would include the following decisions:				
<ul style="list-style-type: none"> • Motorized and mechanized travel would be limited to designated roads and trails. • BLM would complete a proposal to close roads and designate routes in the desert tortoise ACECs. Roads targeted for closure would include those that 1) have no purpose, 2) are duplicative or redundant, or 3) are causing high levels of mortality of tortoises. Vehicles would be restricted to existing roads and trails prior to route designation. After designation, vehicles would be restricted to designated routes only. Implementation of the closure/designation plan would include the following actions 1) sign entry portals/major intersections with signs that read "Limited to Designated Roads and Trails", 2) sign all designated routes as open, 3) and sign along designated routes indicating that driving off of designated routes is not permitted. • New paved roads would not be authorized in desert tortoise ACECs. Temporary upgrading of existing roads and construction of new unpaved roads in ACECs could be authorized only where positive benefits would result for desert tortoise or their management. New paved roads and highways or major reconstruction or modifications of existing paved roads along the edges of the ACECs would be fenced with desert tortoise barrier fencing. Culverts, to allow safe passage of tortoises, would be constructed in coordination with ADOT, FHA, and USFWS. • Use of new roads constructed for specific non-public purposes, such as access routes to microwave towers, would be limited to administrative use only. • Temporary access routes in desert tortoise habitat created during project construction would be modified as necessary to prevent further use. • The BLM would maintain or authorize maintenance of existing roads in desert tortoise habitat, except that non-emergency maintenance activities would be conducted from October 15 to March 15. Operators of road graders and other maintenance equipment would be required to attend an education class prior to performing the work. Maintenance activities would be limited to previously disturbed areas, unless cleared by a qualified biologist. • Vehicles associated with BLM-authorized projects traveling on unpaved roads in ACECs would be required to keep speeds at or below 40 mph during the active season to protect desert tortoises. Speed limits may be less on specific roads through high-density tortoise areas. 				
Recreation management within the desert tortoise ACECs would include the following decisions:				
<ul style="list-style-type: none"> • The BLM would restrict vehicle-based camping in the desert tortoise ACECs to within 50 ft of designated routes. Before route designation, vehicle-based camping would be limited to within 50 ft of existing routes. No camping would be authorized for longer than 14 consecutive days in any one area within the desert tortoise ACECs. • Camping would be allowed, but vehicles must keep motorized use within the designated route with reasonable use of the shoulder and immediate roadside. Backpacking, horseback riding, and mountain biking would be allowed throughout the area, providing tortoise habitats or populations are not adversely impacted. 				

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> • All lands within desert tortoise ACECs and within all other desert tortoise designated critical habitat would be retained. Exchanges or sales of desert tortoise habitat out of public ownership would be limited to parcels identified in the RMP. • The BLM would not authorize any land uses under 	<ul style="list-style-type: none"> • Competitive speed events would be prohibited within the desert tortoise ACECs. • Organized non-speed events would be restricted to designated roads within the desert tortoise ACECs. • Activities that could adversely affect the desert tortoise during their active season within tortoise habitat may be limited to the period between October 15 and March 15. The BLM may restrict season of use, number of visitors, and/or close an area to recreational activities. <p>Minerals management within the desert tortoise ACECs would include the following decisions:</p> <ul style="list-style-type: none"> • ACECs would remain open to mineral entry under the mining laws. • Mineral material disposals would not be authorized within the desert tortoise ACECs. • Special mitigation would be required in mining plans of operation to avoid impacts to desert tortoise within the desert tortoise ACECs. • ACECs would be closed to authorization or renewal of material site ROWs. • Mineral leasing in the desert tortoise ACECs would only be authorized with the stipulation of waivable no surface occupancy or no surface occupancy. • All activities associated with surface occupancy for mineral leasing within DWMA/ACECs would be limited to the period October 15 to March 15 and subject to all other conservation measures. • The desert tortoise ACECs would be closed to mineral sales. • In regard to locatable minerals in DWMA/ACECs, the Bureau would require plans of operation and bonding for any activity above the level of casual use, pursuant to the surface management regulations (43 CFR 3809). The Bureau would approve plans of operation that reduce the chance of take occurring in accordance with these terms and conditions. • BLM would close the desert tortoise ACECs to authorization or renewal of material site ROWs. • Non-commercial hand collection of rocks within 100 feet of designated open roads would be permitted in desert tortoise ACECs. 			
<p>Lands and Realty:</p> <ul style="list-style-type: none"> • Specific parcels of low density (former category 3) desert tortoise habitat that have little to no potential for self-sustaining tortoise populations have been identified in Appendix 2.M. as eligible for disposal. These parcels occur in the area between the impassable barriers of Interstate 15 and the Virgin River, outside of any ACEC, and would allow for regional growth near Littlefield and Beaver Dam with the least disturbance to desert tortoise. Parcels would be surveyed for special status species and other sensitive resources prior to disposal. The effects of future development on water quality and flows in the Virgin River would be addressed in NEPA documents and ESA consultation prior to disposal. Up to 200 acres not listed in Appendix 2.M or identified for specific purposes in these alternatives would be retained in public ownership unless needed for recreation or public purposes. Disposal proposals under the R&PP Act on lands not identified for disposal would be considered on a case-by-case basis. (See Appendix 2.M and Map 2.7. Also see <i>Acquisitions/Retentions</i> section above for lands exempt from disposals.) Revenues generated from the sale of FLTFA parcels could be used to acquire adjacent lands with high resource values in accordance with the Arizona Statewide Interagency Implementation Agreement. 	<p>Lands and Realty:</p> <ul style="list-style-type: none"> • Specific parcels of low density (former category 3) desert tortoise habitat that have little to no potential for self-sustaining tortoise populations have been identified in Appendix 2.M. as eligible for disposal. These parcels occur in the area between the impassable barriers of Interstate 15 and the Virgin River, outside of any ACEC, and would allow for regional growth near Littlefield and Beaver Dam with the least disturbance to desert tortoise. Parcels would be surveyed for special status species and other sensitive resources prior to disposal. The effects of future development on water quality and flows in the Virgin River would be addressed in NEPA documents and ESA consultation prior to disposal. Up to 200 acres not listed in Appendix 2.M or identified for specific purposes in these alternatives would be retained in public ownership unless needed for recreation or public purposes. Disposal proposals under the R&PP Act on lands not identified for disposal would be considered on a case-by-case basis. (See Appendix 2.M and Map 2.7. Also see <i>Acquisitions/Retentions</i> section above for lands exempt from disposals.) Revenues generated from the sale of FLTFA parcels could be used to acquire adjacent lands with high resource values in accordance with the Arizona Statewide Interagency Implementation Agreement. 			

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>the R&PP Act within the desert tortoise ACECs.</p> <ul style="list-style-type: none"> • Landfills, airports, or sewage treatment ponds would not be authorized within the desert tortoise ACECs. Unauthorized dumpsites would be cleaned up as funding allows. 	<ul style="list-style-type: none"> • The BLM would seek to acquire non-Federal lands in the desert tortoise ACECs from willing sellers through sale or exchange. • New ROWs through desert tortoise habitat would be routed away from high-density tortoise populations. Linear ROWs would be placed adjacent or parallel to existing ROWs and share vehicular access. • Utilities would be co-located with other utility projects whenever feasible. Utility lines on BLM lands would be designed, located, and constructed to avoid attracting desert tortoise predators. • No new landfills or sewage treatment ponds would be authorized in the desert tortoise ACECs. 			
<p>Surface-disturbing activities:</p>				
<ul style="list-style-type: none"> • Reclamation would be required for activities that result in loss or degradation of tortoise habitat within ACECs. Habitat would be restored or reclaimed to as close a pre-disturbance condition as practicable. Mitigation measures may be included in decision documents to offset the loss of quality or quantity of desert tortoise habitat. • Compensation may be required to mitigate residual impacts from authorized actions. The BLM would assess compensation at the category 1 rate for any proposed projects in the Beaver Dam Slope or Virgin Slope ACEC. • The BLM would not authorize any military maneuvers within special status species ACECs. • Authorized actions that may result in adverse effects to desert tortoises would require implementation of project stipulations including personnel education programs, pre-construction clearances, defined construction areas, operational restrictions, and procedures for moving tortoises out of harm's way. (See Appendix 2.E for a list of stipulations.) • Proposed actions would be evaluated to ensure they do not contribute to the proliferation of natural predators within desert tortoise habitat. Where proposed waters or other developments may lead to adverse effects to the desert tortoise, specific actions would be taken to reduce or eliminate the adverse effects. Such actions include, but are not limited to redesign, incorporation of new features, movement, or abandonment. • Proposed actions would be evaluated to ensure they do not adversely impact cultural resources. Where proposed waters or other developments may lead to adverse effects to the cultural resources, specific actions would be taken to reduce or eliminate the adverse effects. Such actions include, but are not limited to complete recordation, excavation to obtain information, redesign, relocation, incorporation of new features, or abandonment. • Utility lines would be designed, located, and constructed to avoid attracting desert tortoise predators. • Surface disturbing activities would be limited to the period from October 15 through March 15. <p>Other management actions in desert tortoise habitat would include the following:</p> <ul style="list-style-type: none"> • The BLM would cooperate with agencies and private land owners on a case-by-case basis to relocate tortoises from previously conveyed federal lands within the planning area that are slated for development to public lands. No translocations of desert tortoises from private to public lands would occur without completion of a Section 7 consultation or Section 10 (a) habitat conservation plan. 				

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<ul style="list-style-type: none"> The BLM would cooperate with other agencies and groups to identify areas where uncontrolled dogs are causing desert tortoise mortality. 				
<p>2. Virgin River Corridor ACEC</p>				
<ul style="list-style-type: none"> The Virgin River Gorge Scenic Withdrawal area (6,736 acres) would continue on lands outside wilderness. The Virgin River Gorge Scenic Withdrawal area would continue to be closed to mineral entry, otherwise plan of operation required. Fire management within the Virgin River Corridor ACEC would include conservation measures for SW Flycatchers and native fishes as described in Appendix 2.E. Vegetation management within the Virgin River Corridor ACEC would include conservation measures for SW Flycatchers and native fishes as described in Appendix 2.E. Riparian areas would be managed to achieve and/or maintained in proper functioning condition in accordance with prescriptions described in the vegetation management section of this document. Suitable Flycatcher habitat would be managed so that its suitable characteristics are not eliminated or degraded. Potential Flycatcher habitat would be managed to allow natural regeneration (through natural processes) into suitable habitat as rapidly as possible. The ACEC would be open to fluid mineral leasing subject to no surface occupancy in the Virgin River Gorge Scenic Withdrawal area and subject to standard terms and conditions in other areas. Livestock would be excluded from suitable Flycatcher habitat (whether occupied or unoccupied) during the growing season (bud break to leaf drop). The River Pasture of the Lambing Allotment would be unavailable for grazing during the growing season. Stream bank alteration due to recreational activities and livestock grazing within the Virgin River Corridor ACEC would be limited to 25% annually. Utilization levels of native riparian trees within the Virgin River Corridor ACEC would be limited to 30% of the apical stems per growing season. 				
<p>3. Little Black Mountain ACEC</p>				
<p>The ACEC would be closed to OHV travel.</p> <p style="text-align: center;">Motorized and mechanized travel would be limited to designated roads and trails.</p>				
<p>4. Marble Canyon ACEC</p>				
<p>The ACEC would be closed to OHV travel.</p> <p style="text-align: center;">Motorized and mechanized travel would be limited to designated roads and trails.</p>				
<ul style="list-style-type: none"> Existing material sites would be evaluated for retention. The ACEC plan would be updated to insure that management of Brady pincushion cactus is consistent with the recovery plan. 				

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
5. Fort Pearce, Johnson Springs, Lost Spring Mountain, and Moonshine Ridge ACECs				
<ul style="list-style-type: none"> Proposed actions within the ACEC would be evaluated to ensure they do not adversely impact cultural resources. Where proposed waters or other developments may lead to adverse effects to the cultural resources, specific actions would be taken to reduce or eliminate the adverse effects. Such actions include, but are not limited to complete recordation, excavation to obtain information, redesign, relocation, incorporation of new features, or abandonment. The feasibility of relocating existing corrals or water developments outside the ACEC boundary would be considered. 	N/A			Same as Alternatives A-C
6. Kanab Creek ACEC				
<ul style="list-style-type: none"> Fire management within the Kanab Creek ACEC would include conservation measures for SW Flycatchers as described in Appendix 2.E. Vegetation management within the Kanab Creek ACEC would include conservation measures for SW Flycatchers as described in Appendix 2.E. Riparian areas would be managed to achieve and/or maintained in proper functioning condition in accordance with prescriptions described in Table 2.3: Vegetation Management. Suitable Flycatcher habitat would be managed so that its suitable characteristics are not eliminated or degraded. Potential Flycatcher habitat would be managed to allow natural regeneration (through natural processes) into suitable habitat as rapidly as possible. Livestock would be excluded from suitable Flycatcher habitat (whether occupied or unoccupied) during the growing season (bud break to leaf drop). The Kanab Creek Allotment would be unavailable for grazing during the growing season. No new corrals or water developments would be authorized or constructed within the ACEC boundary. The feasibility of relocating existing corrals or water developments outside the ACEC boundary would be considered. 				
7. Shinarump ACEC				
N/A	<ul style="list-style-type: none"> No new corrals or water developments would be authorized or constructed within the ACEC boundary. The feasibility of relocating existing corrals or water developments outside the 	N/A		Same as Alternative B

TABLE 2.16: SPECIAL DESIGNATIONS

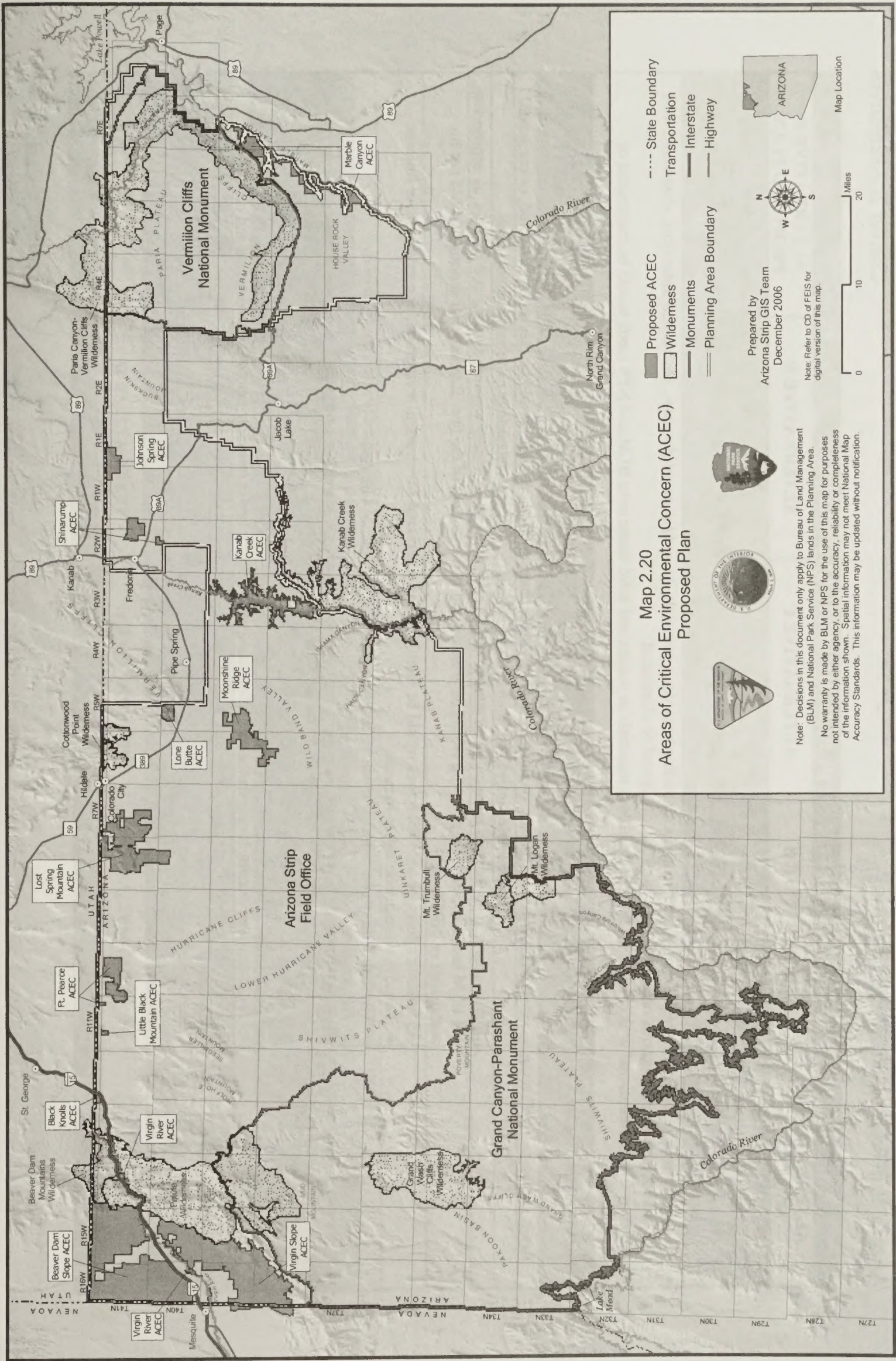
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	ACEC boundary would be considered.			
D. ADMINISTRATIVE ACTIONS				
<i>Arizona Strip FO</i>				
1. Beaver Dam Slope, Little Black Mountain, Marble Canyon, Virgin River Corridor, and Virgin Slope ACECs (General Administrative Actions; also apply to all new ACECs under the alternatives they are proposed)				
<ul style="list-style-type: none"> • Site Steward patrols would be implemented in all ACECs with cultural values. • Opportunities for scientific research would be sought and encouraged for all ACECs. • Protective measures would be taken to protect cultural resources in ACECs from further damage because of natural or human causes. 				
2. Virgin River Corridor ACEC				
a. Native Fishes				
N/A	In cooperation with the USFWS, AGFD, and the Virgin River Fishes Recovery Team, The BLM would assist in monitoring efforts for native Virgin River fish populations.			
b. Southwestern Willow Flycatcher				
The BLM would continue to maintain updated maps of SW Flycatcher habitat in the Planning Area, which would include:				
<ul style="list-style-type: none"> • Location, size, shape, and spacing of habitat areas. • Habitat stage with respect to Flycatchers (suitable occupied, suitable unoccupied, suitable unsurveyed, potential or regenerating). • Status of Flycatcher surveys for each area of suitable habitat. 				
The BLM would continue to maintain a database of SW Flycatcher observations.				
3. Fort Pearce, Johnson Spring, Lost Spring Mountain, and Moonshine Ridge ACECs				
Same as D-1 (General Administrative Actions)			N/A	Same as Alternative B
4. Johnson Spring, Lost Spring Mountain, and Moonshine Ridge ACECs				
<ul style="list-style-type: none"> • These ACECs would be inventoried for cultural resources at Class II or III level, as funding allows. • Upon completion of cultural resource inventories, minor boundary adjustments may be refined, if appropriate, based on acquired data. 				
5. Black Knolls and Kanab Creek ACECs				
N/A	Same as D-1 (General Administrative Actions)		N/A	Same as Alternative B and C

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
6. Kanab Creek ACEC				
N/A	<ul style="list-style-type: none"> This ACEC would be inventoried for cultural resources at a Class II or III level, as funding allows. Upon completion of cultural resource inventories, boundary adjustments may be refined, if appropriate, based on acquired data. An ACEC plan would be developed for management of SW Flycatchers and associated riparian values consistent with current recovery, conservation, and strategic planning documents. 		N/A	Same as Alternative B and C
a. Southwestern Willow Flycatcher				
N/A	<p>The BLM would continue to maintain updated maps of SW Flycatcher habitat in the Planning Area, which would include:</p> <ul style="list-style-type: none"> Location, size, shape, and spacing of habitat areas Habitat stage with respect to Flycatchers (suitable occupied, suitable unoccupied, suitable unsurveyed, potential or regenerating) Status of Flycatcher surveys for each area of suitable habitat. <p>The BLM would continue to maintain a database of SW Flycatcher observations.</p>		N/A	Same as Alternative B and C
N/A			N/A	Same as Alternative B and C
7. Coyote Valley ACEC				
N/A	Same as D-1 (General Administrative Actions)	N/A		Same as Alternative B
8. Lone Butte and Shinarump ACECs				
N/A	Same as D-1 (General Administrative Actions.)		N/A	Same as Alternative B
N/A	<ul style="list-style-type: none"> These ACECs would be inventoried for cultural resources at a Class II or III level, as funding allows. 		N/A	Same as Alternative B

TABLE 2.16: SPECIAL DESIGNATIONS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	<ul style="list-style-type: none"> Upon completion of cultural resource inventories, minor boundary adjustments may be completed, if appropriate, based on acquired data. 			
9. Clayhole and Twist Hill ACECs				
N/A	Same as D-1 (General Administrative Actions)		N/A	
E. IMPLEMENTATION DECISIONS				
1. Beaver Dam Slope and Virgin Slope ACECs				
A signing and fencing plan would be developed. Signing and fencing would occur as funding allows.				
2. Marble Canyon ACEC				
Rock or similar barriers to off-road vehicle travel would be installed in areas where cacti are adjacent to canyon rim overlooks.				



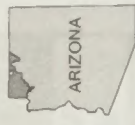
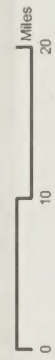
Map 2.20
 Areas of Critical Environmental Concern (ACEC)
 Proposed Plan



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area. No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Prepared by
 Arizona Strip GIS Team
 December 2006

Note: Refer to CD of FEIS for digital version of this map.



Map 2.20 Areas of Critical Environmental Concern (ACEC) - Proposed Plan

TABLE 2.17: PUBLIC HEALTH AND SAFETY

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. PUBLIC HEALTH AND SAFETY				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
<ul style="list-style-type: none"> • All hazardous or potentially hazardous sites and situations, including hazardous materials, hazardous or solid wastes, abandoned mine sites, abandoned well sites, and other potential hazards on public lands, would be mitigated or eliminated. • The potential for intentional or accidental releases of hazardous materials or wastes and solid waste onto BLM and NPS lands would be minimized or eliminated. 				
B. MANAGEMENT ACTIONS				
<i>Common to All Planning Areas</i>				
Areas known to have hazardous materials, hazardous wastes, or solid wastes, including abandoned mine lands, would be cleaned up, restored, or corrected.	N/A	Responsible parties would be actively sought to reimburse hazardous materials cleanup costs.		
	N/A	Public access to abandoned mine and well sites would be controlled by providing warning signage and barriers, as appropriate.		
	N/A	On BLM lands, recreational shooting would be allowed within the context of the law. Recreational shooting would not be authorized on NPS lands.		
	N/A	As funding allows, abandoned mines would be identified and prioritized for cleanup, restoration, or corrections as follows: <ul style="list-style-type: none"> • Those that are public safety hazards. • Those that may contain high levels of heavy metals in waste rock or tailings. • Those that may be degrading water quality. 		
C. ADMINISTRATIVE ACTIONS				
<i>Common to All Planning Areas</i>				
The Arizona Strip District Hazardous Material Response Plan would continue to be followed on BLM lands.				
	N/A	Hazardous sites or locations that affect or could affect public health or safety would be inventoried and monitored.		
	N/A	All authorized or permitted activities would adhere to hazardous materials regulations for storage, use, and disposal.		

TABLE 2.18: SCIENTIFIC RESEARCH

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. SCIENTIFIC RESEARCH				
A. DESIRED FUTURE CONDITIONS				
<i>Common to All Planning Areas</i>				
Approved scientific research would contribute to management of natural and cultural resources and achieving DFCs.				
B. MANAGEMENT ACTIONS				
<i>Common to All Planning Areas</i>				
Permits would be required for approved scientific research to insure compatibility and reporting of results.				
<i>Parashant and Vermilion</i>				
The collection of any objects in the Monuments would not be authorized except by permit for scientific research or use.				

IMPLEMENTATION AND MONITORING

IMPLEMENTATION

Land use plan decisions are generally implemented or become effective upon approval of the Plan and signing of the Record of Decision (ROD). These decisions include the effective date of land health standards and desired future or resource condition decisions, land use allocation decisions, and all special designations such as ACECs.

Management actions that require additional site-specific project planning, as funding becomes available, would require further environmental analysis. Implementation-level decisions in this Proposed Plan/FEIS, such as routes designated open for OHV use, are contingent upon completion of Section 106 compliance for cultural resources. Decisions to implement site-specific projects would be subject to administrative review at the time such decisions are made.

The BLM and NPS would continue to involve and collaborate with the public during implementation of this Plan. Opportunities to become involved in plan implementation and monitoring would include development of partnerships and community-based citizen working groups. The BLM and NPS invite citizens and user groups within the Planning Area to become actively involved in the implementation of plan decisions. The BLM, NPS, and citizens can collaboratively develop site-specific goals and objectives that mutually benefit public land resources, local communities, and the people who live, work, or play on the public lands.

MONITORING

Monitoring of actions related to implementing land use plans is an important part of adaptive management. Tracking the progress of actions and measuring changes resulting from these activities is important in either determining success or the need for a different management approach.

Many activities and events are monitored on Parashant, Vermilion, and the Arizona Strip FO. Grazing utilization and vegetation trends are measured to support decisions on allotment Standards and Guideline evaluations. OHV events are monitored to determine that permit stipulations are followed and needed site rehabilitation is taken. This Proposed Plan/FEIS recognizes many monitoring needs that would require further effort to design and plan. Public participation in developing effective monitoring and evaluation plans and in conducting the monitoring is invited and would be sought when these plans are developed and monitoring occurs. A more detailed monitoring strategy will be included in the Approved RMP.

ENVIRONMENTAL ANALYSIS AND INTERRELATIONSHIPS

REQUIREMENTS FOR FURTHER ENVIRONMENTAL ANALYSIS

The Proposed Plan/FEIS is an environmental document describing the impacts of implementing the proposed decisions and associated management actions to resources, resource uses, and human elements within the Planning Area. Proposed Plan/FEIS decisions that are implemented upon approval of the EIS do not require any further environmental analysis or documentation.

Land use plans and planning decisions are the basis for every on-the-ground action the BLM and NPS undertake. Land use plans are guiding documents that present both land use plan decisions as well as implementation or activity level decisions. They address resources and values to be protected, uses, and public health issues within the Planning Area and must be consistent with resource management objectives, activities of the area, and environmental laws and regulations. Whenever implementation or activity level plans (e.g., wilderness plans, HMPs, etc.) are prepared, additional environmental analysis and documentation would be required. Environmental analysis of site-specific projects at the watershed, project, or activity level may analyze specific proposed actions or management.

Site-specific environmental analyses and documentation (including the use of categorical exclusions and determinations of NEPA adequacy, where appropriate) may be prepared for one or more individual projects, in accordance with management objectives, DFCs, and decisions established in the approved land use plan. In addition, the BLM and NPS will ensure that the environmental review process includes evaluation of all critical elements. Cultural resources and threatened and endangered species will be identified and considered in accordance with Section 106 of the NHPA and Section 7 of the ESA, respectively.

Interdisciplinary impact analysis will be based on this and other applicable environmental documents. The BLM and/or NPS may be required to draft a new EA or EIS, or supplement to an existing EIS, if the analysis prepared for site-specific projects finds potential for significant impacts not already described in an existing EA or EIS.

Upon providing public notice of a decision, supporting environmental documentation will be sent to all affected interests and made available to others upon request. Decisions to implement site-specific projects are subject to administrative review at the time such decisions are made.

INTERRELATIONSHIPS

The BLM and NPS coordinate their management activities with the actions of related Federal and State agencies responsible for land or resource management. This Proposed Plan/FEIS is a collaborative effort between the Arizona Strip BLM District and the NPS portion of Parashant and Lake Mead NRA. It also includes participation by the BLM in Utah and Nevada; Kaibab

National Forest (North Ranger District); Grand Canyon National Park; Pipe Spring National Monument; Glen Canyon NRA; USFWS; FHA; Kaibab Paiute Tribe; counties in Arizona and Utah; communities in Arizona, Utah, and Nevada; State agencies; AGFD; ADOT; and Arizona State Land Department.

As part of the planning process, the BLM and NPS have requested formal consultation with the USFWS on potential impacts to federally listed, proposed, and candidate species and designated or proposed critical habitat. In April 2003, the BLM, NPS, and USFWS finalized a Consultation Agreement to establish an effective and cooperative ESA Section 7 consultation process. The Agreement defines the process, products, actions, schedule, and expectations of the BLM and USFWS regarding project consultation. The Agreement also considers effects to, and management for, candidate species. A biological assessment (BA) was prepared and submitted to determine the effect of the Proposed Plan on all relevant listed, proposed, and candidate species, and associated critical habitat. All anticipated environmental effects, conservation actions, mitigation, and monitoring were disclosed in the BA, including analysis of all direct, indirect, and cumulative effects of the Proposed Plan analyzed in this FEIS.

The Proposed Plan/FEIS will also be provided to the Arizona SHPO to comply with Sections 106 and 110 of the NHPA. The BLM and NPS actions will also comply with other Federal environmental legislation and land use plans, such as the Clean Air Act, and the Clean Water Act, and with applicable State and local government regulations, such as the Sikes Act (16 U.S. Code, 670 et seq., as amended; see Section 1.4 and Appendix 1.D: Relevant Laws, Executive Orders, and Memorandums). The Sikes Act authorizes the Department of the Interior, in cooperation with State agencies responsible for administering fish and game laws, to plan, develop, maintain, and coordinate programs for conserving and rehabilitating wildlife, fish, and game on public lands within its jurisdiction. The plans must conform to overall land use and management plans for the lands involved. The plans could include habitat improvement projects and related activities, and adequate protection for species of fish, wildlife, and plants considered endangered or threatened. BLM must also coordinate with the appropriate State agencies in managing State-listed plant and animal species when the State has formally made such designations.

The BLM and AGFD work cooperatively to manage resources within the Arizona Strip planning area. The BLM is responsible for managing wildlife habitat on BLM land and AGFD, through the authority of the Arizona Game and Fish Commission, has public trust responsibility to manage fish and wildlife. Throughout the Proposed Plan/FEIS, the close, cooperative nature of the relationship is cited. At the writing of the Proposed Plan/FEIS, the BLM and AGFD are revising the current Master Memorandum of Understanding (MOU). The MOU establishes protocols that direct the cooperative working relationship between the agencies. The MOU will provide context to better enable both agencies to work in partnership and to make decisions in a consistent manner across the state. The guidelines established in the MOU apply to

implementation of this RMP. In addition, a MOU has been signed giving AGFD cooperating agency status on BLM planning efforts in Arizona.

Any permit system or restriction of use or access would include coordination with other state and federal entities that issue use permits on federal lands to assure that authorized permittees have fair and reasonable access to their permitted activity. For example, should a permit system be implemented, the BLM will coordinate with AGFD to enable coordination of access for hunters with valid hunting licenses and permits for the affected hunting unit. Coordination with AGFD during development of management plans and enhancement of wildlife habitat, species diversity, riparian health, and other activities to achieve the optimum health of wildlife species and populations will continue. Administrative access may be allowed for AGFD staff for law enforcement, natural resource management, and other purposes. AGFD's use of motorized and mechanized equipment off designated routes is considered an administrative use and will be allowed in suitable locations (as agreed to by AGFD and the BLM) for such purposes including, but not limited to the following: law enforcement activities, wildlife water supplementation (i.e. water hauling and maintenance, repair, building, or rebuilding of wildlife waters), collar retrieval, capture and release of wildlife, habitat manipulation (forage enhancement, burning, vegetation clearing, planting, etc.), fence construction (enclosures/exclosures), and research activities.

Administrative access for AGFD staff (as agreed to by AGFD and NPS) will be allowed in suitable locations for law enforcement, natural resource management, and other purposes and will conform with NPS Management Policies generally, as well as minimum impact requirements in proposed wilderness.

The AGFD, BLM, and NPS work cooperatively to manage habitat and wildlife on NPS lands within the Parashant. On NPS lands, wildlife decisions and specific actions would be developed through cooperative planning, focusing on management that perpetuates a natural distribution of native wildlife in a mosaic of associated habitats in accordance with NPS Management Policies.

On BLM lands, the Animal and Plant Health Inspection Service – Wildlife Services (APHIS-WS) and the AGFD manage animal damage control, predator management, control of exotic wildlife species, and feral, non-permitted livestock on BLM lands. A 1995 MOU recognizes the legal authority of APHIS-WS to conduct wildlife damage management on BLM lands. The BLM acknowledges that authority and would continue close coordination with APHIS-WS and AGFD, as well as the USFWS, USFS North Kaibab Ranger District, Glen Canyon National Recreation Area, State Land Department, State Brand Inspector, and other affected agencies on animal damage control efforts within the Planning Areas. AGFD predator management would continue under AGFD strategic plans as well as species management plans.

SUMMARY OF IMPACTS

Table 2.19 provides a summary of the moderate or major impacts that would occur from implementing the No Action and four action alternatives. Chapter 4 provides more detailed impact analysis.

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
I. MONUMENT OBJECTS				
See summary of impacts to Monument objects in the following sections of this table: Water Resources, Geology and Paleontology, Vegetation and Fire and Fuels Management, Fish and Wildlife, Special Status Species, Cultural Resources, and Visual Resources				
II. RESOURCES				
IMPACTS TO AIR QUALITY				
<i>From Travel Management</i>				
Impacts (fugitive dust) from travel on unpaved roads would be localized, short-term, and negligible to minor . Impacts most widespread among the alternatives due to the miles of routes left open.	Impacts (fugitive dust) from travel on unpaved roads would be localized, short-term, and negligible to minor , although the lease widespread among the alternatives due to the miles of routes closed.	Impacts (fugitive dust) from travel on unpaved roads would be localized, short-term, and minor to moderate along specific routes . Impacts would be less widespread than Alternatives A, D, and E due to miles of closed routes, but more widespread compared to Alternative B.	Impacts (fugitive dust) from travel on unpaved roads would be localized, short-term, and minor to moderate along specific routes . Impacts would be less widespread than Alternative A due to miles of closed routes, but more widespread compared to Alternatives B, C, and E.	Impacts (fugitive dust) from travel on unpaved roads would be similar to Alternative C. Impacts would be less widespread than Alts A and D due to miles of closed routes, but more widespread compared to Alternatives B, and C.
<i>From Vegetation and Fire and Fuels Management</i>				
Minor to moderate impacts from vegetation treatments in Parashant and Arizona Strip FO. Short-term impacts would occur from smoke and dust; long-term impacts would be the reduced chance of wildfire and associated air quality impacts.	Minor impacts from vegetation treatments in Parashant and Arizona Strip FO; less intense short-term impacts than Alternatives A, C-E due to fewer treatments. Greatest potential for long-term impacts from wildfire.	Minor to moderate impacts from vegetation treatments in Parashant and Arizona Strip FO; more intense short-term impacts than Alternative B due to more acres and treatment methods allowed, but potential for long-term impacts would be reduced.	Minor to moderate impacts from vegetation treatments in Parashant and Arizona Strip FO; more intense short-term impacts than Alternatives B and C due to more acres and treatment methods allowed, but potential for long-term impacts would be reduced.	Minor to moderate impacts from vegetation treatments in Parashant and Arizona Strip FO; more intense short-term impacts than Alternative B due to more acres and treatment methods allowed, but long-term impacts reduced. Short-term and long-term impacts would be similar to Alternatives C or D, depending upon ecological zone.

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>From Recreation</i>				
Short-term, localized, moderate impacts could be experienced during and near OHV races and rallies	Impacts from OHV races and rallies would be eliminated.	Impacts from OHV races and rallies may be more concentrated albeit less wide-spread than under Alternative A	Impacts from OHV races and rallies would be similar to Alternative A.	Impacts from OHV races and rallies would be similar to Alternative A.
IMPACTS TO WATER RESOURCES				
<i>From Travel Management</i>				
Minor to moderate impacts in Monuments from road closures and no new permanent roads contributing to water quality protection	Minor to moderate impacts; road closures/rehabilitation would contribute most to water quality protection among the alternatives	Minor to moderate impacts; road closures/rehabilitation would contribute more to water quality protection than Alternative A, D, and E, but less than Alternative B.	Minor to moderate impacts; road closures/rehabilitation would contribute more to water quality protection than Alternatives B and C in the Monuments and more than Alternatives A, C & D but less than B in the Arizona Strip FO	Minor to moderate impacts, road closures/rehabilitation would contribute more to water quality protection than Alternatives A and D but less than Alternatives B and C in the Monuments and more than Alternatives A, C & D but less than B in the Arizona Strip FO
<i>From Vegetation and Fire and Fuels Management</i>				
Minor to moderate impacts from vegetation treatments in Parashant and Arizona Strip FO. Short-term impacts would occur from erosion and runoff; long-term impacts would be the reduced chance of wildfire and associated water quality impacts.	Minor to moderate impacts from vegetation treatments in Parashant and Arizona Strip FO; less intense short-term impacts than Alternatives A, C-E due to fewer treatments. Greatest potential for long-term impacts from wildfire.	Minor to moderate impacts from vegetation treatments in Parashant and Arizona Strip FO; more intense short-term impacts than Alternative B due to more acres and treatment methods allowed, but potential for long-term impacts would be reduced.	Minor to moderate impacts from vegetation treatments in Parashant and Arizona Strip FO; more intense short-term impacts than Alternatives B and C due to more acres and treatment methods allowed, but potential for long-term impacts would be reduced.	Minor to moderate impacts from vegetation treatments in Parashant and AZ Strip FO; more intense short-term impacts than Alt. B as more acres and treatment methods allowed, but long-term impacts reduced. Short- and long-term impacts similar to Alts C or D, depending upon ecol. zone.
<i>From Livestock Grazing</i>				
Minor to moderate impacts resulting from water quality	Minor to moderate impacts; greatest potential for water	Minor to moderate impacts; reduction in total AUMs by	Minor to moderate impacts. reduction in total AUMs by	Minor to moderate impacts, reduction in total AUMs by

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
improvements to lands not available for grazing and season of use restrictions	quality improvements among the alts as total AUMs in the Planning Area reduced 9,220	682 would create less improvements than Alts B and E, but more than Alts. A and D	382 would create less improvements than Alts B, C and E, but more than Alt. A	726 would create less improvements than Alt. B, but more than Alts A, C, and D
IMPACTS TO SOILS				
<i>From Travel Management</i>				
Minor to moderate impacts from road closures and no new, permanent roads contributing to protection of soils. Direct impacts in terms of increased erosion and runoff would occur on 803 acres of open areas.	Minor to moderate impacts; road closures/rehabilitation would contribute most among the alternatives to protection of soils. Direct impacts in terms of increased erosion and runoff would be eliminated due to no open areas.	Minor to moderate impacts; road closures/rehabilitation would contribute more to water quality protection than Alternative A and D but less than Alternatives B and E. Direct impacts in terms of increased erosion and runoff would occur on 84% more acres than under Alternative A.	Minor to moderate impacts; road closures/rehabilitation would contribute more to water quality protection than Alternative B and C. Direct impacts in terms of increased erosion and runoff would occur on 795% more acres than under Alternative A, the most widespread among the Alternatives.	Minor to moderate impacts, road closures/rehabilitation would contribute more to water quality protection than Alternatives A, C-D, but less than Alternative B. Direct impacts in terms of increased erosion and runoff would occur on slightly (22%) more acres than under Alternative A
<i>From Vegetation and Fire and Fuels Management</i>				
Minor to moderate impacts from vegetation treatments in Parashant and Arizona Strip FO. Short-term impacts would occur from compaction and erosion; long-term impacts would be the reduced chance of wildfire and associated impacts to soils.	Minor to moderate impacts from vegetation treatments in Parashant and Arizona Strip FO; less intense short-term impacts than Alternatives A, C-E due to fewer treatments. Greatest potential for long-term impacts from wildfire.	Minor to moderate impacts from vegetation treatments in Parashant and Arizona Strip FO; more intense short-term impacts than Alternative B due to more acres and treatment methods allowed, but potential for long-term impacts would be reduced.	Minor to moderate impacts from vegetation treatments in Parashant and Arizona Strip FO; more intense short-term impacts than Alternatives B and C due to more acres and treatment methods allowed, but potential for long-term impacts would be reduced.	Minor to moderate impacts from vegetation treatments in Parashant and Arizona Strip FO; more intense short-term impacts than Alternative B as more acres and treatment methods allowed, but long-term impacts reduced. Short- and long-term impacts similar to Alternatives C or D, depending upon ecological zone.
<i>From Livestock Grazing</i>				
Minor to moderate impacts	Minor to moderate impacts;	Minor to moderate impacts;	Minor to moderate impacts.	Minor to moderate impacts,

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
resulting from improvements to soils on lands not available for grazing and season of use restrictions.	greatest potential for soil improvements among the alternatives due to total AUMs in the Planning Area being reduced by 9,220	reduction in total AUMs by 682 would create less soil improvements than Alternatives B and E, but more than Alternatives A and D	reduction in total AUMs by 382 would create less soil improvements than Alternatives B, C and E, but more than Alternative A	reduction in total AUMs by 726 would create less soil improvements than Alternatives B, but more than Alternatives A, C, and D
IMPACTS TO GEOLOGY AND PALEONTOLOGY				
<i>From Travel Management</i>				
Minor to moderate impacts due to damage by motorized/mechanized travel along open roads and OHV use. Most intense because more miles routes open; Parashant 1715, Vermilion 446. Provides for most access for research.	Negligible to minor impacts due to damage by motorized/mechanized travel and OHV use; least impacts among the alternatives. Lease intense because least miles routes open; Parashant 626miles, Vermilion 172). Most limitation on access for research.	Negligible to minor impacts due to damage by motorized/mechanized travel and OHV use; less intense than Alternative A, but more intense than Alternative B. Less routes open under this alternative than A, D or E; Parashant 1320 miles, Vermilion 374 miles.	Minor to moderate impacts, more intensive than Alts B-C & E but less than Alternative A due to miles of open roads, and most impacts due to OHV use. Less routes open under this alternative than A, more than all other alternatives; Parashant 1528 miles, Vermilion 416 miles.	Minor to moderate impacts due to damage by motorized/mechanized travel and OHV use, less intense than Alternatives A, C - D, more intense than Alternative B. Less routes open under this alternative than A or D, more than B and C; Parashant 1401 miles, Vermilion 377 miles.
IMPACTS TO VEGETATION				
<i>From Travel Management</i>				
Minor to moderate short-term impacts due to loss of vegetation from new, temporary roads. Moderate short- and long-term impacts from rehabilitation of closed roads, mainly beneficial.	Minor to moderate short-term impacts from loss of vegetation from new, temporary roads, similar to Alternative A. Moderate short- and long-term impacts from rehabilitation of closed roads, most under this Alternative.	Minor to moderate short-term impacts from loss of vegetation from new, temporary roads, similar to Alternative A. Moderate short- and long-term impacts from rehabilitation of closed roads, more than Alternative A but less than Alternative B	Minor to moderate short-term impacts from loss of vegetation from new, temporary roads, similar to Alternative A. Moderate short- and long-term impacts from rehabilitation of closed roads, more than Alternative A but less than Alternatives B, C & E	Minor to moderate short-term impacts from loss of vegetation from new, temporary roads, similar to Alternative A. Moderate short- and long-term impacts from rehabilitation of closed roads, more than Alternatives A & D but less than Alternatives B & C

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>From Livestock Grazing</i>				
Minor to major short- and long-term impacts damaging/altering vegetation in areas where grazing occurs, more widespread under this Alternative due to fewest allotments not available to grazing/ seasonal restrictions.	Minor to major impacts damaging/altering vegetation in areas where grazing occurs, least widespread under this Alternative due to most allotments not available to grazing/seasonal restrictions.	Minor to major impacts damaging/altering vegetation in areas where grazing occurs, less widespread than Alternative A due to more allotments not available to grazing/ seasonal restrictions, but more widespread than Alternative B.	Minor to major impacts damaging/altering vegetation in areas where grazing occurs, less widespread than Alternative A due to more allotments not available to grazing/ seasonal restrictions, but more widespread than Alternative B & C.	Minor to major impacts damaging/altering vegetation in areas where grazing occurs, similar than Alternative D, although slightly less widespread.
IMPACTS TO FIRE AND FUELS MANAGEMENT				
<i>From Vegetation Management</i>				
Moderate impacts as treated areas would burn less intensely	Moderate impacts, less than other alternatives as fewer acres would be treated	Moderate impacts, more intense than Alternative B as more acres treated, less intense than Alternative D, similar to Alternative E	Moderate impacts, more intense than Alternatives B, C, & E as most acres would be treated	Moderate impacts, similar to Alternative C, depending upon ecological zone
<i>From Visual Resource Management</i>				
Negligible to minor impacts in Parashant due to restrictions from VRM class assignments. Moderate in Arizona Strip FO.	Major impacts in Parashant due to restrictions from VRM class assignments. Moderate impacts in Arizona Strip FO.	Moderate impacts in Parashant due to restrictions from VRM class assignments. Minor in Arizona Strip FO.	Moderate in Parashant due to restrictions from VRM class assignments. Minor in Arizona Strip FO.	Moderate in Parashant due to restrictions from VRM class assignments. Moderate in Arizona Strip FO.
<i>From Wilderness Characteristics</i>				
N/A	Moderate impacts in Parashant and Arizona Strip FO due to fuel management restrictions, natural processes for treatments, and most acreage for lands managed to	Moderate impacts in Parashant and Arizona Strip FO due to fuel management restrictions. Acres managed to maintain wilderness characteristics under this	Minor in Parashant and Arizona Strip FO due to fuel management restrictions. Acres managed to maintain wilderness characteristics under this alternative;	Minor in Parashant and Arizona Strip FO due to fuel management restrictions. Acres managed to maintain wilderness characteristics under this alternative;

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	maintain wilderness characteristics under this alternative; 411,256 acres, AZ Vermilion 96,796 acres, AZ Strip FO 46,135 acres	alternative; Parashant 226,394 acres, Vermilion 40345 acres, AZ Strip FO 77,575 acres (more acres because ACECs do not provide protection)	Parashant 140,949 acres, Vermilion 0 acres, AZ Strip FO 34,628 acres	Parashant 226,394 acres, Vermilion 37,566 acres, AZ Strip FO 34,942 acres
IMPACTS TO FISH AND WILDLIFE RESOURCES				
<i>From Travel Management</i>				
Moderate impacts from road rehabilitation and/or construction, resulting in disturbance, displacement, loss of habitat, injury, or death	Moderate impacts, similar to Alternative A, less widespread than other alternatives.	Moderate impacts, similar to Alternative A.	Moderate impacts, similar to Alternative A but would occur over a wider area.	Moderate impacts, similar to Alternative A but a decrease of 18% open miles over Alternative A in Parashant, and 15% in Vermilion. AZ Strip FO route evaluation would be completed in 3-5 years.
<i>From Vegetation and Fire and Fuel Management</i>				
Minor to moderate impacts from reclamation actions that injure or kill individual animals. Minor to moderate impacts from vegetation use and/or sale due to disturbance, loss of habitat, or death. Minor to major impacts from wildlife inventories from disturbance.	Minor to moderate impacts from reclamation actions, vegetation use and/or sale, and noxious weed management, similar to Alternative A but not as widespread due to limits of techniques used and acres managed.	Minor to moderate impacts from reclamation actions, vegetation use and/or sale, and noxious weed management, similar to Alternative A but not as widespread. More widespread than Alternative B.	Minor to moderate impacts from reclamation actions, vegetation use and/or sale, and noxious weed management, similar to Alt. A, either more, less, or similarly widespread, depending upon ecological zone. More widespread than Alternative B and C.	Minor to moderate impacts from reclamation actions, vegetation use and/or sale, and noxious weed management, most similar to Alternative D, with a few exceptions in Parashant in some ecological zones.
<i>From Fish and Wildlife</i>				
Minor to major impacts due to disturbance from wildlife inventories. Minor impacts due to disturbance from existing Watchable Wildlife area (Parashant only)	Minor to major impacts from wildlife inventories, same as Alternative A. Minor impacts from existing Watchable Wildlife area (Parashant only), same as Alternative A	Minor to major impacts from wildlife inventories, same as Alternative A. Minor to moderate impacts from additional Watchable Wildlife areas	Minor to major impacts from wildlife inventories, same as Alternative A. Minor to moderate impacts from additional Watchable Wildlife areas, same as Alternative C	Minor to major impacts from wildlife inventories, same as Alternative A. Minor to moderate impacts from additional Watchable Wildlife areas, same as Alternative C

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>From Recreation and Visitor Services/Interpretation and Environmental Education</i>				
Minor to moderate impacts from disturbance, habitat alteration, litter, etc., due to camping	Minor to moderate impacts caused by camping, same as Alternative A	Minor to moderate impacts caused by camping, same as Alternative A	Minor to moderate impacts caused by camping, same as Alternative A	Minor to moderate impacts caused by camping, same as Alternative A
IMPACTS TO SPECIAL STATUS SPECIES				
<i>From Travel Management</i>				
Negligible to moderate short-term impacts to desert tortoises caused by injury, death, or displacement from road construction, maintenance, and rehabilitation. Magnitude of impacts greatest under this alternative because of largest mileage of open routes.	Moderate impacts to desert tortoise, least under all alternatives because impacts would occur over a smaller area than any other alternative.	Moderate impacts to desert tortoise, greater magnitude than Alternative B. Magnitude of impacts would be less than Alternatives A, D, and E but greater than Alternative B.	Moderate impacts to desert tortoise, greater magnitude than Alternatives B, C and E.	Moderate impacts to desert tortoise, greater magnitude than Alternatives A and D.
<i>From Vegetation and Fire and Fuel Management</i>				
Negligible to moderate short-term impacts from noxious weed treatments and fire suppression. Long-term beneficial effects from noxious weed treatments.	Negligible to minor short-term impacts from noxious weed treatments and fire suppression. Long-term beneficial effects from noxious weed treatments.	Negligible to moderate short-term impacts from noxious weed treatments and fire suppression, same as Alternative A. Long-term beneficial effects from noxious weed treatments.	Negligible to moderate short-term impacts from noxious weed treatments and fire suppression, same as Alternative A. Long-term beneficial effects from noxious weed treatments.	Negligible to moderate short-term impacts from noxious weed treatments and fire suppression, same as Alternative A. Long-term beneficial effects from noxious weed treatments.
<i>From Air, Water, and Soils</i>				
Minor to moderate impacts to desert tortoise from watershed restoration projects. Moderate	No impacts from watershed restoration projects as none would occur.	Minor to moderate impacts from watershed restoration projects, great than Alternative	Minor to moderate impacts from watershed restoration projects, less than Alternative	Minor to moderate impacts from watershed restoration projects, same as Alternative

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
impacts to California Condor.		B but less than other alternatives.	A, but more than Alternative C.	D.
From Special Status Species				
N/A	Minor to moderate short-term impacts on special status birds due to introducing relict leopard frogs.	Minor to moderate short-term impacts from introducing relict leopard frogs, similar to Alternative B but more intense.	Minor to moderate short-term impacts from introducing relict leopard frogs, same as Alternative C.	Minor to moderate short-term impacts from introducing relict leopard frogs, same as Alternative C.
From Livestock Grazing				
Minor to moderate impacts on sensitive plants and desert tortoise from trampling. Most impacts among the alternatives.	Minor to moderate impacts on sensitive plants and desert tortoise, least among the alternatives.	Minor to moderate impacts on sensitive plants and desert tortoise, greater than Alt B but less than Alts A, D & E.	Minor to moderate impacts on sensitive plants and desert tortoise, greater than Alt B, D & E, but less than Alt A.	Minor to moderate impacts on sensitive plants and desert tortoise, greater than Alts B & C, less than Alts A & D.
From Recreation and Visitor Services/Interpretation and Environmental Education				
Minor to moderate impacts from vehicles colliding with desert tortoise during competitive events.	Minor to moderate impacts, same as Alternative A.	Minor to moderate impacts, same as Alternative A.	Minor to moderate impacts, same as Alternative A.	Minor to moderate impacts, same as Alternative A.
From Special Designations				
Long-term beneficial effects from designation of ACECs for special status species resulting from increased management attention, OHV restrictions, and other intensified management, on 127,192 acres.	Long-term beneficial effects from ACEC designations similar to Alternative A with greatest ACEC acreage of all alternatives at 308,390 acres.	Long-term beneficial effects from designation of ACECs similar to Alternative A but on fewer acres than Alt B at 132,101 acres.	Long-term beneficial effects from designation of ACECs similar to Alternative A. Alt D has least amount of acreage of all alternatives with 106,420 acres.	Long-term beneficial effects from designation of ACECs similar to Alternative A. Alternative E with 150,105 acres has more acres than Alternatives A, C, and D but fewer acres than Alternative B.
IMPACTS TO Wild Burros				
N/A	N/A	N/A	N/A	N/A

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
IMPACTS TO CULTURAL RESOURCES				
<i>From Travel Management</i>				
Increased vulnerability of sites to vandalism and recreational access. Moderate impacts from motorized vehicle use on/near sites and access for vandalism. Most intense under this alternative with 1715 miles open for motorized use in Parashant and 446 miles open in Vermilion.	Moderate impacts from motorized vehicle, least intense and widespread among the alternatives with 626 miles open for motorized use in Parashant and 172 miles in Vermilion.	Moderate impacts from motorized vehicle, less intense than Alternative A but more than Alternative B with 1320 miles open for motorized use in Parashant and 374 miles in Vermilion.	Moderate impacts from motorized vehicle, less intense than Alternative A but more than all other alternatives except Alternative A with 1528 miles open to motorized use in Parashant and 416 miles open in Vermilion.	Moderate impacts from motorized vehicle, less intense than Alternatives A & D but more than Alternatives B & C with 1404 miles open for motorized use in Parashant and 377 miles open in Vermilion.
<i>From Wilderness Characteristics</i>				
N/A	Minor to moderate impacts due to protection from access and damage, most intense and widespread under this Alternative.	Minor impacts, less intense and widespread than Alternative B.	Moderate impacts, less intense and widespread than Alternatives B & C, similar to Alternative E.	Moderate impacts, less intense and widespread than Alternatives B & C, similar to Alternative E.
<i>From Vegetation and Fire and Fuel Management</i>				
Negligible to moderate impacts from fire and fuels management and vegetative treatments	Minor impacts from fire and fuels management, least under this Alternative. Moderate impacts from Pakoon Springs restoration	Minor impacts from fire and fuels management. Moderate impacts in Parashant from Pakoon Springs restoration	Minor to moderate impacts in Parashant and Arizona Strip FO. Minor impacts in Vermilion	Similar to Alternative C
<i>From Visual Resources</i>				
Minor impacts due to protection offered by VRM Class I and II as 42% of Parashant, 100 % of Vermilion,	Minor impacts from VRM Class I and II in Monuments, minor in Arizona Strip FO with less Class I and II than	Minor impacts from VRM Class I and II in Monuments, minor in Arizona Strip FO, less than Alternative B, more	Moderate impacts from VRM Class I and II, less than Alternative B, more than Alternative A with fewest acres	Moderate impacts from VRM Class I and II in Monuments, same as Alternative B, minor impacts in AZ Strip FO, same

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
and 33% of AZ Strip FO designated VRM Class I or II.	under Alt A, most protection under this Alternative as nearly 100% of both Monuments designated Class I and II.	than Alternative A with 75% of Parashant Class I-II, 99% of Vermilion Class I-II and AZ Strip FO similar to Alt A.	under any alternative other than Alternative A proposed for designation as Class I-II.	as Alternative D
From Minerals				
Moderate impacts in Arizona Strip FO from ground disturbance.	Moderate impacts in Arizona Strip FO, least among the alternatives.	Moderate impacts in Arizona Strip FO, same as Alternative A.	Moderate impacts in Arizona Strip FO, most intense under this alternative.	Moderate impacts in Arizona Strip FO.
From Recreation and Visitor Services/Interpretation and Environmental Education				
Moderate impacts overall, moderate to major impacts in AZ Strip FO due to public access affecting the integrity of specific sites/areas.	Moderate impacts, least intense under this Alternative.	Moderate to major impacts, similar to Alternative A.	Moderate impacts overall, major impacts in Arizona Strip FO, similar to Alternative A but more intense/widespread.	Same as Alternative A
From Special Designations				
Moderate impacts in Arizona Strip FO due to protection afforded by ACECs.	Moderate impacts in Arizona Strip FO due to larger ACECs, more acreage than other alternatives.	Moderate impacts in Arizona Strip FO, less ACEC acreage than Alternative B.	Moderate impacts in Arizona Strip FO, least ACEC protection among the alternatives.	Moderate impacts in Arizona Strip FO, similar to Alternative B.
From Lands and Realty				
Moderate impacts from land disposals, use authorizations.	Moderate impacts, similar to Alternative A.	Moderate impacts, similar to Alternative A.	Moderate impacts, similar to Alternative A.	Moderate impacts, similar to Alternative A.
IMPACTS TO VISUAL RESOURCES				
From Travel Management				
Negligible to moderate short-term impacts from dust. Minor to moderate from road maintenance. Negligible to	Impacts from dust, road maintenance, and material sites, and to night skies similar to Alternative A, but less	Impacts from dust, road maintenance, and material sites, and to night skies similar to Alternative A. Minor to	Impacts from dust, road maintenance, and material sites, and to night skies similar to Alternative A. Minor to	Impacts from dust, road maintenance, and material sites, and to night skies similar to Alternative A. Minor to

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>Moderate impacts from new material sites. Moderate short-term impacts to night skies from roadwork.</p>	<p>intense. Moderate to major impacts from reduced viewing opportunities. Negligible to moderate impacts from vehicles pulling off roads.</p>	<p>Moderate impacts from reduced viewing opportunities, less intense than Alternative B. Minor to moderate impacts from OHV open areas.</p>	<p>Moderate impacts from reduced viewing opportunities, less intense than Alternatives B, C & E. Minor to major impacts from open OHV areas and speed events.</p>	<p>Moderate impacts from reduced viewing opportunities, less intense than Alternatives B, C but more intense than Alternative D. Impacts from OHV closed areas same as Alternative A.</p>
<i>From Vegetation and Fire and Fuel Management</i>				
<p>Minor to moderate impacts from treatments creating visual changes. Potential for major impacts if entire planning area is treated. Minor to moderate impacts from reducing human-caused fire. Minor to moderate impacts from post fire rehabilitation, wildland fires, and prescribed burns.</p>	<p>Minor impacts from treatments, less intense/widespread than all other alternatives. Potential for major impacts from total treated areas eliminated. Impacts from fire reduction, post-fire rehabilitation, wildland fires, and prescribed fires same as Alternative A.</p>	<p>Minor impacts from treatments, less intense than Alternative A, more intense than Alternative B. Potential for major impacts from total treated areas reduced. Minor to moderate impacts from Pakoon Springs restoration. Impacts from fire reduction, post-fire rehabilitation, wildland fires, and prescribed fires same as Alternative A.</p>	<p>Minor impacts from treatments, less intense than Alternatives B & C. Potential for major impacts from total treated areas reduced. Impacts from Pakoon Springs restoration same as Alternative C, with additional minor to moderate impacts from facility development. Impacts from fire reduction, post-fire rehab, wildland fires, and prescribed fires same as Alternative A.</p>	<p>Impacts same as Alternative D</p>
<i>From Air, Water, and Soil</i>				
<p>Moderate to major impacts protecting visual resources due to restrictions on surface disturbing activities.</p>	<p>Impacts similar to Alternative A from surface disturbing activities.</p>	<p>Impacts similar to Alternative A from surface disturbing activities.</p>	<p>Impacts similar to Alternative A from surface disturbing activities.</p>	<p>Impacts similar to Alternative A from surface disturbing activities.</p>

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>From Fish and Wildlife</i>				
Minor to moderate impacts from water developments.	Impacts from wildlife water developments similar to Alternative A.	Impacts from wildlife water developments similar to Alternative A.	Impacts from wildlife water developments similar to Alternative A.	Impacts from wildlife water developments similar to Alternative A.
<i>From Special Status Species</i>				
Minor to Moderate impacts from restoration efforts. Negligible to moderate impacts from reduced public access/ viewing opportunities.	Impacts from restoration same as Alt A. Minor to moderate impacts from reduced public access/ viewing opportunities, most intense under this Alt.	Impacts from restoration efforts and reduced public access/viewing opportunities similar to Alternative A.	Impacts from restoration efforts and reduced public access/viewing opportunities similar to Alternative A.	Impacts from restoration efforts and reduced public access/viewing opportunities similar to Alternative A.
<i>From Visual Resources</i>				
Major impacts in Parashant threatening visual resources by managing Class II & II lands under Class IV standards. Major impacts in Vermilion protecting visual resources by managing Class III & IV lands under Class II standards.	Major impacts in Parashant protecting visual resources by managing Class III & IV lands under Class I & II standards. Moderate impacts in Vermilion protecting visual resources by managing Class III & IV lands under Class I & II standards.	Minor to moderate impacts in Parashant protecting visual resources by managing Class III lands under Class I & II standards. Moderate impacts in Vermilion, but less intense than Alternative B.	Minor to moderate impacts in Parashant protecting visual resources by managing Class III lands under Class I & II standards, less intense than Alternative C. Moderate impact in Vermilion from Class IV assignments.	Impacts in Parashant and Vermilion from Class assignments similar to Alternative C.
<i>From Special Designations</i>				
Major to moderate impacts protecting BLM wilderness visual resources through Class I assignment.	Major to moderate impacts, same as Alternative A, but would also apply to NPS proposed wilderness.	Impacts similar to Alternative B in wilderness areas.	Impacts similar to Alternative B in wilderness areas.	Impacts similar to Alternative B in wilderness areas.
<i>From Livestock Grazing</i>				
Negligible to moderate impacts in areas under heavy utilization/high grazing concentrations. Minor to	Negligible to moderate impacts from grazing, same as Alternative A but the least widespread among the	Negligible to moderate impacts from grazing, slightly less than Alternative A but more widespread than	Impacts similar to Alternative A in Parashant and Alternative C in Arizona Strip FO and Vermilion. Impacts from	Impacts similar to Alternative A in Parashant and Alternative C in Arizona Strip FO and Vermilion. Impacts from

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
moderate impacts from using BLM Standards and Guidelines and NPS Vital Signs.	alternatives. Impacts from Stands and Guides/Vial Signs same as Alternative A.	Alternative B. Impacts from Stands and Guides/Vial Signs same as Alternative A.	Stands and Guides/Vial Signs same as Alternative A.	Stands and Guides/Vial Signs same as Alternative A.
From Recreation and Visitor Services/Interpretation and Environmental Education				
Minor impacts from recreation management. Negligible to minor impacts from marketing	Minor to moderate impacts from recreation management and marketing	Negligible to moderate impacts from recreation management. Impacts from recreation marketing same as Alternative B.	Impacts from recreation management same as Alternative C. Impacts from recreation marketing same as Alternative B.	Impacts from recreation management same as Alternative C. Impacts from recreation marketing same as Alternative B.
From Lands and Realty				
Minor to moderate impacts from land-use authorizations in Monuments. Potential major impacts from land disposals in Arizona Strip FO.	Impacts same as Alt. A for Parashant and AZ Strip FO. Minor to moderate impacts in Vermilion from ADOT drainage area/structures.	Impacts similar to Alternative A for Parashant and Arizona Strip FO. Impacts similar to Alternative B for Vermilion.	Impacts similar to Alternative A for Parashant and Arizona Strip FO. Impacts similar to Alternative B for Vermilion.	Impacts similar to Alternative A for Parashant and Arizona Strip FO. Impacts similar to Alternative B for Vermilion.
IMPACTS TO LANDS WITH WILDERNESS CHARACTERISTICS				
From Travel Management				
Moderate impacts from vehicle traffic degrading wilderness characteristics. Major impacts from 71 miles road closures in Parashant and 105 road closures in Vermilion.	Negligible impacts from vehicle traffic degrading wilderness characteristics. Major impact in Monuments from route closures enhancing wilderness characteristics, 445 miles in Parashant and 179 miles in Vermilion.	Minor to moderate impacts from vehicle traffic degrading wilderness characteristics. Minor to moderate impacts from route closures enhancing wilderness characteristics, 224 miles in Parashant and 110 miles in Vermilion.	Similar impacts to Alternative C, although less widespread/intense because this alternative has the least miles of route closures other than Alternative A, 148 miles in Parashant and 93 miles in Vermilion.	Minor impacts from vehicle traffic degrading wilderness characteristics. Minor to moderate impacts from route closures enhancing wilderness characteristics with 188 miles in Parashant and 113 miles in Vermilion.
From Vegetation and Fire and Fuel Management				
Minor to moderate impacts from restoration degrading wilderness characteristics	Minor impacts from restoration degrading wilderness characteristics	Minor to moderate impacts from restoration degrading wilderness characteristics.	Impacts same as Alternative C	Impacts same as Alternative C

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>From Visual Resources</i>				
Minor to major impacts in Parashant and Arizona Strip FO from VRM Class III and IV designation which overlap wilderness characteristics lands 229,927 acres in Parashant, approximately 100,000 in Vermilion, and 70,107 in AZ Strip FO, thus threatening wilderness characteristics.	Negligible to minor impacts in Parashant and Arizona Strip FO because virtually all acres designated VRM Class I-II overlap lands with wilderness characteristics.	Minor to moderate impacts in Parashant FO from VRM Class III designation threatening wilderness characteristics as 52,391 acres in Parashant, all acres in Vermilion, and AZ Strip FO overlap VRM Class I-II designation. Impacts in Arizona Strip FO same as Alternative B.	Impacts would be similar to Alternative C, although more widespread/intense because 38,569 more acres designated VRM Class III under this alternative.	Impacts in Parashant same as Alternative C. Impacts in Arizona Strip FO and Vermilion same as Alternative B.
<i>From Livestock Grazing</i>				
Minor to moderate impacts threatening wilderness characteristics from presence of livestock and construction/maintenance of livestock fence and water structures.	Impacts similar to Alternative A but less widespread due to more allotments not available to grazing/restrictions. Least impacts under this Alternative.	Impacts same as Alternative B but less widespread due to more allotments not available for grazing/restrictions, more widespread than Alternative B.	Impacts same as Alternative B.	Impacts in the Monuments same as Alternative B and same as Alternative C in the Arizona Strip FO.
<i>From Recreation and Visitor Services/Interpretation and Environmental Education</i>				
Moderate to major impacts from natural restoration.	Impacts from restoration projects same as Alternative A.	Impacts from restoration projects same as Alternative A.	Impacts from restoration projects same as Alternative A.	Impacts from restoration projects same as Alternative A.
III. RESOURCE USES				
Negligible				
IMPACTS TO VEGETATION PRODUCTS				
Negligible				
IMPACTS TO LANDS AND REALTY				
<i>From Special Status Species</i>				
Moderate impacts limiting	Moderate in Arizona Strip FO,	Moderate in Arizona Strip FO,	Moderate impacts, same as	Same as Alternative D but

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
community growth, ROWs, and affecting land values, 25,188 acres available for disposal.	most intense under this alternative because less acreage available for disposal than under Alternative A (17,974 acres).	less intense than Alternatives A and B because less acreage available for disposal (19,743 acres).	Alternative C.	slightly less acres available for disposal (19,663 acres).
From Visual Resources				
Negligible to minor impacts in Parashant, least limitations under this Alternative. Minor in Arizona Strip FO due to limitations.	Negligible to minor impacts in Parashant and Arizona Strip FO, most limitations under this Alternative.	Minor impacts in Parashant and Arizona Strip FO, more limitations than Alternative A but less than Alternative B because more acres designated Class III which is less restrictive.	Minor impacts in Parashant and Arizona Strip FO, similar to Alternative C.	Same as Alternative C
From Special Designations				
Minor to moderate along NHT may affect landowners. Moderate impacts from ACECs adding stipulations/restrictions (127,192 acres ACECs).	Impacts from NHT same as Alternative A. Moderate impacts from ACECs, most widespread of any Alternative (308,390 acres ACECs).	Impacts from NHT and ACECs same as Alternative A (132,101 acres ACECs).	Impacts from NHT same as Alternative A. Moderate impacts from ACEC, less than Alternatives A-C (106,420 acres ACECs).	Same as Alternative D for NHT. Moderate impacts from ACECs with 150,105 acres designated under this alternative.
From Lands and Realty				
Minor to moderate impacts from land acquisitions, use authorizations, and disposals.	Minor impacts from widening the Navajo-McCullough ROW.	Impacts from land acquisitions, use authorizations, and disposals same as Alternative A. Impacts from widening the ROW same as Alternative B.	Impacts from land acquisitions, use authorizations, and disposals same as Alternative A. Minor impacts from widening the ROW, less limiting than Alternative B.	Same as Alternative D

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
IMPACTS TO LIVESTOCK GRAZING				
<i>From Travel Management</i>				
Moderate impacts to livestock operations – Alternative A would cause the least impacts	Moderate to major impacts to livestock operations from number of roads closed to motorized access and limited road maintenance – Alternative B would cause the most impacts	Moderate to major impacts to livestock operations from number of roads closed to motorized access and limited road maintenance – Alternative C impacts would be less than Alternative B but more than Alternatives A, D, E.	Moderate to major impacts to livestock operations from number of roads closed to motorized access and limited road maintenance – Alternative D impacts would be less than Alternatives B, C and E and more than Alternative A.	Same as Alternative C.
<i>From Wilderness Characteristics</i>				
N/A	Largest area of lands of all alternatives, affecting almost every allotment in Monuments. Major impacts to livestock operations. This is the most restrictive alternative.	Similar to Alternative B because of less acres and fewer allotments affected. Impacts to livestock operations would be moderate.	Minor to moderate impacts to livestock operations in Parashant and AZ Strip FO. Same as Alt. A for Vermilion because no acres maintained for wilderness characteristics.	Moderate impacts to livestock operations in the Monuments, most similar to Alternative C. Minor to moderate in AZ Strip FO, similar to Alternative D.
<i>From Vegetation and Fire and Fuel Management</i>				
Moderate short-term and long-term impacts.	Moderate to major impacts to livestock operators because of fewer acres restored/treated and fewer tools available.	Moderate impacts to livestock operators – more vegetation and fuels treatments allowed.	Minor to moderate impacts to livestock operations; most number of acres allowed for vegetation treatments.	In Parashant same as Alternative C, in Vermilion and AZ Strip FO same as Alternative D.
<i>From Special Status Species</i>				
Minor to moderate impacts overall. Major impact in Parashant in desert tortoise ACECs/DWMAs, due to lands not available to grazing. Major impacts in Arizona Strip FO where areas are not available	Greater and higher intensity impacts than any other alternative, ranging from moderate to major impacts due to more lands not available to livestock grazing.	Fewer and less intense impacts than Alternative B, ranging from minor to major impacts.	Fewer and less intense impacts than Alternatives B and C, ranging from minor to moderate impacts.	In Parashant similar to Alternatives C and D; in Vermilion same as Alternative A; in Arizona Strip FO same as Alternative D.

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
seasonally for grazing in desert tortoise habitat.				
<i>From Visual Resources</i>				
Negligible to moderate ; least impacting alternative.	Negligible to moderate ; more intensive impacts than any other alternative because this alternative has the most acres designated VRM Class I-II, nearly 100% of Monuments.	Negligible to moderate ; less intense than Alternative B and E.	Negligible to moderate ; less intense than Alternatives B, C, or E. This is the least impacting of all the alternatives.	Negligible to moderate ; in Monuments to those in Alternative D; In Arizona Strip FO, similar to Alternative B except less acres designated Class I-II.
<i>From Special Designations</i>				
Moderate to major impacts; more impacts than Alternatives D, B, C, and E, affecting 29 allotments.	Moderate to major impacts; most impacting alternative to due to largest number of acreage of proposed ACECs, affecting 56 allotments.	Moderate to major impacts; less impacting than Alternatives B and E.	Moderate to major impacts; least impacting alternative to livestock grazing due to fewest acreage proposed for ACECs, affecting 17 allotments.	Moderate to major impacts; fewer impacts than Alternatives B, more than Alternatives A, C and D, still affecting same number of allotments as Alternative B but with fewer acres than Alternative B.
<i>From Recreation and Visitor Services/Interpretation and Environmental Education</i>				
Moderate impacts	Moderate to major impacts; most intense among alternatives.	Moderate to major impacts, less intense than Alternative B.	Moderate to major impacts, less intense than Alternatives B, C and E.	Similar to Alternative C
IMPACTS TO MINERALS				
<i>From Special Status Species</i>				
Minor to moderate impacts to seasonal restrictions may limit oil & gas exploration/development. Major impacts from mineral material disposal closures.	Impacts similar to Alternative A, except fewer seasonal restrictions for fluid leasable minerals.	Impacts similar to Alternative B	Impacts similar to Alternative B	Impacts similar to Alternative B

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>From Air, Water, and Soils</i>				
Moderate impacts on locatable minerals from dust control expenses.	Impacts same as Alternative A	Impacts same as Alternative A	Impacts same as Alternative A	Impacts same as Alternative A
<i>From Visual Resources</i>				
Moderate to major impacts to fluid mineral leasing from no surface occupancy restrictions.	Minor to moderate impacts as no surface occupancy restrictions same as Alternative A and Mineral Materials have fewer acres of restrictions than Alternative A	Same as Alternative B	Leasable minerals same as Alternative B, Locatable minerals same as Alternative A, and Mineral Materials less impacts than Alternative A because fewer acres designated VRM Class II.	Leasable minerals similar to Alternative A. Locatable minerals same as Alternative A and Mineral Materials less than Alternative B and more impacting than Alternatives A, C, and D.
<i>From Special Designations</i>				
Negligible to major impacts to fluid leasable minerals from ACECs, with 127,192 acres. Negligible to minor impacts to locatable minerals. Moderate to major impacts to mineral materials in ACECs.	Minor to moderate impacts to fluid leasable minerals from ACECs, with 308,390 acres. Impacts to locatable minerals same as Alternative B. Impacts to mineral materials in ACECs same as Alternative A.	Impacts to fluid leasable minerals and mineral materials from ACEC similar to Alternative B, but less widespread. Impacts to locatable minerals same as Alternative A.	Impacts to fluid leasable minerals and mineral materials from ACEC similar to Alternative B, but less widespread than Alternatives B and C. Impacts to locatable minerals same as Alternative A.	Similar to Alternative D
<i>From Wilderness Characteristics</i>				
N/A	Moderate on fluid leasable minerals from no surface occupancy.	Impacts similar to Alternative B on fluid leasable minerals, more widespread than Alternative B.	Moderate to major on fluid leasable minerals, less widespread than Alternatives B and C.	Impacts same as Alternative D
<i>From Lands and Realty</i>				
Moderate to major impacts from land acquisitions and	Impacts similar to Alternative A, except less acres	Impacts similar to Alternative A except less acres	Same as Alternative C	Impacts similar to Alternative A, except less acres

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
disposals, 25,188 acres.	with available for disposal, 17,974 acres.	available for disposal, 19,743 acres.		available for disposal, 19,663 acres.
IMPACTS TO RECREATION				
<i>From Travel Management</i>				
Restricting all vehicles to designated roads would allow OHV users continued access to the existing road network until route designations were made, while non-motorized users could experience minor to moderate impacts due to potential increases in motorized use. Maintaining an 803-acre "open" area in the Arizona Strip FO would allow for very limited off-road opportunities.	Major impacts, motorized recreational used restricted due to 85% of the Monuments delineated as Primitive TMA. Moderate to major impacts to non-motorized users due to increased opportunities. Impacts from restricting all vehicles to designated roads would be the same as under Alternative A. Eliminating "open" areas would only have a slight decrease in off-road opportunities.	Minor to moderate impacts limiting OHV use and minor impacts increasing non-motorized opportunities from route designations. Impacts from restricting all vehicles to designated roads would be the same as under Alternative A. Increasing "open" areas by 84% would have a negligible increase in off-road opportunities.	Negligible impacts on OHV use/opportunities and minor to moderate impacts to non-motorized users due to decreasing opportunities. Impacts from restricting all vehicles to designated roads would be the same as under Alternative A. Increasing "open" areas by 795% would have a minor increase in off-road opportunities.	Negligible impacts limiting OHV use and minor to moderate impacts decreasing non-motorized opportunities from route designations. Impacts from restricting all vehicles to designated roads would be the same as under Alternative A. Increasing "open" areas by 22% would have a negligible increase in off-road opportunities.
Keeping 2,183 miles of roads open and closing no roads in the Monuments would preserve existing available opportunities for motorized recreational use and current recreational settings. Non-motorized users would experience minor to moderate impacts due to potential increases in motorized use. Similar impacts would occur on the Arizona Strip FO.	Moderate to major impacts due to a roughly 60% reduction in open roads compared to Alternative A, decreasing opportunities for motorized recreation in the Monuments. Major impacts to non-motorized users due to increased recreational opportunities. Impacts on the Arizona Strip FO would be the same as Alt. A, but short term.	Minor to moderate impacts due to a roughly 20% reduction in open roads compared to Alternative A, decreasing opportunities for motorized recreation in the Monuments. Minor impacts to non-motorized users due to increased recreational opportunities. Impacts on the Arizona Strip FO would be the same as Alternative A, but shorter term.	Minor impacts due to a less than 10% reduction in open roads compared to Alternative A, decreasing opportunities for motorized recreation in the Monuments. Moderate impacts to non-motorized users due to increased recreational opportunities. Impacts on the Arizona Strip FO would be the same as Alternative A, but shorter term.	Impacts from reduction in open roads most similar to Alternative C. Impacts on the Arizona Strip FO would be the same as Alternative A, but shorter term.

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<i>From Wilderness Characteristics</i>				
N/A	Major impacts protecting settings and opportunities in the Monuments.	Impacts similar to Alternative B but not as widespread.	Moderate impacts protecting setting and opportunities in the Monuments.	Impacts similar to Alternative C.
<i>From Vegetation and Fire and Fuel Management</i>				
Negligible to moderate impacts from vegetation treatments affecting recreation settings.	Negligible to moderate impacts from vegetation treatments affecting recreation settings.	Minor to moderate impacts from vegetation treatments affecting recreation settings.	Minor to moderate impacts from vegetation treatments affecting recreation settings.	Impacts similar to Alternative D.
<i>From Fish and Wildlife</i>				
Negligible to moderate impacts from vegetation treatments affecting recreation settings. Negligible to moderate impacts from increased game/wildlife.	Same as Alternative A	Similar to Alternative A	Similar to Alternative A	Similar to Alternative A
<i>From Visual Resources</i>				
Minor to major impacts from VRM Class III or IV degrading recreation settings in Parashant and Arizona Strip FO.	Negligible to minor impacts from VRM Class I & II in Monuments. Impacts same as Alternative A in Arizona Strip FO.	Minor to major impacts from VRM Class III degrading recreation settings in Parashant and Arizona Strip FO, less intense than Alternative A.	Impacts same as Alternative C	Impacts similar to Alternative C in Parashant. Impacts similar to Alternative B in Arizona Strip FO, though slightly less protective.
<i>From Cultural Resources</i>				
Major impacts providing recreation opportunities from public use sites.	Impacts similar to Alternative A, but more widespread from additional public use sites.	Impacts same as Alternative B	Impacts same as Alternative B	Impacts same as Alternative B
<i>From Livestock Grazing</i>				
Minor to moderate impacts degrading recreation settings, most widespread under this	Minor to moderate impacts degrading recreation settings, least widespread under this	Impacts similar to Alternative B, except that Coyote Buttes and Paria Canyon (Vermilion)	Impacts similar to Alternative B, except for major impacts from removing seasonal	Impacts similar to Alternative B Impacts in Paria Canyon similar to Alternative B;

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
Alternative	Alternative. Moderate to major impacts improving recreation settings from unavailability of livestock grazing in Coyote Buttes and Paria Canyon.	not available seasonally to grazing, reducing beneficial impacts to moderate	restrictions from Coyote Buttes and Paria Canyon (Vermillion)	impacts in Coyote Buttes similar to Alternative D
From Recreation and Visitor Services/Interpretation and Environmental Education				
Minor to moderate impacts from SRMAs benefiting recreation opportunities and experiences. Minor to moderate impacts protecting recreation settings and opportunities from signing, recreation marketing actions, visitor limits and regulations, and permit and fees. Moderate impacts from SRPs that could limit opportunities. No Interpretation and education decision made. Minor impacts from camping restrictions.	Minor to major impacts from SRMAs. Impacts from signing, marketing, visitor limits/fees similar to Alternative A. Moderate impacts from SRPs enhancing efficiency and effectiveness. Moderate impacts from Interpretation and Education. Moderate to major impacts from camping restrictions reducing opportunities.	Minor to major impacts from SRMAs. Impacts from signing, marketing, visitor limits/fees similar to Alternative A. Moderate impacts from SRPs enhancing efficiency and effectiveness. Moderate impacts from Interpretation and Education. Moderate to major impacts from camping restrictions reducing opportunities.	Impacts from SRMAs, recreation marketing actions, and interpretation and education similar to Alternative B. Impacts from signing, marketing, visitor limits/regulations and camping similar to Alternative C. Impacts from Permit and Fees and SRPs similar to Alternative A.	Impacts from SRMAs, recreation marketing actions, and interpretation and education similar to Alternative B. Impacts from signing, marketing, visitor limits/regulations, SRPs, and camping similar to Alternative C. Impacts from Permit and Fees similar to Alternative A.
IMPACTS TO TRAVEL MANAGEMENT				
From Travel Management				
Moderate to major long-term impacts in Monuments along designated roads from increases in traffic and conflicts among users.	Moderate impacts in the short-term and major impacts long term from concentrating increasing public use on fewer roads, most intense impacts	Moderate long-term impacts in Monuments along designed roads from closed roads and increased traffic. Moderate long-term impacts	Minor to moderate impacts long-term in Monuments along designed roads from closed roads and increased traffic. Moderate long-term impacts	Moderate long-term impacts in Monuments along designed roads from closed roads and increased traffic, slightly more intense than Alternative C.

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
<p>Minor to moderate long-term impacts in Arizona Strip FO due to increases in traffic and conflicts among users, Moderate impacts to OHV users in Arizona Strip FO from limited open areas</p>	<p>under this Alt. Major long-term impacts in AZ Strip FO due to increases in traffic and conflicts among users, most under this Alt. Major impacts to OHV users in Arizona Strip FO from no open areas.</p>	<p>in Arizona Strip FO. Minor impacts to OHV users in Arizona Strip FO due to additional open areas increasing OHV-use opportunities.</p>	<p>in Arizona Strip FO. Moderate impacts to OHV users in Arizona Strip FO due to additional open areas increasing OHV-use opportunities.</p>	<p>Moderate long-term impacts in Arizona Strip FO. Impacts to OHV users in Arizona Strip FO same as Alternative D.</p>
From Fish and Wildlife				
No impacts	<p>Negligible to major impacts in Monuments from reduced motorized access for hunting and wildlife watching.</p>	<p>Impacts same as Alternative B</p>	<p>Impacts same as Alternative B</p>	<p>Impacts same as Alternative B</p>
From Recreation and Visitor Services/Interpretation and Environmental Education				
<p>Minor impacts from existing SRMAs constricting travel.</p>	<p>Minor to moderate localized impacts to public access from designations of new SRMAs.</p>	<p>Impacts same as Alternative B</p>	<p>Impacts same as Alternative B</p>	<p>Impacts same as Alternative B</p>
IV. SPECIAL MANAGEMENT AREAS				
IMPACTS TO WILDERNESS AREAS				
<i>From Wilderness Characteristics</i>				
N/A	<p>Moderate impacts Planning Area-wide due to areas identified for maintaining wilderness characteristics adjacent to Wilderness Areas, acting as a "buffer" from non-wilderness resource uses and practices. Moderate to major</p>	<p>Moderate impacts Planning Area-wide; similar to Alternative B, although slightly less widespread as slightly fewer acres identified for maintaining wilderness characteristics would be directly adjacent to wilderness</p>	<p>Minor to moderate impacts, similar to Alternative B in Arizona Strip FO, less widespread in Parashant. No impacts in Vermilion due to no acres identified for maintaining wilderness characteristics. 140,949 acres (13%) Parashant</p>	<p>Impacts similar to Alternative B in Arizona Strip FO. Impacts similar to Alternative C in Parashant. Impacts minor in Vermilion. 215,345 (21%) Parashant 37,566 acres (13%) Vermilion 34,942 acres (2%) AZ Strip FO</p>

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	impacts in Vermilion. Areas managed for wilderness characteristics; 411,256 acres (39%) Parashant 96,796 acres (33%) Vermilion 46,135 acres (2%) AZ Strip FO	areas. Moderate to major impacts in Vermilion. 226,394 acres (22%) Parashant 40,345 acres (14%) Vermilion 77,575 acres (4%) AZ Strip FO	0 acres Vermilion 34,628 acres (2%) AZ Strip FO	
From Vegetation and Fire and Fuel Management				
Minor to moderate short-term impacts threatening wilderness character. Minor to moderate long-term impacts improving naturalness	Impacts similar to Alternative A, except long-term impacts may not be successful and ability to control invasive species would be ineffective.	Impacts same as Alternative A	Impacts same as Alternative A	Impacts same as Alternative A
From Fish and Wildlife				
Minor to Moderate impacts from construction/maintenance of water developments in Parashant and Arizona Strip FO; localized. Moderate to major impacts in Vermilion.	Impacts same as Alternative A	Impacts same as Alternative A	Impacts same as Alternative A	Impacts same as Alternative A
From Livestock Grazing				
Minor to moderate impacts from livestock affecting wilderness character	Minor impacts, less widespread among all alternatives due to areas made unavailable to grazing or seasonal restrictions.	Minor impacts, less widespread than Alternative A, but more widespread than Alternative B	Minor to moderate impacts, similar to Alternative A in Vermilion and the Arizona Strip FO among the alternatives	Minor to moderate impacts, similar to Alternative C or D in Parashant, depending upon allotment; similar to Alternative B in Vermilion; and similar to Alternative B or D in the Arizona Strip FO, depending upon allotment.

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
IMPACTS TO WILD AND SCENIC RIVERS				
No moderate or major impacts to Wild and Scenic Rivers				
IMPACTS TO NATIONAL HISTORIC TRAILS				
<i>From Visual Resources</i>				
Minor to moderate impacts from VRM Class III designation allowing some visual intrusions.	Minor impacts protecting the NHT from VRM Class II. Minimal moderate to major impacts from VRM Class IV.	Moderate to major impacts from VRM Class III and IV designations allowing visual intrusions.	Impacts same as Alternative C	Impacts same as Alternative B
<i>From Cultural Resources</i>				
No Impacts	Minor to moderate impacts affecting site integrity from Public Use Site designation which could increase visitation, use, and vandalism.	Impacts same as Alternative B	Impacts same as Alternative B	Impacts same as Alternative B
<i>From Recreation and Visitor Services/Interpretation and Environmental Education</i>				
Minor to moderate impacts from off-road trails.	Impacts same as Alternative A	Impacts same as Alternative A	Impacts same as Alternative A	Impacts same as Alternative A
<i>From Lands and Realty</i>				
Moderate impacts from ROW compromising historic setting.	Impacts same as Alternative A	Impacts same as Alternative A	Impacts same as Alternative A	Impacts same as Alternative A
IMPACTS TO AREAS OF CRITICAL ENVIRONMENTAL CONCERN				
<i>From Special Status Species</i>				
ACECs to protect Special Status Species;	ACECs to protect Special Status Species;	ACECs to protect Special Status Species;	ACECs to protect Special Status Species;	ACECs to protect Special Status Species;

TABLE 2.19 SUMMARY OF IMPACTS

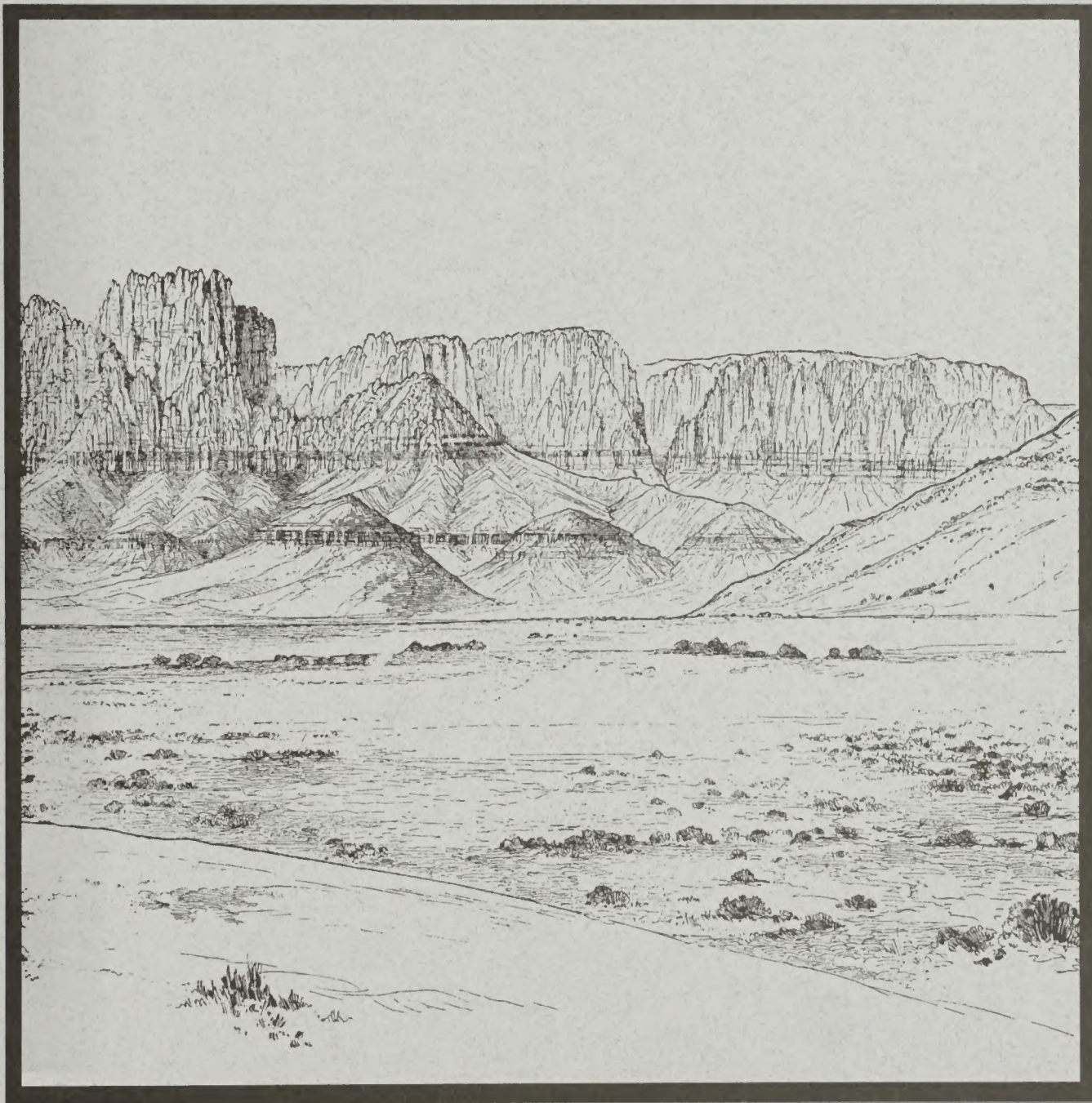
ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
Parashant: 76,014 total acres Arizona Strip FO: 126,951 total acres	Parashant: no ACECs Arizona Strip FO: 221,994 total acres, most under this Alternative	Parashant: no ACECs Arizona Strip FO: 120,669 total acres	Parashant: no ACECs Arizona Strip FO: 106,179 total acres, least under this Alternative	Parashant: no ACECs Arizona Strip FO: 138,636 total acres – 11,684 more acres than Alternative A
IMPACTS TO RESOURCE CONSERVATION AREAS (RCAs)				
<i>From Special Designations</i>				
Parashant: No RCAs Vermilion: No RCAs RCAs are now within the Monuments so there would be no impacts to these resources because the Monuments would provide protection of these resources.				
V. SOCIAL AND ECONOMIC CONDITIONS				
IMPACTS TO SOCIOECONOMICS				
<i>From Travel Management</i>				
Minor to moderate impact to local economies from increased recreation opportunities/travel on roads	Minor to moderate impact to local economies from decreased recreation opportunities	Impacts similar to Alternative A	Impacts similar to Alternative A	Impacts similar to Alternative A
<i>From Livestock Grazing</i>				
183,000 active AUMs would result in \$7,118,900 in direct economic impacts in the area. Least impacts among the alternatives.	Impacts area wide would be negligible due to a 5% reduction in active AUMs throughout the Planning area resulting in a \$358,658/year reduction in direct economic contributions compared to Alternative A. Impacts to specific ranch operations would be minor to moderate. Most	Impacts area wide would be negligible due to a 0.4% reduction in active AUMs throughout the Planning area resulting in a \$26,530/year reduction in direct economic contributions compared to Alternative A. Impacts to specific ranch operations would be negligible to minor.	Impacts area wide would be negligible due to a 0.2% reduction in active AUMs throughout the Planning area resulting in a \$14,860/year reduction in direct economic contributions compared to Alternative A. Impacts to specific ranch operations would be negligible.	Impacts similar to Alternative C

TABLE 2.19 SUMMARY OF IMPACTS

ALTERNATIVE A NO ACTION	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E PROPOSED PLAN
	intense impacts among the alternatives.			
From Recreation and Visitor Services/Interpretation and Environmental Education				
Negligible impacts overall from recreation decisions	Minor to moderate long-term impacts due to restrictions and limits placed on recreation	Minor to moderate long-term impacts due to recreation decisions increasing visitation	Impacts similar to Alternative C	Impacts similar to Alternative C
From Lands and Realty				
Minor to moderate impacts in FO from land disposals benefiting local economies	Impacts similar to Alternative A	Impacts similar to Alternative A	Impacts similar to Alternative A	Impacts similar to Alternative A
IMPACTS TO ENVIRONMENTAL JUSTICE				
No moderate or major impacts to Environmental Justice				
IMPACTS TO HEALTH AND SAFETY				
No moderate or major impacts to Health and Safety				

Chapter 3

Affected Environment



“There is more to a place than what you see.”

*Evening on the Arizona Strip
Lyman Hafen, 2001*

CHAPTER 3. AFFECTED ENVIRONMENT

RESOURCES

AIR

Overview

The existing air quality in the Planning Area is typical of undeveloped regions in the western U.S. The entire Planning Area has been designated as either attainment (i.e., it has met national air quality standards) or unclassified for all pollutants and has been designated as Prevention of Significant Deterioration (PSD) Class II, as defined by the Clean Air Act. Grand Canyon National Park to the south of the Planning Area is a PSD Class I area.

Air quality in the Planning Area is generally good, although regional haze can impair vistas, and ozone levels are above natural levels. Exceptions include short-term pollution resulting from vehicular traffic, mining operations, and wildland fires. Regional haze is most common in the summer, blown in from metropolitan areas south and west of the Planning Area, such as the San Joaquin Valley and Los Angeles, California; Las Vegas, Nevada; and Phoenix, Arizona. In the winter, northerly airflows transport clear, clean air into the Planning Area. Emissions from prescribed burns, wild fires, and the burning of vegetation on private lands cause localized air pollution due to the release of particles and gases. Fugitive dust is generated by the erosive force of winds blowing across the area, mainly coming from disturbed areas such as roads. Fugitive dust is not included in air quality evaluations.

In 1976, the Navajo Generating Plant was completed in Page, Arizona. This coal-fired electricity generating station consists of three, 750 MW units which burn a maximum load of 25,000 tons of coal per day. The plant used to be a major point source of airborne sulfur compounds; however, by 1999 the plant had installed three wet limestone scrubbers, removing 90 percent of the sulfur dioxide from the emission plumes of the plant.

Currently, air quality is not being monitored within the Planning Area, although several special studies have been conducted adjacent to it. Routine monitoring is carried out in Grand Canyon National Park and recently began in Meadview (Lake Mead National Recreation Area (NRA)) and Zion National Park. Existing practices for managing air quality consist mainly of conducting prescribed burns during favorable wind conditions (e.g., when winds are blowing away from Class I lands) and using dust control on roads and mining operations.

Parashant Air

The proclamation establishing Parashant cites the area's "engaging scenery" and its "remote and unspoiled" character. Maintaining these qualities requires clean and clear air, allowing visitors to see and appreciate the rugged, colorful panoramas, and protecting the Monument's flora and fauna from the injurious effects of air pollution. Air quality in Parashant is normally very good. Localized air pollution in the form of fugitive dust occurs in minor amounts from travel on small dirt roads. Most fugitive dust occurs in the lowest and driest part of the Monument, such as the Pakoon Basin. Smoke from wildfires and prescribed burns are occasionally emitted in the Monument. Haze is also blown into the area from major metropolitan areas, mainly Las Vegas and Los Angeles. Limited ozone monitoring conducted in the summer of 2003 found elevated ozone levels immediately south of the Pakoon Basin at Meadview, but lower ozone levels were detected further east at Tuweep. The pattern and concentrations at Meadview seem to follow those measured in Las Vegas and suggest concentrations high enough to injure sensitive plant species in the Pakoon Basin. However, the Tuweep data suggest fewer impacts in the east and/or at higher elevations of the Shivwits and Uinkaret plateaus.

Vermilion Air

The "remote and unspoiled" nature of the Monument is cited as a condition to be preserved in its enabling proclamation. Air quality in Vermilion is normally excellent. Localized air pollution occurs in minor amounts from travel on small dirt roads. During the summer, regional haze enters the area from the south and west, although visibility is generally remains very good. In general, winters are clean and clear, although local inversions may trap pollutants in the House Rock Valley and Wahweap Basin. The Paria Plateau is generally above these haze layers, although vistas can be degraded by these hazes.

Arizona Strip FO Air

Air quality in the Arizona Strip FO is normally good. Localized air pollution consists mainly of fugitive dust from travel on large dirt roads such as Clayhole and Quail Hill roads, and from operations of a gypsum mine in the Planning Area, south of St. George, Utah. Occasional wildfires and prescribed burns emit smoke into the area. Air quality in the St. George basin, including the Arizona segment, has been deteriorating with the increase in the city's population and traffic on I-15. Air pollution is especially noticeable during winter inversions. Regional haze is also blown into the area from major metropolitan areas, mainly during the summer.

WATER

Overview

Water Rights

Arizona law divides water rights for surface water and groundwater into distinct legal regimes. Surface water is subject to the Doctrine of Prior Appropriation (Public Water Code Title 45, Chapter 1, Article 5). Arizona courts have interpreted appropriable water to include “waters of all sources, flowing in streams, canyons, ravines, or other natural channels, or in definite underground channels, whether perennial or intermittent, flood, waste or surplus water, and of lakes, ponds, and springs on the surface.” Water in definite underground channels is distinguished from percolating groundwater. Appropriation of water occurred before 1919 by simply putting water to beneficial use and recording the use. The Public Water Code was enacted in 1919 to create a uniform permit system of rights. Groundwater not subject to appropriation, (i.e. percolating groundwater, is governed under the Doctrine of Reasonable Use: Public Water Code Title 45, Chapter 1, Article 5). The overlying landowner’s right is based on the amount of water captured and used. Wells in the Planning Area are subject to registration requirements.

Rights to surface waters, springs, and stock ponds in the Planning Area are held by private landowners, grazing permittees, or by federal land managers. Official water right records are available through the Arizona Department of Water Resources. Some information may also be found in individual grazing allotment files.

Applications for in-stream flow rights for fisheries protection on the Virgin River and Beaver Dam Creek are currently being processed by the Bureau of Land Management (BLM) state office. The BLM has asserted rights on 72 waters withdrawn under Public Water Reserve (PWR) 107 for purposes consistent with and identified in the withdrawal. Six waters are asserted under other PWRs.

Surface Water Resources

Four perennial streams of more than a half-mile in length flow across the Planning Area: Kanab and Beaver Dam creeks and the Virgin and Paria rivers. Other, shorter streams include Badger and Cottonwood creeks. There are also approximately 1400 stock ponds, 365 springs and seeps, three playettes or “mini-playas,” and many small potholes scattered throughout the Planning Area. Most springs flow less than a few hundred feet from their source at rates of 0.5 to 3 gallons per minute (gpm) and have been developed for livestock, wildlife, recreation, and/or administrative use.

A network of ephemeral washes that only run during major rainfall events characterizes much of the Planning Area. During the fall and winter, rainstorms are usually gentle and the water soaks

into the ground, resulting in minimal stream flows. Snowmelt in the higher elevations can result in stream runoff in the spring after wet winters. The greatest possibility of ephemeral washes to flow occurs after summer rainstorms, which are often intense but of short duration and can cause erosion and flash flooding. The present drainage pattern was primarily produced by these intense summer storms.

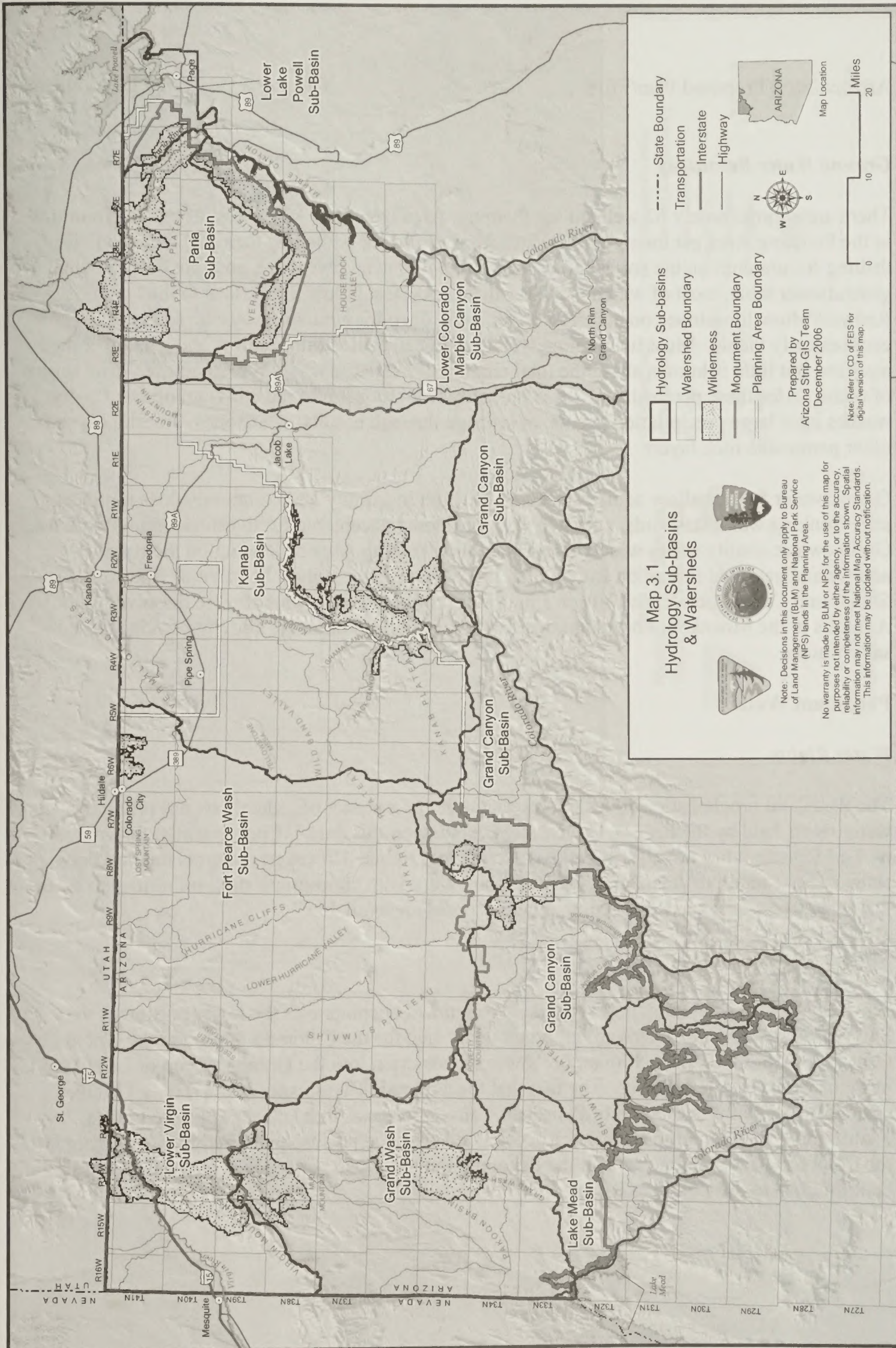
The Planning Area is portioned hydro-geographically into parts of nine sub-basins according to U.S. Geological Survey (USGS) standards (see Map 3.1). All of the sub-basins in the Planning Area drain into the Colorado River via their main tributaries as listed in Table 3.1

Sub-basin	USGS HUC Number	Main Tributary in Planning Area
Lower Lake Powell	14070006	Ferry Swale Canyon
Paria	14070007	Paria River
Lower Colorado – Marble Canyon	15010001	House Rock Wash
Grand Canyon	15010002	Parashant Canyon
Kanab	15010003	Kanab Creek
Lake Mead	15010005	Colorado River
Grand Wash	15010006	Grand Wash
Fort Pearce Wash	15010009	Fort Pearce Wash
Lower Virgin	15010010	Virgin River

The BLM's management objective for surface water quality ensures that all waters on public lands meet or exceed federal and state water quality standards for specific uses (e.g., drinking, swimming, fishing, etc.). These standards are regulated by the State and include acceptable levels for variables in surface water quality such as turbidity, pH, trace metals, salinity and other total dissolved solids (TDS), bacterial levels, and sediment loads. Salinity levels due to sulfate salts and suspended sediment concentration are the main water quality concerns in the Planning Area. The Colorado River Basin Salinity Control Act of 1974 mandates the reduction of salt contributions to the Colorado River.

The Arizona Department of Environmental Quality (ADEQ) is responsible for water quality in Arizona. The ADEQ conducts biennial statewide surface water quality assessments, producing a report that lists streams that are not meeting state water quality standards for their designated uses. The Virgin River below Littlefield and a stretch of the Colorado River just below the mouth of Parashant Canyon are listed by the ADEQ as impaired water bodies for having too high of a concentration of suspended sediments, exceeding the states Total Maximum Daily Load (TMDL) standards. The ADEQ started water quality studies on the Paria River in 2001, but no data is currently available.

The most significant sources of non-point source pollution (i.e., pollution sources that are diffuse and do not have a single point of origin nor originate from a specific outlet) affecting Arizona's waters are grazing, hydrologic/habitat modification, recreation, and resource extraction. Pollutants of concern are increased sediment and salt loads due to runoff events.



Map 3.1
Hydrology Sub-basins
& Watersheds



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability, or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Hydrology Sub-basins
 Watershed Boundary
 Wilderness
 Monument Boundary
 Planning Area Boundary

Transportation
 Interstate
 Highway

State Boundary

Prepared by
 Arizona Strip GIS Team
 December 2006

Note: Refer to CD of FEIS for digital version of this map.

Map Location
 ARIZONA

0 10 20
 Miles

Map 3.1 Hydrology Sub-basins & Watersheds

Ground Water Resources

There are approximately 62 wells in the Planning Area (see Map 3.2). Most of the communities in the Planning Area get their potable water from springs or wells less than 500 feet deep. Deep drilling for uranium on the south end of the Uinkaret Plateau revealed a possible deep regional groundwater table, most of which is deeper than 2,500 feet below the surface in the Redwall/Muav limestone contact. The water is too deep for a pumping system to be economically viable. Most functioning wells have been drilled into shallow and small, perched aquifers, but little is known about the total amount of available water in each aquifer. The source of recharge for these perched aquifers is probably from runoff into the alluvium of usually dry washes after large precipitation events, or seepage through basalts, sandstones, limestones, and other permeable rock layers.

Groundwater from shallow aquifers is generally high in salinity and commonly does not meet state drinking water standards, although it is considered acceptable for livestock and wildlife use. Groundwater quality varies widely throughout the Planning Area depending on the type of aquifer and geologic formation from which it originates. In general, the Navajo Sandstone, Shinarump Conglomerate, and Virgin Limestone tend to produce water low in dissolved salts. Aquifers in the Moenkopi Formation, Kaibab limestone, and drainage alluvium tend to have salty waters.

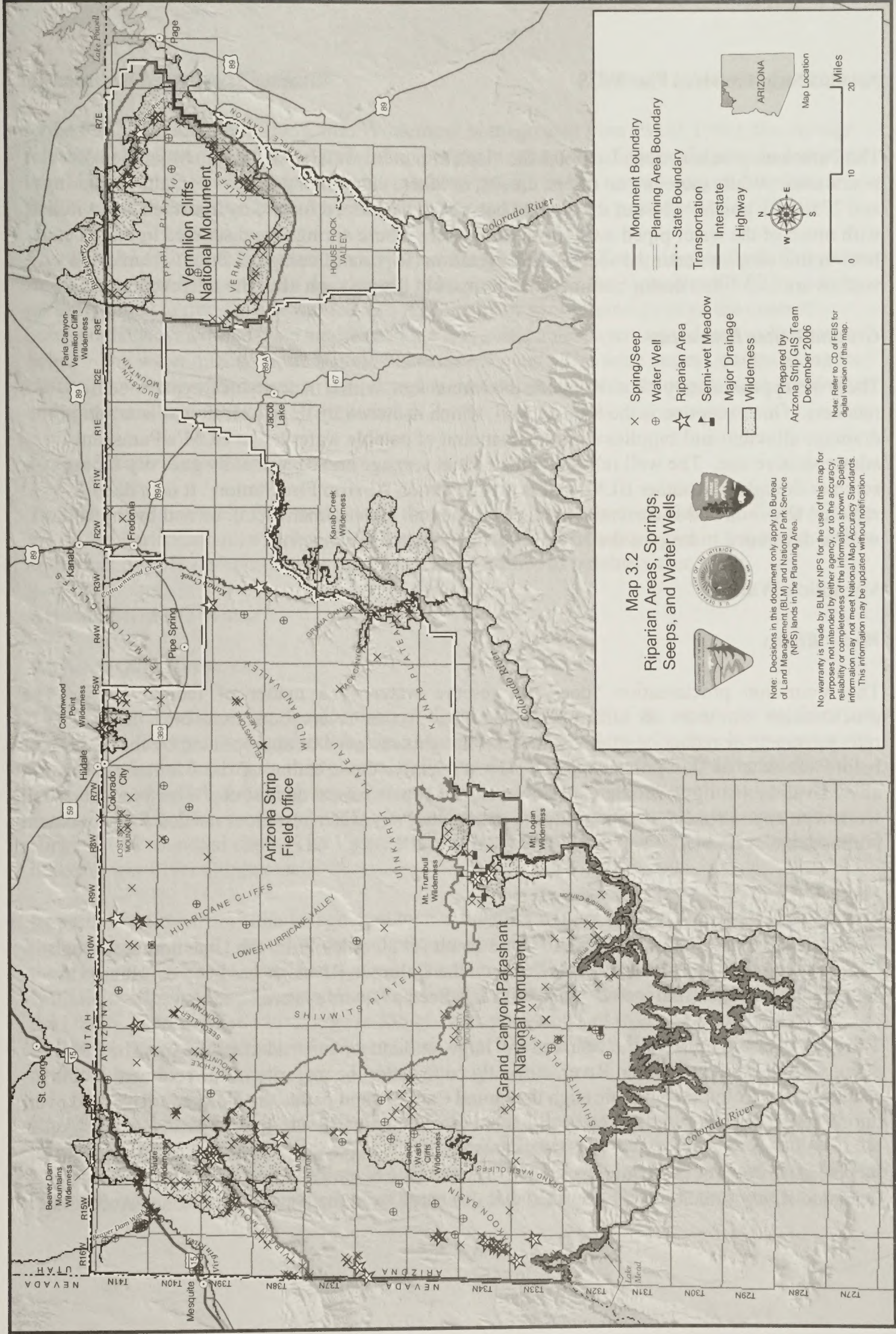
Parashant Water

Water Rights

The Parashant proclamation “does not reserve water as a matter of federal law nor relinquish any water rights held by the Federal Government existing on this date.” Consequently, the creation of the Monument has not altered valid existing water rights. However, the proclamation does state, “The federal land managing agencies shall work with appropriate state authorities to ensure that water resources needed for Monument purposes are available.”

Surface Water Resources

The Parashant proclamation notes that the “Monument encompasses the lower portion of the Shivwits Plateau, which forms an important watershed for the Colorado River and the Grand Canyon.” Almost all of the Monument’s watersheds drain into the Grand Canyon or Lake Mead portions of the Colorado River. The fact that the Colorado River exceeds the state’s TMDL standards just below the mouth of Parashant Canyon suggests that latter’s watershed may contribute to such impairment through accelerated erosion and suspended sediments flowing into the Colorado River. Saline soils in the Pakoon Basin may also be responsible for salt contributions to the Colorado River.



Map 3.2
Riparian Areas, Springs,
Seeps, and Water Wells

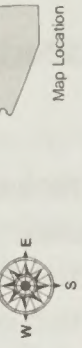


Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

- × Spring/Seep
- ⊕ Water Well
- ☆ Riparian Area
- ┆ Semi-wet Meadow
- ┆ Major Drainage
- ▭ Wilderness
- Monument Boundary
- ▬ Planning Area Boundary
- - - State Boundary
- Transportation
- Interstate
- Highway

Prepared by
 Arizona Strip GIS Team
 December 2006



Map Location
 0 10 20
 Miles

Map 3.2 Riparian Areas, Springs, Seeps, and Water Wells

The Parashant proclamation also notes the “lack of natural waters” within the Monument’s boundaries. While there are no rivers, creeks, or lakes, the Monument does contain 127 springs and 275 stock ponds. Most of the springs have been developed for use by livestock and wildlife, with much of the water piped away from the source. These springs are discussed in more detail later in this chapter under the section on Vegetation (Riparian Ecological Zone). Numerous washes are also filled during summer rainstorms, but dry up soon after the rain events cease.

Ground Water Resources

There are approximately 17 wells inside the Monument, with a majority of them owned by ranchers. One exception is the Mociac well, which is owned by the BLM. It was hand-dug in drainage alluvium and supplies a minimal amount of potable water to the BLM’s Parashant administrative site. The well relies on intermittent seepage and occasionally goes dry during summer droughts. Another BLM well is at the Pakoon Airstrip Fire Station. It is in deep regional alluvium and is currently under development. Government Well, owned by the NPS, will be developed to support the NPS Dellenbaugh administrative site.

Vermilion Water

Water Rights

The Vermilion proclamation “does not reserve water as a matter of federal law.” The proclamation continues to affirm that “Nothing in this reservation shall be construed as a relinquishment or reduction of any water use or rights reserved or appropriated by the U.S. on or before the date of this proclamation.” Consequently, the creation of the Monument has not altered valid existing water rights. However, the proclamation does state, “The Secretary shall work with appropriate State authorities to ensure that any water resources needed for Monument purposes are available.”

Surface Water

The Paria River originates in Utah and flows south for 30 miles, from the Utah border through Paria Canyon, to its terminus at Lee’s Ferry on the Colorado River. It has been considered as suitable for inclusion into the National Wild and Scenic Rivers system.

The river is turbid much of the year and has large amounts of suspended sediment. The Paria, along with the Little Colorado River, currently contributes the majority of the sediment in this section of the Colorado River through the Grand Canyon, and paints the Colorado River red even during relatively low runoff. The runoff is high in TDS, mostly sulfates.

Its perennial flow (or base flow) from the Buckskin Gulch confluence to its mouth at the Colorado River is maintained by springs that discharge from the Navajo Sandstone. According

to the Paria Canyon-Vermilion Cliffs Wilderness Management Plan (BLM 1986), the average release of these springs is from 2 to 7 cubic feet per second (cfs) of generally potable water with low TDS. Peak flows from storm events can be very high in this narrow canyon, resulting in flood depths in the tens of feet. In 1980, a 50-year storm caused a peak flow of 8,520 cfs.

There are 87 springs and 51 stock ponds within the Monument. The springs in Paria Canyon are free flowing and have not been developed. Most springs along the Vermilion Cliffs have been partially piped to troughs and residences. A majority of springs emerge from the contact between the Navajo Sandstone aquifer and the less permeable Kayenta or Moenave Formations below. The water quality in the Navajo Sandstone is good. The three largest springs along the cliffs (Soap, Badger, and Lowrey) are shared as water sources by three lodges, many residences, and a few ranches in the valley below them.

Ground Water Resources

There are approximately five wells inside the Monument used for stock watering. Most of them are on the Paria Plateau, which is underlain by the Navajo Sandstone, which is a thick, excellent aquifer as it is very porous and can supply large quantities of potable water.

Arizona Strip FO Water

Surface Water Resources

The Virgin River flows for 39 miles through the northwest corner of the area, entering from just south of St. George, Utah, and exiting near Mesquite, Nevada. Parts of it have been considered as suitable for inclusion into the National Wild and Scenic Rivers system. During much of the year, the river is turbid, having large amounts of suspended sediment. Runoff is high in TDS, mostly sulfates. The river is habitat for two endangered fishes, the woundfin minnow and the Virgin River roundtail chub. The Virgin River is also the main source of water for bighorn sheep in the Virgin River Gorge area.

Its perennial flow from Utah is regulated by a mandatory minimum flow rate of 50 cfs to protect the endangered fishes. An additional 50 cfs is contributed by springs in the narrows portion of the Virgin River Gorge. Petrified Springs contributes another 4 cfs further downstream near Littlefield. Beaver Dam Creek adds an additional 3 cfs. At the Littlefield gauge, monitored by the USGS, average yearly discharge is 238 cfs with peak flows of over 5,000 cfs. A flow of 35,200 cfs was recorded in 1966. When Quail Dam broke in 1989, the river's peak flow reached 61,000 cfs.

Kanab Creek enters from Utah at Fredonia, Arizona, and flows for 10 miles across state and private lands, then across 9 miles of the Kaibab Indian Reservation, then through 22 miles of the Arizona Strip FO, finally exiting into U.S. Forest Service (USFS) lands. Upstream users in Utah reduce flows for municipal and irrigation purposes, leaving it almost dry in the summer. A short

stretch of less than 0.5 miles, where Clear Water Spring flows into Kanab Creek about 14 miles south of Fredonia, is perennial.

Beaver Dam Creek enters from Utah and flows underground through approximately 1 mile of public land and 8 miles of state and private lands. It surfaces into perennial flows on private land near the Interstate 15 bridge at the community of Beaver Dam. The creek flows across 0.25 miles of public land to its confluence with the Virgin River. It has potable water and is a habitat for speckled dace.

There are 151 springs, approximately 1077 stock ponds, 8 detention dams, dozens of dikes and check dams and many potholes within the Arizona Strip FO. Most of the springs are piped for livestock and wildlife use. Sullivan's Spring, on Black Rock Mountain, is fenced, has good water quality, and a lush riparian area.

Ground Water

Many aquifers underlying the Planning Area contain groundwater that is high in TDS and considered non-potable according to state standards. The exception is at Beaver Dam Wash where approximately 15 domestic wells are located in the alluvial aquifer. There are 25 wells across the rest of the area that are mainly used for wildlife and livestock purposes.

SOILS

Overview

Soils types in the Planning Area are variable, reflecting the differences and interactions between topography, elevation, parent material, and time. Topography ranges from nearly level valley bottoms to vertical cliffs. Elevation in the area ranges from 1,247 feet above sea level near Lake Mead to 8,029 feet on top of Mt. Trumbull. The dominant parent materials in the Planning Area are sedimentary rocks such as limestone, mudstone, shale, gypsum, and sandstone. Igneous rocks, such as basalt, basalt cinders, and granite are also prevalent, and metamorphic rocks such as gneiss are present. Many alluvial soils have formed from mixes of these various parent materials.

The National Resources Conservation Service (NRCS) has completed and published soil surveys for all of the Planning Area. These surveys are referenced by number and include:

- Number 623: everything west of the Hurricane Cliffs (NRCS 1994)
- Number 625: lands east of the Hurricane Cliffs to Kanab Creek (NRCS 1992)
- Number 629: the rest of the Strip east of Kanab Creek (NRCS 1991)
- Number 701: the National Park Service (NPS) portion of Parashant (NRCS 1999)
- Number 608: the Virgin River Valley from the Nevada State line to Littlefield (NRCS 1980)

In the past, heavy grazing and roads in the Planning Area have adversely affected much of the soils through compaction and decreased ground cover (BLM 1979; BLM 1980). Subsequent grazing cuts, implemented to counter these impacts, were generally successful as they reduced compaction and increased ground cover, resulting in increased water infiltration, reduced runoff, and decreased erosion over much of the Planning Area. Several roads were moved or closed to prevent erosion on sensitive soils. Some areas of valuable soils (see below) continue to have accelerated erosion rates and require further restoration and stabilization assessments.

Soils are placed into specific groups based on physical, chemical, and mechanical characteristics important to proper watershed management, such as soil productivity, soil salinity, soil compactability, water erodibility, and wind erodibility. These groups are used to assess impacts on soils from various uses, to evaluate the potential for restoration of ecological sites, to set the parameters for watershed management, and to determine the benefits and prioritization of restoration projects. The acres of soils under each rating in the Planning Area are presented in Table 3.2.

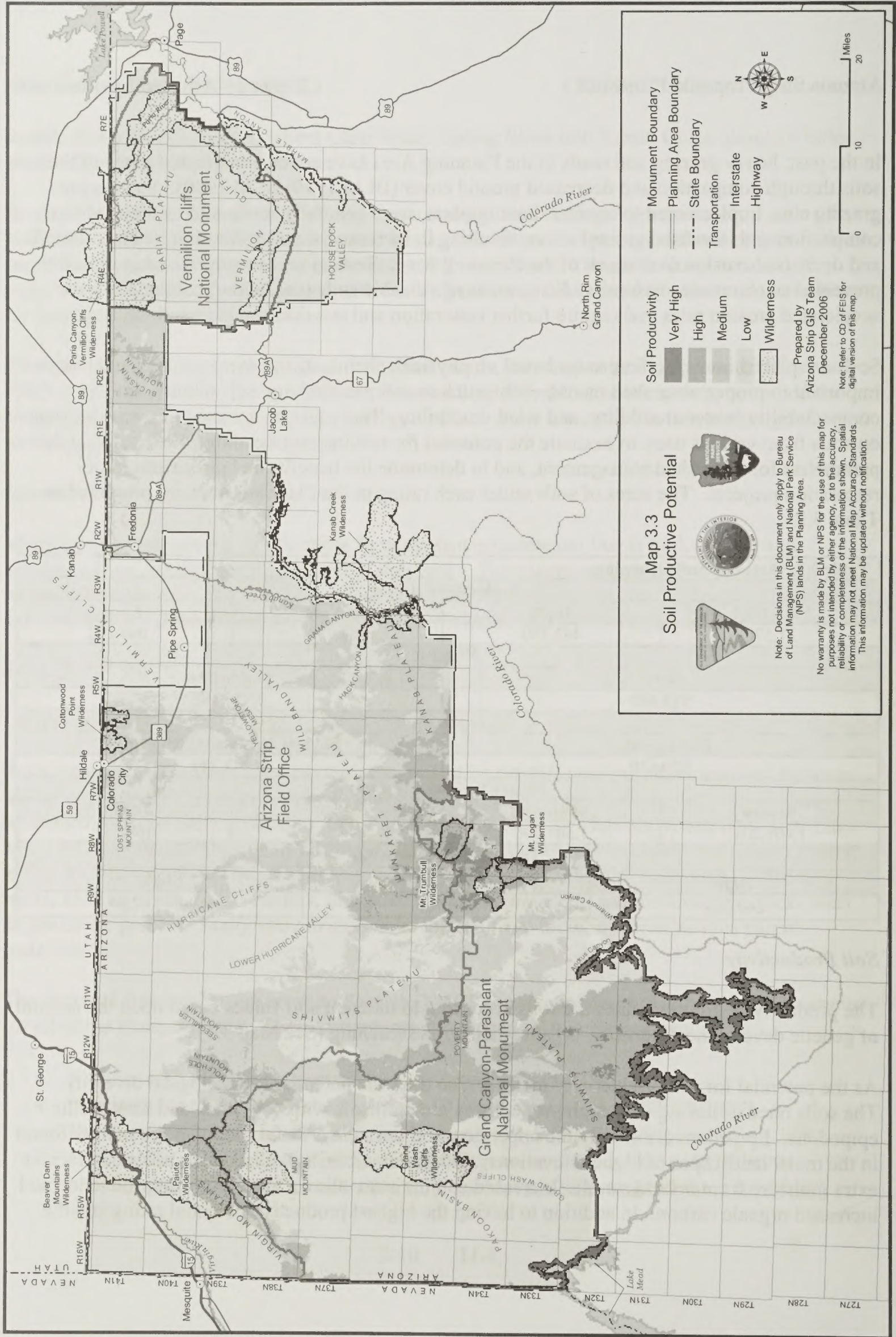
Table 3.2: Acres by Soil Groupings			
Productivity Rating			
Very High	High	Medium	Low
21,570	462,559	768,132	2,064,212
Salinity			
Saline		Not Saline	
512,687		2,810,382	
Compactability			
Compactable		Slightly Compactable to Not	
979,670		2,343,249	
Water Erosion Potential			
Severe	Moderate	Slight	Can Gully
1,401,201	1,501,900	244,763	168,567
Wind Erosion Potential			
High	Moderate	Slight	
663,274	759,767	1,893,422	

Soil Productivity

The productivity grouping rates the soils according to inherent soil values based upon the amount of genetic development, fertility, organic matter, and leaching (See Map 3.3).

As the potential for soil productivity increases, so does the potential for ecological diversity. The soils rated as having very high productivity are mollisols with very thick and dark mollic epipedons. Epipedons are simply the uppermost soil horizons. These mollisols are mainly found in the moist landscapes of higher elevations and riparian areas, as well as other areas that receive extra moisture from upland runoff. Increased soil moisture allows for more plant production and increased organic carbon. In addition to having the highest productive potential rating and the

Map 3.3 Soil Productive Potential



greatest potential for ecological biodiversity, these soils also readily respond to restoration and management efforts.

Other mollisols in the Planning Area are rated as having high productivity. These soils typically form underneath good grass cover, are normally leached free of soluble salts for more than a foot of depth, have well developed soil horizons when present, and have near neutral pH values. The only difference between the mollisols with high productivity and those with very high productivity is the quality and thickness of the mollic epipedons. When considering fertility and productive potential, all mollisols have the highest value, pound for pound, for the greatest depth, and are considered top priority for use in erosion protection or restoration projects. Such soils usually occur in areas that receive greater than 14 inches of effective precipitation per year.

The soils rated as having medium productivity have ochric epipedons. These soils have moderate amounts of carbon and fairly developed, but thin, epipedons. These soils can be slightly to moderately alkaline with soluble salts leached free to shallow or moderate depths.

Soils rated as having low productivity have very thin or no epipedons and are very light in color due to minimal organic carbon. These soils tend to be moderately to strongly alkaline with only slight leaching of salts.

Soil Salinity

The salinity grouping rates the soils according to inherent concentrations of soluble salts or salt-forming minerals, primarily sulfates and chlorides, at or near the soil surface (see Map 3.4).

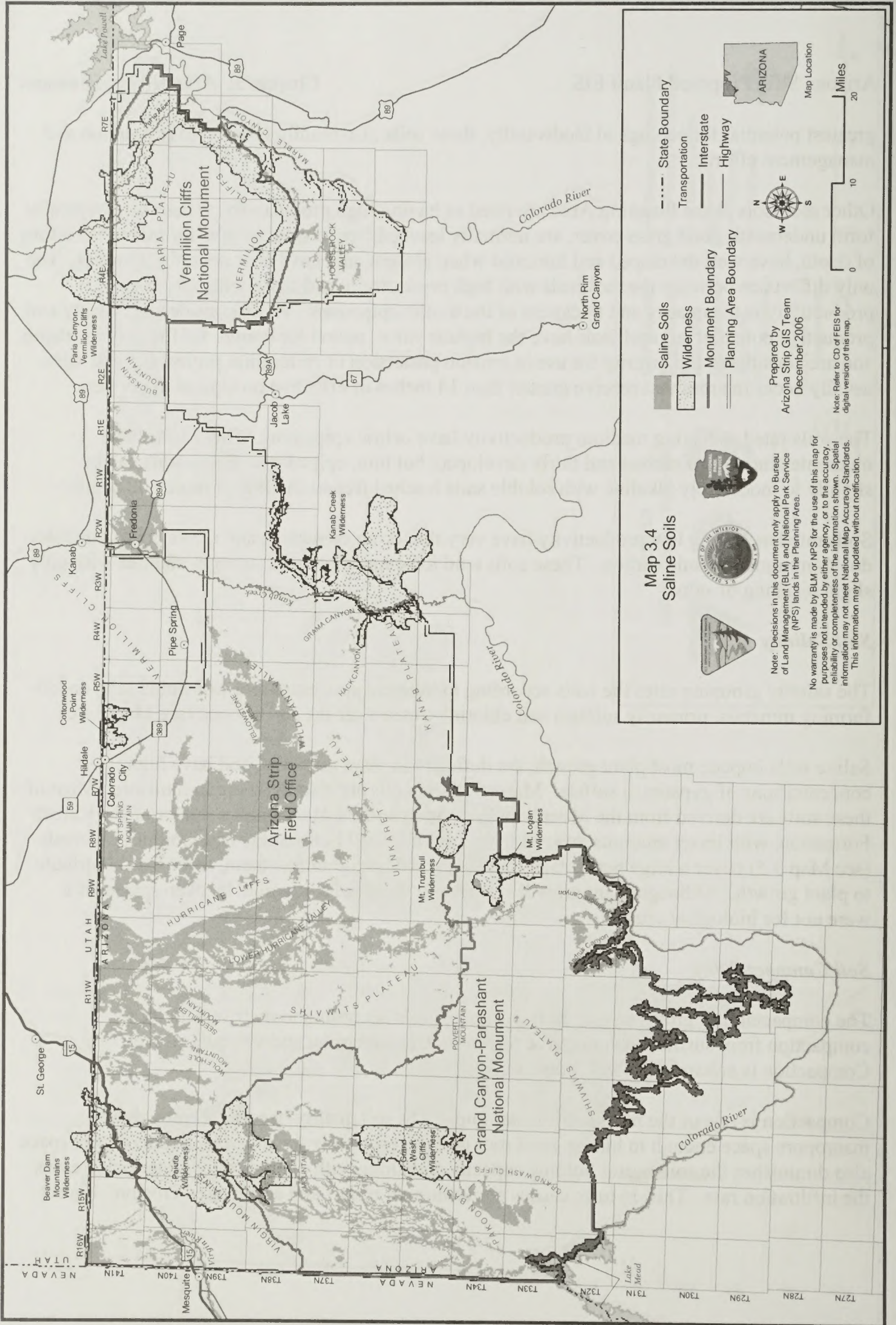
Saline soils impede most plant growth, are deficient in plant nutrients, and have high concentrations of gypsum, a sulfate. Many of these soils are also deficient in moisture. Most of these soils are derived from the Moenkopi Formation and the Harrisburg member of the Kaibab Formation, with lesser amounts derived from the Littlefield Formation. Microbiotic soil crusts (see Map 3.5) cover a large percentage these soils and help stabilize them, as well as contribute to plant growth. Although plant growth is sparse in these soils, it would be even sparser if it were not for biological crusts.

Soil Compactability

The compactability grouping (see Map 3.6) rates soils according to their sensitivity to compaction from surficial compressive forces such as trampling and vehicular travel. Compaction is enhanced by soil moisture.

Compaction is one of the most detrimental impacts to soil quality because it can reduce macropore space enough to hinder good root growth, especially for grasses. Reduced pore space also diminishes the soils water holding capacity and along with altered soil structure, decreases the infiltration rate. This, in turn, causes above normal runoff and accelerated erosion. It also

Map 3.4 Saline Soils



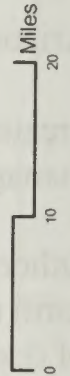
Map 3.4
Saline Soils



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

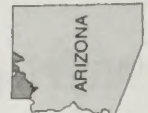
- Saline Soils
- Wilderness
- Monument Boundary
- Planning Area Boundary
- State Boundary
- Transportation
- Interstate
- Highway

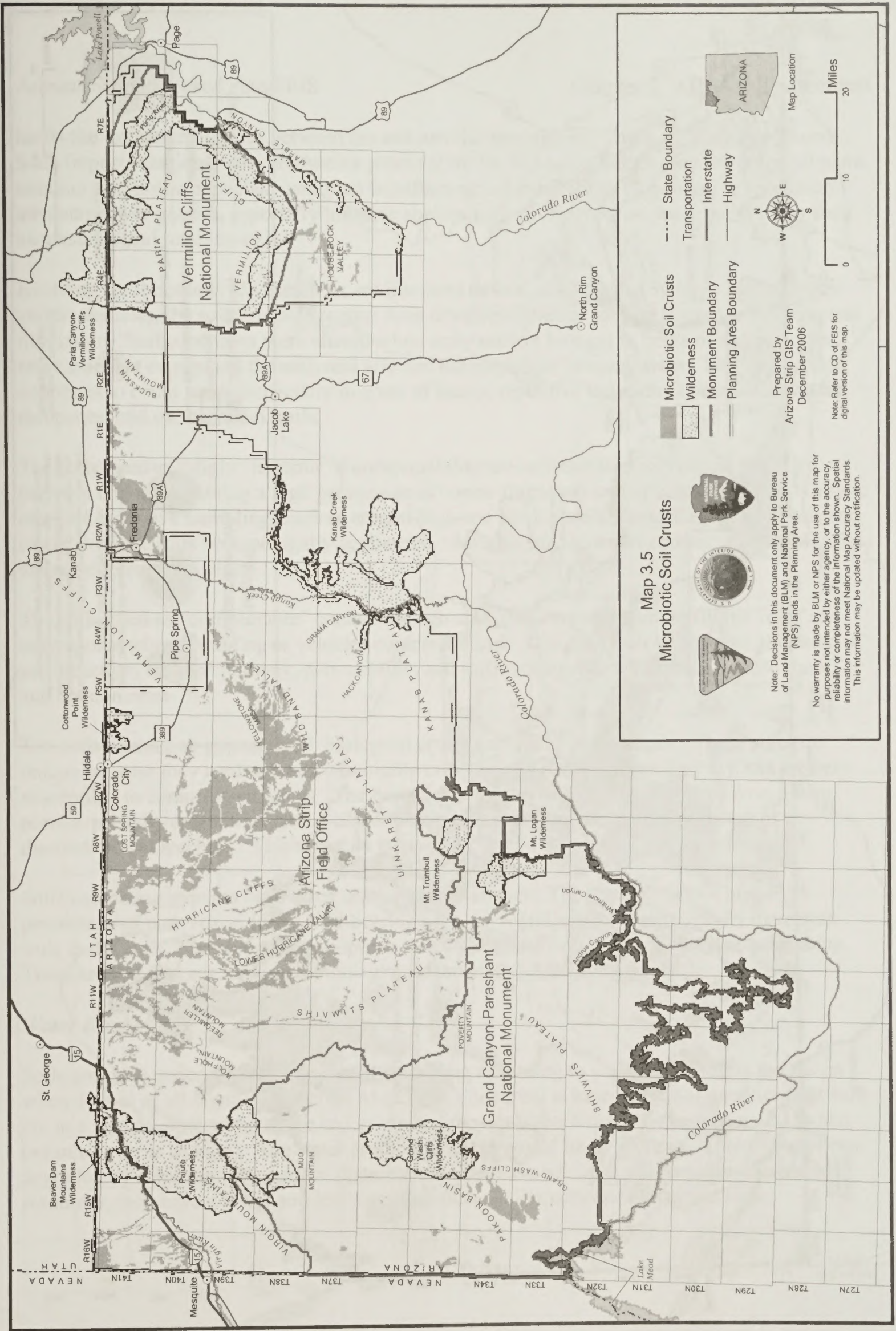


Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for digital version of this map.

Map Location





Map 3.5 Microbiotic Soil Crusts

limits the exchange of gases between the soil and the atmosphere, which can limit root growth. Such impacts can lessen the productive potential of the ecological site or alter the potential plant community. Soil compaction can often transform grasslands by allowing invasive species an advantage over grasses, especially invasive species with strong roots or deep root systems such as mustards and tumbleweeds.

Evolving for thousands of years in an environment devoid of trampling by large animal herds and no vehicles, the soils in the Planning Area developed porous surface layers via leaching and illuviation. Soil conditions were altered when early settlers brought in herds of sheep, horses, and cattle that compacted the soils and affected the epipedons in many areas. Soil compaction continues to occur today, especially in areas of heavy, repetitive use such as near stock waters, campsites, and on roads and trails.

The soils rated as “slight” in terms of compactability are resistant to compression. This is partially due to containing a high percentage of coarse fragments and/or coarse textures. Only in cases of excessive trampling, such as around high-use stock waters, campsites, and on trails and roads, do these soils become tightly compacted. All soils not shown as compactable on Map 3.6 are considered to be slight.

The soils rated as “compactable” contain enough silts and clays sufficient to fill the voids or macropores when trampling or vehicles compress them. This can result in physical alteration of soil structure, reduced porosity, permeability, and infiltration rates, which can increase runoff and erosion rates.

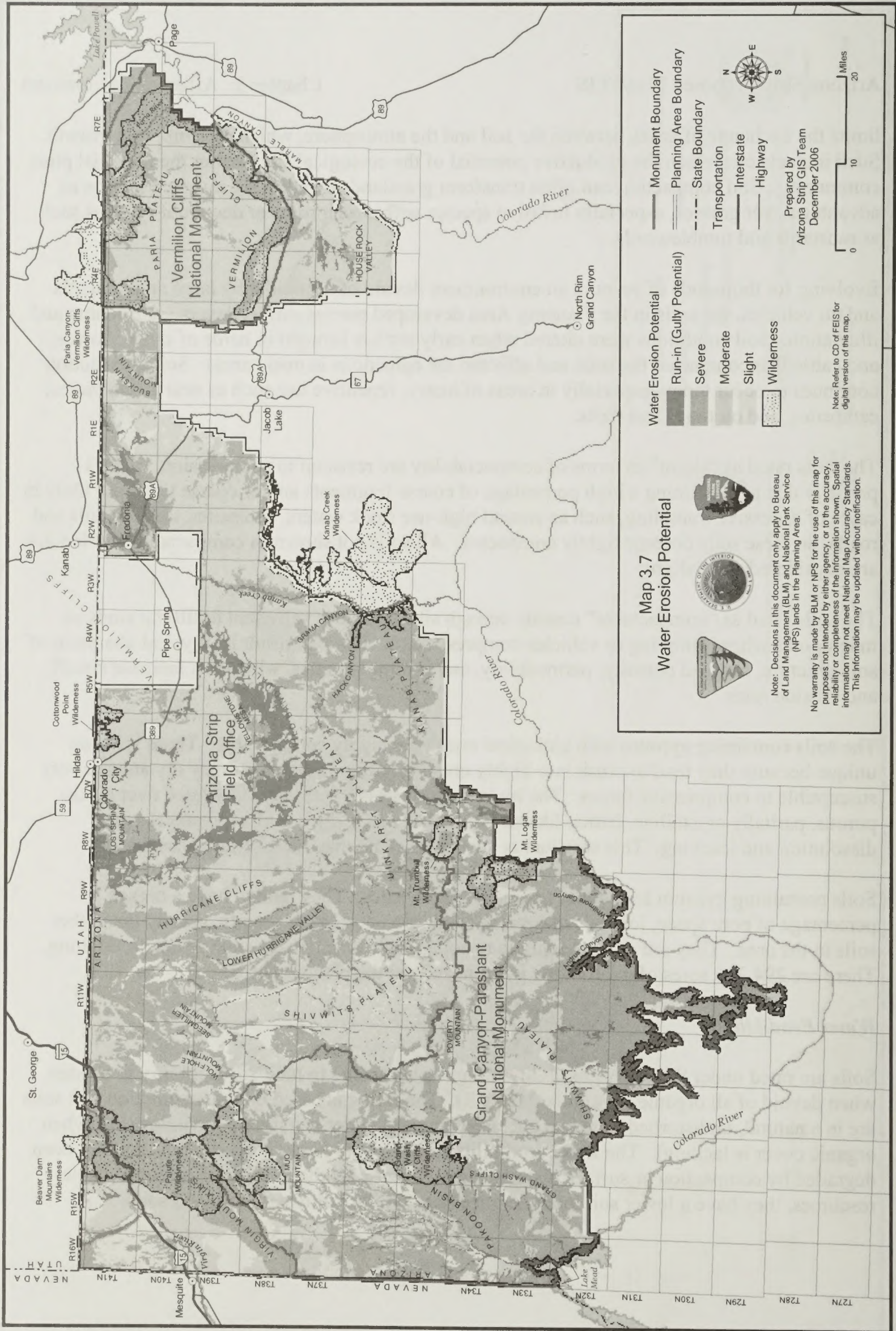
The soils containing gypsum with biological crusts are highly compactable. These soils are unique because they tend to crush into highly erosive, silty powder when they dry and are very susceptible to compressive forces. The biological crusts are normally suspended over a very porous, partially crystalline, lattice-like structure that was formed through a process of dissolution and leaching. This structure is very fragile and may be several inches thick.

Soils containing gypsum have other unique characteristics. They tend to have a higher percentage of pore space, lower load-bearing capacities, and lower specific gravity than other soils in the area. They are also susceptible to collapsing, caving in, or sinking due to leaching. There are 294,306 acres of microbiotic gypsum soils in the planning area.

Water Erodibility

Soils are rated under the water erodibility grouping according to their susceptibility to erosion when devoid of all organic cover (see Map 3.7). The rating is based on the assumption that soils are in a natural, undisturbed state and evaluates impacts under worst-case scenarios (i.e., when organic cover is lacking). The water erodibility rating would likely increase if the soil has been degraded by compaction or surface disturbances. Because wildland soils are non-renewable resources, they have a lower soil loss tolerance than similar cultivated farmland soils.

Map 3.7 Water Erosion Potential



Soils rated as “none” to “slight” on the water erodibility scale are limited in the Planning Area. They consist mainly of gravel cobble or stone surfaces and associated rock outcroppings, or other forms of coarse, textured surfaces. These soils tend to have high infiltration rates, slopes of less than 15 percent, and are not likely to erode unless heavily disturbed.

Soils rated as “moderate” under the water erodibility grouping include gravel or cobble-like surfaces with some slopes of 15 to 25 percent, moderately coarse textured surfaces, or surfaces with a restrictive layer. These soils are susceptible to erosion if they are disturbed.

Soils rated as “severe” have slopes of more than 25 percent or have surface textures that are highly erosive such as sands. These soils readily erode when disturbed or when their vegetative cover is reduced.

A separate group of soils rated as “run-in” is characterized by high susceptibility to rill and gully erosion caused by surface disturbances or excessive runoff from surrounding uplands. These soils mostly occur on floodplains or alluvial fans at slopes of less than 5 percent. See Map 3.8 for location of floodplains across the Planning Area. Gully erosion usually results in irreversible soil losses.

Wind Erodibility

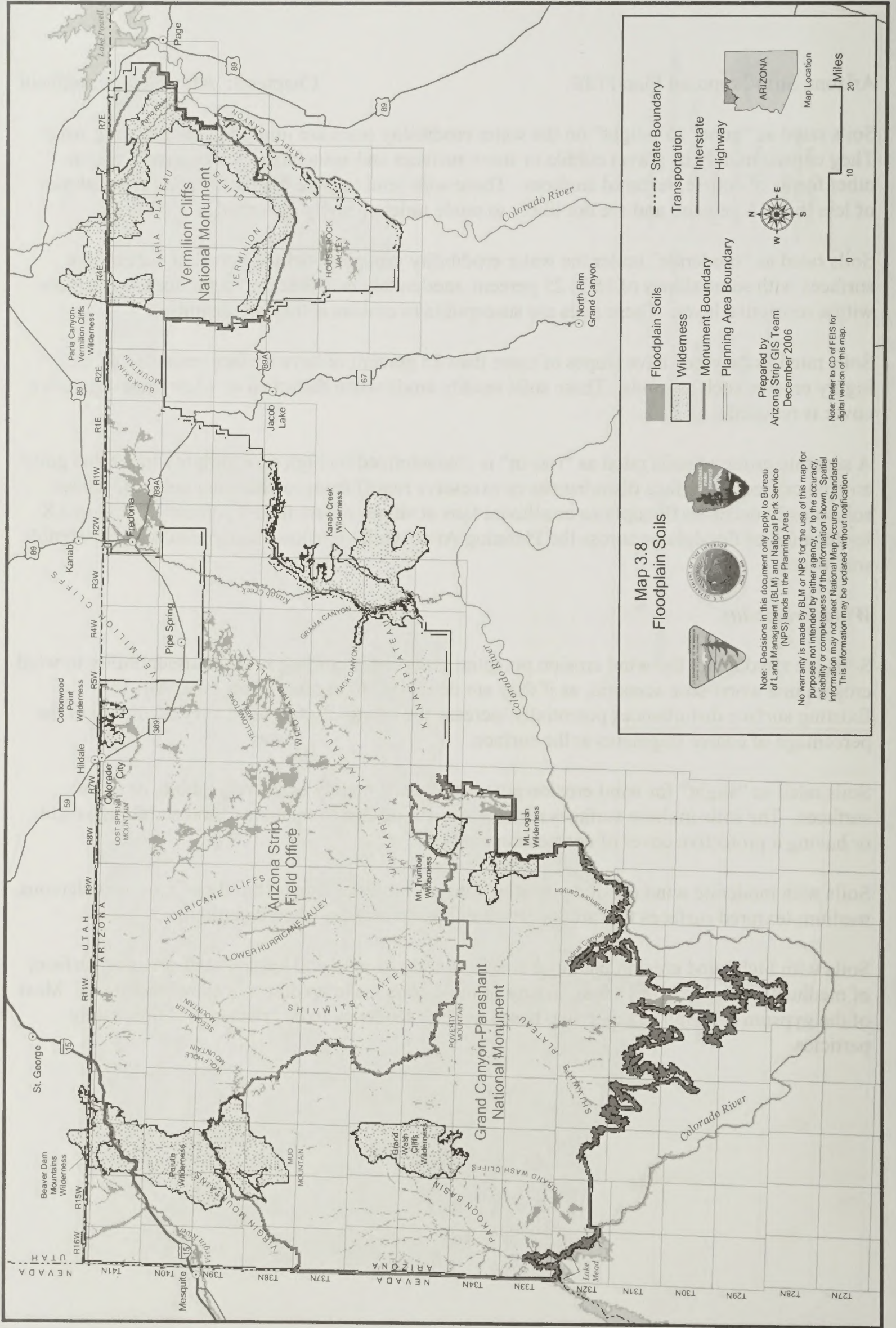
Soils are rated under the wind erosion potential grouping according to their susceptibility to wind erosion in a worst-case scenario, as if they are devoid of all organic cover (see Map 3.9). Existing surface disturbances potentially increase the rating. Ratings can vary according to the percentage of coarse fragments at the surface.

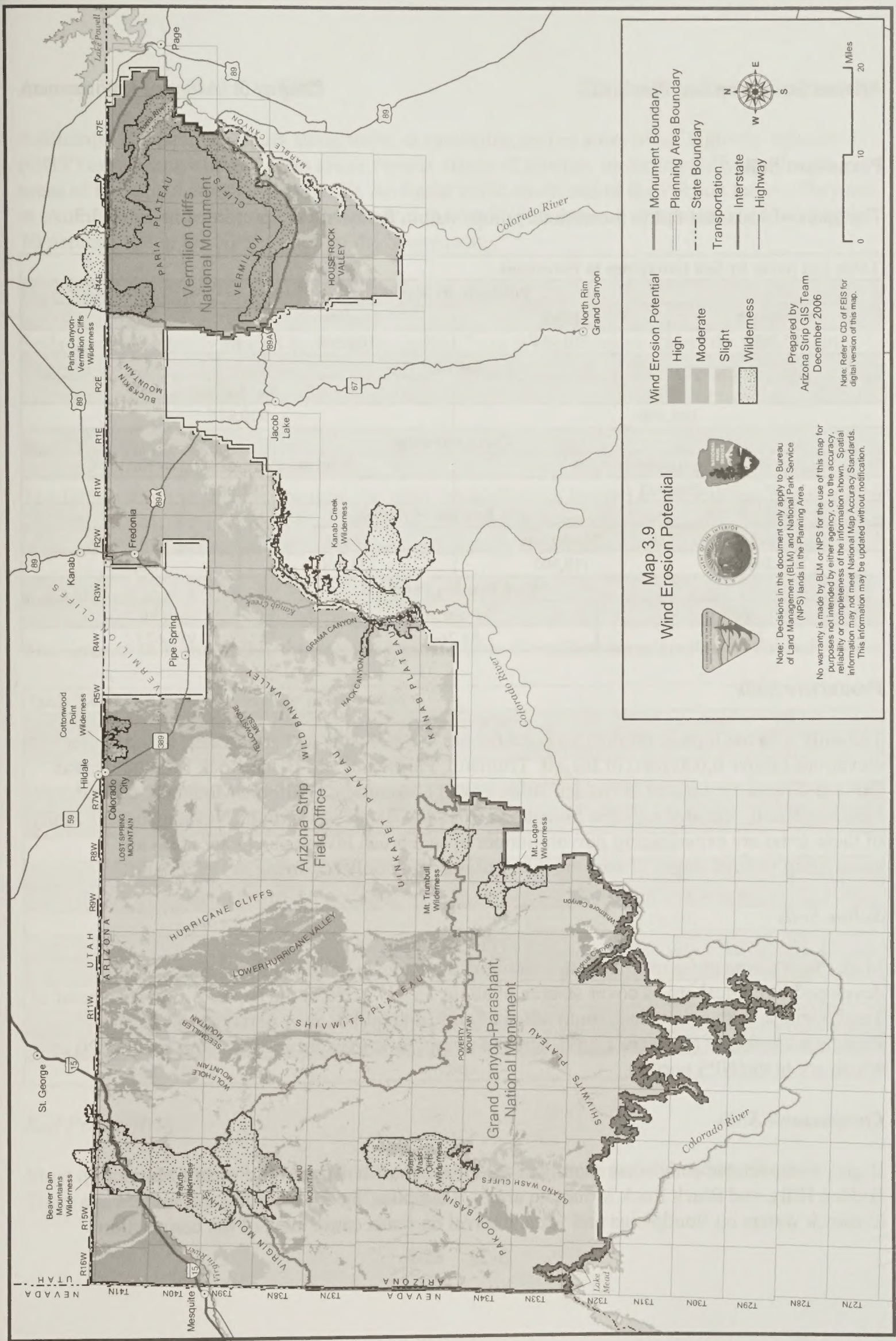
Soils rated as “slight” for wind erosion potential consist mainly of gravel, cobble, or stone surfaces. The soils in these surfaces resist wind erosion due to their structural stability, weight, or having a protective cover of coarse fragments.

Soils with moderate wind erosion potential consist mainly of fine textured surfaces or calcareous, medium-textured surfaces that are susceptible to wind erosion when disturbed.

Soils with high wind erosion potential consist mainly of sand and loamy, sand-textured surfaces of medium or smaller sized sands. Many of these soils make up dunes or stabilized dunes. Most of the gypsum soils fall in this group based on their tendency to be crushed into fine, sandy particles.

Map 3.8 Floodplain Soils





Map 3.9 Wind Erosion Potential

Parashant Soils

The acres of soils that fall in the various groups within Parashant are presented in Table 3.3.

Table 3.3: Acres by Soil Groupings in Parashant			
Productivity Rating			
Very High	High	Medium	Low
17,209	310,654	160,568	554,346
Salinity			
Saline		Not Saline	
108,500		939,816	
Compactability			
Compactable		Slightly Compactable to Not	
296,542		751,681	
Water Erosion Potential			
Severe	Moderate	Slight	Can Gully
566,261	319,605	133,500	23,379
Wind Erosion Potential			
High	Moderate		Slight
39,880	85,269		917,622

Productive Soils

The soils with the highest productive potential are the mollisols that are located in the higher elevations (above 6,000 feet) of the Mt. Trumbull, Parashant, and Black Rock Mountain areas. Other mollisols are located at Hidden Hills, Poverty Mountain, Wolfhole Mountain, around Mustang Knoll, and in the Virgin Mountains from Mt. Bangs south to the Nevada border. Many of these areas are experiencing pinyon-juniper or sagebrush invasions. Other areas are undergoing various stages of erosion, with gullies commonly occurring in floodplains.

Saline Soils

Most of the saline gypsum soils in the Monument are located in the Pakoon basin. Well-developed biological crusts cover an area of about 13,537 acres in the basin, 2 miles northeast of Tassi Springs, with small areas south of Bundyville and in the lower parts of Andrus and Parashant canyons. There are 17,895 acres of microbiotic gypsum soils in Parashant, 3,120 of which are in the NPS portion.

Compactable Soils

Highly compactable soils occur mainly in the Parashant, Mt. Trumbull, Poverty Mountain, Hidden Hills, and Black Rock Mountain areas. Trampling by cows around and in-between livestock waters on floodplains and vehicle travel on roads cause most of the compaction.

Additional compaction occurs along trails, at campsites, and in areas of off highway vehicles (OHV) use. Some of these areas are in various stages of erosion, including gullying. Large areas of biological crusts/gypsum soils are found in the south end of the Pakoon basin. They are in extremely good condition due to light use. About 88,050 acres of compactable soils (roughly 30 percent) are in the NPS portion of the Monument.

Water Erodible Soils

Soils that are severely eroded by water, including “run-in” soils, occur across the Monument. Valuable run-in mollisols susceptible to gully erosion are located in the Parashant and Mt. Trumbull areas on floodplains and alluvial fans.

Wind Erodible Soils

The largest areas with high potential for wind erodibility are located in the Pakoon Basin, which includes the sand dunes near Mud Mountain and the gypsum soils near Lake Mead. Another large area of wind erodible soils is located on the sandy bench near Copper Mountain mine.

Vermilion Soils

The acres of soils that fall in the various groups within Vermilion are presented in Table 3.4.

Table 3.4: Acres by Soil Groupings in Vermilion			
Productivity Rating			
Very High	High	Medium	Low
0	0	3,685	289,998
Salinity			
Saline		Not Saline	
2,009		291,679	
Compactability			
Compactable		Slightly Compactable	
5,025		288,662	
Water Erosion Potential			
Severe	Moderate	Slight	Can Gully
106,834	183,873	2,974	0
Wind Erosion Potential			
High	Moderate		Slight
283,108	9,965		610

Soil Productivity

Most of the soils within Vermilion are sandy and naturally low in fertility and productivity. There are no known mollisols in the Monument.

Saline Soils

Saline gypsum soils occur along the base of the Vermilion Cliffs. Some of these areas contain biological crusts. There are approximately 2,009 acres of microbiotic gypsum soils in Vermilion.

Compactable Soils

Only a few, small areas of compactable soils occur in Coyote Valley. Trampling around and in-between livestock waters on floodplains and vehicle use on roads cause most of the compaction. Additional compaction occurs along trails, at campsites, and by OHV use. Areas with biological crusts over gypsum soils are present along the base of the Vermilion Cliffs.

Water Erodible Soils

Run-in soils are most likely to occur on the steep areas and alluvial fans along the Vermilion Cliffs, in Paria Canyon, at locations along the north edge of the Monument, and in the Ferry Swale area.

Wind Erodible Soils

Excluding the escarpments, most of the Monument consists of stabilized sand dunes or sandy soils with little or no surface gravels. The sandy soils are highly susceptible to wind erosion where there is little to no vegetation.

Arizona Strip FO Soils

The acres of soils that fall in the various groups within the Arizona Strip FO are presented in Table 3.5.

Table 3.5: Acres by Soil Groupings in the Arizona Strip FO			
Productivity Rating			
Very High	High	Medium	Low
4,361	151,906	603,879	1,219,869
Salinity			
Saline		Not Saline	
402,177		1,578,887	
Compactability			
Compactable		Slightly Compactable to Not	
678,103		1,302,906	
Water Erosion Potential			
Severe	Moderate	Slight	Can Gully
728,105	998,423	108,289	145,188
Wind Erosion Potential			
High	Moderate		Slight
340,286	664,533		975,190

Soil Productivity

Mollisols in the Arizona Strip FO are located in the higher elevations of the Virgin Mountains, on Black Rock Mountain, near Mustang Knoll, on Wolfhole Mountain, north of Poverty Mountain, north and east of Mt. Trumbull, and in small areas east of Fredonia atop the Buckskin Mountains. As in Parashant, many of these areas are experiencing pinyon-juniper or sagebrush invasions, while other areas are undergoing various stages of erosion.

Saline Soils

Saline soils are widely scattered across the Arizona Strip FO. Concentrations include areas west of Beaver Dam Wash, in the St. George Basin, Hurricane Valley, Clay Hole Valley, around Fredonia, and in House Rock Valley. The most developed biological crusts occur south of Fort Pearce Wash. These soils have received much human and livestock use, but their overall condition has not been assessed or documented.

Compactable Soils

Approximately 1/3 or (34%) of the soils scattered throughout the Arizona Strip FO are susceptible to compaction. About 2/5 or 40% of these soils are high in gypsum at or near the surface and can support biological crusts.

Water Erodible Soils

Highly water erodible soils are widespread across the area. Run-in soils susceptible to gully erosion are mostly concentrated in drainages and on alluvial fans in Hurricane Valley, the Clay Hole area, near Fredonia, and in House Rock Valley. Smaller areas of mollisols near Mt. Trumbull also have the potential to gully.

Wind Erodible Soils

Soils susceptible to wind erosion are concentrated west of Beaver Dam Wash, south of St. George, in Hurricane Valley, south and east of Colorado City, in House Rock Valley, and near Lake Powell. Most of them have sandy surface textures. Disturbance of these surfaces increase the potential for erosion.

GEOLOGY AND PALEONTOLOGY

Overview

Physiography

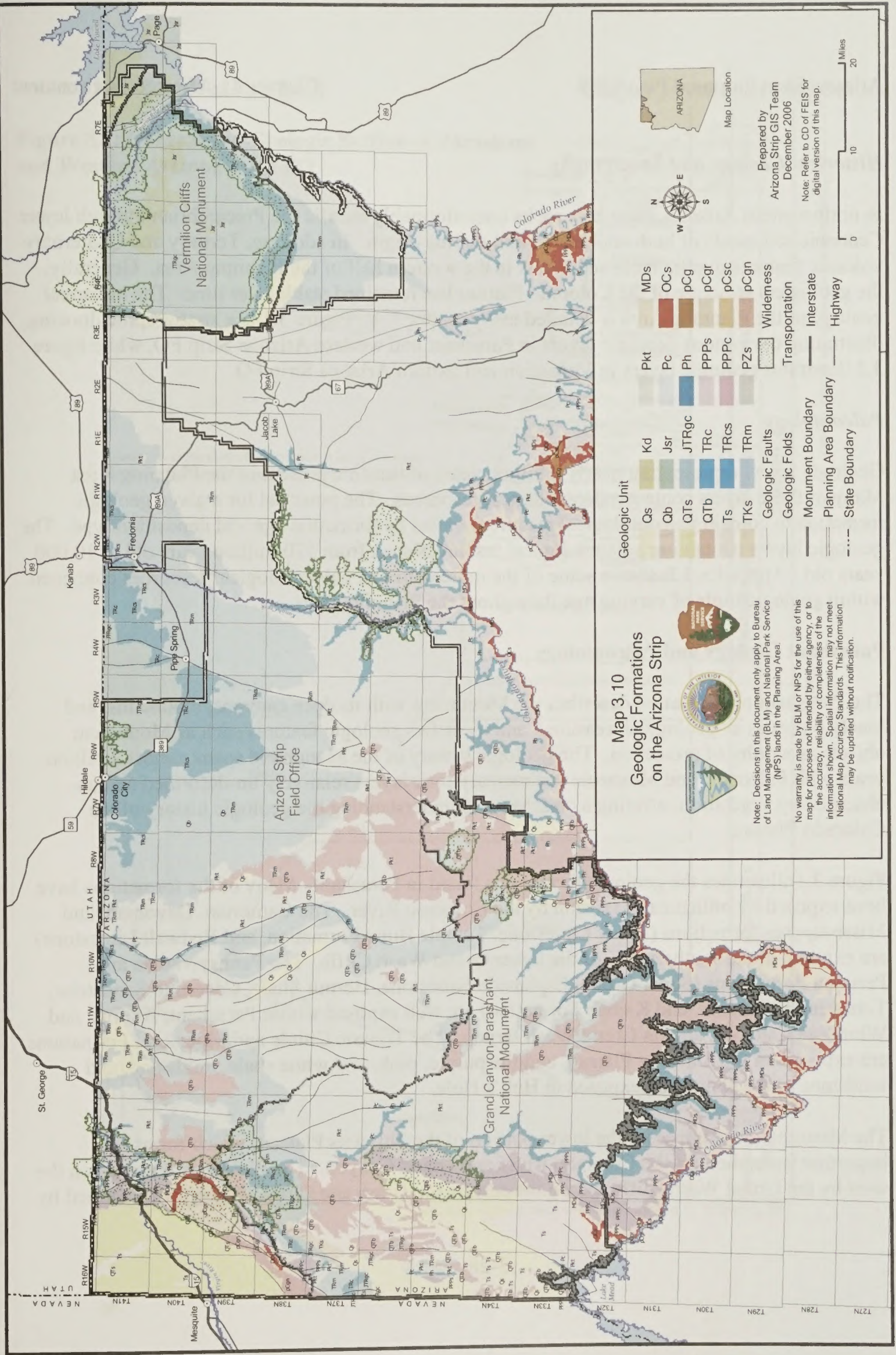
The Planning Area lies within two distinct physiographic provinces (Hayes, 1969), the Basin and Range and the Colorado Plateau. The western third of the Planning Area, from the Grand Wash Cliffs fault zone to the Nevada border, lies in the Basin and Range province. This area is characterized by irregular surfaces, northerly trending mountain ranges, sediment filled basins, abundant igneous and metamorphic rock exposures, extensive faulting and folding, and widely exposed Precambrian rocks.

The eastern three-fourths of the Planning Area, from the Grand Wash Cliffs fault zone east to Marble Canyon, lies within the Colorado Plateau province. This province is characterized by predominantly sedimentary rock exposures; a regular, gently dipping surface; and plateau elevations exceeding 5,000 feet with subordinate plateaus exceeding 9,000 feet. The portion of the Colorado Plateau within the Planning Area has been further subdivided by Hayes (1969), who refers to the Planning Area section of the Colorado Plateau as the Grand Canyon section. This section is characterized by block plateaus over 7,000 feet in elevation, which has been cut up to 3,000 feet by the tributaries to the Colorado River.

Major structures that occur in the Planning Area include faults (Virgin, Grand Wash Cliffs, Mainstreet, Hurricane, Dellenbaugh, Toroweap, Sevier, and Muav Canyon faults), anticlines (Vermilion, Kaibab, and Echo anticlines), and monoclines (Kaibab and Echo Cliffs monoclines). See Map 3.10 for the location of major geological formations on the Arizona Strip. In general, northerly trending normal faults, down thrown to the west, dominate the structural setting of the western two-thirds of the Planning Area. East of the Muav Canyon fault zone, anticlines and monoclines are the most common major structural types. In most cases, the low sides of the monoclines lie to the east of the flexures.

Several minor plateaus have been defined in the portion of the Planning Area that lies in the Colorado Plateau province (Dutton 1882). Table 3.6 lists these plateaus from west to east and identifies the major features that define their boundaries.

Plateau	West Feature	Location	East Feature	Location
Shivwits Plateau	Grand Wash Cliffs Fault Zone	Parashant	Hurricane Cliffs Fault Zone	Parashant Arizona Strip FO
Uinkaret Plateau	Hurricane Cliffs Fault Zone	Parashant Arizona Strip FO	Toroweap Fault Zone	Parashant Arizona Strip FO
Kanab Plateau	Toroweap Fault Zone	Parashant Arizona Strip FO	Muav Canyon Fault Zone	Arizona Strip FO
Kaibab Plateau	Muav Canyon Fault	Arizona Strip FO	Kaibab Monocline	Arizona Strip FO
Paria Plateau	Vermilion Cliffs	Vermilion	Paria Canyon	Vermilion



**Map 3.10
Geologic Formations
on the Arizona Strip**



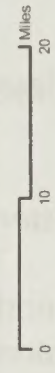
Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Qs	Kd	JTRgc	MDS
Qb	Jsr	TRc	OCS
QTs	TRc	TRcs	pCg
QTb	TRcs	TRm	pCgr
Ts	TRm	PZs	pCsc
TKs	Geologic Faults	Wilderness	pCgn
Geologic Folds	Transportation	Interstate	
Monument Boundary	Highway	State Boundary	
Planning Area Boundary			
State Boundary			

Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for digital version of this map.



Map 3.10 Geologic Formations on the Arizona Strip

Historical Geology and Stratigraphy

In northwestern Arizona, Paleozoic rocks unconformably overlie the Precambrian through lower Cenozoic sediments of both continental and marine origin. In addition, Tertiary and Quaternary volcanic features overlie these sediments in the western half of the Planning Area. Generally, the geological structure of the Colorado Plateau has remained stable over time. The historical geology of the Planning Area is detailed in Appendix 3.A. Figure 3.1 is a stratigraphic drawing illustrating the various geologic layers in Parashant and western Arizona Strip FO, while figure 3.2 illustrates geologic layers in Vermilion and eastern Arizona Strip FO.

Paleontology

Geologic layers representing nearly 2 billion years of time are present in the Planning Area. Many of these layers contain paleontological resources. The potential for a given geologic formation to contain paleontological resources varies by formation age and deposition type. The geologic layers containing paleontological resources span from 570 million years old to 10,000 years old. Appendix 3.B shows some of the more common paleontological resources contained within geologic units of varying age throughout the Planning Area.

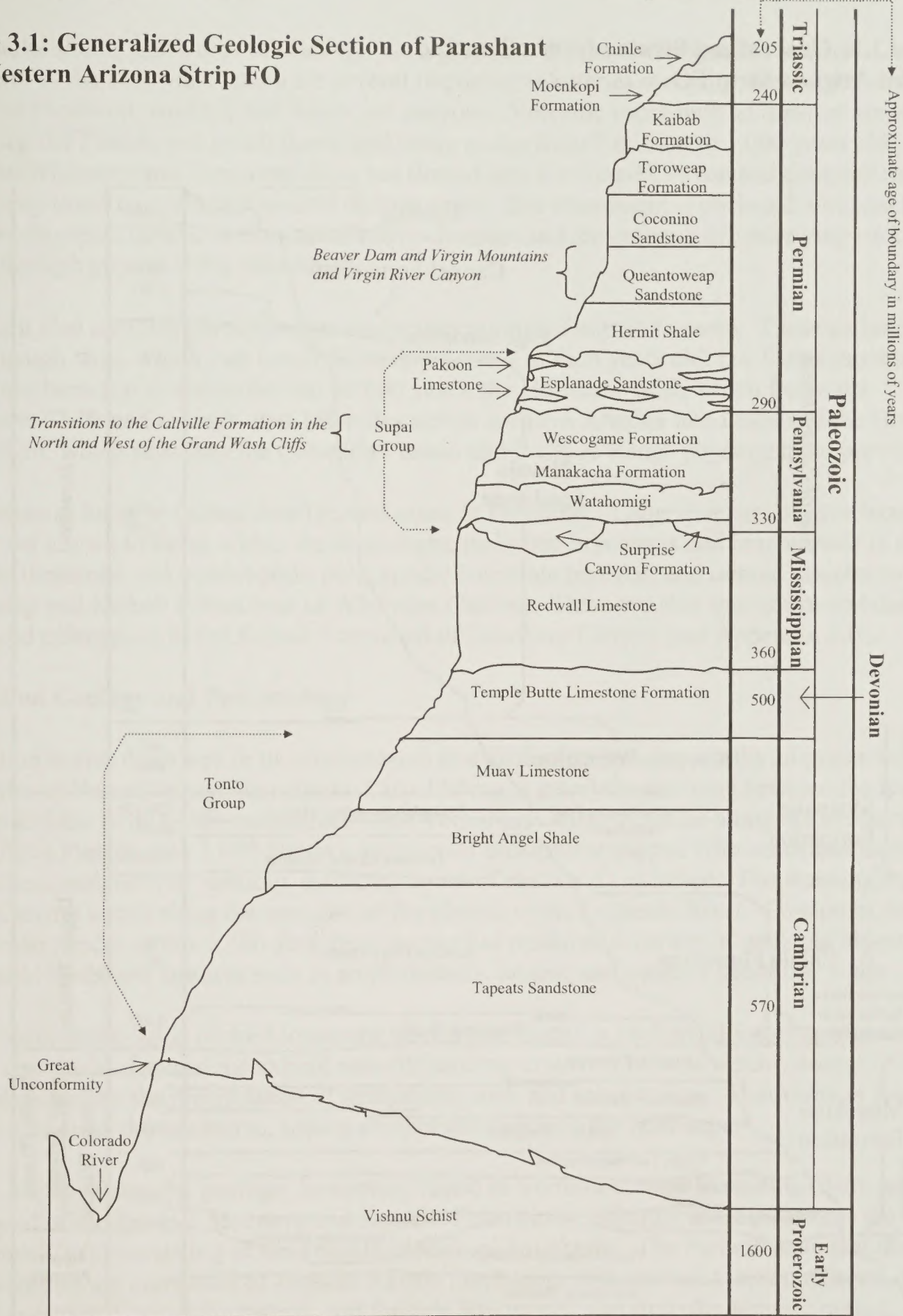
Parashant Geology and Paleontology

The Parashant proclamation describes the Monument with its deep canyons, mountains, and lonely buttes as a “geological treasure,” and identifies geologic features such as Monument objects as worthy of protection. The geologic history of the Monument spans almost 2 billion years with Paleozoic and Mesozoic sedimentary rock layers relatively un-deformed and un-obscured by vegetation, offering a clear view to understanding the geologic history of the Colorado Plateau.

Figure 3.1 illustrates the geologic formations found in Parashant. Many of the formations have been exposed by millennia of erosion by the Colorado River. The Cambrian, Devonian, and Mississippian formations (Muav Limestone, Temple Butte Formation, and Redwall Limestone) are exposed at the southern end of the lower Grand Wash Cliffs. The Pennsylvanian and Permian Formations (Supai Group, Esplanade Sandstone, Hermit Shale, Coconino Sandstone, Toroweap Formation, and Kaibab Formation) are well exposed within Parashant, Andrus, and Whitmore Canyons, and on Grand Wash Bench. The Triassic Chinle and Moenkopi Formations are exposed on the Shivwits Plateau, and the purple, pink, and white shale, mudstone, and sandstone of the Chinle are exposed in Hell’s Hole.

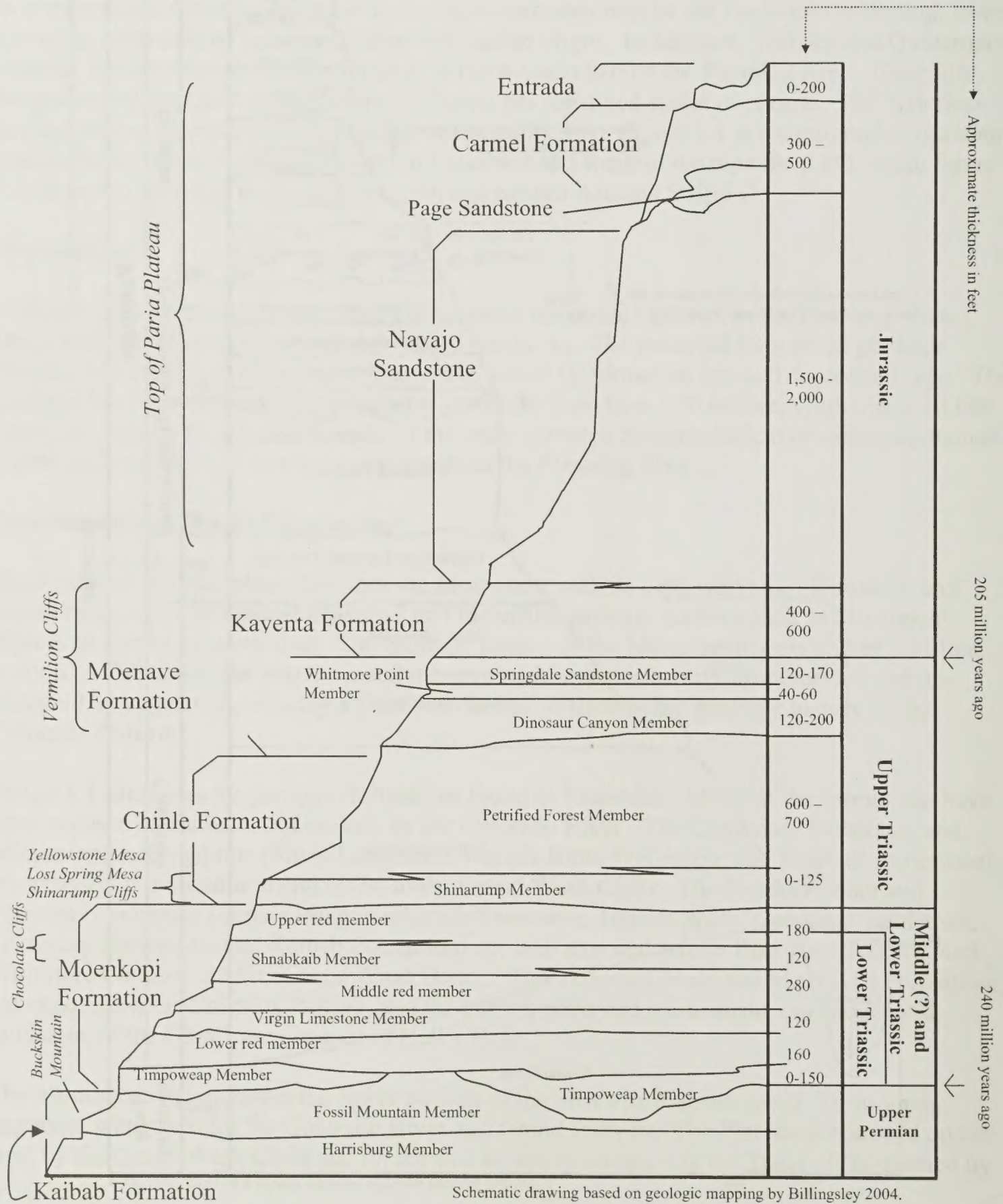
The Monument encompasses the lower portion of the Shivwits Plateau, which forms an important watershed for the Colorado River and Grand Canyon. The Plateau is bounded on the west by the Grand Wash Cliffs and on the east by the Hurricane Cliffs. These cliffs, formed by

Figure 3.1: Generalized Geologic Section of Parashant and Western Arizona Strip FO



Schematic drawing based on geologic mapping by Billingsley 2004.

Figure 3.2. Generalized Strata of Vermilion and Eastern Arizona Strip FO



large faults slicing north to south through the region, are the major topographic barriers. At the south end of the Shivwits Plateau are several important tributaries including the rugged and beautiful Parashant, Andrus, and Whitmore canyons. Volcanic rocks with an array of cinder cones cap the Plateau and basalt flows, and range in age from 9 million to 1,000 years old. Lava from the Whitmore and Toroweap areas has flowed into the Grand Canyon and dammed the river many times over the past several million years. The Monument is pocketed with sinkholes and breccia pipes, structures associated with volcanism and the collapse of underlying rock layers through ground water dissolution.

Parashant also contains portions of several active geologic faults in the area. These include the Dellenbaugh fault, which cuts basalt flows dated 6 to 7 million years old; the Toroweap fault, which has been active within the last 30,000 years; the Hurricane fault, which forms the Hurricane Cliffs and extends over 150 miles across northern Arizona into Utah; and the Grand Wash fault, which separates the Colorado Plateau and Basin & Range physiographic provinces.

The potential for an abundant fossil record exists in Parashant. Large numbers of invertebrate fossils are known to occur within the Monument, including bryozoans and brachiopods in the Calville limestone and brachiopods, pelecypods, fenestrate bryozoa, and crinoid ossicles in the Toroweap and Kaibab Formations of Whitmore Canyon. There are also sponges in nodules and pectenoid pelecypods in the Kaibab Formation of Parashant Canyon (see Appendix 3.B).

Vermilion Geology and Paleontology

Vermilion is also described in its proclamation as a geological treasure worthy of protection. In the center of Vermilion sits the majestic Paria Plateau, a grand terrace lying between the East Kaibab and the Echo Cliffs monoclines. The Vermilion Cliffs, which lie along the southern edge of the Paria Plateau, rise 3,000 feet in a spectacular escarpment capped with sandstone underlain by multicolored, actively eroding, dissected layers of shale and sandstone. The stunning Paria River Canyon winds along the east side of the plateau to the Colorado River. Erosion of the sedimentary rocks in this 2,500-foot deep canyon has produced a variety of geologic objects and associated landscape features such as amphitheaters, arches, and massive sandstone walls.

In the northwest portion of the Monument lies Coyote Buttes, a geologically spectacular area where crossbeds of sandstone exhibit colorful banding in surreal hues of yellow, orange, pink, and red caused by the precipitation of manganese, iron, and other oxides. Thin veins or fins of calcite cut across the sandstone, adding another dimension to the landscape.

Figure 3.2 illustrates the geologic formations found in Vermilion. The Vermilion Cliffs are composed of the Jurassic Moenave and Kayenta Formations. Directly at their base are the Chocolate Cliffs consisting of the Triassic Moenkopi Formation. The Paria Plateau and the Coyote Buttes are composed of Jurassic Navajo Sandstone, with scattered representations of Page Sandstone, Carmel Formation, and Entrada Sandstone, also from the Jurassic period.

Arizona Strip FO Geology and Paleontology

The geology of the Arizona Strip FO is a mix of some of the same formations in Parashant and Vermilion. Geologic formations found on the western side of the Arizona Strip FO are represented in Figures 3.1 while geologic formations found on the eastern side are represented in Figure 3.2. Specific features found in the Arizona Strip FO include Buckskin Mountain consisting of Permian Kaibab Formation; Yellowstone Mesa, Lost Spring Mesa, and the Shinarump Cliffs consisting of Triassic Shinarump Member of the Chinle Formation, and the Tertiary/Quaternary volcanics associated with the Hurricane, Toroweap, and other faults.

VEGETATION

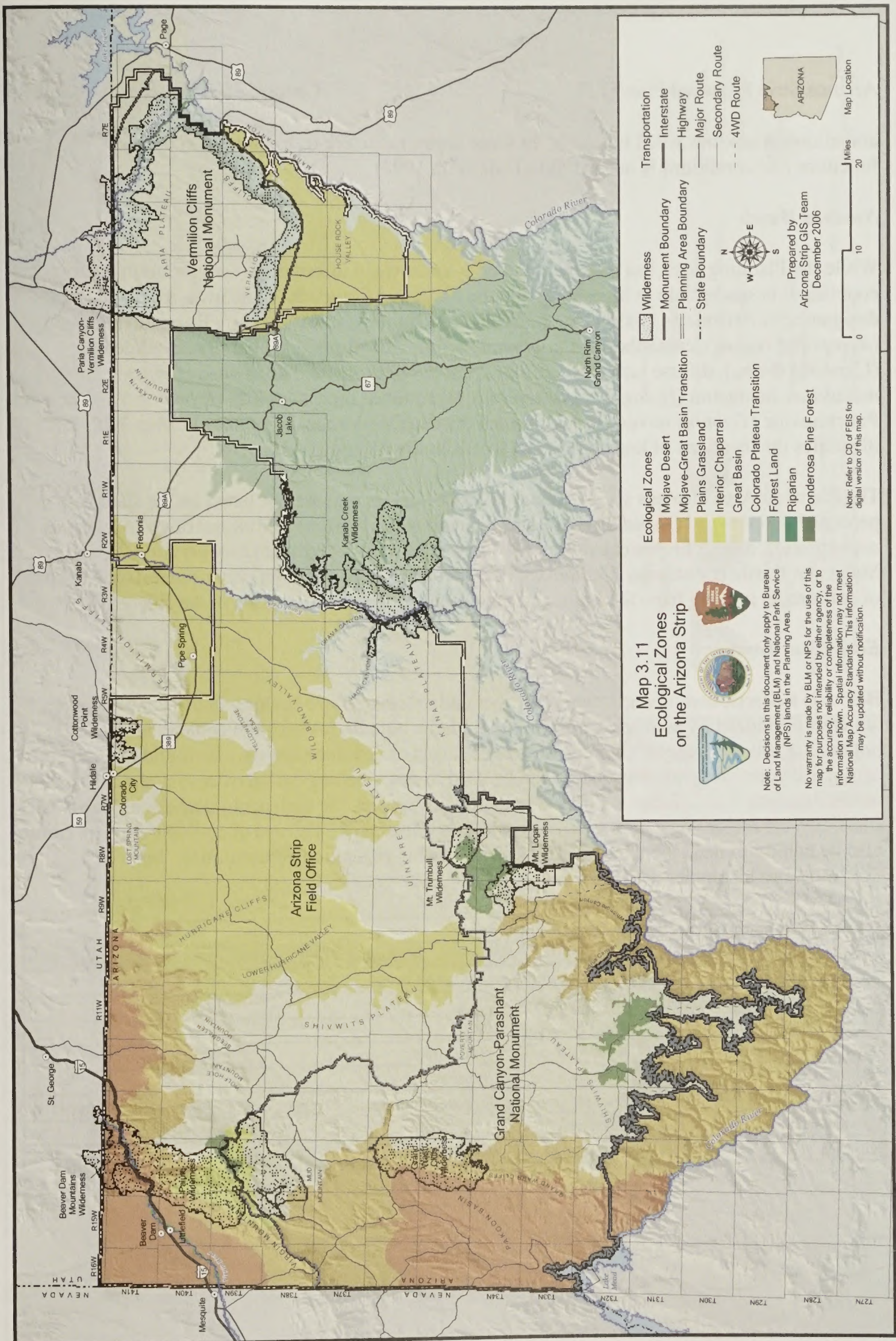
Overview

Most of the Strip is within the Colorado Plateau physiographic province. This region contains a variety of vegetation communities such as grasslands similar to those found in the Great Plains, ponderosa pine forests, sagebrush and pinyon-juniper woodlands, and interior chaparral. Managing this diversity requires that plants are grouped into areas with common ecologies. Similarities in ecological functions and conditions allow for the classification of large areas into ecological zones. Ecological zones are primarily based on the geology, soils, hydrology, plants, and animals of the area. In many areas, there is a gradual gradient between ecological zones. In other areas, there are inclusions of one zone within another. Ecological processes do not necessarily stop at ecological zone boundaries, and events that affect one ecological zone may affect conditions in another. Along the edges of the ecological zones, management can adapt to include solutions as deemed necessary. Within inclusions, management processes may vary from those in surrounding areas. Map 3.11 shows the location of ecological zones in the Planning Area.

Public lands in the Planning Area support a wide variety of vegetation types based on soils, climate, landform, and the effects of land use. Healthy, productive vegetation is the key to soil stability, wildlife habitat quality, and the type and amount of potential human uses. Recreation opportunities and the scenic qualities of an area are also based in large part on vegetation.

The vegetation and ecosystem condition in the Planning Area has been looked at through a variety of lenses. The BLM has used Ecological Site Inventory and Desired Plant Community descriptions, usually from a rangeland or wildlife habitat perspective. The BLM also uses Fire Regime Condition Classes to classify vegetation condition in relation to fire hazard and the range of natural variability.

Historical human uses and management practices have not always been consistent with stable ecological principles. Surface-disturbing activities such as logging, grazing, fire suppression, mining, and OHV activity have affected the vegetation, altering species composition and density,



Map 3.11
Ecological Zones
on the Arizona Strip



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Ecological Zones

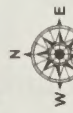
- Mojave Desert
- Mojave-Great Basin Transition
- Plains Grassland
- Interior Chaparral
- Great Basin
- Colorado Plateau Transition
- Forest Land
- Riparian
- Ponderosa Pine Forest

Transportation

- Interstate
- Highway
- Major Route
- Secondary Route
- 4WD Route

Wilderness

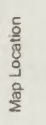
- Wilderness
- Monument Boundary
- Planning Area Boundary
- State Boundary



Prepared by
 Arizona Strip GIS Team
 December 2006



Note: Refer to CD of FEIS for digital version of this map.



Map 3.11 Ecological Zones on the Arizona Strip

and allowing noxious weed invasion. In some areas, proactive restoration of ecological functions and conditions is needed (c.f., Dale et al. 1999).

Noxious Weeds

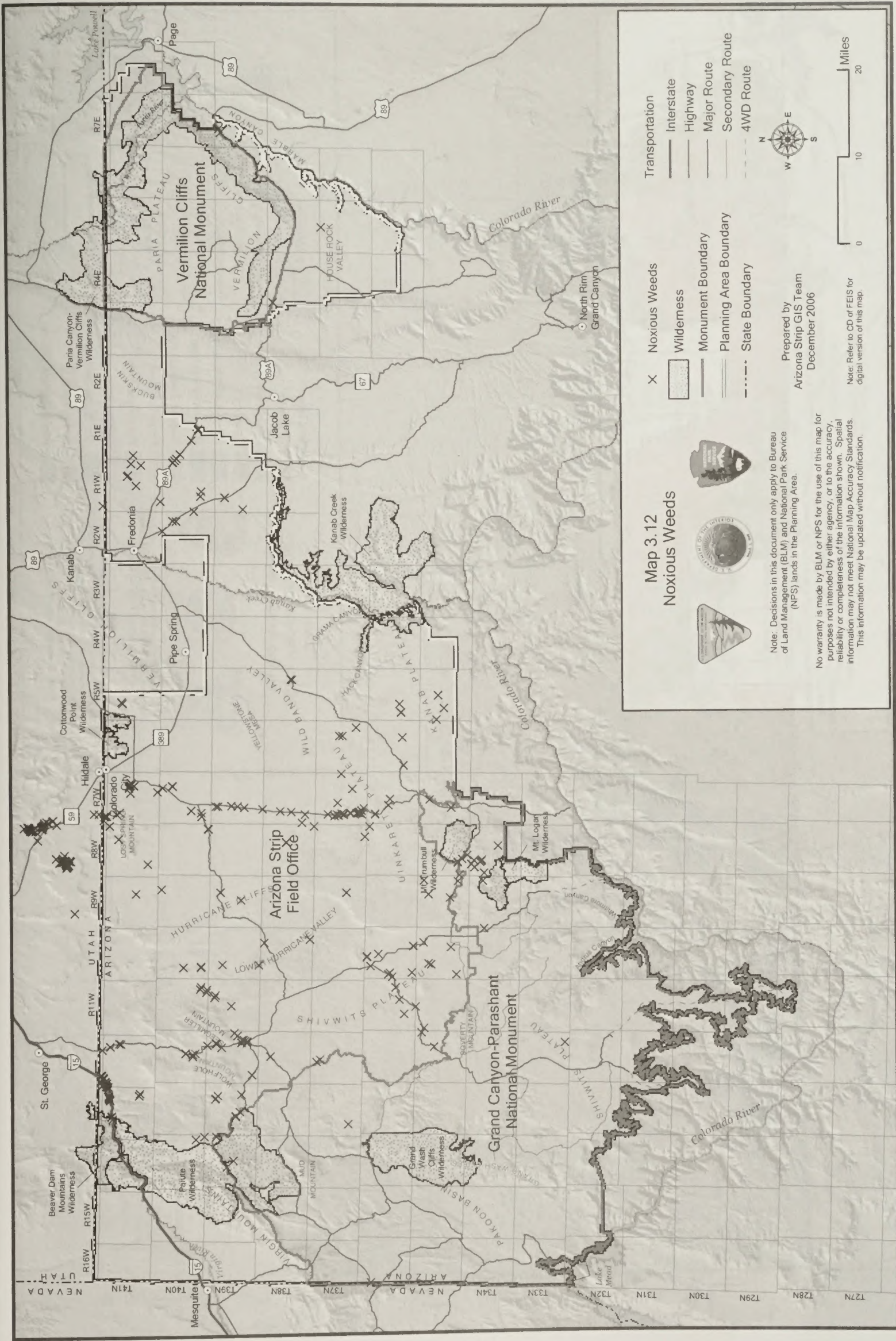
While the Planning Area has relatively fewer noxious weed infestations than found in nearby counties, it is susceptible to invasions from the north and the south. Nine invasive plant species designated in Arizona as noxious are found in the Planning Area. They are Russian knapweed (*Acroptilon repens*), camelthorn (*Alhagi maurorum*), globed-podded hoary cress/whitetop (*Cardaria draba*), diffuse knapweed (*Centaurea diffusa*), spotted knapweed (*Centaurea maculosa*), halogeton (*Halogeton glomeratus*), three-lobed morning glory (*Ipomoea triloba*), Puncturevine (*Tribulus terrestris*), and scotch thistle (*Onopordum acanthium*). Map 3.12 illustrates the locations of known noxious weeds in the Planning Area.

The Planning Area also has six additional invasive species that are not listed on the state list: perennial pepperweed (*Lepidium latifolium*), tamarisk (*Tamarix sp.*), Russian olive (*Elaeagnus angustifolia*), downy brome/cheatgrass (*Bromus tectorum*), red brome (*Bromus rubens*), and Malta star thistle (*Centaurea Melitensis*). Medusahead (*Taeniatherum caput-medusae*), a species of concern, is moving from the north and may occur in the Planning Area in the future.

Ecological Zones

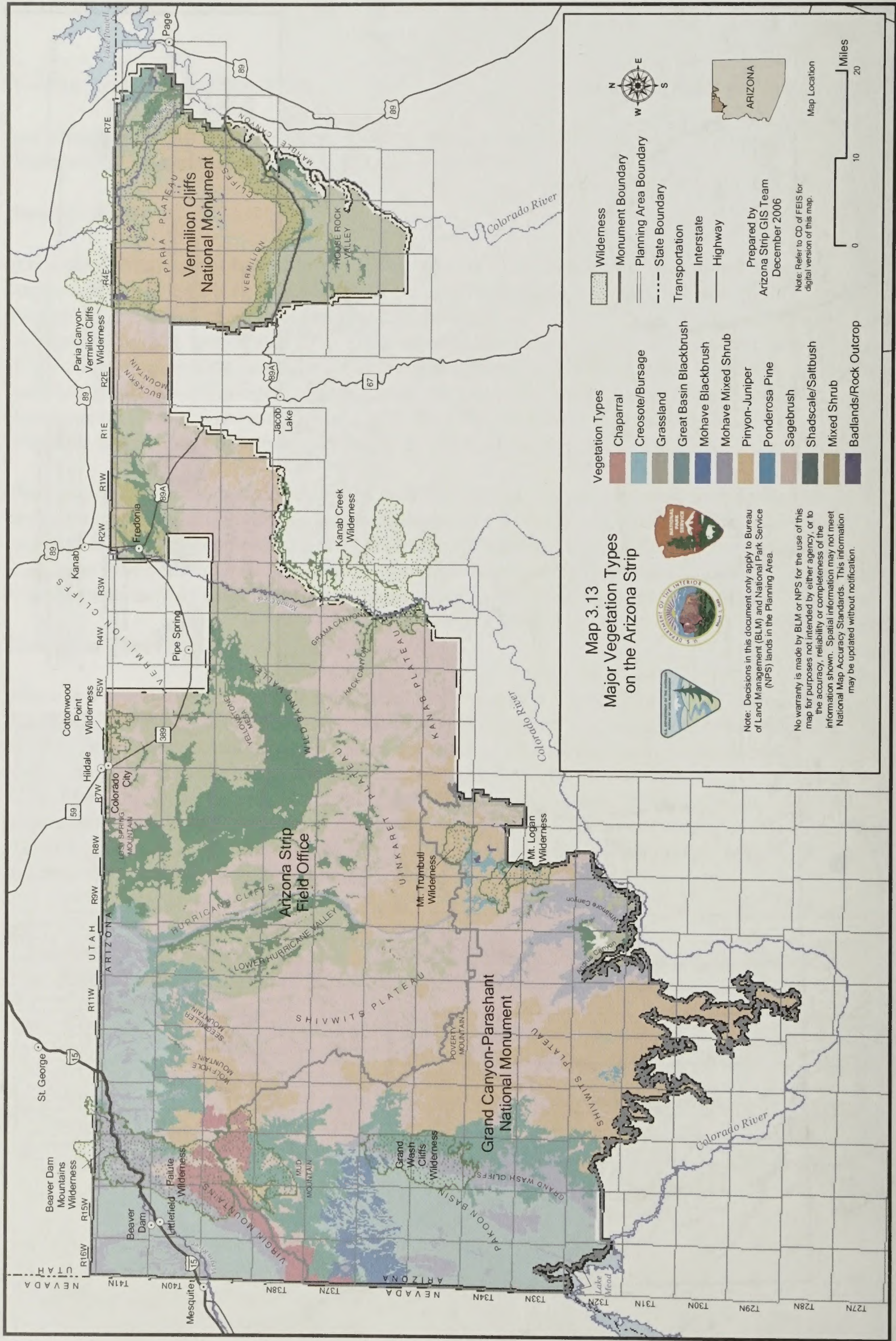
Below is a description of vegetation resources and associated fire ecology in the Planning Area, which is organized by ecological zone. Although the boundaries between ecological zones are not precise, several vegetation communities or stages of development may be found in any ecological zone, the grouping system can be used to describe vegetation over vast regions, such as the Planning Area. Table 3.7 lists dominant plant species for each ecological zone, Map 3.13 illustrates the major vegetation types across the Arizona Strip. The use of ecological zones can also be helpful to describe the role fire plays in various vegetation communities. Map 3.14 illustrates fire history across the Planning Area.

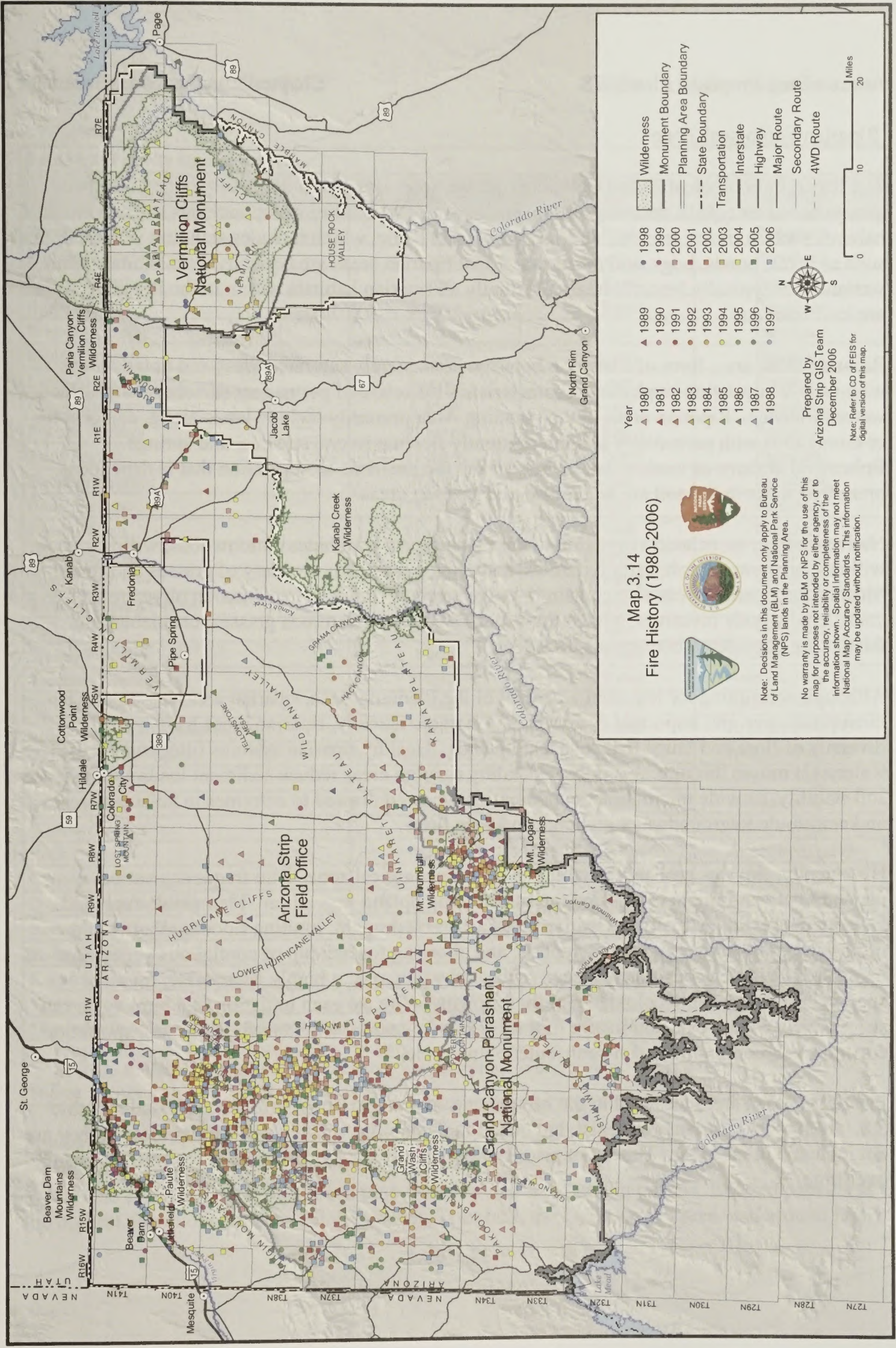
Ecological Zone	Dominant Plant Species
Mojave Desert	Creosote, white bursage, Joshua tree
Mojave-Great Basin Transition	Blackbrush, yucca
Interior Chaparral	Shrub oak, manzanita
Great Basin	Sagebrush, pinyon pine, juniper
Colorado Plateau Transition	Sagebrush, juniper, grasses
Plains-Grassland	Grasses: grama, muhly, needlegrass, wheatgrass, brome, galleta, fescue, dropseed
Ponderosa Pine	Ponderosa pine
Riparian	Cottonwood, willow, tamarisk



Map 3.12 Noxious Weeds

Map 3.13 Major Vegetation Types on the Arizona Strip





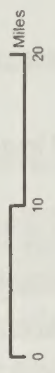
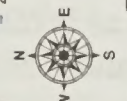
Map 3.14
Fire History (1980-2006)



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

- | | | |
|--------|--------|--------------------------|
| ▲ 1980 | ● 1998 | ▭ Wilderness |
| ▲ 1981 | ● 1999 | ▭ Monument Boundary |
| ▲ 1982 | ● 2000 | ▭ Planning Area Boundary |
| ▲ 1983 | ● 2001 | ▭ State Boundary |
| ▲ 1984 | ● 2002 | ▭ Transportation |
| ▲ 1985 | ● 2003 | ▭ Interstate |
| ▲ 1986 | ● 2004 | ▭ Highway |
| ▲ 1987 | ● 2005 | ▭ Major Route |
| ▲ 1988 | ● 2006 | ▭ Secondary Route |
| ▲ 1989 | | ▭ 4WD Route |



Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for digital version of this map.

Map 3.14 Fire History (1980-2006)

Riparian Ecological Zone

The Riparian Ecological Zone (including riparian areas and wetlands) is subdivided into two groups based on type of soil, vegetation, and hydrology: 1) lotic, which includes running water habitats such as rivers, streams, and springs, and 2) lentic, which includes standing water habitats such as lakes, ponds, bogs, and meadows. Most riparian areas are typically lotic habitats while wetlands are typically lentic habitats. Virtually all riparian habitats within in the Planning Area are lotic habitats.

Riparian areas are a form of transition between permanently saturated areas and upland areas with visible vegetation or physical characteristics reflective of permanent surface or subsurface water influence. Riparian areas in the Planning Area primarily include lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers, streams, and springs. Ephemeral streams or washes that do not exhibit the presence of vegetation that is dependent upon free water in the soil are not considered riparian areas.

Native riparian-associated vegetation in the Planning Area includes cottonwoods, willows, seep willows, arrowweed, ash, cattails, rushes, and sedges as well as a variety of grasses and forbs. Most of the riparian areas also contain invasive weeds. Tamarisk and Russian olive are considered woody invasives, while rabbit foot, dallisgrass, Bermuda grasses, cocklebur, and thistles are considered herbaceous invasives.

Although accounting for less than 1 percent of the Planning Area, riparian areas are among its most productive and important ecosystems. Characteristically, riparian areas have a greater diversity of flora and fauna than adjacent uplands. Healthy riparian systems filter and purify water as it moves through. In addition, healthy riparian areas reduce sediment loads and enhance soil stability, provide microclimatic moderation when contrasted to extremes in adjacent areas, and contribute to groundwater recharge and base flow.

Historically, fire was probably uncommon in this ecological zone. Fire frequency varied depending upon drought cycles and the surrounding upland vegetation. Flammable fuel loads have increased dramatically in riparian areas affect by drought, limiting flooding that would ordinarily remove litter and woody debris, and allowing for buildup of contiguous vegetation. In many areas, native vegetation has been replaced by tamarisk, a highly flammable, invasive species. Tamarisk can recolonize rapidly following a fire, so each initiation of a burn cycle can successively enhance its dominance of a site. Human-caused wildland fires near transportation corridors and communities can contribute to this cycle.

Priority riparian areas assessed in the Monuments and the Arizona Strip FO are listed in Table 3.8. Additional riparian areas exist, but due to their stability, small size, or other factors, they are not included in the table. The list of priority riparian areas is dynamic and is expected to change over time.

Table 3.8: Priority Riparian Areas

Name	Approximate Size	Functioning Condition*	Location
Randall Spring	1 acre	Not Rated	Parashant
Red Rock Spring	1 acre	Proper	Parashant
Sawmill Spring	1 acre	Not Rated	Parashant
Burro Spring	2 acres	Not Rated	Parashant
Whiskey Spring	6 acres	Proper	Parashant
Middle Spring	7 acres	Proper	Parashant
Little Arizona Spring	8 acres	Proper	Parashant
Grapevine Spring	8 acres	Proper	Parashant
Pakoon Springs	11 acres	Not Rated	Parashant
Tassi Spring	11 acres	Not Rated	Parashant
Buckhorn Spring	14 acres	Proper	Parashant
Cane Springs	14 acres	Proper	Parashant
Pocum Wash	81 acres	At Risk	Parashant
Badger Spring	12 acres	Proper	Vermilion
Soap Creek	15 acres	Not Rated	Vermilion
Wrather Riparian Area	75 acres	Proper	Vermilion
Paria River	1,332 acres	Proper	Vermilion
Smiths Potholes	1 acre	Not Rated	Arizona Strip FO
Sacatone Cienega	2 acres	Not Rated	Arizona Strip FO
Sullivan's Spring	3 acres	Not Rated	Arizona Strip FO
Cottonwood Canyon Spring	3 acres	Not Rated	Arizona Strip FO
Gates & Mullen Spring	5 acres	Proper	Arizona Strip FO
Parashant Springs	7 acres	Not Rated	Arizona Strip FO
Swale Spring	10 acres	Proper	Arizona Strip FO
Willow Springs	12 acres	At Risk	Arizona Strip FO
Rock Canyon	15 acres	Not Rated	Arizona Strip FO
Cottonwood Spring	17 acres	Not Rated	Arizona Strip FO
Quaking Aspen Spring	21 acres	Not Rated	Arizona Strip FO
Beaver Dam Confluence	27 acres	Proper	Arizona Strip FO
Bitter Seeps	45 acres	Proper	Arizona Strip FO
Kanab Creek Riparian Area	806 acres	Proper	Arizona Strip FO
Virgin River	2959 acres	Proper	Arizona Strip FO

***Functioning Conditions** were determined through "Rapid Assessment" (see BLM 1993a; 1993b):

Proper: Riparian area is functioning adequately.

At Risk: Riparian area functioning adequately but susceptible to degradation.

Source: Arizona Strip FO (BLM 2003a; 2003b)

Ponderosa Pine Ecological Zone

Within the Planning Area, ponderosa pine communities are found in limited, isolated pockets at the highest elevations, such as Mt. Logan/Mt. Trumbull, the Dellenbaugh area, and around Black

Rock. A small patch of white fir exists on the north face of Mt. Bangs. The Mt. Trumbull/Mt. Logan area is the largest and has approximately 18,824 acres of ponderosa pine. The Dellenbaugh area contains about 18,349 acres, and the Black Rock area has about 5,236 acres.

The species most commonly associated with ponderosa pine is Gambel oak. Small clumps of quaking aspen may also grow in the general area, often near a meadow. Other species include New Mexican locust and serviceberry, both usually as shrubs or small trees. At lower elevations in the western half of the Planning Area and on the Paria Plateau, an occasional ponderosa pine may be found mixed with pinyon-juniper communities. The understory of more open stands supports abundant grasses and forbs. Shrubs present include those from adjoining communities along with scattered individuals of mountain snowberry, Oregon grape, common juniper, and Oregon boxwood.

Prior to European settlement, very frequent, generally low intensity fires averaging four years apart, killed young trees and shrubs, minimized ladder fuels, and maintained open stands of ponderosa pine with herbaceous understories. More than 100 years of fire suppression have created dense, closed canopy forests with abundant litter, continuous fuels, and limited herbaceous vegetation. Trees in these situations must compete for limited moisture and nutrients and are at risk of stand-replacing fires.

Northern Arizona University (NAU) and AGFD are conducting on-going research projects on ponderosa pine restoration treatments at Mt. Trumbull. Much of this work involves returning the ponderosa pine forest to a state resembling its pre-settlement condition. Treatments to accomplish this include raking litter, mechanical removal and thinning of trees, prescribed burning, seeding, and temporarily excluding livestock. The BLM, NAU, and AGFD are currently conducting wildlife studies to evaluate the effects of treated and non-treated areas on species diversity, success, and behavior.

Several species of wildlife are dependent upon ponderosa pine, including Kaibab squirrels, goshawks, and Merriam's turkey. Certain varieties of neo-tropical migratory songbirds are found only in close association with pine. Some wildlife species use ponderosa pine as a resource and may have impacts on pine stands. Porcupines eat the inner bark of young ponderosas, stripping and killing terminal shoots. Kaibab squirrels consume the fresh green needles produced by pines and can weaken trees. Mule deer will feed on new shoots and saplings, but generally prefer other forage.

Great Basin Ecological Zone (including Sagebrush and Pinyon-Juniper Communities)

The Great Basin Ecological Zone covers more area (1,525,402 acres) than any other ecological zone in the Planning Area. Large portions of the Shivwits and Uinkaret plateaus, Buckskin Mountain (the mountain on the north end of the Kaibab Plateau), and the Paria Plateau are all classified as Great Basin. This ecological zone contains a wide range of vegetation communities

including grasslands, shrublands, and woodlands. The vegetation composition in this ecological zone changes over time based on the type and amount of disturbance (or lack thereof).

Herbaceous, grass-dominated communities have become less prevalent as grazing and fire suppression have allowed woody species to become established, and often to dominate an area. Now, in many areas, a single or a few species dominate. Major shrubs include basin big sagebrush, blackbrush, shadscale, Mormon teas, and greasewood. Invasive, annual grasses have invaded parts of the Great Basin desertscrub life zone, but have not caused the fire problems seen in the Mojave desertscrub.

Sagebrush communities are the most widespread of the "typical" Great Basin plant communities. Basin big sagebrush is the most common species. Sand sage dominates on sandy soils. Shadscale communities are usually found between greasewood-dominated communities and sagebrush communities in harsh, cold deserts on dry plains, foothills, valley bottoms, or dried alkali lakes. Common associates include black greasewood, big sagebrush, winterfat, spiny hopsage, blue grama, needle-and-thread, wild ryes, cheatgrass, Indian ricegrass, and alkali sacaton.

Pinyon and juniper are the dominant tree species of this zone in northern Arizona. The species of pinyon most often present is the common pinyon (two-leaf pinyon or Colorado pinyon), with single leaf pinyon occasionally being found. Utah juniper is the most common juniper present, with one-seed juniper occasionally found. The understories of pinyon-juniper and dense mature juniper woodlands are very species-poor, containing only widely scattered shrubs, forbs, and small clumps of grass. Grasses are the most common understory component. Predominant (or formerly predominant) grasses include grama, Arizona fescue, prairie junegrass, Indian ricegrass, needlegrass, dropseed, and squirreltail. Shrubs may include sagebrush, cliffrose, serviceberry, rabbitbrush, shadscale, and winterfat. Understory plants are most common along the edges of the zone. Bare ground is very common. Utah juniper is a climax species in a number of pinyon-juniper, sagebrush, grassland, and shrub-steppe communities. The natural fire regime of these pinyon-juniper areas ranges from frequent to infrequent fire return intervals of between 30 to 100 years apart with mixed to local stand replacement fire severity.

Mojave Desert Ecological Zone

The Mojave Desert Ecological Zone encompasses the western boundary of the Planning Area and lower elevations in the Virgin River and Whitmore Canyon drainages. The Pakoon Basin contains approximately 195,000 acres of the ecological zone and is connected to similar areas in Nevada. North of the Virgin Mountains, the Virgin and Beaver Dam slopes combined make up 168,447 acres of the ecological zone. This is the hot desert portion of the Planning Area, averaging less than 12 inches per year of precipitation. Ecological processes are relatively slow in the ecological zone.

Low shrubs characterize the Mojave Desert Ecological Zone, with creosote bush being the most common shrub. Creosote bush communities are typically very open and species-poor, and occur in areas with considerable amounts of bare ground. Exotic annual grasses, particularly red brome, have invaded large areas of the ecological zone. Joshua tree communities are found throughout this ecological zone. Other common species include Mormon tea, broom snakeweed, blackbrush, white bursage, California buckwheat, Wright eriogonum, galleta, and bush muhly.

Historically, the Mojave Desert Ecological Zone did not typically produce enough continuous vegetation to carry a fire more than a few yards. Desert shrubs are neither fire-tolerant nor fire-dependent. They are adapted to survive long drought periods and, as a result, many are very slow growing. By the 1930's, invasive, annual grasses had entered the area, mostly red brome and Mediterranean grass (Brooks and Esque 2002). Today, invasive, annual grasses that cure early in the fire season and provide fine, flashy fuels dominate this area. These grasses cure standing, creating continuous fuels that allow fires to spread. The fires kill native vegetation and allow invasive, annual grasses to dominate the landscape and thus increase the number and size of fires and proliferation of annuals. The fire/grass regeneration cycle is much shorter than the native shrub regeneration cycle. Over 100,000 acres in the Pakeon Basin have been converted from Mojave Desert shrub to steppe or grassland since 1980. Only a few remaining Joshua tree forests and small pockets of native vegetation are dispersed throughout the Planning Area. Overall, the ecological zone can be characterized as sensitive, highly altered, with high levels of human impact.

Mojave-Great Basin Transition Ecological Zone

This ecological zone is a transition between the Mojave Desert and the Great Basin and contains vegetation-type representatives from both ecological zones. Soil and vegetation vary widely within the transition area, although it more closely resembles the Mojave Desert. Historically, wildland fires were a function of woody plant condition and density. More precipitation supports a greater annual grass fuel load than the Mojave Desert, resulting in a grass/fire regeneration cycle and susceptibility to type conversion. Fire years are typically correlated with high spring moisture, which follow several years of lower than average precipitation. The fire regime of this zone is an infrequent fire return interval with fires occurring an estimated average of about 40 years apart. Mixed fire severity creates a mosaic of plant ages and species across the landscape. There is a large transition area in lower Whitmore Canyon, one along the Grand Wash Cliffs and the Virgin Mountains, and another south of St. George. These three areas encompass approximately 387,748 acres.

Blackbrush communities occur in the Mojave-Great Basin Transition Ecological Zone. Blackbrush is typically found on gentle slopes above creosote bush communities and below the interior chaparral or big sagebrush/pinyon-juniper communities (Bradley and Deacon 1967, Randall 1972, Beatley 1976). Blackbrush communities are characterized by relatively high cover (50 percent) of low stature (20 inches tall) evergreen woody shrubs, dominated by blackbrush, which can comprise 90 to 95 percent of the total plant cover (Shreve 1942).

Blackbrush is usually killed by fire and may take over 100 years to re-establish itself. It is co-dominant with other native species such as creosote, juniper, desert almond, Anderson wolfberry, and yucca. Dominant invasive species include cheatgrass and filaree. These communities change little over several decades, exhibiting very low reproductive rates and very slow growth.

Colorado Plateau Transition

This area consists of the rocky slopes and cliffs along the edge of the Paria Plateau and in the canyons of Kanab Creek. It encompasses approximately 138,819 acres. The vegetation here is generally a transition between grassland and Great Basin. It consists of scattered juniper, cacti, grasses, and an occasional shrub. The fire regime of this area is similar to the Mojave-Great Basin Transition Ecological Zone. Bighorn sheep and Peregrine Falcons are two important species found in this ecological zone.

Interior Chaparral Ecological Zone

Interior chaparral areas are relatively limited in the Planning Area. They are found on approximately 33,592 acres in the Virgin Mountains below Mt. Bangs and in the southern portions of the Grand Wash cliffs, specifically around the Snap Point area. Dense stands of tough, evergreen shrubs characterize this ecological zone. Curl-leaf mountain mahogany is usually the tallest species, often reaching as high as 10 feet. Most shrubs average 3 to 7 feet tall. Typical species found in interior chaparral include manzanita, shrub live oak, sumac, mountain mahogany, ceanothus, buckthorn, cliffrose, and turpentine bush. Grasses are less abundant in mature stands of interior chaparral, but may become abundant following fire and in younger, more open stands.

Interior chaparral is an important vegetation community for wildlife. Game animals such as deer and bighorn sheep use several plant species as forage and others as cover. Distinct from the communities above and below it, interior chaparral provides a significant amount of wildlife habitat diversity. The Arizona Game and Fish Department (AGFD) and the BLM have cooperated in some habitat projects to benefit mule deer, including a series of chaining treatment areas that established a mosaic of "edge" habitats, breaking up the monotypic stand of pinyon-juniper.

Chaparral shrubs are adapted to fire and typically re-sprout from root crowns or germinate from long-lived seeds following fire. Lack of fire can lead to encroachments by woodland species. Exotic annual grasses can increase fire frequency to the point where even the fire-adapted interior chaparral cannot recover. The natural fire regime for this zone is infrequent fires averaging about 45 years apart with fire severity that predominantly replaces vegetation stands.

Plains-Grassland Ecological Zone

There are two areas of Plains-Grassland Ecological Zone in the Planning Area, the Main Street/Hurricane Rim/Clayhole Valley area (approximately 685,865 acres) and House Rock Valley (approximately 110,414 acres). Historically, perennial and annual grasses covered much of the ecological zone in a clumpy, relatively continuous carpet interspersed with shrubs and forbs. The natural fire regime for this zone involves frequent fires, which occur an average of 10 years apart, nearly all of which have stand replacement fire severity. Frequent fires are limited to woody species with a varied vegetation pattern across the landscape. Changes in fuel continuity from past management practices and fire suppression activities essentially eliminated fire from this ecological zone, resulting in increased shrub densities, loss of perennial grasses, and spread of non-native, invasive species. Typical grass genera include grama, muhly, needlegrass, wheatgrass, brome, galleta, fescue, and dropseed. An occasional cactus, shrub, or juniper may also be present, usually along the edge of the grassland or in microhabitats.

The Plains-Grassland Ecological Zone consists mostly of vast areas of relatively flat terrain compared to the surrounding canyons and plateaus of the Planning Area. There are few trees in the ecological zone, consisting mostly of scattered pinyon and juniper. Grasslands are important habitat for pronghorn antelopes.

Parashant Vegetation

Ecological Zones

Riparian Ecological Zone

While Parashant contains no streams, rivers, or lakes, it does include numerous springs and associated riparian areas. A number of large springs with associated riparian areas occur at Mt. Trumbull and Parashant Point. Several smaller springs also occur throughout the region. Most of these are in good or "proper" functioning condition as they have been fenced to prevent livestock entry since the early 1980s. Despite the fencing, some areas have had occasional trespasses. One of the fenced riparian areas, Red Rock Spring, is unique because it possesses a healthy stand of hebeborine (*Epipactis gigantea*), a rare orchid. The numerous springs on the west side of the Monument create a valued ecosystem for multiple plant and wildlife species dependent on flowing water and food not ordinarily available in the surrounding uplands. Springs within Parashant are also piped for livestock purposes and one is used as a water source by a lodge and BLM administrative sites.

The Cane Springs riparian area, on BLM-administered lands (BLM lands) in the Monument, provides a unique opportunity for wildlife and other values. Livestock have grazed the riparian habitat at Cane Springs, except for a 30' by 30' enclosure around the spring. The Cane Springs pasture, of which Cane Springs is a part, is grazed two months every three years, one of which is

during the growing season. Monitoring studies indicate that the riparian area is in proper functioning condition.

Pakoon Springs, and the private land surrounding it, was acquired by the BLM on November 26, 2002. The springs are some of the largest in the region and have been extensively modified by bulldozing the original spring mound, piping the water to several agriculture fields, and creating several large water ponds. BLM has since cleaned up the site by removing old equipment and artifacts and burning the remaining wooden artifacts and buildings. None of the historic features or buildings qualified for listing on the National Register of Historic Places (NRHP). Because the springs and private property had not been under Federal administration, no monitoring studies have occurred.

Ponderosa Pine Ecological Zone

In addition to the primary Ponderosa Pine Ecological Zone in the Mt. Logan/Mt Trumbull area, there is a small ponderosa pine area the northern portion of the Monument around Black Rock in the Virgin Mountains. In the southern portion of the Monument, ponderosa pine can be found around Mt. Dellenbaugh and Yellow John Mountain. In addition to the typical pine forests, ponderosa in the Parashant area exists at its lower elevation limit in drainage areas where cooler temperatures and run-in moisture allow them to survive. These ponderosa pine 'stringers' are frequently located in the midst of Great Basin woodlands and shrublands, and are of very high ecological value. The natural fire regime of these areas exhibit very frequent surface fires averaging four years apart with generally low, occasionally mixed and very rare stand replacement fire severity.

Great Basin Ecological Zone

The Great Basin Ecological Zone covers an area from the slopes below Black Rock down to Snap Point and over into the Tuweep Valley. A wide variety of vegetation exists within the ecological zone. Extensive pinyon-juniper woodlands dominate the mountains and plateaus, with grass and shrubs prevalent in the valleys. The fire regime of this area is generally a variable fire return interval from frequent to infrequent from 30 to 100 years apart, with generally mixed and limited stand replacement fire severity. Over time, these areas shift between community types based on impacts due to disturbance.

Mojave Desert Ecological Zone

Along the western edge of Parashant lies the Pakoon Basin, a very remote and isolated part of the Mojave Desert. The Pakoon includes the lowest elevations within the Planning Area and is bisected by Grand Wash, an ephemeral drainage for the western half of the Monument. This area provides important habitat for bighorn sheep. The historical fire regime of this area exhibits infrequent fire return intervals averaging about 75 years apart with high variation of fire occurrence due to year-to-year variation of drying shrub foliage, shrub mortality, and forb

production as they relate to local drought and moisture cycles. Fire years typically correlate with high spring moisture. Mixed fire severity generally limits stand replacement events. The west side of the Pakoon has burned repeatedly over the last several decades due to the presence of invasive annual grasses.

Mojave-Great Basin Transition Ecological Zone

To the north and east of the Pakoon Basin is the Mojave-Great Basin Transition Ecological Zone. This includes the southern Virgin Mountains and Grand Wash Cliffs. Repeated burning has substantially altered the ecological processes along the Grand Wash Cliffs and invasive, annual grasses now dominate large areas. The Virgin Mountains transition area contains plant species from all of the surrounding areas – creosote and cacti from the desert below, blackbrush, sagebrush, and pinyon-juniper from the Great Basin, and oak and manzanita from the nearby chaparral. Fire years typically correlate with high spring moisture, which follow several years of lower than average precipitation. The fire regime of this zone is an infrequent fire return interval with fires occurring about 40 years apart. Mixed fire severity creates a mosaic of ages and species across the landscape. Repeated burning has substantially altered the ecological processes along the Grand Wash Cliffs and invasive, annual grasses now dominate large areas. This ecological zone provides important habitat for bighorn sheep.

Interior Chaparral Ecological Zone

The only area representative of Interior Chaparral Ecological Zone within the Planning Area is located in the Virgin Mountains west and south of Black Rock. The southern portion of this ecological zone is in within Parashant.

Plains-Grassland Ecological Zone

Only a very small portion of the Main Street Valley Plains-Grassland Ecological Zone is within the Monument, just south of the private lands (Bundyville) near Mt. Trumbull.

Vermilion Vegetation

Ecological Zones

Riparian Ecological Zone

The Riparian Ecological Zones in Vermilion are located along one river and a few springs, all of which are properly functioning (see Table 3.8). The Paria River flows through the Paria River Riparian Ecological Zone and is known for low base flows with seasonal flash floods of enormous proportions. Livestock have not grazed the upper 20 miles of the river for decades, although the lower 7 miles of the Paria River above Lees Ferry have been grazed recently. In the early 1980s, the lower segment was switched from yearlong grazing to seasonal (winter - spring)

use under a three-pasture, rest-rotation system. This grazing system brought positive changes to vegetation along the Paria River such as increased growth of perennial grasses, cottonwoods, and willows. In 1998, cattle were completely removed from the lower segment and no livestock grazing has occurred since then.

The other riparian resources in Vermilion include a few springs along the Vermilion Cliffs. The largest of these (Soap, Badger, and Lowrey springs) are used as water sources by three lodges and two residential subdivisions located at the foot of the cliffs along Hwy 89A, as well as by ranchers in House Rock Valley. Other springs in Vermilion have also been piped for livestock purposes. Some of these springs are associated with small riparian areas.

Great Basin Ecological Zone

The Paria Plateau contains the wide range of vegetation communities found in the Great Basin. Valleys contain grasslands and shrublands, dominated by sagebrush. Pinyon-juniper woodlands are also found here. The natural fire regime of this area is similar to this zone in Parashant, as described above, except that pinyon and juniper trees tend to be more widely scattered resulting in smaller area fires. Lightning strikes tend to only cause single-tree fires in this area.

Colorado Plateau Transition Ecological Zone

Along the Vermilion Cliffs and the Paria River is an ecological zone best described as Colorado Plateau Transition. Components of the Great Basin and Plains-Grassland ecological zones can be found mixed together here. The Paria River Riparian Ecological Zone runs through the middle of this zone in Paria Canyon. The natural fire regime of this area is similar to this zone described above in Parashant except that more widely scattered shrubs and trees result in smaller fires.

Plains-Grassland Ecological Zone

The House Rock Valley, Plains-Grassland Ecological Zone extends into the southwest corner of Vermilion below the Vermilion Cliffs. It lies in the rain shadow of the Kaibab Plateau; consequently, precipitation is generally lower and less dependable than in other nearby areas. The natural fire regime of this area is similar to this zone described above in the overview for this section.

Arizona Strip FO Vegetation

Ecological Zones

Riparian Ecological Zone

The two major Riparian Ecological Zones in the Arizona Strip FO are the Virgin River and Kanab Creek Riparian Ecological Zones. Both originate in Utah and flow across the Planning Area. The Virgin River flows 39 miles (measured from the Utah border to the Nevada border) and Kanab Creek flows 22 miles (measured from the Kaibab Paiute Reservation boundary to the USFS boundary) through Arizona. The Virgin River is considered a relatively large river for the Southwest and is essential to the communities and agricultural areas along its route, including St. George, Utah; Littlefield, Arizona; and Mesquite, Nevada. Kanab Creek is similarly important to Kanab, Utah and Fredonia, Arizona. Both waterways and their associated riparian areas are currently in properly functioning condition. The Virgin River is open to seasonal (fall/winter) livestock grazing. Due to grazing restriction implemented for tortoise recovery purposes, cattle are removed from the Virgin River and adjacent uplands by March 15 every year. Kanab Creek is available to livestock grazing from October to mid-April.

Another important riparian area occurs along Beaver Dam Creek. Only a quarter mile of the Creek flows across BLM lands, with the rest flowing across state and private lands. Beaver Dam creek has relatively high water quality with areas of healthy cottonwood growth. These include the area of Mormon Wells and the creek's confluence with Virgin River, which is located on BLM lands.

A number of large springs with associated riparian areas occur in the Virgin Mountains. Several smaller springs also occur throughout the region.

Ponderosa Pine Ecological Zone

The Black Rock Ponderosa Pine Area described above in the Parashant section extends north onto the Arizona Strip FO. This small area is home to wild turkeys and is crucial summer mule deer range. The natural fire regime of this area is similar to this zone described in Parashant above.

Great Basin Ecological Zone

Arizona Strip FO lands classified as Great Basin Ecological Zone include the Lower Hurricane Valley, Seegmiller Mountain and surrounding area, Lost Spring Mountain, Cottonwood Point, Yellowstone Mesa, the Kanab Plateau, the northern portion of the Shivwits and Uinkaret Plateaus, and the area east of Fredonia including the Buckskin Mountains. The large area includes a variety of vegetation types, grasslands, shrublands, and woodlands that transition between the various conditions based on time and disturbance factors. Livestock grazing and

attempts at fire exclusion have transformed many areas that were once grasslands into areas dominated by woody species. The historical fire regime of this area is similar to this zone in Parashant described above. Sagebrush or junipers have encroached on some sites within the last hundred years and exhibit high rates of erosion and low species diversity and productivity.

Mojave Desert Ecological Zone

The area around the communities of Beaver Dam and Littlefield in the northwest corner of the Planning Area is commonly referred to as the Beaver Dam Slope and Virgin Slope, since the area is primarily comprised of the alluvial fans (bajadas) at the base of the Beaver Dam and Virgin Mountains. The Mojave Desert extends up through the Virgin River Gorge, east across Big Valley south of St. George, Utah, to the base of the Hurricane Cliffs. This area represents the extreme northeast edge of the Mojave Desert, and is home to desert tortoises (listed as threatened by the US Fish and Wildlife Service (USFWS)) and bighorn sheep. The Beaver Dam Slope is part of a larger area that extends into Utah and Nevada, while the Virgin Slope is an extension of a desert area between the Virgin River and Virgin Mountains. The historical fire regime of this area is similar to this zone described above in Parashant.

Mojave-Great Basin Transition Ecological Zone

Upslope from the Mojave Desert is the Mojave-Great Basin Transition Ecological Zone. This zone extends from south of Mesquite, Nevada, east through the Virgin Mountains to the base of the Hurricane Cliffs. The natural fire regime of this area is similar to this zone described above in Parashant. Generally, rocky, steep slopes reduce human activity, but wildfire is an increasing concern as invasive, annual grasses increasingly dominate the area. This ecological zone provides important habitat for bighorn sheep.

Colorado Plateau Transition Ecological Zone

The only area classified as Colorado Plateau Transition in the Arizona Strip FO is along the canyons surrounding Kanab Creek. These steep-walled canyons provide habitat for bighorn sheep and Peregrine Falcons. Like other transition zones, this area contains plant species representative of the adjacent ecological zones (in this case the Great Basin and Plains-Grassland ecological zones). The Kanab Creek Riparian Ecological Zone runs through the middle of this zone. This zone includes the portions of Hack, Sunshine, and Grama canyons where they meet Kanab Creek. The historical fire regime of this area is similar to this zone in Parashant as described above.

Interior Chaparral Ecological Zone

Along the slopes of the Virgin Mountains below Mt. Bangs is an area classified as Interior Chaparral Ecological Zone that straddles the boundary between the Arizona Strip FO and Parashant. This site is characterized by steep, rocky slopes and is largely within the wilderness

areas. In addition to those species normally found in native Interior Chaparral communities, this ecological zone has a high level of invasive, annual grasses, primarily brome, and has experienced fires in the last decade. The historical fire regime of this area is similar to this zone described above in Parashant. Although this ecosystem needs to burn in order to remain functional, burning can accelerate domination by invasive, annual grasses.

Plains-Grassland Ecological Zone

There are two large areas considered within the Plains-Grassland Ecological Zone in the Arizona Strip FO. The largest area includes the Clayhole Valley and Main Street Valley, from the town of Mt. Trumbull/Bundyville over the Hurricane Cliffs to the Utah border, east to the rim above Kanab Creek and up to Fredonia. House Rock Valley is the other grassland area in the ecological zone. The natural fire regime of this area is similar to this zone in Parashant as described above.

FIRE AND FUELS MANAGEMENT

Overview

The diverse nature of the ecological zones on the Arizona Strip leads to a wide variety of fire and fuels management practices based on ecological principles. Fire suppression, wildland fire use, and fuels treatments, including prescribed fire and mechanical, manual, chemical, and biological treatments, are based on goals, objectives, and strategies described in the most current Arizona Strip District and Lake Mead NRA fire management plans.

History

Table 3.9 provides the number of fires and acres burned each year from 1980 to 2003. During this period, the Planning Area averaged 85 wildland-fire starts annually, ranging from 37 starts in 1987 and 2002 to 161 starts in 1996. These fires burned an average of 7,450 acres per year. Lightning was the most common cause of fires, accounting for approximately 81 percent of starts and 96 percent of the acres burned. Eighty-nine percent of fires burned less than 10 acres, with less than 2 percent consuming over 1,000 acres. Although fires occurred during all months, most burned between May and September, with the number of starts peaking in July and August. The greatest number of acres burned in June and July. Acreage numbers provided in the Vegetation and Fire and Fuels Management section were generated as actual acres burned or treated, not from Geographic Information Systems (GIS) data.

Table 3.9: Wildland Fires and Acres Burned in the Planning Area

Year	Number of Fires	Acres Burned	Year	Number of Fires	Acres Burned
1980	110	62,737	1992	104	685
1981	85	1,146	1993	66	13,517
1982	47	421	1994	103	2,456
1983	63	4,452	1995	124	30,757
1984	91	770	1996	161	3,509
1985	57	538	1997	52	542
1986	72	21,685	1998	87	290
1987	37	746	1999	92	18,943
1988	107	8,727	2000	155	3,465
1989	41	505	2001	151	767
1990	44	16	2002	37	1,772
1991	50	61	2003	110	297

Fuels Treatments

The potential for catastrophic fires is reduced by decreasing fuel loads through fuel treatment projects, including prescribed fire, mechanical treatments (i.e., using equipment to suppress, inhibit, or control vegetation), and chemical treatments (i.e., the use of herbicides). Most fuels treatments were conducted in the Ponderosa Pine and Great Basin ecological zones. Ponderosa pine and pinyon-juniper are typically treated mechanically prior to using prescribed fire to reduce hazardous fuel loads. Sagebrush is treated chemically to increase species diversity and increase herbaceous ground cover, improving wildlife habitat and watershed condition. Table 3.10 lists fuels treatment projects in the Planning Area.

Table 3.10: Acres of Fuels Treatment Projects in the Planning Area, 1998-2003

Year	Prescribed Fire	Mechanical	Chemical
1998	7,568	0	4,810
1999	5,686	0	8,850
2000	308	4,470	5,490
2001	430	3,435	7,560
2002	70	7,323	2,000
2003	549	1,413	6,250
Average	2,435	2,774	5,827

Fire Regime/Condition Class (FRCC) assessment process is a classification system describing the degree of departure from the historic fire regime and vegetative conditions (See Table 3.11). This departure can increase the danger of losing key ecosystem components such as species composition and structural condition. This, in turn, can result in changes in stand age, canopy closure, fuel loadings, and mosaic patterns. This departure may be the result of fire suppression, timber harvesting, livestock grazing, introduction and establishment of invasive plant species, introduced insects or disease, or other past management activities (Hardy et al. 2001, Schmidt et al. 2002). The Arizona Strip District Office defines and updates FRCC using science-based methods, including Rapid Assessment, in accordance with BLM policy.

Table 3.11: Fire Regime/Condition Class Definitions (Schmidt et al. 2002)

Condition Class	Fire Regime
I	Fire regimes <u>are within</u> historical range, and the risk of losing key ecosystem components is low. Vegetation attributes (species composition, structure, and pattern) are intact and functioning within the historical range.
II	Fire regimes <u>have been moderately</u> altered from their historical range. The risk of losing key ecosystem components is moderate. Fire frequencies have departed from historical frequencies by one or more fire return intervals (either increased or decreased), resulting in moderate changes to one or more of the following: fire size, intensity and severity, and landscape patterns. Vegetation and fuel attributes have been moderately altered from their historical range.
III	Fire regimes <u>have been significantly</u> altered from their historical range. The risk of losing key ecosystem components is high. Fire frequencies have departed from historical frequencies by multiple return intervals, resulting in dramatic changes to one or more of the following: fire size, intensity, severity, and landscape patterns. Vegetation attributes have been significantly altered from their historical range.

Fire Management

The Color Country South Zone is an interagency fire organization that covers BLM lands administered by the Arizona Strip and St. George Field Offices and lands administered by the Pine Valley Ranger District of the Dixie National Forest. An interagency fire team handles fire management responsibilities (e.g., preparedness, suppression, extended attack), with dispatching occurring from the Color Country Dispatch Fire Center in Cedar City. The fire team does not manage prescribed fire for the St. George Field Office. Fire management on NPS lands of Parashant involves cooperative activities and actions between Lake Mead NRA and Color Country South Zone managers.

Fire and fuels management activities in the Planning Area are described in the agencies’ fire management plans, which are updated regularly. These documents provide for firefighter and public safety, and include fire management strategies, tactics, and alternatives (appropriate management response to wildland fires and identification of areas for fire use). The plan also addresses values to be protected and public health issues, describes fuels and restoration projects, and is consistent with resource management objectives.

The Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management (BLM 2004a) amends seven land use plans in Arizona, including the Arizona Strip District Resource Management Plan (RMP; BLM 1992). The amendment incorporates guidance from the National Fire Plan and the Federal Wildland Fire Management Policy (2001) and addresses current wildland fire management concerns, issues, and policies. The amendment directs the assignment of BLM lands as Wildland Fire Use areas where wildland fire may be used to meet resource management objectives under suitable conditions, and Non Wildland Fire Use areas where wildland fires are not desired. Table 3.12 lists fire return intervals, mean FRCC, and Fire Management Allocations. Appendix 3.C provides definitions for fire management allocations.

Table 3.12: Historic Fire Return Intervals, Mean FRCC, and Fire Management Allocations for each Ecological Zone

Ecological Zones	Historic Fire Return Interval ¹	Mean FRCC ²			Allocation
		I	II	III	
Mojave Desert	>250	25%	15%	60%	Non Wildland Fire Use Area
Transition ³	-	25%	15%	60%	-
Interior Chaparral	20-100	0%	45%	55%	Wildland Fire Use Area
Great Basin	20-70 ⁴	25%	40%	35%	Wildland Fire Use Area
Plains-Grassland	10-30	10%	20%	70%	Wildland Fire Use Area
Ponderosa Pine	2-12	15%	20%	65%	Wildland Fire Use Area
Riparian	35-200	4%	1%	95%	Non Wildland Fire Use Area

¹Historic Fire Return Intervals reported in Schussman and Gori (2004).

²Surveys have not been conducted, so classifications are preliminary estimates.

³Transition ecological zones were not analyzed in the Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management (2004a).

⁴Fire history is poorly understood in pinyon-juniper woodlands. There are no reliable estimates of mean fire intervals for low-severity surface fires. Fire rotation for high-severity fires has only been estimated in two studies (400 and 480 years), and fires sometimes burn with mixed severity (Baker and Shinneman 2004).

Wildland-Urban Interface

Wildland-Urban Interface (WUI) is the line, area, or zone where structures and other human developments meet or intermingle with undeveloped wildland or vegetative fuels. The community of Littlefield, Arizona is listed as a WUI community at high risk from wildland fire (Federal Register Vol. 66, No. 160, s 8/17/01, p. 43386). Although not on the Federal Register list, the nearby community of Beaver Dam has similar threats from wildland fire and is considered a WUI community for management purposes. The adjoining communities of Hildale, Utah, which is on the Federal Register list, and Colorado City, Arizona, share the same WUI attributes. Other communities within or adjacent to the Planning Area considered to be at risk from wildland fire are Scenic, Kanab, Cane Beds, and Mt. Trumbull. There are numerous homes, cabins, administrative sites, and other structures scattered across the Planning Area also considered at risk.

The BLM works with local fire departments when possible to reduce the risk of wildland fire in these communities, thereby protecting homes and adjacent federal lands. Support includes wildland firefighter training and assistance with Community Fire Plan development. Arizona Strip FO personnel provide public education through programs, which include Smokey Bear and fire education programs in schools, Fire Wise programs, and open houses that focus on fire education, fire-safe homes, and WUI community awareness throughout communities at risk within the Color Country South Zone.

Smoke Management

Airsheds within the Planning Area are managed as PSD Class II, except for airsheds within the Grand Canyon National Park that are managed as Class I (see previous section on Air Quality).

There are no air quality non-attainment areas in the Planning Area. Smoke from wildland fires and prescribed burns can influence the adjacent Class I airsheds under some weather conditions. The BLM is under the jurisdiction of the ADEQ in matters relating to air pollution from prescribed burning. The BLM works with the ADEQ to ensure compliance with the ADEQ's Smoke Management Plan (See <http://www.azdeq.gov/environ/air/smoke/fires.html>), which works toward a reduction in smoke impacts due to prescribed burning of nonagricultural fuels.

Parashant Fire and Fuels Management

The majority (91 percent) of the Ponderosa Pine Ecological Zone occurs in Parashant. Most fuels treatments in this ecological zone have been implemented in the Mt. Trumbull area. Fuels treatments have also been implemented in sagebrush and pinyon-juniper communities. The Mt. Trumbull/Bundyville community is adjacent to the Monument, and several private cabins and administrative sites are within the Monument.

The BLM and NPS work cooperatively in planning and implementing fuels treatment projects near the administrative boundary, sharing crews and equipment for wildland fire suppression.

Vermilion Fire and Fuels Management

Fuels in the Monument are generally sparse and discontinuous, and wildland fires rarely spread beyond a few acres. The Monument is a low priority for fuels treatments. Marble Canyon, Vermilion Cliffs, and Cliff Dwellers are WUI communities adjacent to the Monument. These communities are at minimal risk from wildland fire due to the lack of fuels in the area.

Arizona Strip FO Fire and Fuels Management

Approximately 46 percent of the Great Basin Ecological Zone occurs in the Arizona Strip FO. Fuels treatments in sagebrush and pinyon-juniper communities have been implemented. There have been few, if any, ponderosa pine fire and fuels treatments on Black Rock. All of the WUI communities and several administrative sites and cabins are located in the Arizona Strip FO.

FISH AND WILDLIFE

Overview

Portions of the Basin and Range and Colorado Plateau physiographic provinces meet in the Planning Area, providing a variety of unique wildlife habitats. The majority of the Planning Area is characterized by species typical of perennial grassland and pinyon-juniper woodlands of the two provinces. The most common animal species in these habitats include mule deer, pronghorn antelope, coyote, blacktail jackrabbit, Pinyon Jay, and desert spiny lizards. Lower elevation habitats on the western edge of the Planning Area are typical of the Mojave Desert and

home to bighorn sheep, kangaroo rat, quail, raven, crow, desert tortoise, and other reptiles. Table 3.13 lists dominant animal species for each of the ecological zones in the Planning Area.

Ecological Zone	Representative Animal Species
Riparian	Southwestern Willow Flycatcher, speckled dace
Ponderosa Pine	Kaibab squirrels, mule deer, porcupine, White-breasted Nuthatch, Merriam's Turkey, Goshawk, a variety of neo-tropical migratory songbirds,
Great Basin	Black-tailed jackrabbit, cottontail rabbit, coyote, mule deer, pronghorn antelope, bighorn sheep, mountain lion, Screech Owl, Scrub Jay, Pinyon Jay, Juniper Titmouse, Gray Vireo, Great Basin rattlesnake, horned lizards, fence lizards, whiptail lizards
Mojave Desert	Bighorn sheep, kangaroo rat, quail, raven, crow, desert tortoise, snakes, lizards
Mojave-Great Basin Transition	Mule deer, bighorn sheep, quail
Colorado Plateau Transition	Bighorn sheep, Peregrine Falcon
Interior Chaparral	Mule deer, bighorn sheep, Black-Chinned Sparrow
Plains-Grassland	Pronghorn antelope, House Rock Valley chisel toothed kangaroo rat, Brewer's Sparrow

The AGFD has statutory authority and obligation under Arizona Revised Statutes for fish and wildlife management in the State, including the Planning Area. In cooperation with the AGFD, the BLM develops wildlife habitat management plans (HMPs) for wildlife species and habitats. Many the management directions for wildlife included in HMPs are based on statewide goals of the AGFD in managing particular species. Past HMPs in the Planning Area have focused on construction and maintenance of habitat improvement projects, primarily water developments for big game species. Since completion of the Arizona Strip RMP (BLM 1992a), additional HMPs have been written for the management of special status species. The NPS also cooperated with the AGFD and the BLM in the development of Parashant Interdisciplinary Management Plan (BLM and NPS 1997), which included objectives for wildlife management in the NPS portion of the Monument. Big and small game habitat improvements, transplants, big game surveys, special status species surveys and coordination, and the maintenance of a special status species database are only a few of the management practices being implemented in the Planning Area.

Over 180 wildlife water catchments, reservoirs, and spring developments have been constructed on BLM lands throughout the Planning Area. Many livestock waters have also been modified to accommodate wildlife use. Many of these water catchments are in disrepair and require maintenance. Other habitat enhancement projects implemented include prescribed burns, seeding, and chemical or mechanical treatments of poor quality habitat areas. Fences have been modified to ensure they are passable by wildlife. Wildlife habitat monitoring studies are conducted to assess the results of management towards meeting wildlife objectives.

In cooperation with AGFD, several species of wildlife have been reintroduced to former ranges to supplement existing populations and help in meeting populations goals. These include pronghorn antelope, desert bighorn sheep, mule deer, Kaibab squirrel, and Merriam's Turkey.

Pronghorn Antelope
(*Antilocapra americana*)

Pronghorn antelope are native to the Planning Area, with early residents having reported that they were common. However, the species were apparently eliminated from the Arizona Strip in the early 1900s. They were reintroduced to the area beginning in 1961, and reintroduction efforts continue today.

The Planning Area includes approximately 1.4 million acres of pronghorn habitat (see Map 3.15). Of this, nearly 97 percent is considered poor to moderate quality habitat, with only 3 percent being high quality. Populations since the 1980s have been low, but stable.

Management actions to help restore pronghorn to their former ranges within the Planning Area include modifying fences to allow pronghorn movement, improving forage species composition and diversity, modifying fences around water lots to accommodate pronghorn access, and developing or making other water sources available for pronghorns.

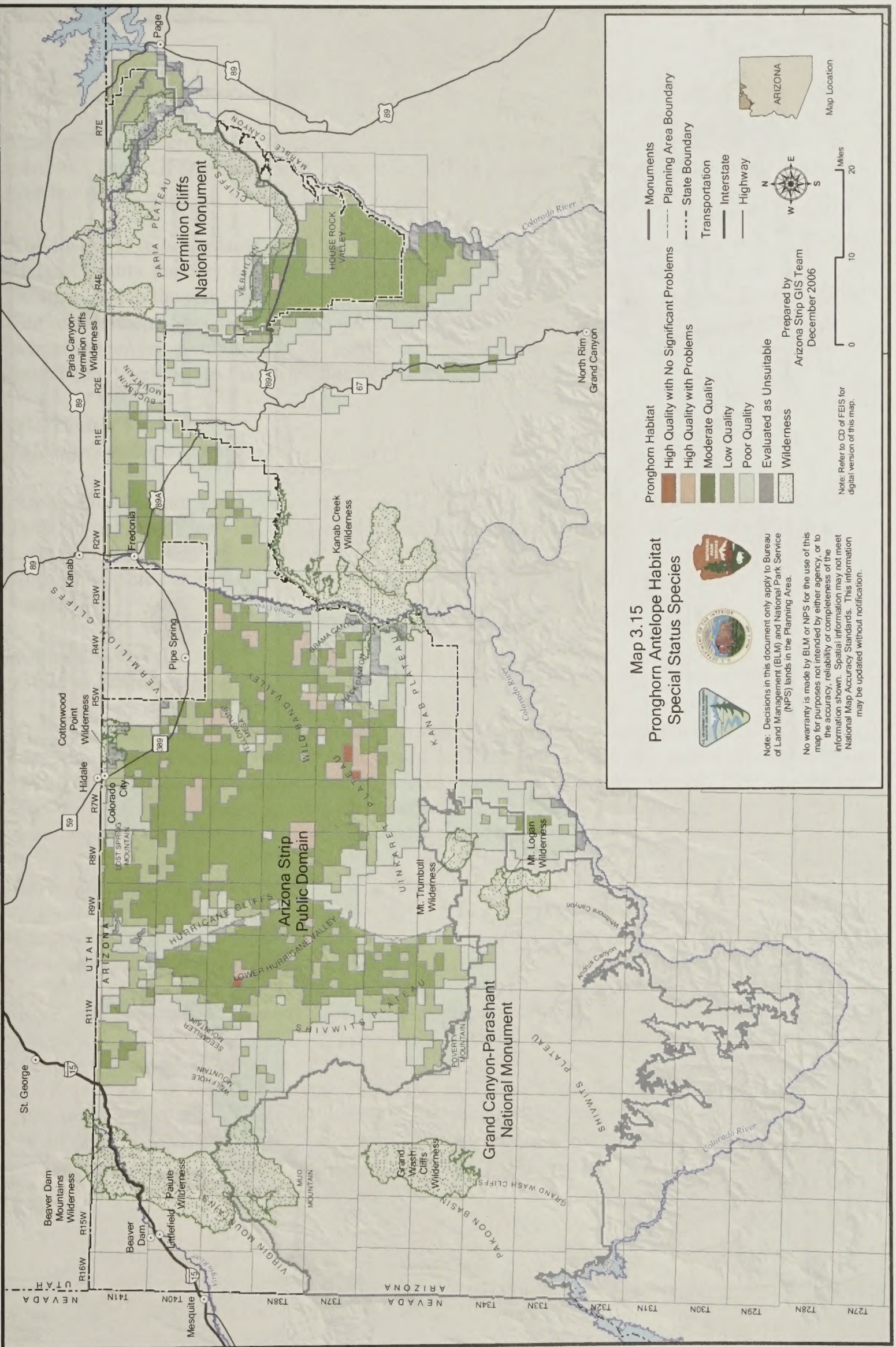
Desert Bighorn Sheep
(*Ovis canadensis nelsoni*)

There are five identified bighorn sheep habitat areas in the Planning Area totaling 361,347 acres (Map 3.16). Three of the habitats are in the Arizona Strip FO (Virgin and Beaver Dam Mountains, Hurricane Cliffs, and Kanab Creek), one is in Vermilion (the Paria-Vermilion Cliffs Wilderness Area), and one is in Parashant (Grand Wash Cliffs). With the exception of occasional sightings, bighorn sheep were believed to have been eliminated from these habitats around the turn of the century. In a cooperative effort between the BLM and AGFD beginning in 1979, bighorn sheep were reintroduced into the suitable habitat areas. These reintroduction efforts and successful reproduction have resulted in a gradual increase in the populations of desert bighorn sheep. Bighorn sheep populations now appear to be stable.

The Arizona Strip Desert Bighorn Sheep Management Plan (BLM and AGFD 2001) outlines objectives and actions for bighorn sheep within the Planning Area. The plan identifies crucial bighorn habitat as well as habitat used on an infrequent basis. Completed projects benefiting bighorn sheep include the construction of 17 water catchments and developments. The Rangewide Plan for Managing Habitat of Desert Bighorn Sheep (BLM 1995b) also directs sheep habitat management.

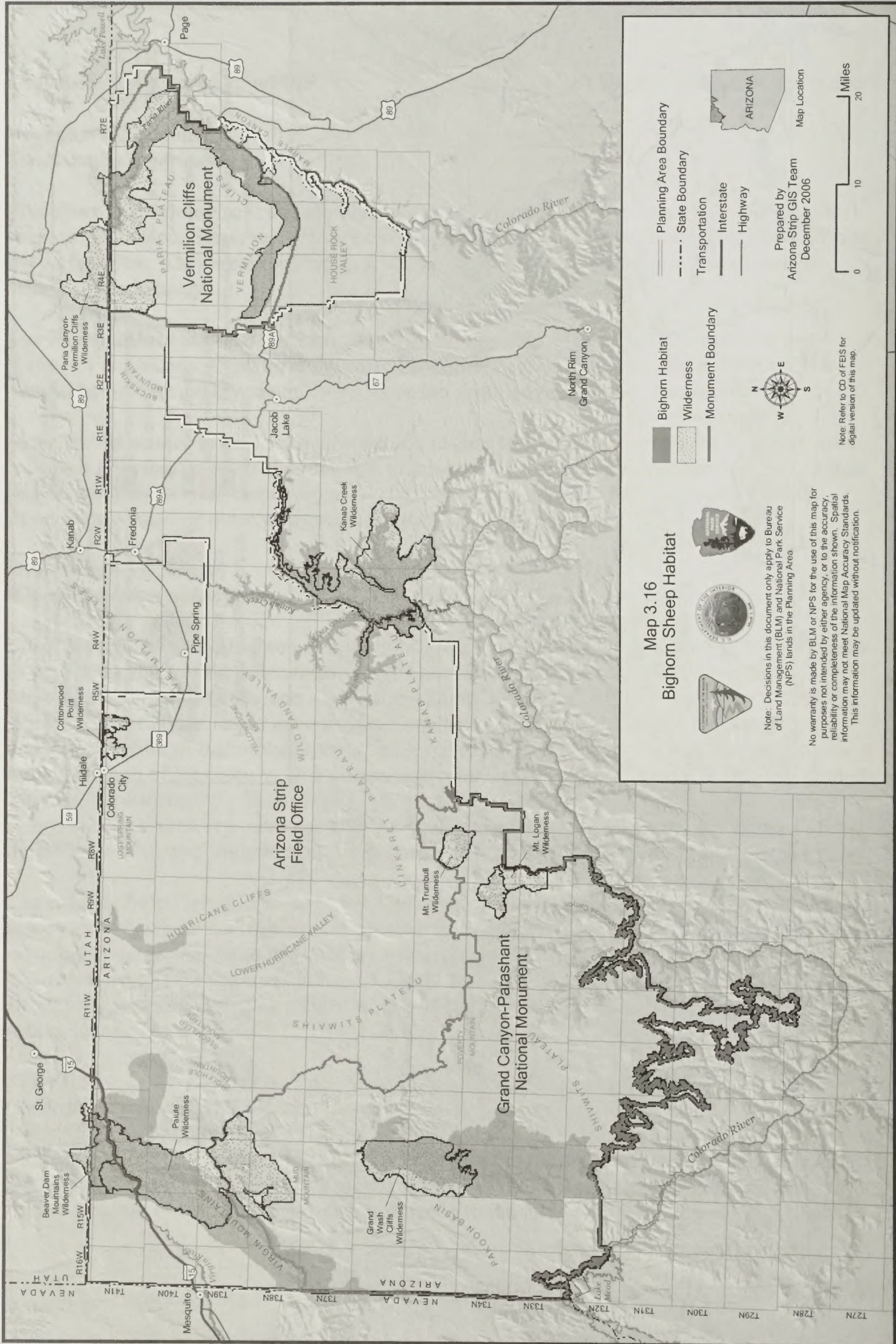
Mule Deer
(*Odocoileus hemionus*)

Mule deer were not common on the Arizona Strip prior to the arrival of early settlers. Mule deer populations began increasing during the early 1900s. Populations peaked within the Planning Area during the 1960s following decades of intensive predator control measures. Since that



Map 3.15 Pronghorn Antelope Habitat - Special Status Species

Map 3.16 Bighorn Sheep Habitat



**Map 3.16
Bighorn Sheep Habitat**



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

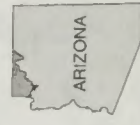
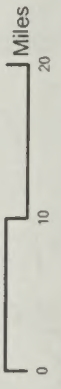
- Planning Area Boundary
- State Boundary
- Transportation**
 - Interstate
 - Highway

- Bighorn Habitat
- Wilderness
- Monument Boundary



Note: Refer to CD of FEIS for digital version of this map.

Prepared by
Arizona Strip GIS Team
December 2006



time, mule deer herds in the Planning Area have cycled through several decline and recovery periods. The AGFD considers the current mule deer population within the Planning Area to be low but stable.

The Planning Area contains about 3.3 million acres of suitable mule deer habitat (see Map 3.17). Habitat quality for deer, both summer and winter, has been changing since the 1960s. This may be attributed to the removal of domestic sheep, improved livestock management, and aggressive fire suppression. Succulent forage on crucial summer ranges and young nutritious browse on winter ranges are giving way to older browse, trees, and perennial grasses. Numerous waters have been developed to make more habitats accessible to deer.

Merriam's Turkey (*Melagris gallopavo merriami*)

About 350 Merriam's turkeys occur on approximately 42,430 acres of ponderosa pine habitat in the Planning Area (see Map 3.18). These populations are the direct result of transplants that have occurred at Mt. Trumbull, the Parashant, and Black Rock Mountain since the 1970s. Several wildlife catchments have been constructed in order to assure reliable water in turkey habitats.

Kaibab Squirrel (*Sciurus kaibabensis*)

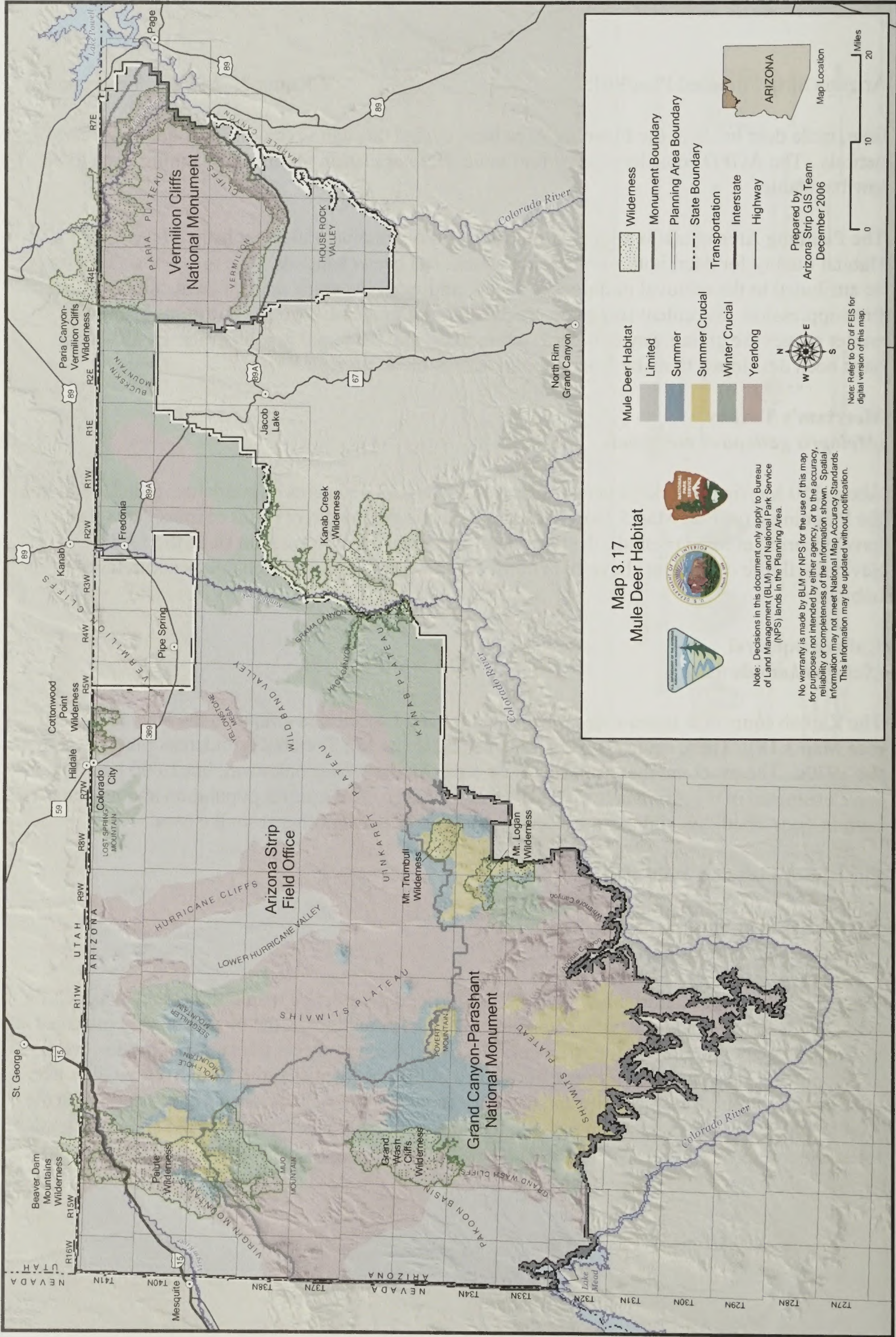
The Kaibab squirrel, a tassel-eared, bushy, white-tailed species, is unique to the Kaibab Plateau (see Map 3.18). These squirrels were transplanted to the Mt. Trumbull ponderosa pine forest in the 1970s. The exact number of squirrels currently in the area is unknown, but 1,000 individuals were estimated in the Arizona Strip RMP (BLM 1992a). The squirrel population and habitat are both in good condition and there are few known conflicts with other resource uses.

Parashant Fish and Wildlife

Desert Bighorn Sheep (*Ovis canadensis nelsoni*)

More than 75 desert bighorn have been released into historic range within the Grand Wash Cliffs since 1983. This population, which appears to be stable, is perhaps the most intensely managed bighorn sheep population on the Arizona Strip. In addition to recent transplant activities, water developments, and intensive survey efforts, the AGFD has identified the Grand Wash Cliffs as a high-priority future transplant site and a site for remote water hole camera deployment. Both the AGFD and BLM will continue to manage the site to ensure it meets regional and statewide goals for the species.

Map 3.17 Mule Deer Habitat



Map 3.17
Mule Deer Habitat



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Mule Deer Habitat

- Limited
- Summer
- Summer Crucial
- Winter Crucial
- Yearlong

Wilderness

Monument Boundary

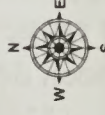
Planning Area Boundary

State Boundary

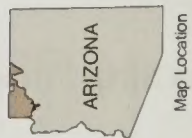
Transportation

- Interstate
- Highway

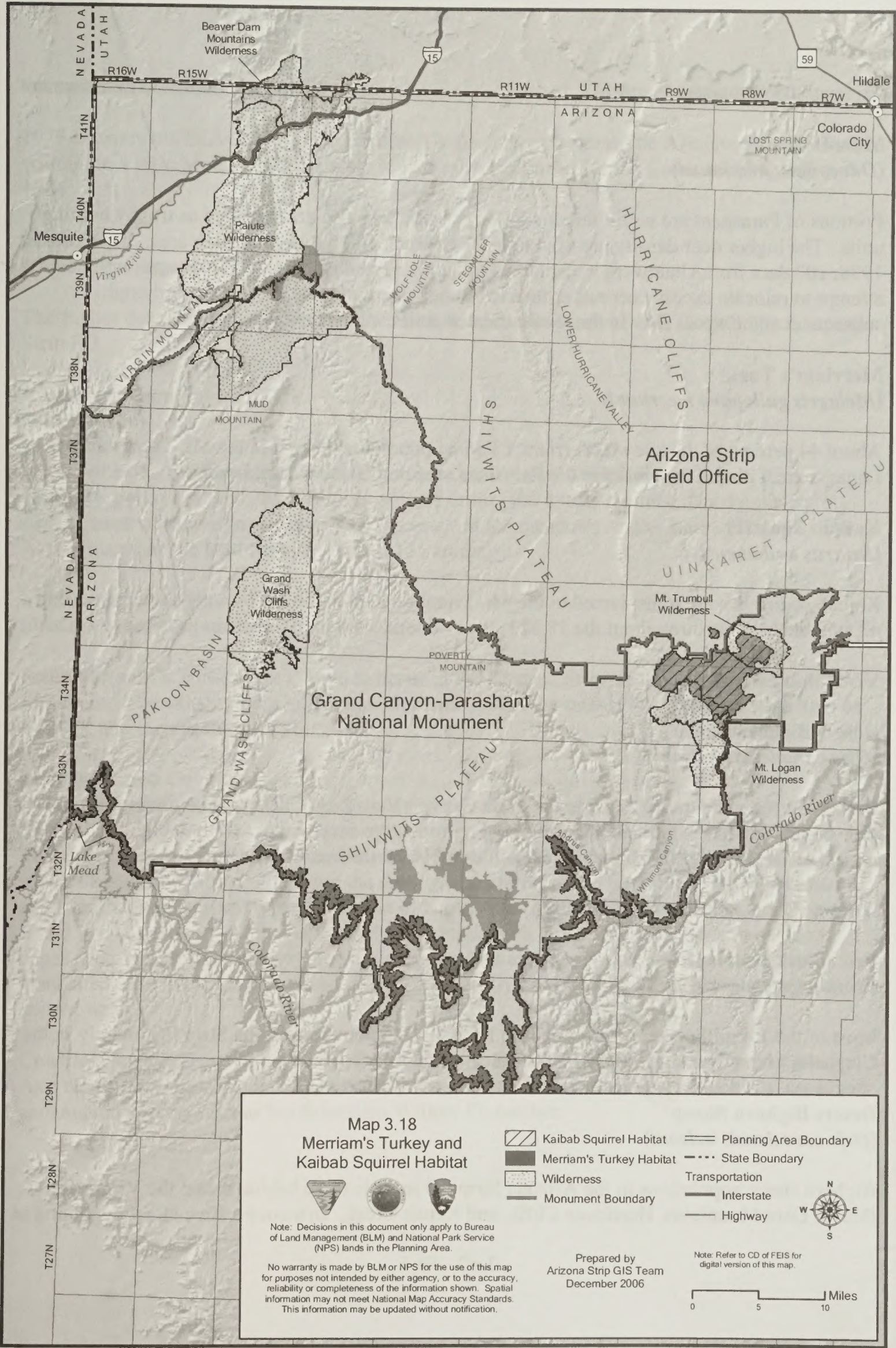
Prepared by
Arizona Strip GIS Team
December 2006



Note: Refer to CD of FES for digital version of this map.






Map Location







Map 3.18 Merriam's Turkey and Kaibab Squirrel Habitat





**Map 3.18
Merriam's Turkey and
Kaibab Squirrel Habitat**






Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

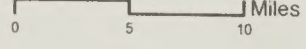
No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

 Kaibab Squirrel Habitat
 Merriam's Turkey Habitat
 Wilderness
 Monument Boundary

 Planning Area Boundary
 State Boundary
Transportation
 Interstate
 Highway



Note: Refer to CD of FEIS for digital version of this map.



Prepared by
Arizona Strip GIS Team
December 2006

Mule Deer**(*Odocoileus hemionus*)**

Portions of Parashant are world famous for large buck deer and are managed as trophy hunting units. The higher deer density areas include Black Rock and the Dellenbaugh area. In December 1988, 107 deer from Utah were transplanted to the Mt. Trumbull area. This was primarily an attempt to relocate excess deer rather than to restock deer numbers in Arizona, although subsequent sightings of deer in the area indicated an increase of resident animals.

Merriam's Turkey**(*Melagris gallopavo merriami*)**

About 44 percent of the known Merriam's Turkey population occurs in the Mt. Trumbull/Mt. Logan area, with the remainder in the Parashant area and Black Rock Mountain.

Kaibab Squirrel**(*Sciurus kaibabensis*)**

Kaibab squirrels were transplanted to the Mt. Trumbull area in the 1970s and have expanded to all suitable habitats throughout the 18,823 acres of ponderosa pine forests in the area.

Vermilion Fish and Wildlife**Desert Bighorn Sheep****(*Ovis canadensis nelsoni*)**

Bighorn sheep were transplanted to the Paria Canyon/Vermilion Cliffs area beginning in 1984. This population has exhibited one of the best reproductive success rates for any bighorn transplant in Arizona, primarily because of desirable habitat conditions.

Arizona Strip FO Fish and Wildlife**Pronghorn Antelope****(*Antilocapra americana*)**

Most of the 1.4 million acres of pronghorn habitat occurs on the Arizona Strip FO, mainly in the Clayhole, Mainstreet, and House Rock Valley areas.

Desert Bighorn Sheep**(*Ovis canadensis nelsoni*)**

Bighorn sheep populations in the Arizona Strip FO include three habitat areas: the Virgin and Beaver Dam Mountains, Hurricane Cliffs, and Kanab Creek. In a cooperative effort beginning in

1979 between the BLM and AGFD, 56 desert bighorn were released on Arizona Strip FO lands within the Virgin Mountains. Transplants also occurred in the Kanab Creek area beginning in 1984.

Mule Deer

(Odocoileus hemionus)

The higher deer density areas include the Buckskin Mountains and Black Rock in the Arizona Strip FO.

American Bison

(Bison bison)

A herd of bison was introduced into the southern end of the House Rock Valley in the early 1900s. A portion of the herd still uses this area during the winter months. During the warm season, most of the bison move up slope to graze in the meadows on the Kaibab Plateau. The AGFD manages the herd between 80 and 135 animals.

Merriam's Turkey

(Melagris gallopavo merriami)

Some Merriam's Turkeys are known to occur in the Arizona Strip FO portion of Black Rock Mountain. The existing population was supplemented in the mid-1990s, increased to a high of over 30, and then declined again.

Brown-headed Cowbirds

(Molothrus ater)

The Brown-headed Cowbird is one of two species of Cowbirds found in North America. This species has expanded its range from the short grass prairies of the high plains into agricultural and suburban landscapes throughout most of North America. Brown-headed Cowbirds may be found in a variety of habitats, particularly grasslands with low or scattered trees, woodland edges, riparian, fields, pastures, orchards, and residential areas. Cowbirds are frequently associated with livestock operations, foraging primarily on the ground for seeds, arthropods, and animal waste.

Cowbirds lay their eggs in the nests of other species, a strategy known as brood parasitism. As a result, they are considered a threat to populations of many other species of birds, especially endangered species such as Southwestern Willow Flycatcher.

SPECIAL STATUS SPECIES

Special status species include those federally listed as threatened or endangered under the Endangered Species Act (ESA), those proposed or candidates for federal listing, AGFD Wildlife of Special Concern, and those species identified by the BLM State Director as sensitive or rare. NPS policy also recognizes AGFD's Wildlife of Special Concern list. All species identified as sensitive by the BLM must be managed proactively to minimize the need for future listing as threatened or endangered under the ESA.

Because the Arizona Strip lies in the transition zone between the Basin and Range, the Mojave Desert, and the Colorado Plateau, many plant and wildlife species are at the extreme edge of their historic range. Such species tend to have less stable populations than those closer to the center. However, the historic isolation and remoteness of these transitional habitats make the Planning Area an important research area for special status species. The eight ecological zones in the Planning Area provide large areas of relatively undisturbed habitats that provide opportunities for re-introductions and establishment of new populations of special status species.

Special Status Animals

Overview

At least 44 special status animals are known to occur or have the potential to occur within the Planning Area, including 15 bird species, 12 mammals, 4 reptiles, 3 amphibians, 6 fish, and at least 4 invertebrates (see Table 3.14). Of these, the Yuma Clapper Rail, Southwestern Willow Flycatcher, woundfin, and Virgin River chub are federally listed as endangered. Also listed as endangered is the California Condor, but the population within the Planning Area is an experimental, nonessential population and is managed as a species proposed for listing. Federally listed threatened species are the desert tortoise, Bald Eagle, and Mexican Spotted Owl. Relict leopard frogs and western Yellow-billed Cuckoos are candidates for listing. These federally listed or candidate species are described below, as well as other special status species that may be affected by the alternatives proposed in this Proposed Plan/Final Environmental Impact Statement (FEIS).

Table 3.14: Special Status Animal Species						
Common Name	Scientific Name	Status			Planning Area	Occurrence
		USFWS	BLM	AGFD		
Birds						
Northern Goshawk	<i>Accipiter gentilis apache</i>	SC		WSC	Parashant	Verified
Western Burrowing Owl	<i>Athene cunicularia hypugea</i>	SC	S		Parashant Vermilion Arizona Strip FO	Verified Probable Verified
American Bittern	<i>Botaurus lentiginosus</i>			WSC	Arizona Strip FO	Verified
Ferruginous Hawk	<i>Buteo regalis</i>	SC		WSC	Parashant Vermilion Arizona Strip FO	Verified Possible Verified
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	C		WSC	Arizona Strip FO	Verified
Fulvous Whistling Duck	<i>Dendrocygna bicolor</i>		S		Arizona Strip FO	Verified
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	LE		WSC	Arizona Strip FO	Verified
Peregrine Falcon	<i>Falco peregrinus anatum</i>	SC		WSC	Parashant Vermilion Arizona Strip FO	Verified Verified Verified
California Condor	<i>Gymnogyps californianus</i>	XN			Parashant Vermilion Arizona Strip FO	Probable Verified Verified
Bald Eagle	<i>Haliaeetus leucocephalus</i>	LT		WSC	Parashant Vermilion Arizona Strip FO	Probable Verified Verified
Loggerhead Shrike	<i>Lanius ludovicianus</i>		S		Parashant Vermilion Arizona Strip FO	Verified Verified Verified
White-faced Ibis	<i>Plegadis chihi</i>	SC	S		Parashant Vermilion Arizona Strip FO	Verified Probable Verified
Yuma Clapper Rail	<i>Rallus longirostris yumanensis</i>	LE		WSC	Arizona Strip FO	Verified
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	LT		WSC	Parashant Vermilion Arizona Strip FO	Possible Possible Possible
Mammals						
House Rock Valley chisel-toothed kangaroo rat	<i>Dipodomys microps leucotis</i>	SC	S	WSC	Arizona Strip FO	Verified
Spotted bat	<i>Euderma maculatum</i>	SC	S	WSC	Parashant Vermilion Arizona Strip FO	Verified Verified Verified
Allen's big-eared bat	<i>Idionycteris phyllotis</i>	SC	S		Parashant Vermilion Arizona Strip FO	Verified Probable Verified

Table 3.14: Special Status Animal Species (cont.)						
Common Name	Scientific Name	Status			Planning Area	Occurrence
		USFWS	BLM	AGFD		
Mammals						
California leaf-nosed bat	<i>Macrotus californicus</i>	SC	S	WSC	Arizona Strip FO	Verified
Small-footed myotis bat	<i>Myotis ciliolabrum</i>	SC	S		Parashant Vermilion Arizona Strip FO	Verified Verified Verified
Long-eared myotis bat	<i>Myotis evotis</i>	SC	S		Parashant Arizona Strip FO	Probable Verified
Fringed myotis bat	<i>Myotis thysanodes</i>	SC	S		Parashant Vermilion Arizona Strip FO	Verified Verified Verified
Long-legged myotis bat	<i>Myotis volans</i>	SC	S		Parashant Arizona Strip FO	Verified Verified
Big free-tailed bat	<i>Nyctinomops macrotis</i>	SC	S		Parashant Arizona Strip FO	Verified Verified
Reptiles						
Mojave Desert tortoise	<i>Gopherus agassizii</i>	LT CH		WSC	Parashant Arizona Strip FO	Verified Verified
Banded Gila monster	<i>Heloderma suspectum cinctum</i>	SC	S		Parashant Arizona Strip FO	Verified Verified
Chuckwalla	<i>Sauromalus obesus</i>		S		Parashant Vermilion Arizona Strip FO	Verified Verified Verified
Northern sagebrush lizard	<i>Sceloporus graciosus graciosus</i>		S		Parashant Vermilion Arizona Strip FO	Verified Possible Verified
Amphibians						
Relict leopard frog	<i>Rana onca</i>	C		WSC	Parashant Arizona Strip FO	Suitable Hab. Historic
Fish						
Desert sucker	<i>Catostomus clarki</i>	SC	S		Vermilion Arizona Strip FO	Verified Verified
Flannelmouth sucker	<i>Catostomus latipinnis</i>	SC			Arizona Strip FO	Verified
Virgin River chub	<i>Gila seminuda</i>	LE CH		WSC	Arizona Strip FO	Verified
Virgin spinedace	<i>Lepidomeda mollispinis mollispinis</i>	SC CA		WSC	Arizona Strip FO	Verified
Woundfin	<i>Plagopterus argentissimus</i>	LE CH		WSC	Arizona Strip FO	Verified
Speckled dace	<i>Rhinichthys osculus</i>	SC	S		Vermilion Arizona Strip FO	Verified Verified

Table 3.14: Special Status Animal Species (cont.)

Common Name	Scientific Name	Status			Planning Area	Occurrence
		USFWS	BLM	AGFD		
Invertebrates						
Succineid snails	Family Succineidae		S		Arizona Strip FO	Possible
MacNeil sooty wing skipper	<i>Hesperopsis graciela</i>		S		Parashant Arizona Strip FO	Verified Verified
Grand Wash springsnail	<i>Pyrgulopsis bacchus</i>	SC	S		Parashant	Verified
Desert springsnail	<i>Pyrgulopsis deserta</i>		S		Arizona Strip FO	Verified
USFWS Status: LE – Listed Endangered; LT – Listed Threatened; C – Candidate; CA – Signed Conservation Agreement; SC – Species of Concern; XN – Experimental Nonessential Population; CH – Designated Critical Habitat BLM Status: S – Sensitive; AGFD: WSC – Wildlife Species of Concern						

Parashant Special Status Animals

There have been verified occurrences of 18 special status animal species, probable occurrences of three, and possible occurrences of one in Parashant (see Table 3.14). Suitable habitat also occurs for the relict leopard frog. Descriptions of the federally listed special status species and those particularly susceptible to management actions proposed under the alternatives are presented below.

Bald Eagle

(Haliaeetus leucocephalus)

USFWS Listed Threatened; AGFD Wildlife Species of Concern

The USFWS listed the Bald Eagle as endangered on March 11, 1967 (32 FR 4001). The species suffered population declines throughout its range due to habitat loss, mortality from shooting and poisoning, and reduced reproductive success from ingestion of contaminants (USBR 1999). Recovery efforts have been successful in combating dramatic population declines over the past several decades, resulting in down listing the species to threatened status on July 12, 1995 (60 FR 35999). Further improvements in Bald Eagle populations prompted the USFWS to propose delisting of the species on July 6, 1999 (64 FR 36453).

Bald Eagles mainly inhabit coastal areas, estuaries, and unfrozen inland waters. Some Eagles inhabit arid areas of the western interior and southwestern portion of the U.S. where there are large trees or cliffs near water with abundant prey, such as along rivers, lakes, and reservoirs. Northern Bald Eagles migrate in the winter to climates that are more temperate. Wintering Bald Eagles concentrate near rivers, reservoirs, and lakes, with their distribution being dependent on prey availability, perch suitability, weather, and human disturbance intensity (AGFD 2003a). Due to the lack of large bodies of water and other suitable wintering habitat features, observations of Bald Eagles on the Monument have been infrequent. The species is considered a rare winter visitor.

Mexican Spotted Owl**(*Strix occidentalis lucida*)****USFWS Listed Threatened; AGFD Wildlife Species of Concern**

The Mexican Spotted Owl was listed as a threatened species on March 16, 1993 (58 FR 14248). The logging of old growth forests and possible competition with great horned owls in thinned forests contribute to the decline of this species. The species' preferred habitat includes steep slopes, and deep, shady ravines or canyons associated with dense older forests consisting of mixed conifer species or ponderosa pine and Gambel oak. In the northern-most part of their range, including the Arizona Strip, old growth forests are not as important as the owls primarily occur in rocky canyons (Kertell 1977, Reynolds 1990, Rinkevich 1991, Willey 1993), particularly canyons with steep walls and associated riparian areas. Mexican Spotted Owls roost during the day and hunt during dusk and night hours (AGFD 2003b). They are intolerant of even moderately high temperatures and may roost on north facing slopes with dense overhead canopies in summer daytime hours.

Suitable forested habitats within Parashant have been surveyed using accepted protocols with no Mexican Spotted Owls being detected. Radio-telemetry studies from Zion National Park have indicated that wintering owls may disperse into a variety of different habitats within the Planning Area, including the pinyon-juniper woodlands within Parashant (Rinkevich 1991).

California Condor**(*Gymnogyps californianus*)****USFWS Listed Endangered/Experimental, Non-essential Population**

Parashant is contained within the experimental, non-essential area designated for the California Condor with the species frequenting the area. Please refer to the discussion under Vermilion Special Status Animals for a detailed discussion of the species.

Peregrine Falcon**(*Falco peregrinus anatum*)****USFWS Species of Concern; AGFD Wildlife Species of Concern**

In 1970, the American Peregrine Falcon subspecies was listed as endangered under the Endangered Species Conservation Act of 1969 (the law preceding the ESA of 1973) reflecting their critical biological status. Beginning in the late 1940's, Peregrine Falcon populations suffered rapid declines. By the mid-1970's, peregrine populations were reduced by 80 to 90 percent in the Western U.S. The primary cause of decline was high concentrations of the pesticide dichlorodiphenyltrichloroethane (DDT) and its breakdown product, dichlorodiphenyldichloroethylene (DDE). Peregrines accumulated DDT in their tissues by feeding on birds that had eaten DDT-contaminated insects or seeds. The toxic chemical interfered with eggshell formation. As a result, Falcons laid eggs with shells so thin they often

broke during incubation or otherwise failed to hatch. Because too few young were raised to replace adults that died, Peregrine populations declined suddenly. Subsequent bans on the use of DDT and DDE pesticides has allowed for recovery of the species. Peregrine Falcons were delisted in August 1999.

Peregrine Falcons have been documented throughout Parashant, including Parashant and Andrus Canyons, and the upper Grand Wash Cliffs. The USFWS, AGFD, and BLM continuously monitor two of these sites. The birds observed in Parashant are potentially yearlong inhabitants. Although they have been observed and reported on numerous occasions throughout the area for more than 30 years, recorded data on population numbers, trend, ecology, and habitat use patterns is limited. Several nests or "eyries" have been identified and many others are suspected to exist.

Northern Goshawk

(Accipiter gentilis apache)

USFWS Species of Concern; AGFD Wildlife Species of Concern

Northern Goshawks are listed by the State of Arizona as a Wildlife Species of Concern. Goshawks have been proposed for federal listing under the ESA on a number of occasions but the listing has not been found to be warranted.

Goshawks nest in coniferous forests and will winter in lower elevations in forested areas. Within Parashant, as many as three active goshawk nests have been located in the ponderosa pine forests at Mt. Trumbull and Twin Points.

Western Burrowing Owl

(Athene cunicularia hypugea)

USFWS Species of Concern; BLM Sensitive Species

Burrowing Owls are found in open, dry grasslands, agricultural areas, rangelands, and desert habitats often associated with burrowing animals, particularly prairie dogs. They can also inhabit grass, forb, and shrub stages of pinyon and ponderosa pine habitats. They commonly perch on fence posts or on top of mounds outside the burrow. Burrowing Owls consume a variety of prey items, including young desert tortoise. Rangelwide, their populations have declined in many areas due to human-caused habitat loss or alteration. Since there are no prairie dogs in the Planning Area, this species must use the burrows provided by ground squirrels, desert tortoise, or badgers. They are infrequently observed, typically in low elevations habitats in the Pakoon Basin.

Ferruginous Hawk*(Buteo regalis)***USFWS Species of Concern; AGFD Wildlife Species of Concern**

The Ferruginous Hawk is the largest hawk in North America averaging 22½ to 25 inches long, with a 53- to 56-inch wingspan. Although populations of Ferruginous Hawks seem to have declined in most areas over their range, they have been observed in a variety of locations within Parashant.

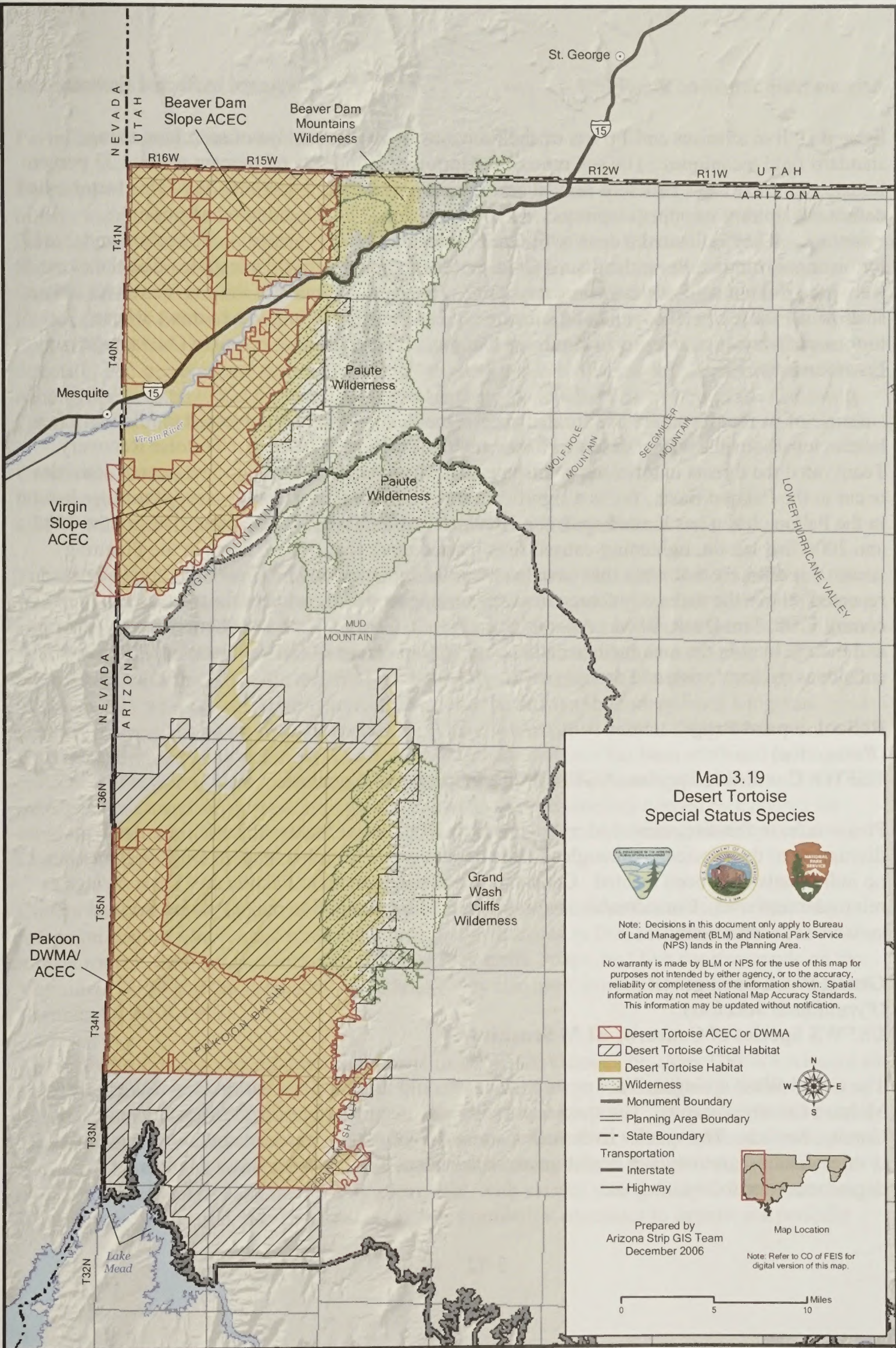
Ferruginous Hawks are birds of open country. They occur in semiarid grasslands with scattered trees, rocky mounds or outcrops, and shallow canyons that overlook open valleys. The species rely primarily upon rodents, but also feed upon snakes, lizards, meadowlarks, grasshoppers, and crickets. The birds select rocky outcrops, hillsides, rock pinnacles, or trees for nest sites, although they will occasionally use haystacks, power poles, or nest platforms. Ferruginous Hawks may lay eggs between February and July, with the number of eggs laid, as well as the number of active nests in an area, potentially being tied to the abundance of prey. Population abundance and density estimates are not available for this species within the Planning Area.

Desert tortoise, Mojave population*(Gopherus agassizii)***USFWS Listed Threatened with Critical Habitat; AGFD Wildlife Species of Concern**

USFWS listed the Mojave population of desert tortoises as a threatened species on April 2, 1990 (55 FR 12178), which includes tortoises north and west of the Colorado River. See Map 3.19 for the location of desert tortoise habitat within Parashant. Critical habitat was designated for the Mojave population on February 24, 1994 (59 FR 5820, 59 FR 9032). Tortoises within the Monument are part of the Northeast Mojave Recovery Unit, Gold Butte - Pakoan Basin Desert Wildlife Management Area (DWMA). The Parashant includes approximately 169,377 acres of desert tortoise habitat on BLM lands and 52,670 acres on NPS lands.

Tortoise habitat includes sandy loam and rocky soils in valleys, bajadas, and rocky slopes and hills in the Mojave Desert at elevations ranging from 500 to 5,100 feet (USFWS 1994). Creosote and other shrubs with small cacti and, in some areas, Joshua trees, dominate the plant communities in these habitats (AGFD 2003c). Another important habitat feature is adequate shelter. Tortoises dig burrows below vegetation to provide protection from heat and predators. Desert tortoises are patchily distributed across their habitat, and appear to be concentrated where soils and vegetation provide preferred conditions. These higher-density areas are interspersed among areas with less suitable habitat. Habitat preferences for desert tortoise, however, are not well documented.

Little is known concerning the density and abundance of desert tortoise in Parashant. A 2-square mile study plot in the area was first surveyed in 1991 by Advantage Environmental (1991). They



St. George

Beaver Dam Slope ACEC

Beaver Dam Mountains Wilderness

R16W

R15W

R12W

R11W

UTAH

ARIZONA

T41N

T40N

Mesquite

Virgin River

Virgin Slope ACEC

Paiute Wilderness

Paiute Wilderness

WOLF HOLE MOUNTAIN

SEEMILLER MOUNTAIN

LOWER HURRICANE VALLEY

MUD MOUNTAIN

NEVADA
ARIZONA

T36N

T35N

Grand Wash Cliffs Wilderness

Pakoon DWMA/ACEC

T34N

PAKOON BASIN

T33N

T32N

Lake Mead

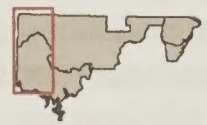
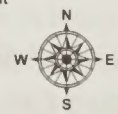
Map 3.19 Desert Tortoise Special Status Species



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

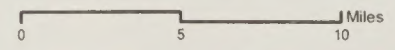
- Desert Tortoise ACEC or DWMA
- Desert Tortoise Critical Habitat
- Desert Tortoise Habitat
- Wilderness
- Monument Boundary
- Planning Area Boundary
- State Boundary
- Transportation
 - Interstate
 - Highway



Prepared by
Arizona Strip GIS Team
December 2006

Map Location

Note: Refer to CO of FEIS for digital version of this map.



Map 3.19 Desert Tortoise - Special Status Species

located 10 live tortoises and 11 sets of shell remains in 60 person days of searching using standard field techniques. The sex ratio of the tortoises found was 67 percent male to 33 percent female. The size class structure was 10 percent immature and 90 percent adult. One tortoise had definite symptoms of upper respiratory distress syndrome URTD and two had possible symptoms. They estimated a density of 6 to 8 tortoises per square mile in one section and 9 to 12 tortoises per square mile on the other. Grasses, forbs, and water were adequate. Caliche caves were plentiful but soil burrows were very scarce. Throughout much of the site, there was only a shallow substrate of soil over a solid substrate of caliche. Therefore, soil burrows where tortoises can lay eggs at a proper depth are thought to be the limiting resource (Advantage Environmental 1991).

Because of its remote nature and limited access, the Pakoon Basin is subjected to relatively few human intrusions that affect desert tortoises and their habitat. The Desert Tortoise Recovery Team rated the threats to tortoises in this area as low-moderate. Although few human activities occur in the Pakoon Basin, fire is a significant threat. More than 150,000 acres of tortoise habitat in the Pakoon basin has burned since the 1940's (BLM 1995c, USFWS 2006). During the 2005 and 2006 fire season, lightning-caused fires burned more than 37,000 acres in the Planning Area. It is unlikely that areas that have been burned by especially hot fires or that have burned repeatedly have the necessary forage or cover to support desert tortoises for many years (pers. comm. 1999, Tim Duck, BLM - Arizona Strip FO, St. George, Utah). Other threats to tortoises and their habitat in the area include cattle grazing, limited use of OHVs, disease (URTD and cutaneous dyskeratosis), and drought.

Relict Leopard Frog

(Rana onca)

USFWS Candidate Species; AGFD Wildlife Species of Concern

Please refer to the discussion under Arizona Strip FO Special Status Animals for a detailed discussion of the species. Although suitable habitat exists for relict leopard frogs in Parashant, no individuals have been located. Consideration is being given to Pakoon and Tassi springs as reintroduction sites. Considerable restoration would be required to make Pakoon Springs suitable for such efforts.

Grand Wash Springsnail

(Pyrgulopsis bacchus)

USFWS Species of Concern; BLM Sensitive

The Grand Wash springsnail is known to occur in only three springs within Grand Wash trough Mohave County, Arizona. The species possibly also occurs in the Virgin Mountains in Clark County, Nevada. The species lives within aquatic communities associated with spring flows. It is threatened by groundwater depletion and subsequent loss of spring flows and habitat degradation due to livestock use.

Vermilion Special Status Animals

There have been verified occurrences of 10 special status animal species, probable occurrences of two, and possible occurrences of four in Vermilion (see Table 3.14). Please refer to the above Parashant section for the descriptions of Peregrine Falcon, Western Burrowing Owl, Ferruginous Hawk, and Mexican Spotted Owl. Peregrine Falcons have been documented within Paria Canyon and the Vermilion Cliffs and are considered yearlong residents in these areas. Bald Eagles are only known to be infrequent winter visitors to the Monument. Surveys for Mexican Spotted Owls have been completed in Paria Canyon and associated side canyons. No owls were detected. The area is considered too hot and dry to provide suitable habitat for Mexican Spotted Owls, although the possibility that they may be present remains. A detailed description of the California Condor is provided below.

California Condor***(Gymnogyps californianus)*****USFWS Listed Endangered/Experimental, Non-essential Population**

The California Condor was listed as endangered on March 11, 1967 (32 FR 4001). The northern Arizona population was designated as an experimental, nonessential population under Section 10(j) of the ESA (61 FR 54043). The experimental, non-essential area encompasses Vermilion as it extends from its eastern boundary along Highway 191 from Utah into Arizona to the intersection with Interstate 40, the southern boundary as Interstate 40 from the junction with Highway 191 west across Arizona to Kingman, and the western boundary from Kingman northwest along Highway 93 to Interstate 15. There is no critical habitat designation associated with the experimental population. The decline in Condor numbers has been attributed to illegal collection of eggs and birds, poisoning from predator control, lead poisoning, the effects of DDT and other pesticides, and an increase in roads and houses in the open country needed by Condors for foraging. Their slow rate of reproduction and years required to reach breeding maturity make Condors vulnerable to these threats.

Condors nest in caves, ledges, or large trees near open grasslands and savannahs where they forage on carrion. Individual birds may travel long-distances to find sufficient food. They mostly roost near nesting or foraging areas, on rock cliffs, snags, and live conifer stands on the Vermilion Cliffs and the Paria Plateau, although they also roost in other scattered sties throughout Vermilion (USBR 1999).

The last wild Condor was reported in Arizona in 1924. On October 29, 1996, USFWS released six California Condors at the Vermilion Cliffs. In the years following, additional birds have been released, with more than 50 Condors flying in northern Arizona in 2005. The primary release site is located along the southwestern edge of the Paria Plateau in Vermilion. Some released Condors have flown to parts of Arizona outside the designated area, returning after a short period. Reproduction among these birds has been moderately successful, with several young fledged from nest sites within the experimental, non-essential area. The population continues to experience periodic

mortality of individuals due to a variety of causes. Lead contamination continues to be a problem.

Arizona Strip FO Special Status Animals

There have been verified occurrences of 33 special status animal species and possible occurrences of two more in the Arizona Strip FO (see Table 3.14). Historic habitat also occurs for the relict leopard frog. Please refer to the above Parashant section for the descriptions of Peregrine Falcon, Western Burrowing Owl, and Ferruginous Hawk. Peregrine Falcons have been documented within Kanab Canyon, Hack Canyon, near Fredonia, the Hurricane Cliffs, and the Virgin Mountains and may be yearlong residents. Bald Eagles are only known to be infrequent winter visitors to the Arizona Strip FO. Detailed descriptions of other special status species particularly susceptible to management actions proposed under the alternatives are presented below:

Southwestern Willow Flycatcher

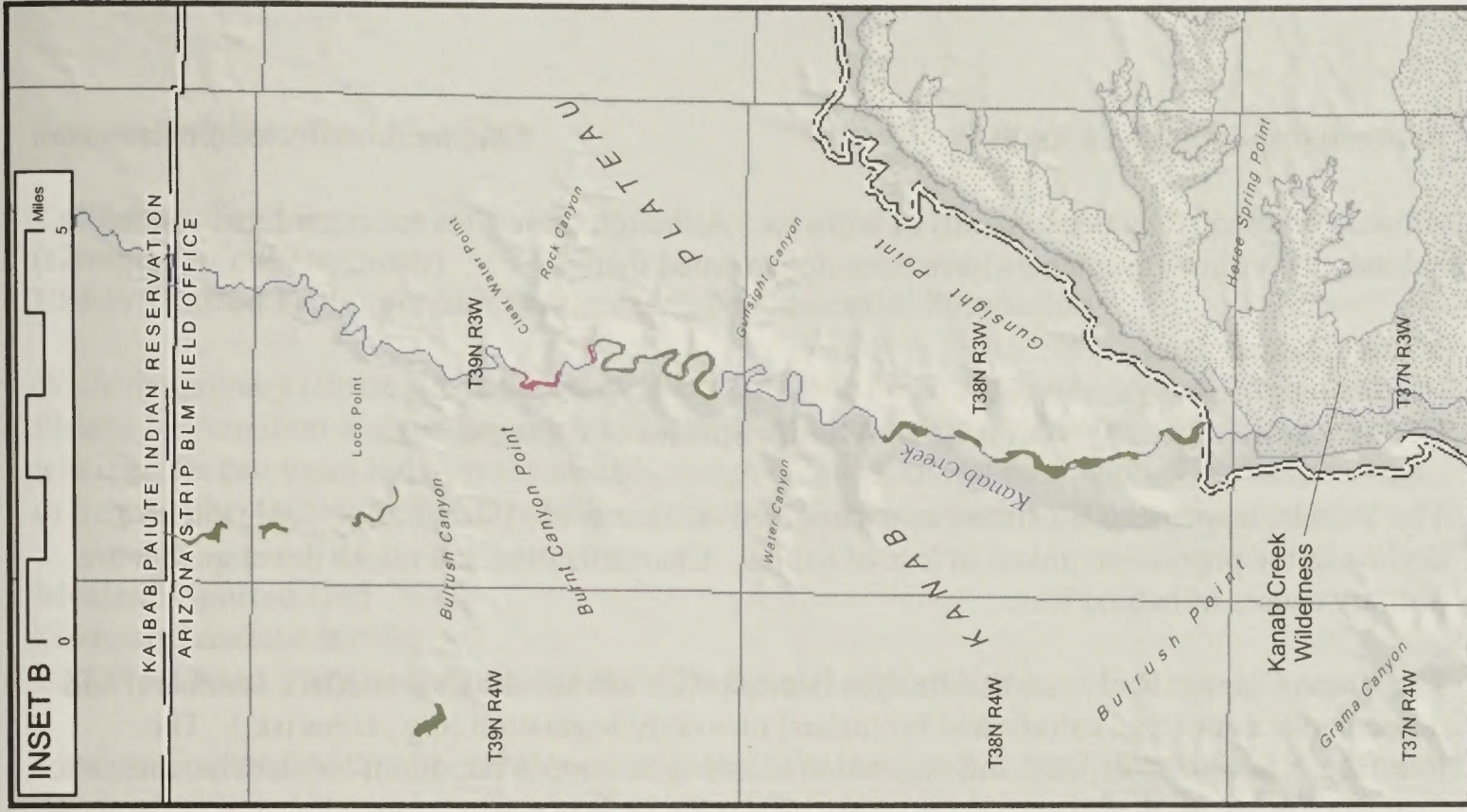
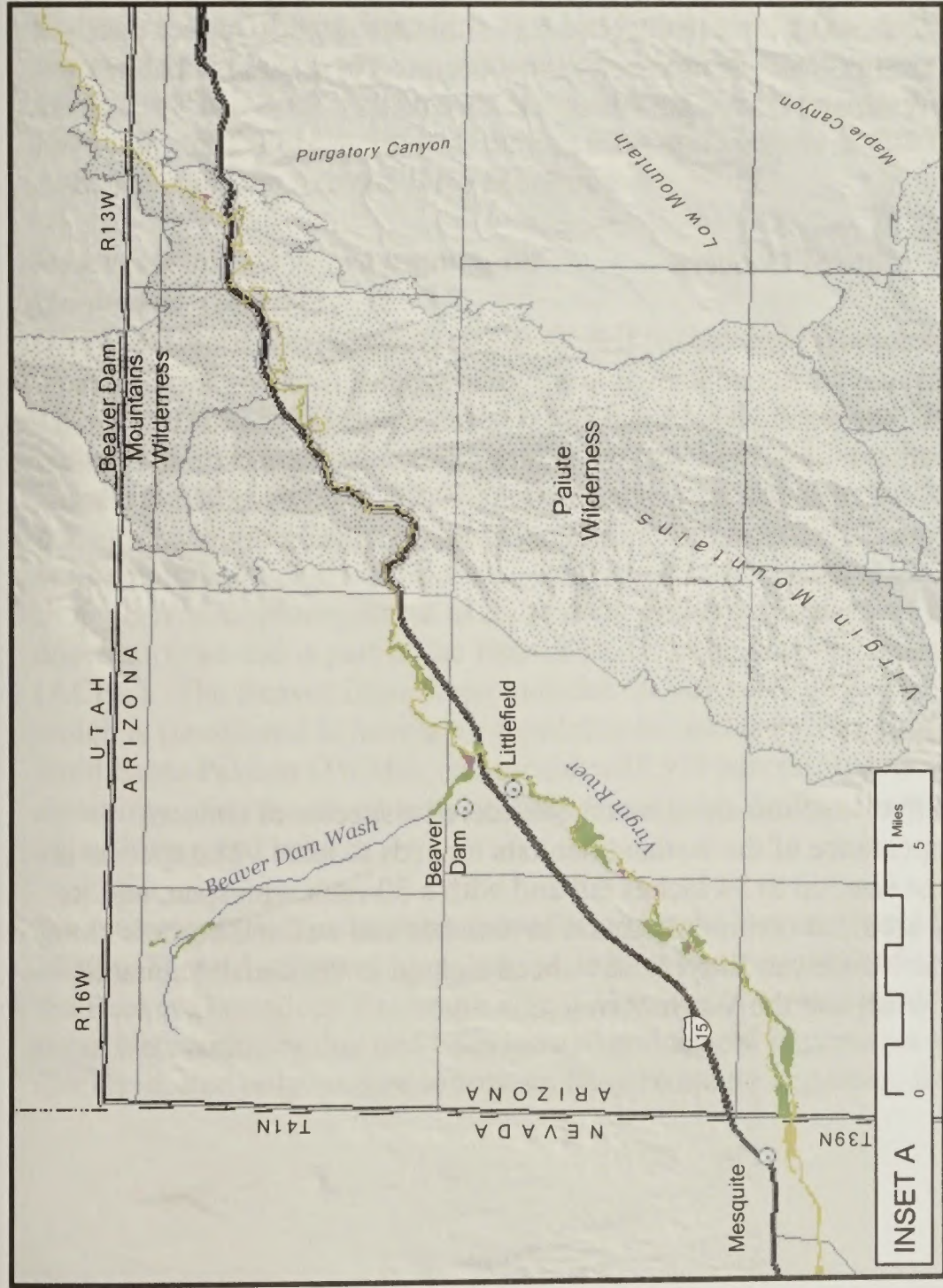
(Empidonax traillii extimus)

USFWS Listed Endangered; AGFD Wildlife Species of Concern

Southwestern Willow Flycatchers were listed as endangered on February 27, 1995 (60 FR 10693). Critical habitat was designated on July 22, 1997 (62 FR 39129), but was set aside by the 10th Circuit Court of Appeals on May 11, 2001. The USFWS is expected to issue a new critical habitat designation before 2006 (USFWS 2002). This species has declined in population due to riparian habitat loss and fragmentation resulting from the draining of wetlands; channeling and levying of streambeds; construction of canals, drains, and impoundments; livestock grazing and off-road vehicle use in riparian areas and wetlands; and the invasion of riparian habitat by invasive species. Other probable factors contributing to population decline include predators and brood-parasitism by Brown-headed Cowbirds (see discussion of Brown-headed Cowbirds in the Wildlife Section).

A riparian-obligate species, Southwestern Willow Flycatchers prefer dense canopy cover, a large volume of foliage, and surface water during midsummer. Breeding birds occupy habitat along rivers, streams, wetlands, and lakes, where dense growths of willow, seepwillow, buttonbush, box elder, tamarisk, or other plants are present, often with a scattered overstory of cottonwood and/or willow.

Map 3.20 illustrates Willow Flycatcher habitat in the Arizona Strip FO. Nine patches of suitable Flycatcher habitat occur along the Arizona reach of the Virgin River, with the largest patch at the confluence of Beaver Dam Wash and the Virgin River. These sites average less than 10 acres each and are composed mainly of tamarisk. The species has been observed using the Beaver Dam confluence area to nest. Two patches of suitable habitat are located along Kanab Creek, one patch at Clearwater Springs and the other a half-mile downstream from the springs. Both



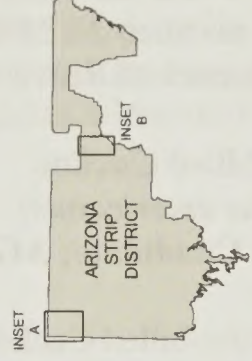
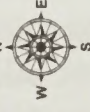
Map 3.20
Southwestern Willow Flycatcher (WIFL),
Woundfin Minnow, and Virgin River Chub
(T & E Fishes) Habitat - Special Status Species



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

- Suitable WIFL Habitat
- Potential WIFL Habitat
- T & E Fishes
- Wilderness
- Planning Area Boundary
- State Boundary
- Transportation
- Interstate
- Highway



Map Location
 Note: Refer to CD of FEIS for digital version of this map.

Prepared by
 Arizona Strip GIS Team
 December 2006

Map 3.20 Southwestern Willow Flycatcher, Woundfin Minnow, and Virgin River Chub Habitat

sites are dominated by dense stands of tamarisk. Although these sites are considered suitable habitat, no Willow Flycatchers have been documented there.

Yuma Clapper Rail

(Rallus longirostris yumanensis)

USFWS Listed Endangered; AGFD Wildlife Species of Concern

The Yuma Clapper Rail was listed as endangered on March 11, 1967 (32 FR 4001) due to a decline in the population linked to loss of habitat. Channelization and marsh development are primary causes of habitat loss.

The Yuma Clapper Rail nests and forages in areas with wet substrates (mudflats, sandbars) and dense herbaceous (e.g., cattails and bulrushes) or woody vegetation (e.g., tamarisk.). The interface between water, soil, and vegetation seems to be a more important habitat characteristic than the species of plant that covers the site. The species nest on the ground in areas of dense vegetation near the water's edge, showing a preference for banks that are slightly higher than adjacent marshes (BLM 2002a). Sightings of this species have occurred in the marsh habitat at the confluence of Beaver Dam Wash and the Virgin River.

Yellow-billed Cuckoo

(Coccyzus americanus)

USFWS Candidate; AGFD Wildlife of Concern

The Yellow-billed Cuckoo is a candidate species for federal listing (June 13, 2002, 67 FR 40657). Declines in populations may be due to habitat loss. Yellow-billed Cuckoos are a riparian-obligate species, which means that they require large blocks of riparian woodlands to thrive. Their habitat includes a mixture of mature cottonwood/willow galleries and tamarisk/mesquite thickets where they build their nest 4 to 30 feet above the ground (AGFD 2002). Yellow-billed Cuckoos have been observed in the Arizona Strip FO in the cottonwood/willow galleries at the confluence of Beaver Dam Wash and the Virgin River.

American Bittern

(Botaurus lentiginosus)

AGFD Wildlife Species of Concern

The American Bittern is a secretive, medium-sized heron considered a species of concern because of the continuing disappearance of the wetland habitats it needs to exist. The species is most easily identified by its large size, up to 34 inches tall and with a 50-inch wingspan, and its streaked brown plumage. They are most commonly found in marshes and wetland borders along lakes, ponds, rivers, and streams. American Bitterns have been sighted in the marsh habitat at the confluence of Beaver Dam Wash and the Virgin River.

California Condor**(*Gymnogyps californianus*)****USFWS Listed Endangered/Experimental, Non-essential Population**

While the primary release site for Condors is located along the southwestern edge of the Paria Plateau in Vermilion, a secondary release site on the Hurricane Rim within the Arizona Strip FO was used for two years and then abandoned, though the site could be used again. Condors continue to frequent the Arizona Strip FO, which is included within the experimental, non-essential area.

Mexican Spotted Owl**(*Strix occidentalis lucida*)****USFWS Listed Threatened; AGFD Wildlife Species of Concern**

Mexican Spotted Owl critical habitat was designated for a number of federally managed lands in Arizona and New Mexico, including 9,600 acres within Grama, Hacks, Chamberlain, and Water Canyons in the Arizona Strip FO. These and other drainage areas of Kanab Creek have been surveyed for the species, but no individuals were found. Surveys have also been conducted in forest habitats at Black Rock with no owls being detected. Radio-telemetry studies from Zion National Park have indicated that wintering owls may disperse into a variety of different habitats within the Planning Area, including the Arizona Strip FO (Rinkevich 1991).

Desert tortoise, Mojave population**(*Gopherus agassizii*)****USFWS Listed Threatened; AGFD Wildlife Species of Concern**

The Arizona Strip FO is within the Northeast Mojave Recovery Unit for desert tortoise and includes two areas of critical habitat for the species: one along the western slope of the Beaver Dam Mountains (Beaver Dam Slope) and the other along the northern slope of the Virgin Mountains (Virgin Slope; see Map 3.19). Tortoises on the Beaver Dam Slope are part of a larger population that includes portions of Utah and Nevada, collectively referred to as the Beaver Dam Slope DWMA. Management of this area is primarily focused on survival and recovery needs for desert tortoise and is part of the Beaver Dam Slope Area of Critical Environmental Concern (ACEC). The Beaver Dam Slope includes 69,407 acres of habitat, approximately 90 percent of which is considered to have high suitability for tortoise. The Virgin Slope ACEC is part of the Gold Butte-Pakoon DWMA, and includes 38,979 acres of habitat with moderate and low suitability. See the desert tortoise discussion under the Parashant for additional information about listing and habitat.

Desert tortoise studies have been conducted on the Beaver Dam Slope population since the 1930s. Three, 1-square meter study plots have been established and read in the area, including the Beaver Dam Slope Exclosure where 31 tortoises were located in 1996, though only three of these were tortoises that had been located and tagged in previous studies. Walker and Woodman (2002) located only six live tortoises. They found no eggshells, fragments, nest sites, or other

indications of reproductive behavior. Due to the small sample size, they did not present any population estimates. All six live tortoises found were within 0.4 mile of one of the two dirt roads on the plot. Four of the six tortoises were located within 0.1 mile of a dirt road. Three of the tortoise found by Walker and Woodman (2002) had signs of URTD and two had lesions indicative of cutaneous dyskeratosis. Duck and Schipper (1989) located 56 tortoise carcasses, Goodlett et al. (1996) located 29 carcasses, and Walker and Woodman (2002) located 18 tortoise carcasses, seven of which were marked. Of the latter carcasses, five were estimated to have died within the last year, five likely died within the previous one to two years, and eight had probably been dead for two to four years. Walker and Woodman (2002) were not able to establish a likely cause of death for any of the tortoises. Based on consideration of previous studies, they concluded that 85 percent of the population on the plot had died and estimated that the desert tortoise population in the Beaver Dam Enclosure plot had collapsed, and considered it functionally extinct. Young et al. (2002) suggested that the cause of the decline was unknown, but speculated it was due to a combination of factors including but not restricted to: disease, drought, and/or unknown toxicants.

In 2001, Utah Division of Wildlife Resources (UDWR 2001) surveyed 53 random transects across the Beaver Dam Slope DWMA, including areas in Utah, Arizona, and Nevada. Each transect was 1.6 km square with 400 m sides. Tortoise sign was found on 21 (40 percent) of the transects, while no sign was found on 32 (60% percent) of the transects. The density of reproductive tortoises was estimated at 3.04 tortoises per square kilometer with a 95 percent confidence interval of 1.3 to 7.12. This estimate is one of the lowest observed of the areas surveyed by UDWR during the spring 2001. Eleven of the 53 transects were located in the Arizona Strip FO. No live tortoises or shells were observed on any of these eleven transects. Three transects had definite signs, three had possible signs, and five had no signs of tortoises (UDWR 2001). In 2002, UDWR surveyed 27 random transects across the DWMA, seven of which were in Arizona. Tortoise sign was found on eight (30 percent) of the transects: two transects had definite tortoise sign, two had possible signs, and four had no signs of tortoises. Nineteen (70 percent) of the transects had either no sign or a possible tortoise burrow that could not be confirmed (i.e., no scat). No live tortoises were encountered on any transect, while two shells were found on one transect. Density estimates are not included in the field summary report on file (UDWR 2003).

The Littlefield study plot was established in 1977 (Hohman and Ohmart 1978). Since that time, the plot has been surveyed by Sheppard (1981), Duck and Schipper (1989), Rourke (1993), Woodman et al. (1998) and Young et al. (2002). The number of adult and sub-adult tortoises located has been relatively consistent on the Littlefield plot from 36 in 1993 (Rourke 1993), to 44 in 1998 (Woodman et al. 1998), and 33 in 2002 (Young et al 2002). Abundance estimates for the plot were 49 ± 7.7 in 1997 (Woodman et al. 1998). In 2002, Young et al. (2002) estimated desert tortoise abundance on the plot to be 49 ± 12.8 . There was no significant difference in the number of adults from 1998 to 2002 (Young et al 2002). Eggshells and fragments were observed in 1998 and 2002, indicating reproduction was occurring. Only one tortoise had possible signs of URTD, while 23 (62.3 percent) had cutaneous dyskeratoris. Thirty-nine carcasses were

collected in 1987 (Duck and Snider 1988), 14 were collected either between 1987 and 1993 or during 1993 (Rourke 1993), 11 in 1998 (Woodman et al. 1998), and 44 in 2002 (Young et al. 2002). The cause of death was determined for 22 of the 44 carcasses collected in 2002: 13 were thought to have been killed by canids (i.e., coyote, fox, dog), 2 by ravens, and 1 by a mountain lion; 2 were possibly crushed by ungulates (e.g., deer, cow); 1 died due to a bladder stone; 1 was killed by gunshot; 1 died due to being on its carapace; and 1 death was a probable vehicle mortality. Young et al. (2002) concluded that the Littlefield Study Plot was in the midst of a high mortality event based on a high mortality rate of 3.5 adults per year from 1998 to 2002, a high incidence of cutaneous dyskeratosis, and evidence of predation from ravens and canids. The combination of a high mortality event and a consistent estimate of abundance of live adults indicates that either recruitment or immigration was keeping the number of desert tortoise at about the same level over time.

The Virgin Slope study plot was established and read in 1992 (Advantage Environmental Consulting 1992), and read again in 1997 and 2003 (Goodlett and Woodman 2003). The number of adult and sub-adult tortoises located has varied considerably over the three readings of this plot. In 1992, 12 live tortoises were captured and marked (Advantage Environmental Consulting 1992). The number increased to 32 in 1997, but dropped to 9 in 2003 (Goodlett and Woodman 2003). In 1992, the relative abundance of desert tortoise on the plot was estimated at 35 ± 39.5 (Advantage Environmental Consulting 1992). In 1997, the abundance estimate was 38 ± 14.6 . No abundance estimate was made for the 2003 reading due to small sample size and the fact that the recapture portion of the study was not completed (Goodlett and Woodman 2003). In 2003, one of the nine tortoises (11.1 percent) displayed signs of URTD, while 14.6 percent of the animals showed signs of URTD in 1997 (Goodlett and Woodman 2003). Seven of nine animals showed signs of cutaneous dyskeratosis. Nineteen carcasses were collected in 2003. About half were sub-adults or larger that had died more than four years ago while only two had died within the previous year. The cause of death was determined to be predation by a mountain lion for one carcass, but the remainder could not be (Goodlett and Woodman 2003). Goodlett and Woodman (2003) concluded that desert tortoises were dying at an alarming rate on the Virgin Slope study plot. From 1997 to 2003, 29 percent of the tortoises in the plot died. This was a significant change from 1992 to 1997, which saw a total mortality rate of 10 percent. Goodlett and Woodman (2003) attributed the probable cause of this decline to cutaneous dyskeratosis. They suggested URTD could also be a contributing factor, but felt there was insufficient data to support this conclusion. They also concluded that the die-off began just prior to 1997 and felt that it was environmentally related rather than by direct spread of the disease through nose-to-nose contact.

Relict Leopard Frog

(Rana onca)

USFWS Candidate Species; AGFD Wildlife Species of Concern

The USFWS designated relict leopard frogs as a candidate species on June 13, 2002 (67 FR 40657). Threats to the species include elimination or dramatic alteration of aquatic habitat due to

dams, agriculture, marsh draining, and water development; the spread of predacious nonnative bullfrogs, crayfish, and fishes; and a fungal disease.

Relict leopard frogs inhabit permanent streams, springs, seeps, and spring-fed wetlands below 2,000 feet in elevation. Their breeding habitat includes pools or slow moving sections of streams, with or without emergent vegetation. Historic distribution of the species includes springs, streams, and wetlands within the Virgin River drainage from the vicinity Hurricane, Utah, to the Overton Arm of Lake Mead in Nevada and along the Muddy (Moapa) River in Nevada. An historic population of relict leopard frogs was found at a privately owned spring adjacent to the Virgin River at Littlefield, Arizona. That population has since been extirpated. No relict leopard frogs are known to exist on BLM lands in the Arizona Strip FO.

Woundfin

(Plagopterus argentissimus)

USFWS Listed Endangered; AGFD Wildlife Species of Concern

The woundfin was listed as endangered in 1970 (35 FR 16047). Populations of this species continue to decline due to habitat modifications including dam construction; dewatering from agriculture, mining, and urbanization; and management of non-native species. The mainstem Virgin River and its 100-year floodplain extending from the confluence of La Verkin Creek, Utah, to Halfway Wash, Nevada, was designated as critical habitat on January 16, 2000 (65 FR 4140). This includes the section of river that runs through the Arizona Strip FO.

Woundfin live in swift parts of silty, warm streams, seemingly avoiding clear waters and are very seldom found in quieter pools (AGFD 2003d). Within the Virgin River, the species seems to be restricted to approximately 50 miles of perennial reaches of the Virgin River in Utah, Arizona, and Nevada, including the Arizona Strip FO portion where they are sporadically found. Population density estimates are not available for this species, though numbers are thought to be low in the Arizona portion of the Virgin River due to absence of suitable habitat features.

Virgin River Chub

(Gila seminuda)

USFWS Listed Endangered; AGFD Wildlife of Concern

The Virgin River chub was listed as endangered on August 24, 1989 (54 FR 35305). Populations of this species continue to decline due to habitat modifications, including dam construction; predation; dewatering from agriculture, mining, and urbanization; and management of non-native species. Critical habitat was designated on January 26, 2000 (65 FR 4140) along the main channel of the Virgin River and its 100-year floodplain along the entire Arizona portion of the river, which includes 39 miles of river that cuts across the Arizona Strip FO.

Virgin River chubs occur only in the mainstem of the Virgin River, and very rarely in the immediate mouths of its major tributaries. Water in the Virgin River is generally warm, turbid,

and saline, with the primary vegetation on its banks being tamarisk. Virgin River chubs are most often associated with deep runs or pool habitats of slow to moderate velocities with sand and instream cover, such as root snags and large boulders (AGFD 2001, 65 FR 4140). Other habitat elements also include side channels, secondary channels, backwaters, and springs.

Population abundance and density estimates are not available for this species. However, the Virgin River Gorge provides suitable habitat that is considered among the best available for this species. Virgin chub are consistently observed within the Gorge.

Virgin Spinedace

(Lepidomeda mollispinis mollispinis)

USFWS Species of Concern with Conservation Agreement; AGFD Wildlife Species of Concern

The USFWS has signed a Conservation Agreement to protect the population of Virgin spinedace. Populations continue to decline due to habitat modifications including dam construction; loss of water from agriculture, mining, and urbanization; and management of non-native species.

This species seems to prefer cool, clear, swift moving water and a bottom substrate of rubble, cobbles, or sand. Its range is limited to tributary streams and forks of the Virgin River. In the river's mainstream, the species seems to be limited to the area above Quail Creek Diversion in southern Utah, as the lower reaches of the river tend to be too warm and turbid. However, it is occasionally found around the mouth of the occupied tributaries. In the Arizona Strip FO, Virgin spinedace occupies three reaches of Beaver Dam Wash. It has also been collected in the Virgin River near Littlefield, although these occurrences have generally been associated with tributary inflows.

Desert Springsnail

(Pyrgulopsis deserta)

BLM Sensitive

The desert springsnail is found in springs along Virgin River in southwestern Utah and northwestern Arizona, including springs located in the Arizona Strip FO. The biology of the species is unknown, although it is probably similar to that of other springsnails. The known populations are threatened by potential water projects such as spring capping and by development, highway construction, and land exchanges in its habitat.

Special Status Plants

Overview

Special status plants include those that are listed under the ESA as threatened or endangered. Also included are candidate species for listing under the ESA and those recognized by the BLM

as sensitive or rare. The NPS has a policy to recognize state species of concern and use those and other criteria to develop a listing of NPS rare plants of concern.

Twenty special status plants have been located within the Planning Area (see Table 3.15), five of which are federally listed as threatened or endangered. Four of these are located on the Arizona Strip FO and one is located in Vermilion. The Arizona Strip FO also contains one plant species that is a candidate for listing. No threatened or endangered plant species have been identified in Parashant. Map 3.21 plots the location of listed plant species in the Planning Area.

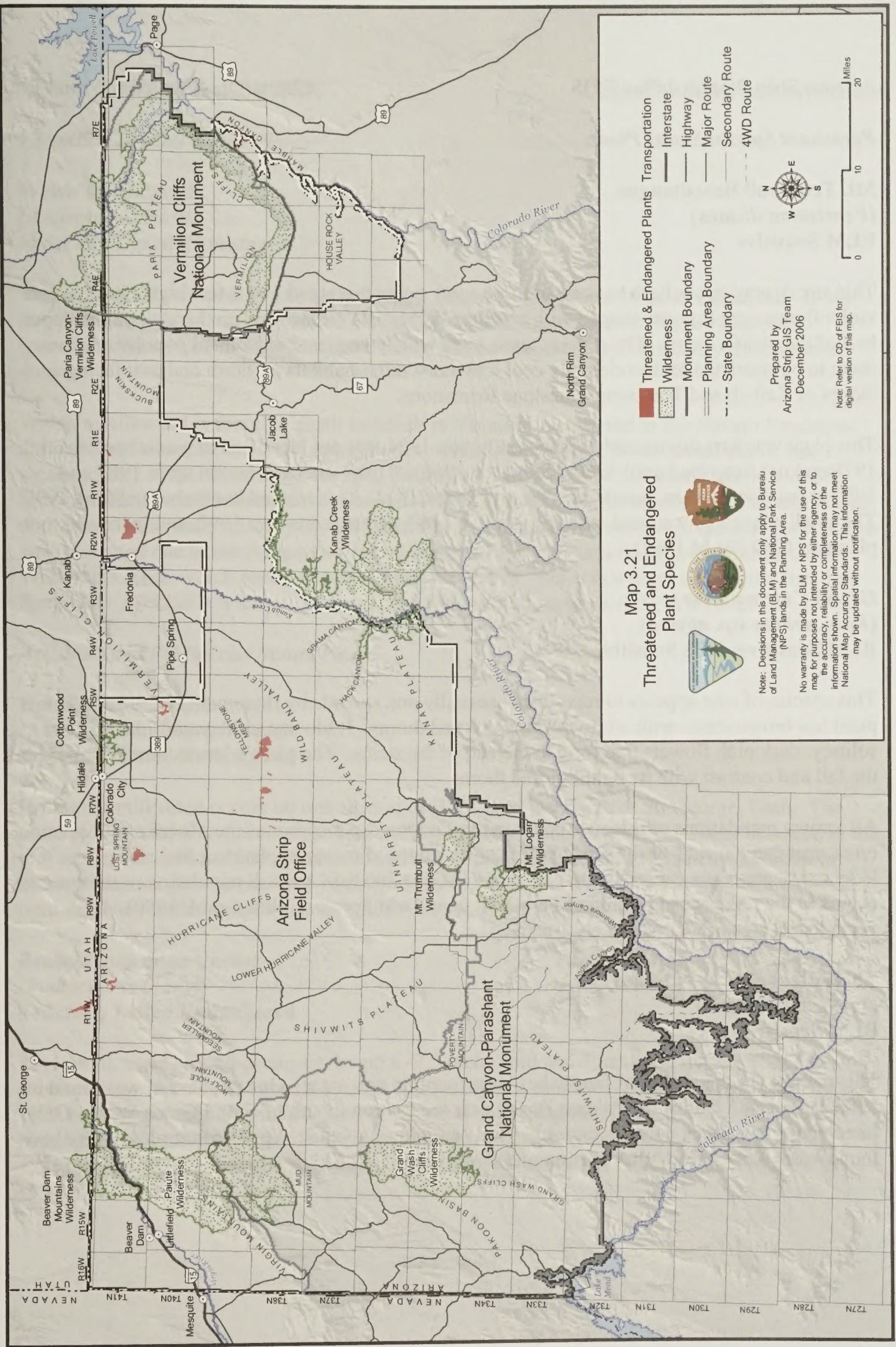
Table 3.15: Special Status Plants

Common Name	Scientific Name	Status		Location
		FED	BLM	
Welsh's Milkweed	<i>Asclepias welshii</i>	LT		Vermilion
Diamond Butte Milkvetch	<i>Astragalus toanus var. scidulus</i>		S	Arizona Strip FO
Cliff Milkvetch	<i>Astragalus cremnophylax var. myriorrhaphis</i>		S	Arizona Strip FO
Jones' Cycladenia	<i>Cycladenia humilis var. jonesii</i>	LT		Arizona Strip FO
Brady Pincushion Cactus	<i>Pediocactus bradyi</i>	LE		Arizona Strip FO
Paradine Plains Cactus	<i>Pediocactus paradinei</i>		S	Arizona Strip FO
Fickeisen Grassland Cactus	<i>Pediocactus peeblesianus var. fickeiseniae</i>	C	S	Arizona Strip FO
Siler Pincushion Cactus	<i>Pediocactus sileri</i>	LT		Arizona Strip FO
Mt. Trumbull Beardtongue	<i>Penstemon distans</i>		S	Parashant
Crevice Penstemon	<i>Penstemon petiolatus</i>		S	Arizona Strip FO
Grand Canyon Rose	<i>Rosa stellata ssp. abyssa</i>		S*	Parashant Arizona Strip FO
Black Rock daisy	<i>Townsendia smithii</i>		S	Arizona Strip FO
Three Hearts	<i>Tricardia watsonii</i>		S	Parashant
Holmgren Milkvetch	<i>Astragalus holmgreniorum</i>	LE		Arizona Strip FO

Federal (FED) Status: LE – Listed Endangered; LT – Listed Threatened; C – Candidate
 BLM Status: S – Sensitive
 * Also an NPS Sensitive Species

Rare plant surveys have been carried out in the Planning Area since the late 1970s when botanists began collecting and building an Arizona Strip herbarium. The first special status plant lists were developed for the Arizona Strip from rare plant surveys conducted for the USFWS in the 1970s and early 1980s. In 1999, 2000, and 2002, rare plants were inventoried in Parashant and surrounding areas. Plant inventories were initiated in Vermilion in 2003.

The 19 special status plants known to exist within the Planning Area are presented below. Sixteen of these species have been found exclusively in Parashant, Vermilion, or Arizona Strip FO. Only three species, the Black Rock daisy (*Townsendia smithii*), Beaver Dam breadroot (*Pediomelum castoreum*), and Paradine Pincushion (*Pediocactus paradinei*) have been found in two locations, specifically, Black Rock daisy and Beaver Dam breadroot on Parashant and Arizona Strip FO and Paradine Pincushion on the Vermilion Cliffs and Arizona Strip FO.



**Map 3.21
Threatened and Endangered
Plant Species**



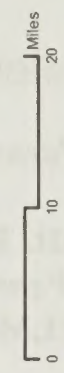
Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

- Threatened & Endangered Plants
- Wilderness
- Monument Boundary
- Planning Area Boundary
- State Boundary
- Interstate
- Highway
- Major Route
- Secondary Route
- 4WD Route



Prepared by
Arizona Strip GIS Team
December 2006



Note: Refer to CD of FES for digital version of this map.

Map 3.21 Threatened and Endangered Plant Species

Parashant Special Status Plants**Mt. Trumbull Beardtongue****(*Penstemon distans*)****BLM Sensitive**

This small, gray-green herb has one or more erect stems that stand 1 to 2 feet high. Its blue and violet flowers are trumpet-shaped with a yellow or whitish "beard" and are located on the upper half of the plant's stems. The species tends to be widely scattered in isolated populations that seem to be restricted to the relatively cool and moist microhabitats on north and east facing slopes of Kaibab and Toroweap limestone formations.

This plant was first discovered in Andrus Canyon 1974, but not identified as a new species until 1978 and not described until 1980 (Holmgren 1980). Trend studies were set up in 1987 and 1989 at two locations in Parashant. A large plot of 49 plants increased in number to 80 by 1997. The smaller count plot started with 21 plants in 1987, decreased to 6 in 1992, and increased to 9 plants in 1997 (BLM 1997).

Grand Canyon Rose**(*Rosa stellata* ssp. *abyssa*)****BLM Sensitive; NPS Sensitive**

This species of rose appears to reproduce asexually and spreads by rhizomes (i.e., roots). The plant has brown stems with white to straw-colored thorns. It blooms in May and June and has solitary, dark pink flowers that form at the end of the stems. The plant's leaves turn bright red in the fall and contrast with its light-colored thorns.

All known populations of this rose occur in the Timpoweap member of the Moenkopi Formation, on or near canyon rims or the tops of cliffs at the edges of mesas or plateaus, and along low ledges at depressions caused by breccia pipes (AGFD 2002b). A small population of the species occurs in the Lake Mead portion of Parashant near Twin Points (Holland et al. 1980). It occupies an area of approximately 1 acre.

Three Hearts**(*Tricardia watsonii*)****BLM Sensitive**

This member of the waterleaf family has been found in two areas. One population was found in 1980 at the south half of the Pakoon Basin, near the canyon mouth of Grand Gulch Wash. Only three plants have been noted in two subsequent monitoring visits. Another four plants have been found in the Lake Mead NRA portion of the Monument (BLM 2001fb).

Vermilion Special Status Plants**Welsh's Milkweed*****(Asclepias welshii)*****Federally Listed Threatened**

This perennial herb spreads primarily through rhizomes and grows 10 to 40 inches tall. It has large, oval leaves and cream-colored flowers with rose-tinged centers. It grows on open, sparsely vegetated, semi-stabilized sand dunes and on the lee slopes of actively drifting sand dunes.

Welsh's Milkweed is found in small numbers in Vermilion, scattered in the Navajo Sandstone derived Aeolian sand dunes of Coyote Buttes. Trend studies have been carried out in this location since 1989. Plant numbers have fluctuated from a high of 566 stems to a low of 68. The most recent studies identified 172 stems (BLM 2002b). Fluctuations seem to be associated with rainfall amounts. In the past, OHV activity was the main threat to this species, but it is now well protected due to the designation and management of the Paria Canyon-Vermilion Cliffs Wilderness Area, which encompasses the Coyote Buttes. Since this plant is federally listed as threatened, the USFWS has created a recovery plan for the species (USFWS 1992b).

Arizona Strip FO Special Status Plants**Holmgren Milkvetch*****(Astragalus holmgreniorum)*****Federally Listed Endangered**

Holmgren milkvetch occurs on one section of BLM land just south of St. George, Utah. The trend plot located on adjacent state land has not had any plants since 1998. None occurred in the plot area from 1998 to 2005. Approximately sixty plants were found on the BLM section in 2004. These all grew to maturity in 2005. Possible threats to plants on this section include off road vehicles, cattle trampling, and right-of-way activity.

Brady Pincushion Cactus***(Pediocactus bradyi)*****Federally Listed Endangered**

This small, nearly round cactus grows up to 2.5 inches tall and 2 inches in diameter. It has straw-yellow flowers and retracts into the soil during dry conditions. The species was listed in 1979 because prospecting, mining, livestock, plant collecting, and OHV use threatened the population. Recovery and habitat management plans were developed in the 1980s (USFWS 1985) and an ACEC plan geared towards conserving the cactus was implemented in 1994 (BLM 1994b).

The BLM administers about 312 acres of known habitat within the Planning Area for this species along the rims of the Colorado River (Marble Canyon area) and its tributaries. The soils from which this species occurs are derived from the Moenkopi Formation and characterized by overlaying limestone chips. Trend studies have been conducted yearly since 1986 and show a stable population with some fluctuations related to rodent depredation and precipitation. An opinion issued by the BLM in 2001, resulting from the evaluation of livestock grazing on the cactus, calls for additional studies (BLM 2001a).

Siler Pincushion Cactus

(Pediocactus sileri)

Federally Listed Threatened

This small, solitary, or occasionally clustered cactus grows to about 5 inches tall and 3 to 4 inches in diameter, although some have been known to grow up to 18 inches tall. Flowers are yellowish with maroon veins that bloom in spring. The species is found exclusively on gypsiferous clay to sandy soils and appears to be strongly related to the Shnabkaib and middle red members of the Moenkopi Formation. These soils are high in soluble salts.

The Siler pincushion cactus was originally listed as endangered in 1979. Prospecting, mining, livestock grazing, plant collecting, and OHV use were identified as possible threats. As a result, recovery and habitat management plans were written and implemented (BLM 1987a, 1992f). It was later determined that the cactus was more abundant and widespread than believed at the time of listing. In addition, trend studies, first undertaken in the 1980s, demonstrated a relatively stable population with some fluctuations caused by precipitation and rodent depredations (BLM 1999a). The species was consequently down-listed in 1993 (USFWS 1993). A petition for de-listing was submitted in 2002.

Jones' Cycladenia

(Cycladenia humilis var. jonesii)

Federally Listed Threatened

This long-lived perennial herb in the Dogbane family grows 4 to 6 inches tall and has pinkish-rose flowers. It spends the winter as underground rhizomes, reappearing in the spring as stems or "ramets" off those roots. The species was listed as threatened in 1986.

While this plant mainly occurs in Utah, some are found in the Planning Area on gypsiferous, saline soils of the Chinle Formation, just west of the Kaibab Indian Reservation in Potter Canyon and an adjacent canyon. In Utah, threats to the species were OHV use and oil and gas activity. The population in the Planning Area seems to be well protected from such threats due to private land and rugged terrain, which limit access. Trend studies have been undertaken at two plots and have shown a stable population with some precipitation-related fluctuations (BLM 1999b). Plant ramet numbers at the two trend plots were relatively stable from 1993 and 1999 with

approximately 300 ramets identified each year. Ramet numbers then varied for the subsequent two years, from 174 in 2000 to 437 in 2001. There is currently no recovery plan for the species.

Fickeisen Plains Cactus

(Pediocactus peeblesianus var. fickeiseniae)

Federal Candidate; BLM Sensitive

This small cactus, averaging 3 inches in height and 1.5 inches in diameter, has cream, yellow, or yellowish-green flowers. It tends to occur in shallow soils derived from exposed layers of Kaibab limestone. After flowering and fruiting, the cactus retracts into the soil making it difficult to locate.

This cactus occurs in very small populations in several locations on the Arizona Strip FO. Trend studies have been ongoing since the middle 1980s and show that the populations are relatively stable, with occasional fluctuations due to precipitation and rodent depredation (BLM 2001d). One exception is a population at North Canyon that was virtually destroyed due to rodent depredation and has taken nearly 10 years to recover back to its initial high count.

Paradine Plains Cactus

(Pediocactus paradinei)

BLM Sensitive

This small cactus, also known as the Kaibab plains cactus, is usually no more than 1.5 inches tall above ground with half of its stem underground. It prefers soils with coarse fragments in conjunction with the Kaibab limestone formation. During the dry season, the plant retracts into the ground and is flush with the soil surface, making it difficult to locate. Its flowers have cream to pale yellow petals with a pink midrib.

A few of these cacti were identified in the Arizona Strip FO in 1987; however, all were destroyed by rodent depredation. No new specimens were identified in the Arizona Strip FO between 1987 and 2001 (BLM 2001b). In 2004, four cacti were found near the 1987 site. A monitoring trip in 2005 found that rodents had eaten all four. The cactus occurs consistently on the Kaibab National Forest, with the USFS, BLM, and USFWS signing a conservation agreement for the species in 1996 (USFS 1996).

Grand Canyon Rose

(Rosa stellata ssp. abyssa)

BLM Sensitive

On the Arizona Strip FO, this plant occurs in four small areas along the Kanab Canyon Rim, in the Timpoweap member of the Moenkopi Formation. The aerial extent of each location ranges from less than half of an acre down to one-tenth of an acre. The total area occupied by the

species is approximately 1 acre. Trend studies have been done on these populations for 10 years, and show that they are very stable, fluctuating only with changes in precipitation (BLM 2001c).

Diamond Butte Milkvetch
(Astragalus toanus var scidulus)
BLM Sensitive

This extremely rare vetch grows on small outwash fans by small mesas on alluvium overlaying the Shnabkaib member of the Moenkopi Formation. Less than 12 plants were first discovered in 1999 at two Arizona Strip FO sites (AGFD 1999). These sites have been subsequently monitored, but no plants have been located.

Black Rock Daisy
(Townsendia smithii)
BLM Sensitive

This daisy grows on soils derived from Tertiary basalt flows and is quite scattered in some areas and dense in others. The main Arizona Strip FO population occurs along the top of Black Rock Mountain in open sagebrush areas, ranging from Maple Reservoir to Trails End Reservoir (roughly 5 to 6 miles). A smaller population occurs on Wolfhole Mountain covering a total area of approximately 19 acres. The populations have been located consistently during annual surveys and appear to be stable and unthreatened (BLM 2001e). A 0.1-acre sampling plot was established at this site.

Crevice Penstemon
(Penstemon petiolatus)
BLM Sensitive

This penstemon has a showy red flower and grows on the steep rocky faces and boulders along the Kaibab Limestone Formation of the Beaver Dam and Virgin Mountains. Although no trend plots have been established for this plant, its known locations are checked every year and it is generally found. Its steep rocky habitats seem to provide adequate protection from human and animal disturbance.

WILD BURROS

Overview

The Wild and Free-Roaming Horse and Burro Act became law on December 15, 1971, authorizing the BLM to manage wild horses and burros on public lands. The Act provided that wild and free-roaming horses and burros be protected from unauthorized capture, branding, harassment, or death. They are to be considered an integral part of the natural system on BLM lands based upon their natural distribution.

There are no wild horses within or adjacent to the Planning Area. The original Tassi-Gold Butte Herd Management Area Plan (HMAP) was completed in 1982 and allowed a herd of approximately 90-100 burros to roam freely in 101,816 acres that included public lands managed by the BLM and areas within the Lake Mead NRA, encompassing the Lower Grand Wash Cliffs, Grand Wash Bay, and Tassi Springs area. The Arizona Strip RMP Mojave Desert Amendment (BLM 1998) modified the decision to implement the HMAP and set the herd management level at zero. The Lake Mead NRA Burro Management Plan (1995) established those portions within the NRA as zero use. Consequently, the herd management level for the entire 101,816 acres has been set at zero. This decision was aimed at protecting the Mojave population of the desert tortoise. The Mojave Desert Amendment called for the removal of burros from the Tassi portion of the herd management area, as did the NPS Burro Management Plan. At the current time, it is estimated that a population of around 30 animals still exists and will need to be removed to meet the Animal Management Level.

Parashant Wild Burros

The 101,816 acres of the Tassi-Gold Butte Management Area within the Planning Area are located entirely in Parashant.

CULTURAL RESOURCES

Overview

Archaeological and Historic

The cultural resources of the Planning Area represent a variety of site types, cultures, and time periods. Sites designated for public use in this plan represent all the cultural groups and most of the periods of occupation. These include the Honeymoon and Temple historic trails, Sawmill Site, the Uinkaret and West Bench pueblos, Paiute Cave, Nampaweap, the Little Black Mountain and Notch rock art sites, and Witch's Pool.

Antelope Cave on the Uinkaret Plateau was listed on the NRHP in 1975. Waring Ranch on the NPS portion of Parashant is also listed on the NRHP. Two historic trails and two archaeological districts were nominated and determined eligible for listing on the NRHP in 1976, the Paria Plateau Archaeological District (70,000 acres and 416 sites), Mt. Trumbull Archaeological District (18,250 acres and 72 sites), and the Temple and Honeymoon trails. Many others are potentially eligible for nomination to the NRHP.

The Old Spanish Trail was designated by Congress as a National Historic Trail in 2002. See the section in Special Designations, National Historic Trail in this chapter for more information.

Less than 5 percent of the Planning Area has been inventoried, resulting in 3,500 cultural resource properties recorded thus far. Only a few of these sites have been scientifically investigated, including excavations at Pine Nut (Westfall 1987), Cliff's Edge (Jenkins 1981), Antelope Cave (Janetski and Hall 1983), Rock Canyon Shelter (Janetski 1986), Landfill Site (Nielson 1998), sites along Navajo-McCullough transmission line (Moffitt et al. 1978), and the Corn Grower (Frank 1990-95) and Reservoir sites (Nielson 1998) in Colorado City. Because most of the cultural resources have not been inventoried or evaluated and few have been scientifically investigated, the knowledge of past occupations is scant and inferred from other, better-studied regions. Most of the sites are in good condition because of the relative isolation of most of the Planning Area and are valuable for scientific and public interpretive and educational uses. (See Appendix 2.J for cultural use categories). However, some site types such as caves and rock shelters have been extensively damaged by vandalism in the past.

The primary threats to cultural resources in the Planning Area are vandalism, collection of surface artifacts, OHV use, and erosion. Intentional vandalism occurring in the Planning area includes sites damaged or destroyed by illegal excavations, collection of surface artifacts, illegal excavations, destruction by metal detectors, and destruction or removal of rock art. Unintentional vandalism to cultural resources is also occurring and includes driving off-road across sites; touching, chalking, or marking rock art sites; creating non-motorized trails across fragile features on sites; removal of features or objects that are part of sites; and camping on sites. Use of Arizona Site Stewards and increased law enforcement personnel helps to inform visitors and to catch and prosecute intentional vandals.

Various cultural groups occupied the Planning Area over a range of time periods, from at least 12,000 years ago to the present day. The major occupational periods are provided below. The fewest sites found come from the early and late periods; with the highest numbers of sites coming from the Puebloan period (c.f., Altschul & Fairley 1989; Belshaw and Peplow 1980; McClellan et al. 1980).

Prehistory (10,000 BC to 1850 AD)

PaleoIndian (10,000 – 8,000 BC): The base of a PaleoIndian Clovis point found at a campsite in the Virgin River Gorge is the only documented PaleoIndian site in the Planning Area (Miller 1978). There have also been several unsubstantiated reports of other Clovis points found in the Planning Area.

Archaic (7,000 – 600 BC): Archaic projectile points associated with open artifact scatters are the primary evidence for Archaic hunters and gatherers in the Planning Area, although there may be some cave and shelter sites with Archaic remains still to be investigated (Janetski 1986). Most of the better-documented sites from this time period are from adjacent areas in the Grand Canyon NP and Glen Canyon NRA. Here split twig figurines and Archaic-style projectile points attest to substantial Archaic occupation. Based on artifacts found, riparian and associated rich ecological zones in and near the Vermilion Cliffs, along the Virgin and Paria rivers, and in

Kanab Creek appear to have been densely occupied during both the Archaic and Ancestral Puebloan periods, representing the transition from hunting and gathering to farming societies.

Ancestral Puebloan (600 BC – 1300 AD): The Ancestral Puebloan people occupied the southern part of the Colorado Plateau. The westernmost branch of this group and the least studied and understood is the Virgin Anasazi, who were present in the Planning Area. The early half of the Ancestral Puebloan period is known as the Basketmaker period while the later half is known as the Puebloan period.

- *Basketmaker (600 BC – AD 700):* Corn cultivation and settled village life began to occur in the Planning Area by about 600 BC. Pithouses and storage cists occur in small clusters in both the upland areas and lower river valleys and creek side settings. Later in the period, the Basketmaker group produced brown pottery containing olivine crystal particles, a distinct pottery type for the Arizona Strip.
- *Puebloan (700-1300 AD):* Most visible of all the archaeological sites in the Planning Area, the Puebloan occupation represents the later Ancestral Puebloan village farmers. Sites include C-shaped villages, granaries, reservoirs, rock art, trails, artifact scatters, and field houses. Kayenta Anasazi people migrated to the eastern portion of the Planning Area around 1050 AD, bringing with them distinct pottery and architecture, including rectangular villages. By 1300 AD, archaeological evidence indicates that the Ancestral Puebloan people left the Planning Area, some migrating to the south and east. Some of the living descendants of the Ancestral Puebloan people can be found on the Hopi Mesas in northeastern Arizona. Others may have migrated elsewhere or may be found in Southern Paiute groups in and near the Planning Area. Archaeological evidence does not dispute the fact that some Ancestral Puebloan may have intermarried with Southern Paiute or other local groups during 1150 – 1300 AD.

American Indian Groups (1150 – 1850 AD): The American Indian groups in the Planning Area when EuroAmerican settlers and explorers arrived in the late 1700s and 1800s include the Southern Paiutes, Havasupai, Hualapai, and Navajo. Linguistic evidence suggests that the Southern Paiutes (Numic speakers) migrated into the Planning Area around 1150 AD from southern California and Nevada. Some archaeologists believe the Southern Paiute may be descended from the Ancestral Puebloan peoples. By the time of contact with Spanish explorers in 1776 and later Mormon colonists in 1850, Southern Paiute groups occupied the entire Planning Area.

Navajo and Apache Indian groups (Athabaskan speakers) arrived from western Canada into New Mexico around 1400 AD. They eventually migrated westward, arriving in their present day locations in north central Arizona and near the Planning Area by the time of the Long Walk in 1864. At that time, many Navajos took refuge in the isolated, hidden canyons of northern Arizona to avoid being taken to New Mexico.

Some Havasupai and Hualapai sites have been found on the extreme southern end of the Planning Area. These “Pai” groups have occupied the Grand Canyon region for thousands of years.

Resources of Traditional Importance to American Indians

American Indian groups either currently or historically living in or adjacent to the Planning Area have cultural ties to the area. American Indians consider traditional cultural properties, power places, sacred sites, and many natural resources to be inextricably linked to parts of an ecosystem (Stoffle et al. 2004). Strong place attachments can occur whether or not direct lineage is established (Stoffle et al. 2004). If a site is within a group’s indigenous territory, the members of that group often assume it is part of their heritage.

Cultural landscapes derive from the notion that people’s historical memory is anchored on the land, that their relationship and knowledge of the land is shared among them today, and that it is transferred over generations. All human groups develop and come to share cultural landscapes. The concept implies that many cultural groups or ethnic groups can hold different, even conflicting, images of the same land. The imagery of the land that is held by a people is seen as being a result of their past experiences with the land and other cultural perspectives of the people themselves (Stoffle et al. 2004; Austin and Dean 2004).

Individuals from the Hopi, Southern Paiute, Hualapai, Havasupai, and Navajo tribes continue visiting sites, gathering, and using resources in the Planning Area. Some also have ties to natural features, ancient villages, campsites, rock art, and burial sites that they consider sacred. Table 3.16 lists American Indian groups with cultural and historical ties to the Planning Area.

Present Designation	Current Reservation	Interest in the Planning Area
Hopi Tribe	Hopi Reservation, Arizona	Entire Planning Area
Hualapai Tribe	Hualapai Reservation, Arizona	Southern, Parashant
Havasupai Tribe	Havasupai Reservation, Arizona	Southern, Parashant
Navajo Tribe	Navajo Reservation, Arizona	Vermilion, Arizona Strip FO
Southern Paiutes		
Kaibab Paiute Tribe	Kaibab Indian Reservation, Arizona	Entire Planning Area
Shivwits Band of Paiutes	Shivwits Reservation, Utah	Entire Planning Area
Cedar Band of Paiutes	Paiute Reservation, Utah	Entire Planning Area
Indian Peaks Band of Paiutes	Paiute Reservation, Utah	Entire Planning Area
San Juan Band of Paiutes	Paiute Reservation, Arizona	Entire Planning Area
Moapa	Moapa Reservation, Nevada	Entire Planning Area
Las Vegas Band of Paiutes	Las Vegas Paiute Reservation, Nevada	Entire Planning Area

Hopi

The Planning Area was once home to several Hopi clans, including the Spider, Tobacco, Rabbit, Snake, Sand, Lizard and Sand Strip clans. Other clans have migrated through the Planning Area and their descendants now live in villages on the Hopi Reservation in northeastern Arizona. The clans migrated through and lived in the Planning Area for hundreds, if not thousands, of years. Although the Hopi left the Planning Area by AD 1300, traditional use and sacred areas remain.

Southern Paiute

Various Southern Paiute bands, some no longer existing, occupied the Planning Area. Thirteen bands of the Southern Paiutes were originally identified in the post contact period (Kelly 1934) with an additional band added later. These bands exist in contemporary times as eight federally recognized and one unrecognized tribe. Linguistic evidence suggests they first arrived in the Planning Area around AD 1150 and had contact with the Dominguez-Escalante Expedition in 1776. Mormon settlers who arrived in 1852 also had contact with the Southern Paiutes. The descendants of the 14 bands are now scattered throughout central and southern Utah, northern Arizona, southern Nevada, and in southern California. Members of all Southern Paiute bands are related and trace their ancestry to family members who once lived on the Arizona Strip. Today, the Kaibab Paiute tribe is the only Southern Paiute band with reservation lands remaining on the Arizona Strip, adjacent to the Planning Area on three sides. Members of the Southern Paiute bands still gather firewood, pinyon nuts, and plants in the Planning Area.

The Planning Area contains sites considered sacred by Southern Paiutes, including places where water, plants for medicinal and other purposes, animals, and minerals are found.

Hualapai and Havasupai

The southern portions of the Planning Area were also home to the Hualapai and Havasupai, although both groups generally claim the Colorado River and areas south as their homeland. Both groups retain some indigenous lands in the Grand Canyon at the Hualapai and Havasupai Reservations south of the Planning Area.

Navajo

Navajos occasionally use the Planning Area but live primarily on the eastern side of the Colorado River. Individuals from some of the closest Navajo Chapters to the Planning Area (Bodaway/Gap, LeChee, Coppermine, Cameron, Tuba City, and Coalmine Canyon) still cross the Colorado River to run businesses such as selling items to tourists, and to gather firewood, herbal plants, and pinyon nuts. Some Navajos consider certain places in the Planning Area sacred.

Treaty Rights

The only treaty for tribes on or near the Planning Area is with the Navajo Nation. Signed in 1868, it created the Navajo reservation east of the Planning Area and gave tribal members rights to hunt on “lands adjoining the said reservation formerly called theirs.”

The Bands of the Southern Paiute Tribe reservations were all created by Executive Order between 1873 and 1917. Supreme Court cases have affirmed that, “all Executive Order tribes shall have and be treated as Treaty tribes.” These Executive Orders established the Kaibab Paiute, Shivwits, Moapa, and Las Vegas reservations.

European and Euro-American (1776 AD – Present Day)

Spanish/Mexican Exploration and Trading (1776 – 1848): The Dominguez-Escalante Expedition out of Santa Fe, New Mexico in 1776 is the earliest recorded European entry into the Arizona Strip. Spanish Friars Dominguez and Escalante, attempting to find a route from Santa Fe, New Mexico to Monterrey, California, abandoned the effort in central Utah and traveled south entering the Planning Area on their way back to Santa Fe. The expedition crossed through the Planning Area and documented an encounter with Southern Paiutes at Coyote Spring, now within Vermilion (Warner and Chavez 1976). The Old Spanish Trail also crosses the Planning Area and was used extensively by Mexican and American traders between 1829 and 1848. (See the section on National Historic Trails in this chapter.)

Colonization, Ranching, and Mining (1854 – Present Day): Settlement of the Santa Clara Mission by Jacob Hamblin in 1854 initiated Mormon colonization and exploration in southern Utah and northern Arizona. William Maxwell established the first ranch on the Arizona Strip at Short Creek in 1862. The following year, the communities of Pipe Spring and Millersburg (now Beaver Dam) were both settled. Most of the early Mormon settlements were in what is now Utah. The Planning Area lands were primarily used for grazing cattle and later for grazing sheep.

The Marble Canyon area was settled by John D. Lee when he established the ferry crossing of the Colorado River (Lees Ferry) and homesteaded at Lonely Dell and Rachel’s (Jacobs) Pool in the early 1870s. With the establishment of the Honeymoon Trail (Old Arizona Road) from Kanab and the crossing at Lees Ferry, Mormon colonists were able to travel across the Planning Area en route to other Mormon colonies in central and southern Arizona and back to the Temple in St. George.

Construction of the first Mormon temple west of the Mississippi began in St. George, Utah in 1871. Ponderosa pine logs for temple construction were cut at Mt. Trumbull and hauled along the Temple Trail wagon road some 68 miles north to St. George.

Passage of the Homestead Dry Farming Act in 1909 and the Stock Raising Homestead Act in 1916 encouraged additional farming and ranching in the Planning Area at various locales including Cactus Flats, later known as Mt. Trumbull, which was settled by Abraham Bundy and his son Roy in 1916.

Mining for copper, silver, and gold occurred in the Planning Area from the 1870s to the 1940s primarily in the Grand Gulch area but also at Copper Mountain and in Hack's Canyon. World War II kindled the interest to mine uranium in the area during the 1950s and in the 1980s, resulting in several uranium mines being opened and operated on Kanab Plateau. Overseas competition lowered uranium prices shortly afterward and the mines were closed. Gypsum is presently mined south of St. George in the Arizona Strip FO.

Parashant Cultural Resources

The "long and rich human history spanning more than 11,000 years," as specified in the Proclamation (See Appendix 1.A), is represented by the sites, landscapes and objects in the Monument. All site types, cultures, and time periods discussed in the previous pages are represented in Parashant, with the exception of the Kayenta Anasazi. The only scientific investigations in the Monument have been limited excavations which occurred at the Uinkaret Pueblo in 2002 and other sites in the vicinity in 2004 (Buck 2002, 2005) and some research into potsherds imbedded in lava at the Little Spring area in 2003 (Ort 2003). There are currently seven public use sites in Parashant: Nampaweap, Sawmill Site, Uinkaret Pueblo, Witch's Pool, Temple Trail, Tassi Ranch, and Waring Ranch. Temple trail begins at the Sawmill Site and heads north toward St. George, Utah and onto Arizona Strip FO lands. Waring Ranch is listed on the NRHP, and the Mt. Trumbull Archaeological District and Temple Trail have both been determined eligible for listing on the NRHP. See Table 3.16 for the American Indian groups with cultural ties to Parashant.

Vermilion Cultural Resources

The "long and rich human history" of Vermilion is covered in more detail in the proclamation (See Appendix 1.B), making these Monument objects a primary reason the Monument was created. All site types, cultures, and time periods discussed above are represented in Vermilion. No scientific investigations of cultural resources have thus far occurred in the Monument. There are currently three public use sites in Vermilion: West Bench Pueblo, Honeymoon Trail, and Dominguez/Escalante Trail. The Honeymoon Trail/Old Arizona Road Public Use Site occurs in the southern portion of the Monument paralleling Highway 89A and up House Rock Valley. The Honeymoon Trail/Old Arizona Road and the Paria Plateau Archaeological District have both been determined as eligible for listing on the NRHP. See Table 3.16 for the American Indian groups with cultural ties to Vermilion.

Arizona Strip FO Cultural Resources

All site types, cultures, and time periods discussed above are represented in the Arizona Strip FO, as well as all the excavations mentioned. There are currently five public use sites in the Arizona Strip FO: Honeymoon, Temple, and Dominguez/Escalante Trails; Paiute Cave; and Little Black Mountain Rock Art Site. Antelope Cave is listed on the NRHP, and Temple and Honeymoon historic trails are determined eligible for listing on the NRHP. See Table 3.16 for the American Indian groups with cultural ties to the Arizona Strip FO.

Additional intentional vandalism to cultural resources occurred on the Kanab Plateau and in adjacent remote canyons during the uranium boom of the early 1980s. Workers associated with uranium exploration and extraction, on-or-off duty, used helicopters and motorized vehicles to access previously inaccessible or hard to access sites looking for artifacts. In the process, archaeological sites were damaged and invaluable information lost about the previous occupation and use of this little studied region.

VISUAL RESOURCES

Overview

The visual resource inventory (VRI) created for the 1992 Arizona Strip RMP was recently revised and updated. The new VRI streamlined the revision by using procedures specified in the BLM's VRI Manual H-8410-1, previous inventory information, in-house resource knowledge, aerial photography, topographic information, and seen-area analysis.

Scenic Quality and VRI Classes

Scenic values in the Planning Area are varied and plentiful. They are important for their intrinsic value; in how visitors experience them in "foreground" and "middleground" settings, or "seen areas," as they pass by. VRI classes are based on combinations of three determinations: scenic quality, visual sensitivity, and distance zones, with the most important to visitors probably being scenic quality. Scenic quality is described as the visual appeal of an area. The rating is based on seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. Scenery is classified as A, B, or C, with A being the highest scenic quality. Table 3.17 shows the results of the updated inventory of scenic quality in the Planning Area.

Table 3.17: Scenic Quality Ratings and Visual Resource Inventory (VRI) Classes in the Planning Area

Scenic Quality	Acres*	%	VRI Classes	Acres*	%
A (High)	770,596	23	I	265,738	8
B (Med.)	1,087,978	33	II	827,815	25
C (Low)	1,464,477	44	III	948,611	29
--	--	--	IV	1,280,904	38

Source: Arizona Strip FO files

*While these include federal and non-federal lands, management requirements do not apply to non-federal lands.

Classification of scenic quality, visual sensitivity, and distance zones was accomplished during the inventory revision. Then various combinations of these characteristics were used to generate the VRI classes. Classes represent the relative value of the visual resources and are Classes I and II, representing the highest values, Class III, a moderate value, and Class IV, the least value. These inventory classes are informational in nature and provide the basis for considering visual values in the RMP process. They do not establish management direction and are not used as a basis for constraining or limiting surface disturbing activities. The assignment of visual resource management (VRM) classes that will establish management direction is done as part of the formulation of plan alternatives. Both VRI classes and VRM classes use the following class definitions below:

- Class I:** The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention. (This class typically applies to lands that have a special designation already in place for the protection of scenic values. Examples include areas that have been designated as wilderness, wild and scenic rivers, or outstanding natural areas.)
- Class II:** The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. (Areas that have a high scenic quality, and where people are highly sensitive to changes in the scenery, are typically rate as Class II.)
- Class III:** The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. (Scenic quality of lands with this classification may be good to very good. The overall class rating is not typically high enough to meet the objectives defined as Class II.)

- **Class IV:** The objective of this class is to provide for management activities that require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements. (In comparison to other lands in the region, these areas may be mundane, with similar-looking vegetation and little change in landform. People are generally less sensitive to changes here.)

The VRI classes determined for the Planning Area are presented in Table 3.17, along with Scenic Quality ratings. VRI classes are depicted in Map 3.22.

Night Sky

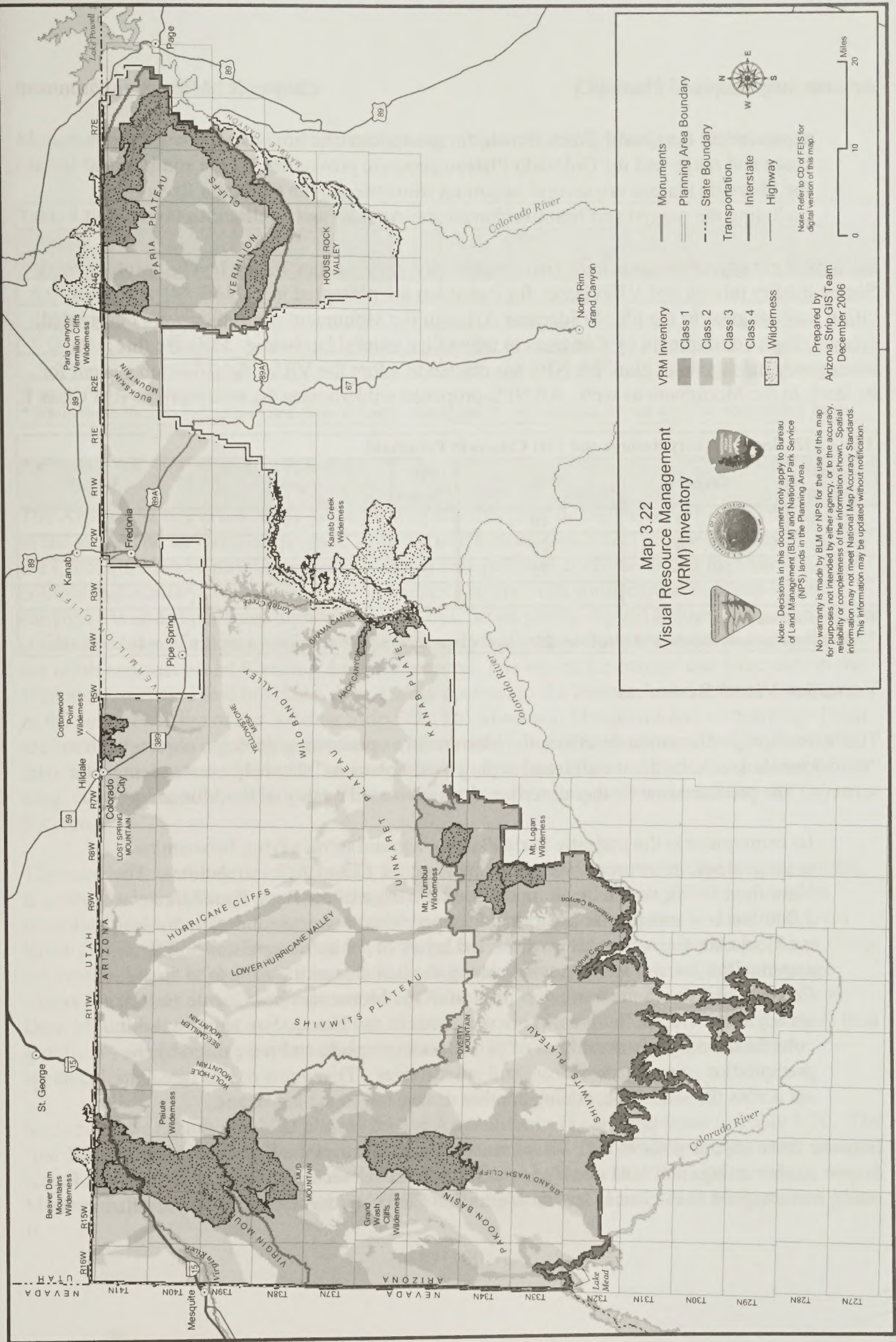
The nighttime visual resources (e.g., “dark night skies”) of Northern Arizona and Southern Utah are nationally significant and represent one of the best opportunities for the American public to experience such a sight. Dark night skies are an important characteristic of remote settings and contribute to the sense of discovery many users experience in the Planning Area.

Light that is emitted upward and laterally from outdoor artificial lights will scatter through the atmosphere and cause a loss in night sky visibility. Clear dark night skies free of light emissions are increasingly rare. In many “sheltered” portions of the Planning Area, night skies are only slightly affected by indirect sources of human-produced light from distant cities, such as Las Vegas, Nevada and St. George, Utah. From higher elevations, areas of low relief, or as distance from communities is decreased, the affects of indirect sources of human-produced light become more noticeable. From many of the northern portions of the Planning Area, such as statutory wilderness or community interface lands, a direct line-of-sight to lit communities and/or major highways is possible. The increasing demand for and placement of communication towers, some hundreds of feet high and lighted, has begun to erode the dark night skies of more remote and distant portions of the Arizona Strip. Light emissions, either direct line-of-site or diffuse, may also be impacting nocturnal animals.

Parashant Visual Resources

The Parashant proclamation describes the Monument as a “remote area of open, undeveloped spaces and engaging scenery.” The geologic objects below are credited in the proclamation as a major contributor to the high scenic quality:

Deep canyons, mountains, and lonely buttes testify to the power of geological forces and provide colorful vistas. Grand Wash Cliffs juxtapose the colorful, lava-capped Precambrian and Paleozoic strata of the Grand Canyon against the highly faulted terrain, recent lakebeds, and desert volcanic peaks of the down-dropped Grand Wash trough. These cliffs, which consist of lower and upper cliffs



Map 3.22
Visual Resource Management
(VRM) Inventory

Map 3.22 Visual Resource Management (VRM) Inventory

Note: Refer to CD of FEIS for digital version of this map.

Prepared by
Arizona Strip GIS Team
December 2006

Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.
No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

separated by the Grand Gulch Bench, form a spectacular boundary between the basin and range and the Colorado Plateau geologic provinces. At the south end of the Shivwits Plateau are several important tributaries to the Colorado River, including the rugged and beautiful Parashant, Andrus, and Whitmore canyons.

Because these objects possess high visual sensitivity, they warrant a high level of protection. Scenic quality ratings and VRI classes for Parashant are presented in Table 3.18. A Class I rating was assigned to the four Wilderness Areas in the Monument when they were designated, recognizing a commitment by Congress to maintain a natural landscape. Because this is an interagency management plan, the NPS has chosen to adopt the VRM classification system for its lands in the Monument as well. All NPS-proposed wildernesses are considered VRM Class I.

Table 3.18: Scenic Quality Ratings and VRI Classes in Parashant

Scenic Quality	Acres*	%	VRI Classes	Acres*	%
A (High)	418,274	40	I	95,149	9
B (Med.)	289,798	28	II	500,313	48
C (Low)	340,245	32	III	261,332	25
--			IV	191,522	18

Source: Arizona Strip FO files
 *While these include federal and non-federal lands, management requirements do not apply to non-federal lands.

Vermilion Visual Resources

The Vermilion proclamation describes the Monument as possessing geologic objects such as “sandstone slickrock, brilliant cliffs, and rolling sandy plateaus” that help create spectacular scenery. The proclamation further describes the high scenic quality of the Monument:

Its centerpiece is the majestic Paria Plateau, a grand terrace lying between two great geologic structures, the East Kaibab and the Echo Cliffs monoclines. The Vermilion Cliffs, which lie along the southern edge of the Paria Plateau, rise 3,000 feet in a spectacular escarpment capped with sandstone underlain by multicolored, actively eroding, dissected layers of shale and sandstone. The stunning Paria River Canyon winds along the east side of the plateau to the Colorado River. In the northwest portion of the Monument lies Coyote Buttes, a geologically spectacular area where crossbeds of the Navajo Sandstone exhibit colorful banding in surreal hues of yellow, orange, pink, and red caused by the precipitation of manganese, iron, and other oxides. Thin veins or fins of calcite cut across the sandstone, adding another dimension to the landscape.

Because these objects possess high visual sensitivity, they warrant a high level of protection. Scenic quality ratings and VRI classes for Vermilion are presented in Table 3.19. A Class I rating was assigned to the Paria Canyon-Vermilion Cliffs Wilderness Area, now located in the

Monument, when it was designated, recognizing a commitment by Congress to maintain a natural landscape.

Table 3.19: Scenic Quality Ratings and VRI Classes in Vermilion

Scenic Quality	Acres*	%	VRI Classes	Acres*	%
A (High)	110,353	38	I	89,825	31
B (Med.)	159,760	54	II	118,639	40
C (Low)	23,575	8	III	81,422	28
--	--	--	IV	3,801	1

Source: Arizona Strip FO files
 *While these include federal and non-federal lands, management requirements do not apply to non-federal lands.

Arizona Strip FO Visual Resources

The Arizona Strip FO has many geologic wonders that provide the basis for high scenic quality in the area. The majority of the area, from the Black Rock Gulch east to Marble Canyon, lies in the Colorado Plateau physiographic province. This province is characterized by a variety of colored sedimentary formations found in multiple layers, with some carved by steep-walled canyons. Wooded plateaus, high-walled canyons, broad plains, rugged fields of lava, dark cinder cones, and major fault scarps characterize this wide landscape. Distant vistas of scenery far to the north and east of the Planning Area are present. The varied formations and structures in the Uinkaret Volcanic Field provide a dark, stately contrast to the more colorful sedimentary strata in the central portion of the Arizona Strip FO. The Moccasin Mountains and Cottonwood Point are part of the long, colorful continuation of the Vermilion Cliffs structure. The canyon depths, intricacies, and colors of Kanab Creek and Hack Canyon rival those of Paria Canyon and the long, curving line of the Hurricane Cliffs takes the eye on a long journey to and beyond the horizon.

The remainder of the Arizona Strip FO, from the Black Rock Gulch west to the Nevada border, is in the Basin and Range province, characterized by huge “bajadas,” abrupt and up-thrown mountain peaks, extreme folding and faulting, and deeply incised canyons, such as the Virgin River Gorge. Signed on September 28, 1972 by the Secretary of Interior, the Virgin River Gorge Recreation Lands Withdrawal recognized the high quality scenery in this magnificent gorge. Vistas from Black Rock Mountain are some of the best in the region. The Virgin and Beaver Dam Mountains provide an important and sensitive scenic resource for travelers in the more than 8 million vehicles each year that navigate Interstate 15 as it meanders between these two spectacular ranges.

Scenic quality ratings and VRI classes for the Arizona Strip FO are presented in Table 3.20. The four Wilderness Areas received the highest visual rating (Class I). In addition, the areas around Kanab Creek, Grama Canyon, Snake Gulch, Hack Canyon, Hurricane Cliffs, Moccasin Mountains, Virgin Ridge, Lost Spring Mountain and portions of House Rock Valley rate a Class II.

Table 3.20: Scenic Quality Ratings and VRI Classes in the Arizona Strip FO

Scenic Quality	Acres*	%	VRI Classes	Acres*	%
A (High)	241,969	12	I	80,764	4
B (Med.)	638,420	32	II	208,863	10
C (Low)	1,100,658	56	III	605,856	31
--	--	--	IV	1,085,581	55

Source: Arizona Strip FO files

*While these include federal and non-federal lands, management requirements do not apply to non-federal lands.

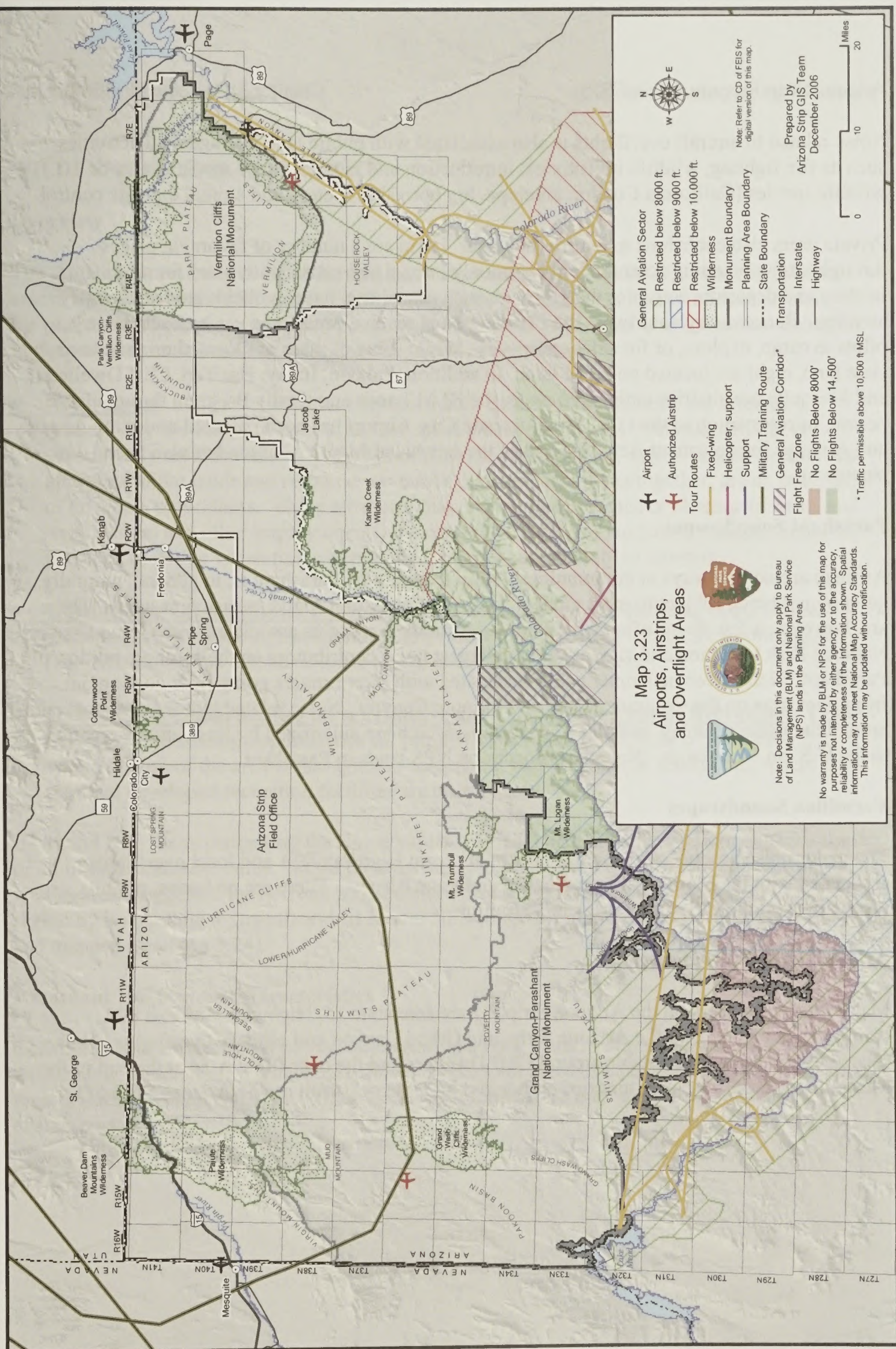
The growing demand for new mineral material sites, mineral exploration and extraction, and off-road travel pose important threats to visual resources in at-risk areas, such as the Uinkaret Volcanic Field. Other areas, such as the northern slopes, faults, and canyons of Black Rock, Wolfhole, and Seegmiller Mountains, and East Mesa provide a major scenic backdrop for the very fast-growing St. George, Utah metropolitan area just to the north. However, massive deposits of gypsum are present, available, and economically feasible to extract. Current operations at the gypsum mine near the Black Rock Interchange of I-15, south of St. George, clearly demonstrate the effects to visual resources and foreshadow what is possible in similar areas.

SOUNDSCAPES

Overview

In general, places away from highways and communities are quiet places on the Arizona Strip. Most of the Planning Area is naturally quiet and not subject to modern sources of unnatural sound intrusion or noise. The major noise producers are the traffic along Interstate 15 and highways 389 and 89A, communities north, northeast, and northwest of the Planning Area, military overflights, and aircraft flights associated with visitors to the Grand Canyon National Park. Occasional noise also occurs on roads in the Planning Area from vehicular travel. Noise intrusions are most prevalent during high use seasons such as during the summer or hunting seasons. Occasionally a permitted competitive event such as the Rhino Rally may cause noise in specific areas for a short time period.

Aircraft overflights create unnatural sound intrusion year-round. These may be associated with military overflights in the flight-training corridor over the northern portion of the Planning Area or by visitors over the southern portion of the Planning Area viewing the Grand Canyon (see Map 3.23 for overflight areas). Most of the commercial air tours originate out of Las Vegas. Commercial and private flights out of airports at St. George, Kanab, Page, Colorado City, Marble Canyon, and Mesquite may also occur during the year in other portions of the Planning Area. An advisory ceiling of 2,000 feet has been established by the Federal Aviation Administration (FAA) over the wilderness areas.



Map 3.23
Airports, Airstrips,
and Overflight Areas



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

General Aviation Sector

- Restricted below 8000 ft.
- Restricted below 9000 ft.
- Restricted below 10,000 ft.
- Wilderness
- Monument Boundary
- Planning Area Boundary
- State Boundary
- Transportation
- Interstate
- Highway

Airport

- Airport
- Authorized Airstrip

Tour Routes

- Fixed-wing
- Helicopter, support
- Support
- Military Training Route
- General Aviation Corridor*
- Flight Free Zone
- No Flights Below 8000'
- No Flights Below 14,500'

Other Symbols

- Traffic permissible above 10,500 ft MSL

Prepared by
 Arizona Strip GIS Team
 December 2006

Note: Refer to CD of FEIS for digital version of this map.

Miles
 0 10 20

Map 3.23 Airports, Airstrips, and Overflight Areas

Noise related to aircraft overflights is also associated with public land management activities such as fire fighting, wildlife inventories, introduction and monitoring of special status or wildlife species (California Condor, antelope, big horn sheep, etc.), and animal damage control.

Private users also contribute to overflight noise. There are a number of favorable places throughout the Planning Area that are commonly known and consistently used for aircraft landing and departure activities that, through such casual use, have evolved into backcountry airstrips. Backcountry airstrips in the Planning Area receive occasional use by backcountry pilots to camp, explore, or for safety purposes. While some of these are located on private or state land, eight are located on BLM land. In addition, Pakoon, Imlay, Bar Ten, Cliff Dwellers, and Mesquite are airstrips authorized under the BLM Lands and Realty Program through lease, permit, or reservation to the U.S. The Colorado City Airport has been patented under the Airport and Airways Improvement Act. The end of the runway at Marble Canyon has also been patented.

Parashant Soundscapes

As there are no highways or communities within the vicinity, Parashant is, in general, naturally quiet by not being subject to most modern sources of unnatural sound intrusion or noise. There are, however, a few forms of unnatural noise. Aircraft overflights associated with Grand Canyon National Park visitation and viewing are the largest noise contributors on the southern portion of Parashant. Noise from helicopter use is associated with river runners going in or coming out from river trips on the Colorado River at Whitmore Canyon. Noise related to aircraft also occurs around the Pakoon, Imlay, and Bar Ten airstrips, which are authorized by lease and reservation to the U.S. on BLM lands. No airstrips occur on NPS lands in Parashant.

Vermilion Soundscapes

The major noise producers on the Monument are from Highway 89A and local overflights associated with the Marble Canyon Airstrip and Page Airport. There are no leases, permits, or reservations to the U.S. for airstrips in Vermilion.

Arizona Strip FO Soundscapes

Major noise producers on the Arizona Strip FO are Interstate 15, Highways 389 and 89A, communities on and near the Arizona Strip, and Grand Canyon and military overflights. Noise related to aircraft is also notable around Cliff Dwellers and the over flight zone at the end of the Mesquite runway, which are airstrips authorized by lease or permit on the Arizona Strip FO.

WILDERNESS CHARACTERISTICS

Overview

The guidelines presented in BLM Instruction Memorandum (IM) 2003-275 were followed to assess both BLM and NPS lands in the Planning Area for wilderness characteristics. Details of the process used are presented in Appendix 3.D. The three wilderness characteristics identified in the process are naturalness, solitude, and primitive recreation:

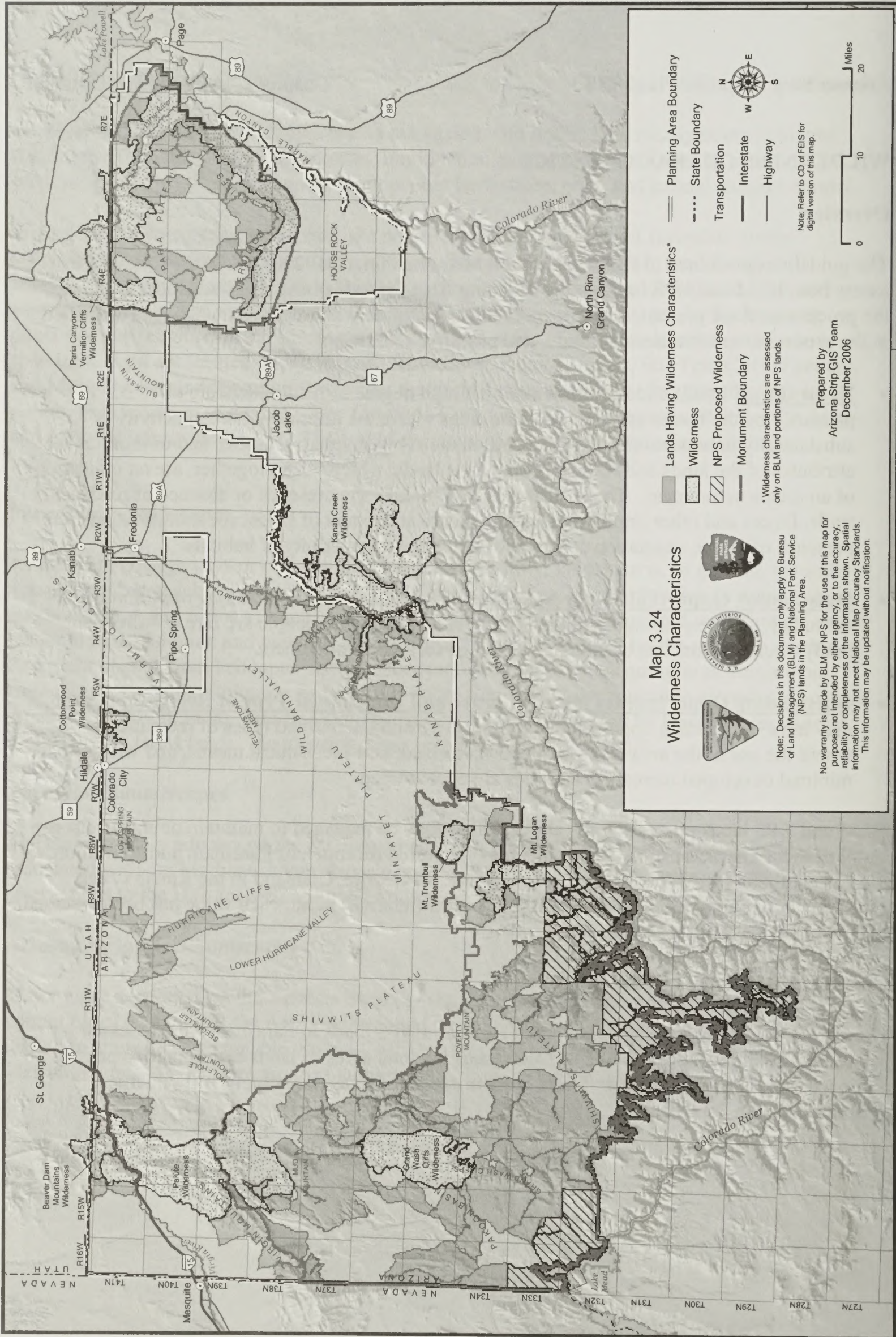
- **Naturalness:** Lands and resources exhibit a high degree of naturalness, are affected primarily by the forces of nature, and are areas where the imprint of human activity is substantially unnoticeable. The BLM has authority to inventory, assess, and/or monitor the attributes of the lands and resources on public lands, which, taken together, are an indication of an area's naturalness. These attributes may include the presence or absence of roads and trails, fences and other improvements, the nature and extent of landscape modifications, the presence of native vegetation communities, and the connectivity of habitats.
- **Outstanding Opportunities for Solitude:** Visitors may have outstanding opportunities for solitude [...] when the sights, sounds, and evidence of other people are rare or infrequent [and] where visitors can be isolated, alone, or secluded from others.
- **Outstanding Opportunities for a Primitive and Unconfined Type of Recreation:** Visitors may have outstanding opportunities for primitive and unconfined types of recreation [...] where the use of the area is through non-motorized, non-mechanical means, and where no or minimal developed recreation facilities are encountered.

BLM and NPS lands possessing the above values may be managed to maintain or enhance some or all of those characteristics. Based on areas suggested for much of Parashant and Vermilion, as well as areas suggested for Arizona Strip south of St. George, Utah and in the Kanab Creek region by both public (external) and BLM and NPS (internal) input, each value has been assessed and mapped (see Map 3.24).

Parashant Wilderness Characteristics

Consistent with current BLM policy, both BLM and NPS lands in Parashant were assessed for wilderness characteristics. Table 3.21 illustrates the total acres of lands determined to possess all three wilderness characteristics. These lands are referred to as the "supply" of wilderness characteristics in Parashant.

Map 3.24 Wilderness Characteristics



Map 3.24 Wilderness Characteristics



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

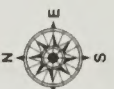
No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

* Wilderness characteristics are assessed only on BLM and portions of NPS lands.

Prepared by
Arizona Strip GIS Team
December 2006

Legend

- Planning Area Boundary
- State Boundary
- Transportation
 - Interstate
 - Highway



Note: Refer to CD of FEIS for digital version of this map.

BLM	NPS	Total Acres
434,473 acres	6,427 acres	440,899 acres

Vermilion Wilderness Characteristics

BLM lands in Vermilion were assessed for naturalness, outstanding opportunities for solitude, and outstanding opportunities for primitive and unconfined recreation. Field assessment determined that Vermilion possessed a supply of 97,380 acres of lands with all three wilderness characteristics.

Arizona Strip FO Wilderness Characteristics

Consistent with current policy, certain BLM lands in the Arizona Strip FO were assessed for naturalness, outstanding opportunities for solitude, and outstanding opportunities for primitive and unconfined recreation. Field assessment determined that the Arizona Strip possessed a supply of 158,033 acres of lands with all three wilderness characteristics.

RESOURCE USES

VEGETATION PRODUCTS

Overview

Desert Products

Historically, there has been a demand for vegetation products from the Mojave Desert portion of the Planning Area, such as cacti, yuccas, and desert wildflowers. Many people desire desert plants, both live and dead, for use as ornamental material. Yuccas have been harvested for their fibers and, along with other desert plants, for use in the manufacture of herbal medicines. State law restricts collecting these plants in Arizona. In the early 1990s, the BLM restricted authorizations to collect desert plants as salvage only (i.e., where the plants would be destroyed due to project development). However, collection of cacti and yuccas, both authorized and unauthorized, has occurred frequently throughout the Planning Area.

Woodland Products

BLM lands in the Planning Area do not support large, sustainable commercial quantities of woodland resources. Products that are utilized by the public include small sawlogs, fuelwood, posts/poles, Christmas trees, pine “nuts,” woodchips, and some decorative material. Wood products have been sold on BLM lands through small commercial, personal, and free use permits, salvage permits, and timber sales.

Ponderosa pine forests in the Planning Area produce lumber, poles, chips, and other miscellaneous byproducts. However, due to the limited distribution and small acreage of ponderosa pines, there is insufficient material to support sustainable timber harvesting.

Seed Collection

Collection of native seed for personal and commercial use is common throughout the Planning Area. The demand for native seed for both ornamental uses and restoration projects in the West has increased collection efforts. A wide variety of seeds, including grass, forb, and shrub are collected by beating, pulling, and shaking plants. Seed collection is an opportunistic undertaking because seed production is not dependable due to variations in precipitation, and seeds are available to be collected for only the short period before they leave the plant and scatter. The BLM has routinely issued seed collection permits during the spring. These permits restrict the activity to hand collection (no mechanical collection) and limit the amount of seed that can be taken from any one area. The BLM has also imposed restrictions that prevent seed collection from wilderness areas, ACECs, critical habitat for listed species, and areas rehabilitating or recovering from drought or fire. The BLM issues an average of 10 to 15 permits each year. During extreme drought conditions, seed collection within the Planning Area is restricted until precipitation levels increase.

Parashant Vegetation Products

Collection or utilization of desert products, native seeds, vegetation, or woodland products by the public or for commercial purposes is not permitted on NPS lands within Parashant, as stated in 36 Code of Federal Regulations (CFR) Part 2.1. Seed collection and plant salvage by NPS for restoration projects is allowed under NPS policies.

Desert Products

There has been little interest in desert vegetation products from within Parashant. The Pakoon Basin, which contains the Mojave Desert portion of the Monument, is remote and distant from population centers. Live vegetation harvest has been prohibited in this area since the 1990s, except for the salvage of plants from areas to be disturbed by construction activities.

Woodland Products

The Parashant proclamation provides for the sale of woodland products only in conjunction with a science-based ecological restoration effort, such as timber sales following tree-thinning projects. Commercial use of woodland products is not a primary focus of any activity within the Monument.

Some pinyon-juniper woodlands within the Monument have the potential to be part of a science-based restoration project that uses harvest as a tool. For example, in order to reduce hazardous

fuels and restore grasslands that have been encroached upon by pinyon-juniper as a result of fire suppression and past-management activities, the BLM might consider the limited harvest of wood products such as fuel wood, posts, or poles to reduce woody biomass.

The USFS managed the lands around Mt. Trumbull and Mt. Logan from the early 1900s until 1973. Harvesting occurred in the area from the 1870s through the 1960s. Much of the harvesting focused on removing the largest trees. The approach used by harvesters altered the stand structure and is primarily responsible for the current lack of many large trees. The large trees that remain today are frequently difficult to access or exhibit some characteristic that would make them less desirable for timber harvesting. The Mt. Trumbull Ecosystem Restoration Project is a large-scale ponderosa pine restoration project within the Monument that is returning the ecosystem to a healthy and sustainable state. The BLM prescribes the type and amount of tree harvesting allowed in the area to achieve restoration goals.

Vermilion Vegetation Products

There is little demand for vegetation products from Vermilion. Before designation as a Monument, there was occasional fuelwood harvesting of pinyon-juniper and pine nut collection from the Paria Plateau. There has been no vegetation product harvest since 1984 within the Paria Canyon-Vermilion Cliffs Wilderness.

Arizona Strip FO Vegetation Products

Desert Products

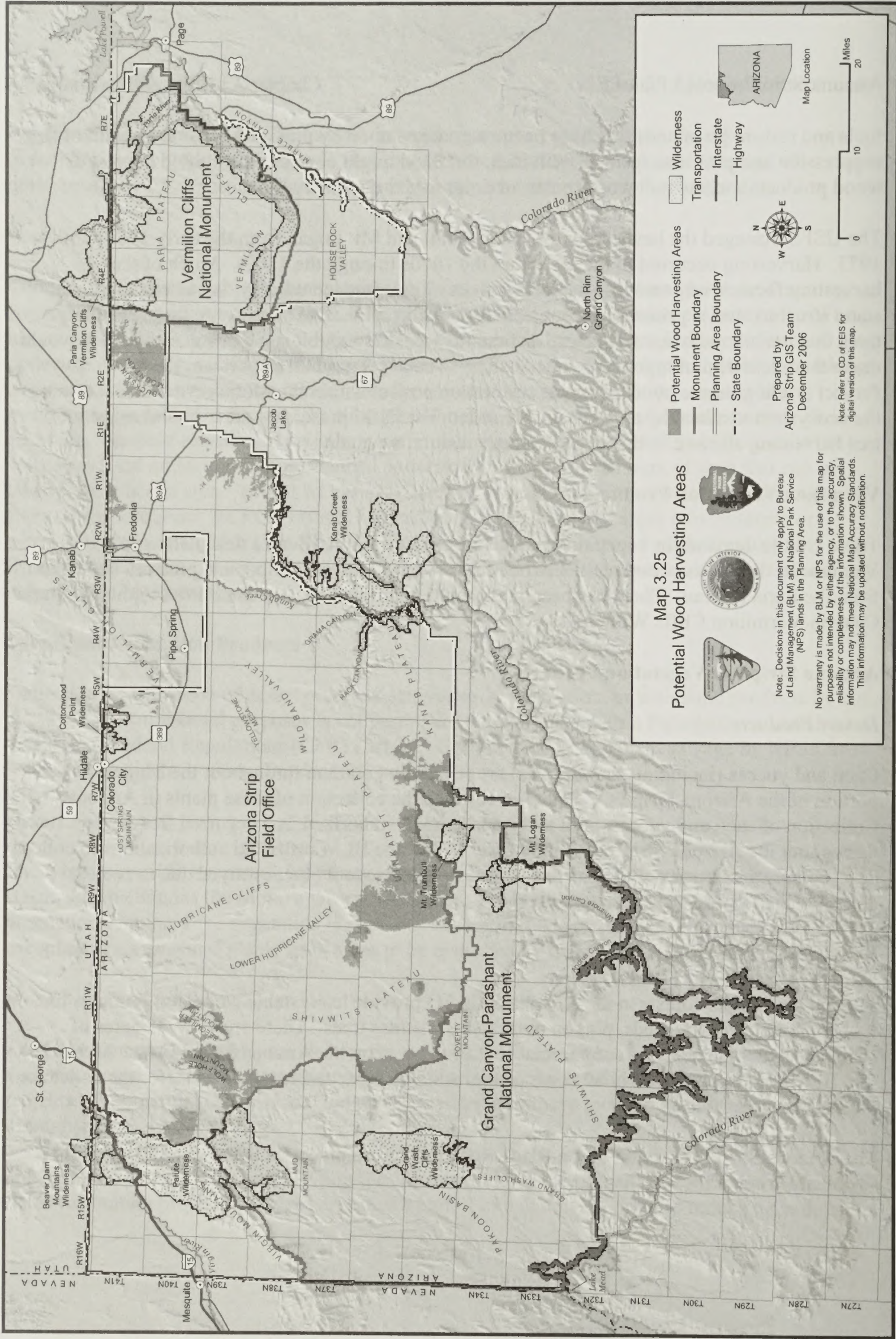
Cacti and yuccas (including Joshua trees) are relatively common throughout the Mojave Desert portion of the Arizona Strip FO. State law restricts the collection of these plants in Arizona. Collection of cacti and yuccas, both authorized and unauthorized, has occurred frequently throughout the Arizona Strip FO. In the early 1990s, the BLM restricted authorizations to collect desert plants to salvage only from areas where the plants would be destroyed due to project development.

Woodland Products

The pinyon-juniper forests in the Arizona Strip FO provide harvestable woodland products for fuelwood, fence posts, seeds, pinyon nuts, and Christmas trees. There are 171,937 acres of designated personal use and commercial fuelwood areas on the Arizona Strip FO (see Map 3.25). The BLM sells approximately 80 cords of fuelwood per year and issues permits for the collection of 200 Christmas trees.

The Arizona Strip FO section of the Black Rock ponderosa pine area is too small to support a sustainable timber harvest.

Map 3.25 Potential Wood Harvesting Areas



Map 3.25

Potential Wood Harvesting Areas



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for digital version of this map.

LANDS AND REALTY

Overview

The Lands and Realty Program objectives are to (1) manage public lands to support goals and objectives of other resource programs; (2) respond to public demand for land use authorizations; and (3) acquire administrative and public access where necessary. Land tenure actions are completed in accordance with statewide guidance and must achieve the goals, standards, and objectives outlined in the land use plan.

Several methods of public land management are considered in the planning process, including land tenure adjustments (disposals, acquisitions, withdrawals) and land use authorizations (rights-of-way, permits, and leases). Section 102(a) (1) of the Federal Land Policy and Management Act (FLPMA) of 1976 requires that BLM lands be retained in federal ownership unless the BLM determines through the land use planning process that disposal of a particular parcel will serve the national interest (43 U.S. Code (USC) 1701).

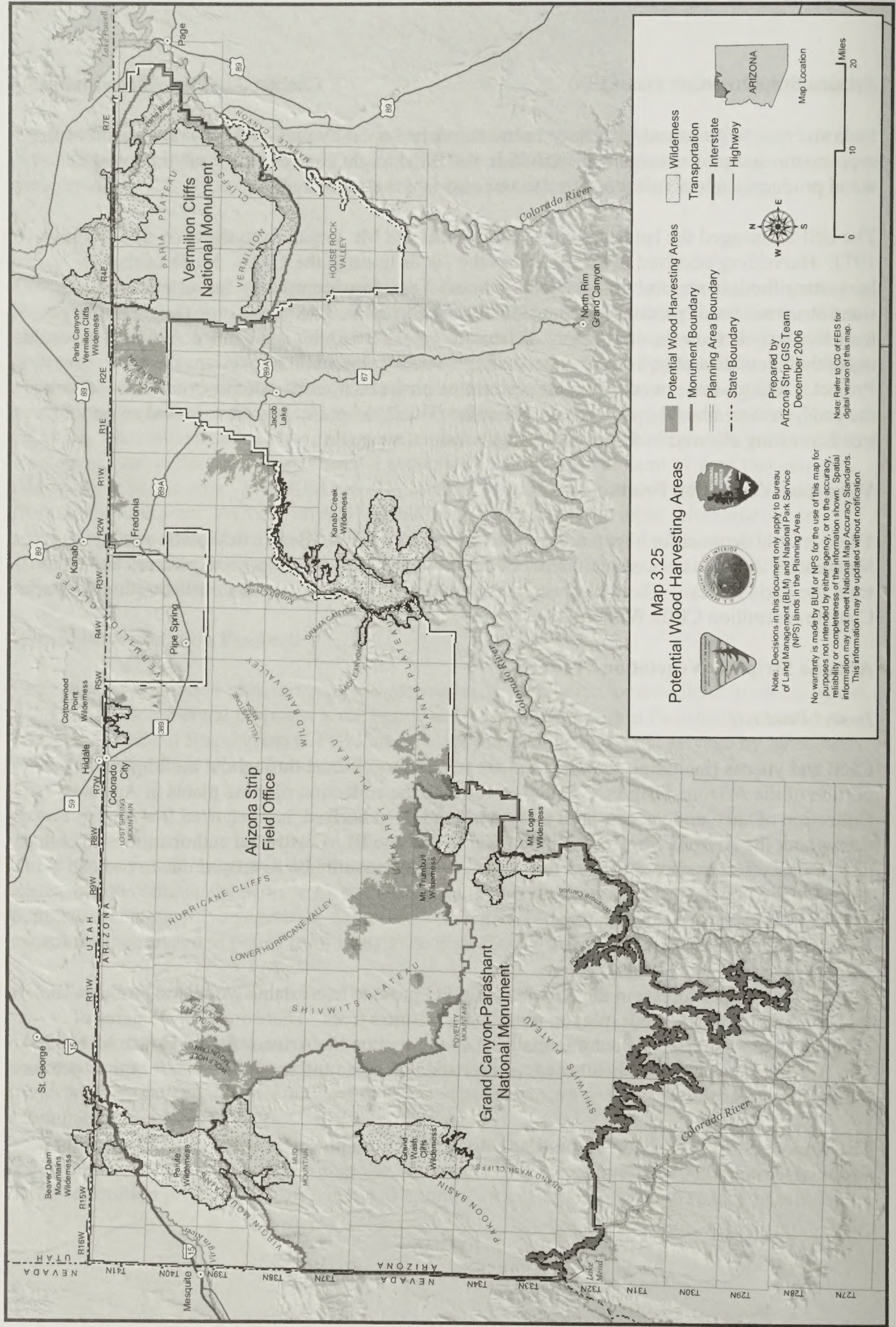
Land Acquisition

Section 205(b) of FLPMA (43 USC 1715), as paraphrased, requires that acquisitions of land, or interests in land, be consistent with the BLM mission and applicable agency land use plans. Non-federal land, interests in land, water rights, and easements for access, conservation, scenic, or other purposes would be considered for acquisition when they are within congressionally or administratively designated areas or contain important resources (i.e., National Landscape Conservation System (NLCS) units, ACECs, DWMA, critical habitat, lands supporting listed species, riparian/wetland areas, etc.). Acquisition, including direct purchase, conservation easement, donation, or exchange would only be considered when there is a willing seller and the goals and objectives of the land use plan would be furthered. Surface or mineral estate would not be acquired if the other remaining estate were not in federal ownership. It is the BLM's policy to acquire access only where needs are identified through land use planning as being essential for the management of BLM lands and resources.

Land Disposal

Public lands have potential for disposal when they are isolated and/or difficult to manage. Disposal actions are usually in response to public request or application that results in a title transfer, wherein the lands leave the public domain. Public lands classified, withdrawn, reserved, or otherwise designated as not available or subject to sale are unavailable for disposal. An amendment to the land use plan would be required to dispose of lands not identified for disposal in the current land use plan. All disposal actions are coordinated with adjoining landowners, local governments, and current land users of record.

Map 3.25 Potential Wood Harvesting Areas



Map 3.25 Potential Wood Harvesting Areas



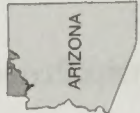
Prepared by
 Arizona Strip GIS Team
 December 2006

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

- Wilderness
- Potential Wood Harvesting Areas
- Monument Boundary
- Planning Area Boundary
- State Boundary
- Interstate
- Highway



Map Location



Note: Refer to CD of FEIS for digital version of this map.

LANDS AND REALTY

Overview

The Lands and Realty Program objectives are to (1) manage public lands to support goals and objectives of other resource programs; (2) respond to public demand for land use authorizations; and (3) acquire administrative and public access where necessary. Land tenure actions are completed in accordance with statewide guidance and must achieve the goals, standards, and objectives outlined in the land use plan.

Several methods of public land management are considered in the planning process, including land tenure adjustments (disposals, acquisitions, withdrawals) and land use authorizations (rights-of-way, permits, and leases). Section 102(a) (1) of the Federal Land Policy and Management Act (FLPMA) of 1976 requires that BLM lands be retained in federal ownership unless the BLM determines through the land use planning process that disposal of a particular parcel will serve the national interest (43 U.S. Code (USC) 1701).

Land Acquisition

Section 205(b) of FLPMA (43 USC 1715), as paraphrased, requires that acquisitions of land, or interests in land, be consistent with the BLM mission and applicable agency land use plans. Non-federal land, interests in land, water rights, and easements for access, conservation, scenic, or other purposes would be considered for acquisition when they are within congressionally or administratively designated areas or contain important resources (i.e., National Landscape Conservation System (NLCS) units, ACECs, DWMA, critical habitat, lands supporting listed species, riparian/wetland areas, etc.). Acquisition, including direct purchase, conservation easement, donation, or exchange would only be considered when there is a willing seller and the goals and objectives of the land use plan would be furthered. Surface or mineral estate would not be acquired if the other remaining estate were not in federal ownership. It is the BLM's policy to acquire access only where needs are identified through land use planning as being essential for the management of BLM lands and resources.

Land Disposal

Public lands have potential for disposal when they are isolated and/or difficult to manage. Disposal actions are usually in response to public request or application that results in a title transfer, wherein the lands leave the public domain. Public lands classified, withdrawn, reserved, or otherwise designated as not available or subject to sale are unavailable for disposal. An amendment to the land use plan would be required to dispose of lands not identified for disposal in the current land use plan. All disposal actions are coordinated with adjoining landowners, local governments, and current land users of record.

There are two distinct sets of criteria in FLPMA for evaluating whether disposal will serve the national interest. One set is for disposal by sale and the other is for disposal by exchange. To dispose of land by public sale, three criteria must be applied to identify public lands as suitable for disposal (Section 203(a) of FLPMA). The criteria are: a) the tract of public land is difficult and uneconomical to manage as part of the public lands and is not suitable for management by another federal department or agency; b) the land is no longer required for a specific purpose; or c) disposal will serve important public objectives. The BLM's current policy and regulations in 43 CFR 2710.0-6(c)(1-5) require the use of competitive sale procedures unless the authorized officer determines the public interest would best be served by modified competitive bidding or direct sale. In no case would land be sold for less than the appraised fair market value. Under Section 209(b) of FLPMA, mineral interests owned by the U.S. may be conveyed where the surface is or will be in non-federal ownership, if there are no known minerals values, and if they are interfering with or precluding appropriate non-mineral development in accordance with 43 CFR 2720.

The Federal Land Transaction Facilitation Act of 2000 (FLTFA) amended FLPMA to allow retention by the BLM of receipts received from sale of land or interests in land that were identified for disposal through land use planning prior to the passage of FLTFA under Section 203 of FLPMA or conveyance of mineral interest under Section 209(b) of FLPMA. Revenue from the sales would be used to purchase inholdings within that state in which the funds were generated in accordance with Statewide Interagency Implementation Agreements. The Arizona Statewide Interagency Implementation Agreement was approved May 9, 2006.

The criteria for determining which public lands or interests in land are available for disposal by exchange are covered in Section 206 (a) of FLPMA. These criteria require the BLM to consider the public interest by giving full consideration to better federal land management and the needs of state and local people, including the need of lands for the economy, community expansion, recreation areas, food, fiber, minerals, and fish and wildlife. The criteria also require that the public objectives to be served must be greater on the lands to be acquired than on the lands to be conveyed/sold.

The State of Arizona currently does not have authority to exchange land. Arizona's 1910 State Enabling Act and the 1912 Arizona Constitution required that State Trust lands could be disposed of only by public auction to the highest and best bidder. In 1936, Congress amended the Enabling Act to authorize the State to make land exchanges under such regulations as the State Legislature may provide. However, the State failed to amend the State Constitution to make the land disposal requirements in the Constitution consistent with the congressional exchange amendment of the Enabling Act. The Legislature did pass exchange statutes and for more than 50 years, the State made land exchanges with the Federal Government and private landowners to consolidate and improve the location of Trust land holdings. The exchange program was halted in 1988 after the State Supreme Court ruled that the State had failed to amend its 1912 State Constitution to authorize the exchange of Trust lands as an alternative to sale at public auction. Subsequent propositions to amend the State Constitution have not passed.

Exchanges with the State of Arizona to consolidate land ownership within the Monuments and other areas identified for retention could be pursued when the State is provided the authority. No lands are identified as suitable for disposal under the agricultural land laws including Desert-Land Entries, Indian Allotments, or Carey Act Grants. The Recreation and Public Purposes (R&PP) Act, as amended, authorizes the lease and/or conveyance of BLM lands for recreational and/or public purposes to state and local governments and to qualified nonprofit organizations under specified conditions at less than the appraised fair market value. The Airport and Airway Improvement Act of September 3, 1982, provides for the conveyance of BLM lands to public agencies for use as airports and airways.

Withdrawals and Classifications

Withdrawals are used to preserve sensitive environmental values, protect major federal investments in facilities, support national security, and provide for public health and safety. They segregate a portion of public lands suspending certain operations of the public land laws, such as desert land entries or mining claims, and they remain in effect until specifically revoked, modified, or otherwise expire. Land withdrawals can also be used to transfer jurisdiction to other Federal land managing agencies.

Additionally, whether a specific tract of public land is found suitable for disposal or retention is determined through a classification decision rendered pursuant to Section 7 of the Taylor Grazing Act (see 43 USC 315f) and in accordance with the applicable regulations in 43 CFR 2400. Sales and leases under the R&PP Act require classification (see 43 CFR 2740 & 2912).

Under sections 202(d) and 204(l) of FLPMA, any classification or withdrawal on BLM land is subject to periodic review to determine whether it is serving its intended purpose. The review of withdrawals and classifications on any lands under BLM jurisdiction may result in a determination that withdrawals or classifications are no longer serving their intended purposes and should be revoked/terminated, either all or in part. This review also considers if new withdrawals or classifications for other purposes are needed and should be put into place before revoking/terminating old withdrawals on the same areas.

It is federal policy to restrict all withdrawals to the minimum time required to serve the public interest, maximize the use of withdrawal lands consistent with their primary purpose, and eliminate all withdrawals that are no longer needed.

Land Use Authorizations

The BLM grants to any qualified individual, business entity, or governmental entity land use authorizations which include rights-of-way and temporary use permits issued under the authority of Title V of FLPMA and Section 28 of the Mineral Leasing Act of 1920, and permits, leases, and easements issued under the authority of Section 302 of FLPMA. Land use authorizations are issued in accordance with the regulations applicable to the type of authorization requested (43

CFR 2800, 2880, and 2920). Prior to issuance of any land use authorization, completion of site-specific National Environmental Policy Act (NEPA) documentation along with applicable environmental clearances is required. In most cases, it is the responsibility of the applicant to retain a qualified and properly permitted consultant and provide this documentation to the BLM. Additionally, the applicant is required to pay application fees, monitoring fees, and fair market value rental, as well as to comply with all other applicable regulations pertaining to the type of authorization requested.

There are a number of favorable places throughout the planning area that are commonly known and consistently used for aircraft landing and departure activities that, through such casual use, have evolved into backcountry airstrips (the definition contained in Section 345 of Public Law 106-914, the Interior and Related Agencies Appropriation Act of 2001). In accordance with that law, any closure of an aircraft landing strip contemplated in the future would require full public notice and consultation with local and State government officials and the FAA.

Permits, Leases, and Easements

Permits are usually short-term authorizations, not to exceed three years, allowing few or no permanent facilities. Permits have been used for temporary storage sites, apiary (bees) sites, commercial filming/photography, engineering feasibility studies, and other miscellaneous short-term activities with little or no resource disturbance. Occasionally, permits have been used to authorize trespass prior to resolution. Leases are long-term authorizations that usually require a significant economic investment in the land. In the past, leases have included agricultural development and existing water pipelines in wilderness. An easement can be used to assure that uses of public lands are compatible with non-federal uses occurring on adjacent or nearby land. An example would be a leaseholder of a ski area could request a scenic easement on the adjacent BLM managed land to protect the scenic quality of the entire ski basin.

Rights-of-Way

A right-of-way grant is generally a long-term authorization issued for necessary transportation or other systems or facilities that are in the public interest and require rights-of-way over, upon, under, or through BLM lands for specified purposes. These purposes may include roads, pipelines, utility lines, communication sites, energy development sites, and temporary use of additional public lands for purposes necessary to the project (Section 501, 43 USC 1761 and 30 USC 185). Public land law directs the BLM to minimize adverse environmental impacts by avoiding the proliferation of separate rights-of-way and using rights-of-way in common, to the greatest practical extent (Section 503, 43 USC 1763).

The use of designated right-of-way corridors and right-of-way use areas is encouraged to the greatest extent possible, but, depending on site-specific needs, actual locations may vary. Such variances would be considered consistent with the RMP, provided such locations and uses are

consistent with the selection criteria, goals, and objectives for right-of-way corridors and right-of-way use areas.

Some right-of-way uses have grandfather rights from law that predates FLPMA, such as roads under Revised Statute (RS) 2477 and reservoirs, canals, and ditches under RS 2339 and RS 2340, where no notification of or documentation from the BLM was required. These valid existing rights may exist within the Arizona Strip FO, Parashant, and Vermilion.

Renewable Energy Resources

The President's National Energy Policy encourages the development of renewable energy resources as part of an overall strategy to develop a diverse portfolio of domestic energy supplies for our future. It also requires that the BLM increase and diversify our national sources of both traditional and alternative energy resources, improve our energy transportation network, and ensure sound environmental management. It is BLM policy to consider the need for the production and distribution of energy and to encourage the development of renewable energy sources in acceptable areas (BLM, Washington Office Instruction Memorandum No. 2002-196).

As part of the BLM's proposed National Energy Policy Implementation Plan, the BLM and the National Renewable Energy Laboratory (NREL) have established a partnership to assess renewable energy resources on BLM lands with the objective of identifying planning units with the highest potential for private-sector development of renewable resources. The BLM/NREL team used GIS data to analyze and assess the potential for concentrating solar power (sun as a heat source), photovoltaics (solar cells convert sunlight directly into electricity), wind (turbines generate electricity), and biomass (energy from organic matter) resources and technologies on public lands. The recently published report, *Assessing the Potential for Renewable Energy on Public Lands* (BLM 2003), identified 25 BLM field offices with the highest potential for renewable energy sources. The Arizona Strip FO was ranked 18th in concentrating solar power sites, 15th in photovoltaic sites, and 23rd in biomass sites. The Record of Decision for the Programmatic EIS on Wind Energy Development on BLM-Administered Lands in the Western U.S. was signed on December 15, 2005, which identified policies and best management practices that would be applicable to all wind energy development projects on BLM-administered public lands.

Parashant Lands and Realty

Land Acquisition

The Parashant proclamation directs the BLM, "To consider land or easement acquisitions and land exchanges that will enhance the values of the National Monument ... Lands and interests in lands within the proposed Monument not owned by the U.S. shall be reserved as a part of the Monument upon acquisition of title thereto by the U.S." The BLM would consider acquisition of non-federal inholdings, water rights, and/or interests in land within Parashant by direct purchase,

donation, or exchange which are determined to enhance the Monument objectives and values (Section 205 (b) of FLPMA (43 USC 1715)). Lands acquired within the Monument in an exchange shall contain higher resource values than the public lands being exchanged out of federal ownership. In addition, legal access to landlocked public lands may be acquired where determined necessary to further the goals and objectives of the Monument.

Prior to Monument designation, many land exchanges were completed which acquired state land within wilderness, “checker-boarded” railroad grant land, and private land and water rights, some within wilderness. Since Monument designation, the BLM has acquired approximately 640 acres of land and water rights in the Mt. Trumbull area and at Pakoon Springs by purchase and donation. There are approximately 82,230 acres of non-federal mineral estate within Parashant (on both BLM and NPS lands) where the surface estate is in federal ownership (e.g., a split estate). This split estate is generally a result of early land exchanges where the BLM acquired only the surface estate. Approximately 49,807 acres of mineral estate in Parashant is owned by the Santa Fe Pacific Railroad Company.

Land Disposal

As stated in the Parashant proclamation, “All federal lands and interests in lands within the boundaries of Parashant are hereby appropriated and withdrawn from all forms of entry, location, selection, sale, or leasing or other disposition under the public land laws, including but not limited to withdrawal from location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing, other than by exchange that furthers the protective purposes of the Monument.”

All land disposals were precluded by the proclamation. The only exceptions are land exchanges under the authority of Section 206(a) of FLPMA that further the protective purposes of the Monument. Generally, a land exchange in Parashant would consist of the acquisition of lands within the Monument and disposing of lands within the Arizona Strip FO. However, any BLM lands within Arizona identified for disposal through planning may be considered for exchange. Since completion of the Arizona Strip RMP in 1992, no land disposals have taken place within the area now designated as the Monument.

Withdrawals

The Parashant proclamation stipulates that, “Existing withdrawals, reservations, or appropriations are not revoked, but the National Monument is the dominant reservation.” This refers to any lands within the Monument that have been removed or withdrawn from operation under some or all of the public land laws (such as mining and/or mineral leasing laws), by statute, or by Secretarial order prior to the proclamation. These withdrawals were imposed to achieve a variety of purposes, and they remain in effect until specifically revoked, or otherwise expire. Some were established prior to the enactment of FLPMA in 1976. Areas withdrawn

within Parashant remaining in effect include wilderness, an administrative site, and miscellaneous reclamation withdrawals.

Land Use Authorizations

Pursuant to the interim management policy for BLM National Monuments (IM 2002-008):

No new rights-of-way or ancillary public facilities should be processed, except for rights-of-way pursuant to existing policies and practices and necessary for access and/or maintenance needs to private or state in holdings, public facilities, or administrative sites. In addition, rights-of-way may be permitted within the boundary of existing rights-of-way or designated rights-of-way corridors established by previous land use planning, and where site-specific NEPA analysis determines that impacts to the objects or values for which the Monument was designated would be negligible. Valid existing rights will be recognized.

Valid existing rights within Parashant generally consist of repeaters that provide emergency services and two-way radio communications, federal administrative sites, access roads/airstrips, water facilities, and environmental monitoring equipment sites for various governmental agencies and private parties. There are no designated right-of-way corridors within Parashant. Rights-of-way are excluded within wilderness and NPS proposed wilderness.

There are no existing or proposed energy related right-of-way developments or communication sites within Parashant. Monument designation precluded any potential commercial energy development, production, or distribution. Generally, new proposals for energy development would be accommodated outside of Parashant in the Arizona Strip FO.

Vermilion Lands and Realty

Land Acquisition

The Vermilion proclamation contains the same direction for land acquisitions and exchanges as provided in the Parashant proclamation. In addition, management guidance for Vermilion is the same as provided in the Parashant Land Acquisition section.

Prior to Monument designation, land exchanges were completed which acquired state land within wilderness and private land and interests. There are approximately 7,684 acres of non-federal mineral estate within Vermilion, which is generally a result of early land-tenure adjustments where the BLM acquired only the surface estate.

Land Disposal

The Vermilion proclamation contains the same direction for land disposal as provided in the Parashant proclamation. In addition, management guidance for Vermilion would be the same as provided in the Parashant Land Disposal section and, as previously stated, only land exchanges, under the authority of Section 206(a) of FLPMA, that further the protective purposes of the Monument would be considered. Generally, a land exchange in Vermilion would consist of acquisition of lands within the Monument and disposal of lands within the Arizona Strip FO. However, any BLM land within Arizona identified for disposal through planning may be considered for exchange. Since completion of the Arizona Strip RMP in 1992, no land disposals have taken place within the area now designated as the Monument.

Withdrawals

The Vermilion proclamation contains the same direction for withdrawals as provided in the Parashant proclamation. In addition, management guidance for Vermilion would be the same as provided in the section on Parashant withdrawals. In Vermilion, the Paria Canyon-Vermilion Cliffs Wilderness and Vermilion Cliffs Natural Area are withdrawn and miscellaneous reclamation withdrawals remain in effect.

Land Use Authorizations

The Vermilion proclamation contains the same direction for land use authorizations as provided in the Parashant proclamation. Valid existing rights within Vermilion generally consist of water facilities, power lines, telephone lines, a communication site that provides emergency services and two-way radio communications, and environmental monitoring equipment/sites for various governmental agencies and private parties. There are no designated right-of-way corridors within Vermilion. Rights-of-way are excluded within wilderness areas.

The southern boundary of Vermilion is the Highway 89A right-of-way (200 feet from the center) and around any private land existing on the north side of the highway. Historically, runoff from high intensity rainstorms on Vermilion Cliffs has occasionally caused road damage to Highway 89A. This has made it necessary for Arizona Department of Transportation (ADOT) to complete stream channel work to redirect flows into existing culverts under the highway. In a few locations, it has been necessary to complete some earthwork just outside of the authorized right-of-way depending upon the level of damage to the highway and the intensity and location of flooding. This work has been ongoing since prior to wilderness designation and was addressed in the Final Wilderness Management Plan for the Paria Canyon-Vermilion Cliffs Wilderness (BLM 1986). The entire House Rock Valley portion of Highway 89A is now bordered on the north by Vermilion. Although it is difficult to predict the intensity and location of flash flooding, ADOT has proactively improved highway drainage conditions limited only by available funding. Since completion of the Arizona Strip RMP (BLM 1992a), ADOT replaced many bridges and improved drainage structures within the right-of-way throughout House Rock Valley. In

addition, ADOT initiated regular coordination meetings with the Arizona Strip BLM and is in the process of contracting for environmental inventories along all ADOT-maintained highways within the Planning Area.

There are no existing or proposed energy right-of-way developments or communication sites within Vermilion. Monument designation precluded any potential commercial energy development, production, or distribution. Generally, new proposals for energy development would be accommodated outside of Vermilion in the Arizona Strip FO.

Arizona Strip FO Lands and Realty

Most of the Arizona Strip FO area consists of BLM lands and federal mineral estates. The communities of Scenic, Arvada, Beaver Dam, Littlefield, and Desert Springs are located along the Virgin River corridor in the northwestern corner of the Arizona Strip FO. These communities have recently formed the Virgin River Domestic Wastewater Improvement District and the Scenic Improvement District to help facilitate infrastructure development. The community of Mt. Trumbull/Bundyville is located in the southwestern portion of the Arizona Strip FO and borders on Parashant. The incorporated towns of Fredonia and Colorado City, and the communities of Centennial, Cane Beds, and White Sage Flat are located in the north-central part of the Arizona Strip FO. Small residential developments exist adjacent to three lodges located at the base of the Vermilion Cliffs in the northeastern corner of the Arizona Strip FO. Many other towns and cities are in close proximity to the Arizona Strip FO including St. George, Hurricane, and Kanab, Utah; Page, Arizona; and Mesquite, Nevada.

Land Acquisition

Since completion of the Arizona Strip RMP (BLM 1992a), the BLM has acquired 1.25 acres by donation (Mt. Trumbull School House) and 28.28 acres of land adjacent to the Beaver Dam Wilderness, Virgin River ACEC, and Beaver Dam Slope ACEC. Legal access to landlocked public lands may be acquired where determined necessary for public or administrative purposes.

There are approximately 193,420 acres of non-federal mineral estate within the Arizona Strip FO. This split estate is generally a result of early land tenure adjustments.

Land Disposal

Since completion of the Arizona Strip RMP (BLM 1992a), one direct sale was completed which conveyed 22.77 acres of land encumbered by the Marble Canyon Airstrip into private ownership. Two land exchanges have been completed which resulted in acquisition of a 37.50-acre parcel within the Cottonwood Point Wilderness and acquisition of approximately 4 acres on the east side of Highway 89A in House Rock Valley, which will help preserve the scenic quality of the area. Another land exchange is proposed for approximately 45 acres adjacent to the Paria Canyon-Vermilion Cliffs Wilderness and Vermilion in House Rock Valley.

R&PP Act

Increased demands are placed on public lands because of accelerated growth in and around cities and towns in the Arizona Strip FO. These growing communities rely on adjacent BLM lands for expansion needs. In the Arizona Strip FO, the lease/sale of land under the R&PP Act has been used to authorize schools, fire stations, cemeteries, landfills, and rodeo grounds, among others. Applications are currently under consideration for two school sites and a wastewater treatment facility for the communities along the Virgin River. In the future, it is anticipated that the lease/sale of land under the R&PP Act will be used for wastewater treatment facility expansion, municipal parks, a landfill, and public facilities (i.e., fire stations, schools, etc.). Initially, lands are leased until substantial development has taken place in accordance with the approved plan of development. The lands may then be conveyed subject to provisions identified in 43 CFR 2740.

Since completion of the Arizona Strip RMP (BLM 1992a), approximately 185 acres have been leased for various recreational and public purposes throughout the Arizona Strip FO. Approximately 75 acres have been conveyed for schools after the proposals were completed in accordance with the approved development plans.

Approximately 270 acres were conveyed under the R&PP Act for a new landfill for the communities of Fredonia and Colorado City. The old Littlefield, Colorado City, Fredonia, and Page community landfills, which were authorized by R&PP lease, were closed in compliance with ADEQ regulations. These sites may contain small quantities of commercial and household hazardous waste as determined in the Resource Conservation and Recovery Act of 1976 (42 USC 6901), as amended, and defined in 40 CFR 261.4 and 261.5. Although there is no indication these materials pose any significant risk to human health or the environment, future land uses should be limited to those which do not penetrate the liner or final cover of the landfill unless excavation is conducted subject to applicable state and federal requirements.

FAA Airport Grants

Approximately 112 acres of Arizona Strip FO land were conveyed out of federal ownership west of Colorado City under the Airport and Airway Improvement Act of 1982 for the Colorado City Airport. Another expansion of this airport is currently being considered, which would require conveyance of additional public land in the future.

Withdrawals and Classifications

Withdrawals in the Arizona Strip FO generally consist of reclamation, PWRs, USFS/NPS, wilderness, and miscellaneous recreation/scenic/protective withdrawals.

The proclamations for Parashant and Vermilion established two new withdrawals for protecting the objects identified therein. These withdrawals transferred management on approximately 1,342,014 acres of out of the Arizona Strip FO to the Monuments.

Approximately nine classifications were completed for land disposals under the R&PP Act where the proposed use was accommodated elsewhere. These classifications will be terminated.

Land Use Authorizations

Within the Arizona Strip FO, community boundaries extend to adjacent BLM lands. Growing communities rely on the adjacent BLM lands for expansion needs. In the future, BLM lands may be needed to provide for expanding infrastructure including new access roads, power distribution lines, telephone lines, etc.

Land use authorizations may be considered on all Arizona Strip FO lands that are not identified as avoidance or exclusion areas. Avoidance areas are areas such as critical habitat, lands supporting listed species, areas allocated to maintain wilderness characteristics, DWMAs, or ACECs where rights-of-way or permits may be granted only when no feasible alternative route, site, or designated right-of-way corridor is available. Leases would generally be prohibited. Special terms and conditions would apply if a right-of-way or permit must be granted within the area. Exclusion areas on the Arizona Strip FO are the wilderness areas. In these areas, future rights-of-way may be granted only when mandated by law and existing rights-of-way that may expire, are evaluated prior to expiration, and if still needed, are processed under 43 CFR 2920.

Permits and Leases

Since completion of the Arizona Strip RMP (BLM 1992a), approximately 76 permits have been issued in the Arizona Strip FO. Of these, 46 authorized commercial filming/photography and approximately 30 authorized various types of environmental monitoring equipment, apiaries, temporary storage sites, and equipment feasibility testing. Four leases have been issued for a total of 20.94 acres for reauthorization of existing water pipeline rights-of-way in wilderness and agricultural purposes. One small tract lease issued in 1969 for a cabin on 4.8 acres, now within designated wilderness, was relinquished. Personnel from the BLM cleaned up and removed old cabin remnants and other debris.

Rights-of-Way

There are three existing multi-user communication sites in the Arizona Strip FO located at Seegmiller Mountain, Low Mountain, and Point-of-Rock. Uses at these sites include government agencies that provide emergency services and two-way radio communications, commercial telecommunication providers, and multiple user facilities that are independently managed by a right-of-way holder. These sites are exclusively for low power use and high power broadcasting is strictly prohibited. Communications Site Plans were completed in the fall of 2004 for all three sites. Space is currently available within existing facilities, as well as land area for additional new construction, if necessary, although co-location and subleasing are preferred.

As the population of the region grows, it is anticipated that the demand for high elevation sites may increase slightly. However, the demand for low elevation sites, especially cell phone towers, is expected to increase significantly to provide improved coverage for cell phone users. Antennas for cellular telephones can co-locate on existing utility structures and are capable of sharing structures with multiple providers. New communication sites may be considered in accordance with decisions established in the RMP and with NEPA compliance, which includes evaluation of impacts to visual resources. Since completion of the Arizona Strip RMP (BLM 1992a), two cell towers have been authorized in the Arizona Strip FO; one at Beaver Dam adjacent to and sharing access with an existing water tank right-of-way, and another at Low Mountain adjacent to and sharing access with an existing communication site.

A right-of-way corridor is an existing alignment that has been identified as a preferred location to accommodate similar or compatible projects. Existing alignments on the Arizona Strip FO consist of the major transportation corridors, such as Interstate 15, which crosses the northwest corner of the Arizona Strip FO. State Highway 389 crosses the Arizona Strip FO looping south of the Utah/Arizona state line near Colorado City, Arizona, crossing the Kaibab-Paiute Indian Reservation then north through Fredonia, Arizona, entering back into Utah. State Alternate 89 crosses the Planning Area, extending southeast from Fredonia, Arizona, over the Kaibab Forest into House Rock Valley, along the base of the Vermilion Cliffs, and then leaving the Arizona Strip FO as it crosses the Colorado River at Marble Canyon via the Navajo Bridge.

One regional corridor identified by the Western Utility Group extends through the Arizona Strip FO. The 1998 revision of the Arizona Strip RMP and designation of Parashant effectively eliminated the Lime Kiln portion of this route. The corridor location is currently the Navajo-McCullough power line route and the Rosy Canyon fiber optic line route. Future development of this corridor would be subject to environmental review based on specific proposals.

Approximately 87 new rights-of-way, renewals, and amendments have been processed in the Arizona Strip FO since completion of the Arizona Strip RMP (BLM 1992a). These rights-of-way have been for roads, federal facilities, power transmission lines, communications sites, telephone lines, water pipelines and facilities, and other purposes. Most were in or near developed communities. Several rights-of-way are currently under consideration for access roads, pipelines, and a fiber optic line.

Renewable Energy Resources

There are no existing or proposed energy right-of-way developments or communication sites within the Arizona Strip FO at this time. However, the Arizona Strip FO has been under consideration by industry and intensive studies were completed in the Beaver Dam Area for two separate gas-fired electric power generating plant sites. Any requests for renewable energy projects in the Arizona Strip FO would be considered.

LIVESTOCK GRAZING

Overview

The history of livestock grazing in the Planning Area dates back to the mid 1800s. The number of cattle, sheep, and horses increased rapidly until the early 1900s. During this period, livestock grazing became a regulated and permitted activity on USFS lands. Non-USFS federal land was treated as a "commons" in which those who moved their stock onto the range first each season secured the use of new forage growth. Livestock from across the region were brought in to graze during the winter months and many animals were left on the range year-round. During this period, rangeland resources experienced unregulated use, which resulted in changes to vegetation communities, especially at the elevations that could be used for grazing year round. Control of these "common" ranges did not occur until 1934 with the passage of the Taylor Grazing Act. During the following years, regulations pertaining to operators, allotments, kind and number of livestock, and season-of-use were established on public lands and administered by the Grazing Service. Arizona Grazing District No. 1, the first grazing district to be established under the Taylor Grazing Act, was created on the Arizona Strip in 1935.

The BLM, established in 1946, was a combination of the Grazing Service Administration and the General Land Office. During the late 1950s and early 1960s, range surveys were completed in order to determine the capacity of the land for grazing. Following these surveys, decisions regarding foraging were adjudicated and livestock numbers on most allotments were reduced. A federal court agreement on April 11, 1975 required the BLM to prepare EISs on public grazing lands over a 10-year period. To comply with this agreement, the Shivwits Grazing Management EIS (BLM 1980) and Vermilion Grazing Management EIS (BLM 1979) were prepared. These resulted in further adjustments to livestock numbers, as well as season of use and required implementation of grazing systems and management plans. Because of these actions, grazing use within the Planning Area has significantly decreased from its peak in the early 1900s.

The Arizona Strip FO Rangeland Program Summary Update (BLM 1997) clearly indicates that the level of permitted grazing use on the Strip has decreased significantly over time. The season of use, or amount of time per year that livestock graze, has also decreased. These factors, in combination with rest rotation and deferred rotation grazing systems, have resulted in rangeland conditions improving over the last several decades.

Historically, there were 212 grazing allotments within the Planning Area. Ninety-two Allotment Management Plans (AMPs) covered 170 of these allotments, prescribing grazing schedules and seasons of use. Approximately 20,000 cattle and 300 horses are currently authorized to use a maximum of 183,000 Animal Unit Months (AUMs) of forage annually. All grazing numbers used in this section are from the Arizona Strip District livestock grazing files and reports.

Current Livestock Grazing Practices

Most current livestock operations in the Planning Area are yearlong and involve the raising of calves from a base herd of cattle for marketing. These operations usually encompass a mixed ownership of private, Arizona State Trust, and BLM lands with some NPS lands. Although the operations are year long, they may only use the federal rangelands seasonally.

Today, because of purchases, trades, and combinations, there are 160 grazing allotments within or adjacent to the boundaries of the Planning Area. The Arizona Strip District administers 153 of these grazing allotments. Utah BLM, out of the St. George and Kanab field offices and the Grand Staircase-Escalante National Monument administer the other nine grazing allotments. There is close to 183,000 AUMs of authorized grazing use (including other federal AUMs) on these allotments. Cattle grazing comprise approximately 180,000 AUMs, while horse grazing makes up approximately 3,000 AUMs. There is also the potential for additional AUMs under ephemeral grazing authorizations. See Appendix 3.E for a list of allotment acres and allotment AUMs by land status within the Planning Area.

Three management categories for allotments are used to define the level of management needed to properly administer grazing lands. All allotments have been placed into these categories according to management needs, resource conflicts, potential for improvement, and Bureau funding/staffing constraints. The allotments are categorized and managed as follows:

- Custodial (C) allotments are managed by the BLM to protect resource conditions and values.
- Maintain (M) allotments are managed to maintain current satisfactory resource conditions and are actively managed to ensure that resource values do not decline.
- Improve (I) allotments are managed to improve resource conditions or conflicts and receive the highest priority for funding and management actions.

As allotments are evaluated, the allotment categories, in consultation with affected operators, are reviewed and revised, where needed, to respond to changing resource conditions. See Appendix 2.N for the definitions and criteria for each category. In the Planning Area, there are currently 24 C-category allotments covering 60,643 acres, 61 M-category allotments covering 953,962 acres, and 68 I-category allotments, covering 1,941,705 acres.

Allotment categorization and initial grazing use allocations were made for grazing management in the Planning Area in the Shivwits and Vermilion Grazing Management EISs (BLM 1980; BLM 1979) and Arizona Strip RMP (1992a). These land use plans outlined proposed grazing systems for most I- and M-category allotments. Because of this direction, grazing systems have been developed and implemented on 117 allotments through agreements or decisions with allottees. These grazing systems are usually documented and described in an AMP. An AMP is a documented program, developed as an activity plan that directs management of livestock grazing on specified public land in order to achieve objectives relating to desired future conditions, sustained yield, and multiple use. AMPs are implemented when incorporated into the

terms and conditions of the grazing permits or leases and accepted by the permittee or lessee. Strategic portions of AMPs are the grazing systems/schedules and the rangeland projects identified to implement those systems that will meet resource objectives. New AMPs can be developed and existing plans revised in accordance with BLM polices and prescriptions described in this Plan. Changes in use and management continue to be made based on monitoring data and rangeland health evaluations.

The Arizona Strip District has two types of AMPs: intensive and less intensive. Intensive AMPs involve grazing systems such as rest-rotation, deferred rotation, best pasture systems, and holistic resource management. In addition to the grazing systems, intensive AMPs establish a key forage species utilization level goal of 50 percent average of current years' growth. This utilization level goal is a management tool and, when considered over a period of several years, can indicate the need to make management corrections, or re-evaluate the guidelines, before undesirable long-term trends are identified by monitoring. Less-intensive AMPs involve grazing systems that allow the rancher to operate seasonally but forage species utilization goals are set at 45 percent average of current years' growth.

Under intensive AMPs, rangeland improvements necessary to implement the grazing systems are cooperatively funded. Under less intensive AMPs, the permittee finances range improvements on public lands or cooperates with BLM in construction projects. Table 3.22 summarizes allotment-grazing systems followed under both intensive and less-intensive AMPs.

Grazing Systems	Number of Allotments
Intensive AMPs	
Deferred Rotation Systems	69
Rest Rotation System	15
Winter & Spring Systems	10
Summer & Fall Systems	1
Holistic Grazing Management System	1
Best Pasture System	6
Winter System	2
Less-Intensive AMPs	
Less-Intensive System	13
Source: Arizona Strip District files	

Intensive AMPs, which fully address resource conditions, goals and objectives, grazing systems, range developments, monitoring systems, and evaluation, have been implemented on 104 allotments covering 79 percent of the livestock grazing administered area. Less intensive AMPs, which address livestock management goals, season of use, numbers of livestock, kind of livestock, and, in some cases, pasture rotation or deferment, have been implemented on 13 allotments covering 4 percent of the livestock grazing administered area. No plans have been developed for 36 allotments covering 14 percent of the livestock grazing administered area. Within the Arizona Strip District, 6 percent of the lands are not available to grazing.

Public rangeland grazing is guided by findings of the Shivwits and Vermilion Grazing Management EISs (BLM 1980; BLM 1979), Arizona Strip RMP (BLM 1992a), Mojave Desert Amendment (BLM 1998), the Glen Canyon NRA Grazing Management Plan (1999), and through Memorandums of Understanding (MOUs) where other agency lands are administered by the BLM, ongoing rangeland monitoring studies and evaluations, and allotment categorization priorities. Since the Shivwits Grazing EIS was finalized in 1980, provisions and considerations necessary to manage livestock grazing operations in desert tortoise habitat have been implemented through the Mojave Desert Amendment (BLM 1998). The changes advocate rest cycles in the critical spring green-up period, ensure needed forage is available for tortoise, and locate projects where grazing operations would have the least amount of adverse impact, if any. AMPs are still needed in some of the allotments that contain desert tortoise habitat. Appendix 2.N shows each allotment in the Planning Area by category and AMP status.

Twenty-six allotments cross administrative boundaries, which are located along the Nevada and Utah borders on BLM lands and NPS lands (Lake Mead and Glen Canyon NRAs). The BLM administers grazing on NPS lands through interagency MOUs, which pertain only to livestock grazing. Other BLM offices, the St. George and Kanab field offices, Grand Staircase-Escalante National Monument, and Las Vegas District administer nine of the allotments that cross over the boundary.

There are approximately 227,958 acres of Arizona State Trust lands grazed in conjunction with the BLM allotments. The permittees pay the state for the grazing use on these lands, while the BLM administers grazing activities. There are also 68,526 acres of private lands and 103,028 acres other federal lands that are grazed in conjunction with BLM-administered grazing allotments.

Rangeland Health and Condition

The overall objective of the rangeland management program for the Planning Area is to manage soil and vegetation communities to meet rangeland health standards and multiple use management objectives. The purpose of the standards and guidelines at 43 CFR § 4180 is to provide a measure (Standard) to determine land health and methods (guidelines) to improve the health of the public rangelands. Success will be measured in concrete outcomes on the lands managed. BLM's job is to maintain the health of the land or make appropriate changes on the ground where land health standards are not being achieved. The standards are intended to help the Bureau, public land users, and others focus on a common understanding of acceptable resource conditions. The guidelines provide a basis for working together to achieve that vision. The standards communicate current and desired resource conditions amongst the various groups. Guidelines are used to describe or communicate techniques for managing activities to achieve those desired conditions. Guidelines for grazing management emphasize multiple use management by incorporating needs for wildlife habitat, soil, watershed, riparian, and recreation. The specific goals and objectives of the program are accomplished through planning at the

activity level, with attention given to proper season of use, suitable grazing systems, plant and animal requirements, kind and class of livestock, distribution of livestock, placement of rangeland improvements, and vegetative treatments.

The Arizona Standards for Rangeland Health and Guidelines for Grazing Administration was approved in 1997 (See Appendix 2.A). In concert with livestock operators, other affected agencies, and interested publics, the BLM examines the key indicators addressed by the standards and guidelines and assesses whether they are being met or not. If monitoring shows progress is being made towards objectives, existing management continues. However, if progress is not being made towards meeting objectives, the BLM works with affected partners to determine why the standard was not achieved. Appropriate actions are then prescribed to make satisfactory progress towards meeting standards. Where the assessment and monitoring strategy indicates livestock grazing is wholly or partly responsible for failure to meet standards, existing grazing systems and practices are modified to ensure conformance with the guidelines for grazing management. Adjustments are made by agreement or decision in accordance with law, regulations, and policy so that public land resources are maintained or improved.

At present, the standards and guidelines evaluation process is at various stages of completion on 131 grazing allotments. Appendix 2.D lists allotments and indicates where standards are met or not met. It also provides a proposed schedule for allotments not yet evaluated.

Monitoring continues to play a significant role in the management of the Planning Area. The Arizona Strip District developed a resource-monitoring plan in 1981. Resource monitoring involves the orderly collection of vegetation attributes (i.e., cover, frequency, and species composition), the utilization level of key forage plants, actual livestock use, and climate change from permanently established plots within allotments. The analysis and interpretation part of resource monitoring is necessary to document changes over time, in vegetation attributes, and habitat conditions, and assist in determining if those changes are in response to management and/or natural processes. It further serves to evaluate progress in meeting management objectives. Currently, 129 grazing allotments have active monitoring at approximately 530 key areas. Vegetative attributes data is collected one to three times every 10 years. Utilization studies are intended to be read each year, but may not be due to the allotment category as well as schedules and workloads of the rangeland management specialists. There are more than 57 rain gauges placed across the Arizona Strip used to monitor precipitation amounts and timing. Actual grazing use is collected to facilitate the comparison of production versus utilization levels and to help evaluate the causal effect on the direction of trend.

The Rangeland Program Summary Update (BLM 1997) showed that about 80 percent of the key areas are in an upward to static trend. Trend is the direction of change in plant frequency, ecological status, or some other resource value rating, observed over time. Trend is described as moving "towards meeting objectives," "away from meeting objectives," "not apparent," or "static." The Arizona BLM allotment evaluation process sets into motion the appropriate actions

needed to make significant progress toward achieving land health standards and other multiple use objectives. Appropriate actions consist of:

- Action taken pursuant to Title 43 CFR § 4110, 4120, 4130, and 4160 that will result in significant progress toward fulfillment of the standards and significant progress toward conformance with the guidelines (43 CFR § 4180.2(c)).
- Implementing and issuing a final decision pursuant to 43 CFR § 4110, 4120, 4130, and 4160 upon determining that existing grazing management needs to be modified to ensure that the Fundamentals of Rangeland Health exist (43 CFR § 4180.1).

Range Improvements

A number of range improvement projects have been constructed for both the enhancement and protection of watershed and wildlife values and for the management of domestic livestock grazing. These projects consist of water developments (windmills, pipelines, stock ponds) fences, and vegetative treatments. All projects were authorized under cooperative agreements or permits, depending on overall benefits and objectives and private investment levels. The construction of range improvement projects in conjunction with a suitable grazing system is ongoing, primarily in high priority allotments.

Vegetation treatments, including prescribed fires, are used in conjunction with grazing management mostly on Category I allotments to achieve rangeland management objectives. These vegetation treatments mostly occur in sagebrush and pinyon-juniper plant communities.

Parashant Livestock Grazing

The BLM also administers grazing leases within the NPS portion of Parashant, consistent with the Lake Mead NRA authorizing legislation. Laws, regulations, and policies followed by the BLM in issuing and administering grazing leases on all lands under its jurisdiction apply to the remaining portion of the Monument.

The BLM currently administers 28 grazing allotments and manages them in cooperation with 25 permittees throughout Parashant. There is close to 38,000 AUMs (including other AUMs for Lake Mead NRA) of authorized grazing use on these allotments, based on 2004 numbers. The most prevalent use is by cattle, with approximately 37,500 AUMs used. There are also approximately 600 AUMs authorized for horses to graze in Parashant. These animals are mainly used as saddle stock for the cattle operations.

Intensive AMPs have been completed and implemented for grazing practices on 22 allotments covering 73 percent of the Monument administrative area. There are no less intensive AMPs in the Monument area. No plans have been developed for 6 allotments covering 27 percent of the

area. In the Monument area, 19 percent of the lands are not available for grazing. Table 3.23 summarizes the allotments administered by category within Parashant.

	Improve (I)	Maintain (M)	Custodial(C)
Allotment Numbers	15	13	0
Source: Arizona Strip District files			

Vermilion Livestock Grazing

Within Vermilion, all laws, regulations, and policies followed by the BLM in issuing and administering grazing permits or leases on all lands under its jurisdiction apply with regard to the lands in the Monument.

The BLM currently administers ten grazing allotments and manages them in cooperation with nine permittees throughout Vermilion. There is close to 19,000 AUMs (including AUMs for other federal agencies than the BLM) of authorized grazing use on these allotments. The dominant kind of livestock is cattle, with approximately 18,600 AUMs. There are also approximately 400 AUMs authorized for horses to graze in Vermilion as saddle stock.

Intensive AMPs have been implemented on four of these allotments covering 99 percent of the administered area. There are no less intensive AMPs in Vermilion; however, there is one allotment with no formal AMP, which covers 1 percent of the administered area. Table 3.24 summarizes the allotment categories within Vermilion.

	Improve (I)	Maintain (M)	Custodial(C)
Allotment Numbers	2	2	1
Source: Arizona Strip District files			

Arizona Strip FO Livestock Grazing

BLM also administers livestock grazing within Glen Canyon NRA. BLM grazing regulations apply to grazing administration in Glen Canyon NRA, as spelled out in interagency agreements and MOUs between the BLM and NPS.

Arizona Strip FO currently administers 120 grazing allotments and manages them in cooperation with 83 permittees. There is close to 126,000 AUMs of authorized grazing use on these allotments. The dominant kind of livestock is cattle, with approximately 124,000 AUMs. There are also approximately 2,000 AUMs authorized for horses to graze in the Arizona Strip FO, most of which are saddle stock used for livestock operations.

Of the 111 grazing allotments, 91 AMPs have been completed and the prescribed grazing practices implemented. Intensive AMPs have been implemented on 78 allotments or 77 percent

of the Arizona Strip FO administered area. Less intensive AMPs have been implemented on 16 allotments (7 percent of the Arizona Strip FO area.) No plans have been developed for 26 allotments (11 percent of the area). In the Arizona Strip FO, less than 0.1 percent of the lands are not available for grazing. Table 3.25 summarizes the allotment categories within the Arizona Strip FO.

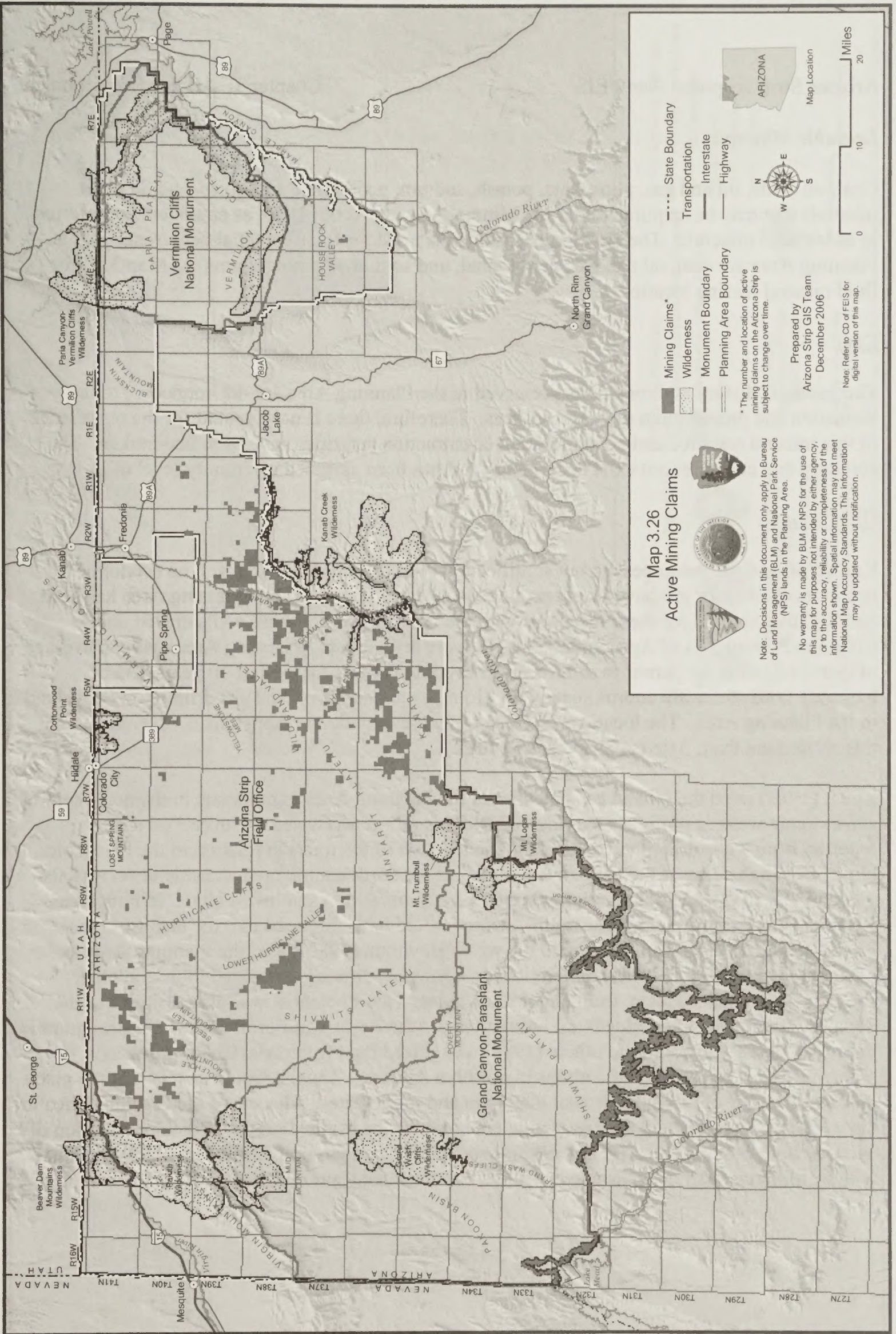
	Improve (I)	Maintain (M)	Custodial(C)
Allotment Numbers	51	46	23
Source: Arizona Strip District files			

MINERALS

Overview

The Planning Area has been rated for its mineral potential using the guidance contained in the BLM’s 3031 Manual (BLM, 1988). A summary of the rating for all mineral resources is shown in Table 3.26. A description of the potential and certainty levels is given in Appendix 3.F. The rating given in the table indicates the highest rating for that resource within the district and does not imply that the resource has the potential for uniform occurrence throughout the district. Map 3.26 illustrates the locations of all mining claims within the Planning Area.

Mineral Resource	Level of Potential*	Level of Certainty*
Leasable Minerals		
Coal	No Potential	D
Oil and Gas	Moderate Potential	C
Geothermal	Moderate Potential	B
Sodium	Moderate Potential	C
Potassium	Low Potential	C
Locatable Minerals		
Metallic Minerals	High Potential	D
Rare Earth (Uranium)	High Potential	D
Non-Metallic (Gypsum)	High Potential	D
Salable Minerals		
Common Varieties (sand, stone, gravel, pumicite, and clay)	High Potential	D
* See Appendix 3.F for a more detailed description of potential and certainty levels.		
B. Available data provide indirect evidence to support or refute the possible existence of mineral resources.		
C. Available data provide direct evidence but are quantitatively minimal to support or refute the possible existence of mineral resources.		
D. Available data provide abundant direct and indirect evidence to support or refute the possible existence of mineral resources.		



**Map 3.26
Active Mining Claims**

Map 3.26 Active Mining Claims

--- State Boundary
 Transportation
 Interstate
 Highway

Mining Claims*
 Wilderness
 Monument Boundary
 Planning Area Boundary

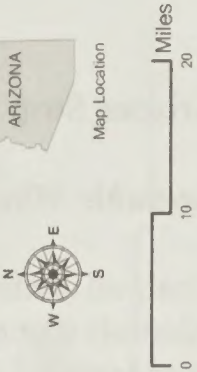
* The number and location of active mining claims on the Arizona Strip is subject to change over time

Prepared by
 Arizona Strip GIS Team
 December 2006

Note: Refer to CD of FEIS for digital version of this map.

Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.



Leasable Minerals

Coal, oil shale, oil and gas, phosphate, potash, sodium, geothermal resources, and all other minerals that may be acquired under the Mineral Leasing Act of 1920, as amended, are referred to as leasable minerals. The only leasable minerals rated for their potential occurrence in the Planning Area are coal, oil and gas, geothermal, and sodium and potassium (see Map 3.27 for fluid mineral leasing locations).

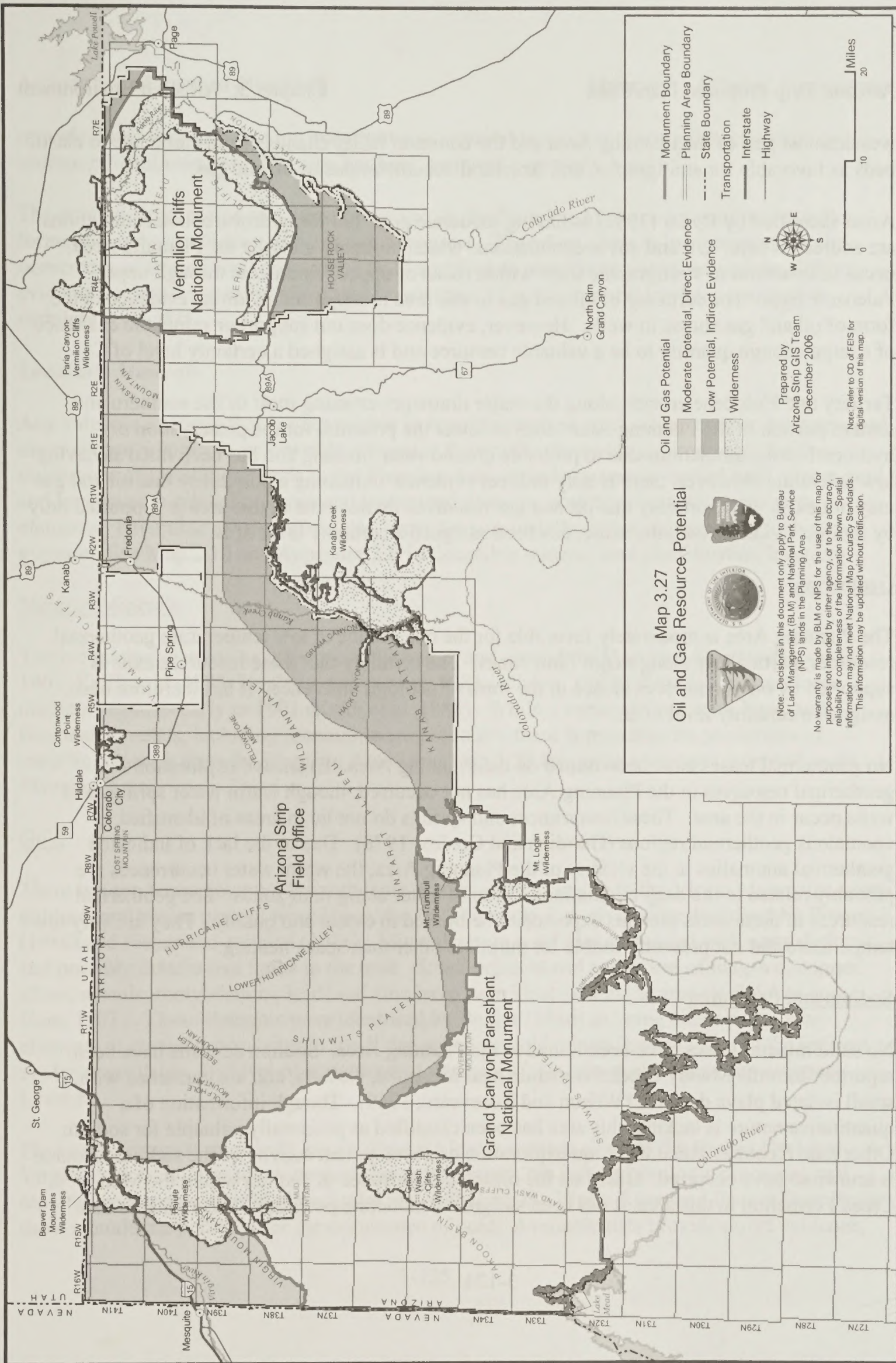
Coal

The geologic history and rock units preserved in the Planning Area are not conducive to the formation and preservation of coal resources. Therefore, there is no potential for the occurrence of this mineral resource and no exploration or extraction activities have been undertaken. The certainty that coal does not exist is very high and has been assigned a certainty level of D.

Oil and Gas

Known oil and gas resources are not significant within the Planning Area and no economic occurrences of oil or gas have been encountered to date. However, the Planning Area has been only lightly explored for these resources with the vast majority of these wells drilled on the Colorado Plateau. As of April 2002, 55 wells were drilled in the Planning Area, with an average of one application for permit to drill received every two years for the last 10 years. As of February 2002, there are approximately 66,815 acres leased for oil and gas drilling on BLM land in the Planning Area. The locations of these wells are provided in Appendix 3.G. Numbers in this section are from Arizona Strip District files.

Ryder (1983) rated the oil and gas potential of the Planning Area as moderate in the north central and extreme western portions (see Map 3.27). This rating was based on several oil shows reported from wells drilled in the area and the location of the tracts in relation to the Paleozoic hingeline. In the case of the moderate potential in the north-central area, consideration was also given to that area's location in relation to the Virgin oil field in southwest Utah. In both areas, Ryder speculated that any hydrocarbons present would have migrated into the area from the Rocky Mountain Geosyncline lying to the west. Heylmun (1987) rated the Planning Area as having good potential for oil accumulations in northwest-striking, anticlinal folds and other structural traps located away from major fault zones. Good potential was also assigned to the Shnabkaib member of the Moenkopi Formation and the Toroweap Formation where stratigraphic traps may exist. Reynolds and others (1988) recognized the Proterozoic Chuar group as a potential source rock for hydrocarbons in northern Arizona. Thus, it would appear that the many thousands of feet of marine sediment that lie in and immediately adjacent to the Planning Area to the west could provide at least a moderate potential for the origination and possible migration of hydrocarbons into the area. Rauzi (1990) associates oil and gas potential on the Planning Area with Cordilleran shelf deposits and considers the truncated Cambrian and Ordovician units in the



Map 3.27
Oil and Gas Resource Potential

- Oil and Gas Potential**
- Moderate Potential, Direct Evidence
 - Low Potential, Indirect Evidence
 - Wilderness
- Transportation**
- Interstate
 - Highway
- Monument Boundary**
- Planning Area Boundary**
- State Boundary**



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for digital version of this map.



Map 3.27 Oil and Gas Resource Potential

westernmost part of the Planning Area and the common facies changes from carbonate to clastic beds as favorable for stratigraphic and structural accumulations of oil and gas.

Areas identified by Ryder (1983) as having moderate potential for hydrocarbon accumulations are addressed here. Oil and gas accumulations, which probably underlie the Planning Area, occur in structural or stratigraphic traps within rocks of upper Proterozoic through upper Paleozoic ages. The certainty of oil and gas in this area is supported by direct evidence in the form of oil and gas shows in wells. However, evidence does not support or refute the existence of a large enough quantity to be a valuable resource and is assigned a certainty level of C.

Tertiary and Holocene erosion along the major drainages crossing most of the southern and eastern portion of the Planning Area tends to lower the potential for the preservation of hydrocarbon accumulations due to probable groundwater flushing and has been rated as having low potential. However, there is only indirect evidence, indicating a possibility that oil and gas may not exist. The certainty that oil and gas resources do not exist in this area is supported only by indirect evidence and, therefore, has been assigned a certainty level of B.

Geothermal

The Planning Area is moderately favorable for the occurrence of low temperature geothermal resources, particularly along major fault zones. The certainty that these resources exist is supported by only indirect evidence in the form of geologic inference. It has therefore been assigned a certainty level of B.

No geothermal leases have been issued on the Planning Area. Extensive exploration for geothermal resources in the Planning Area has not occurred, though warm water springs and wells occur in the area. These occurrences and springs do not lie in areas of identified anomalous geothermal regions (Giardina and Conley, 1978). Due to the lack of indicated geothermal anomalies in the vicinity of the Planning Area, the warm water occurrences are probably related to the deep circulation of ground water along fault zones. The geothermal resources in these areas are thus expected to be limited in extent and quality. They are very low temperature and not presently usable for purposes other than space heating.

Sodium and Potassium

No solid mineral leases have been issued in the Planning Area. Sodium deposits have been reported from the Muddy Creek Formation near Mesquite, Nevada, and are contained within small isolated playa deposits (Wilson and Roseveare, 1949). Though information of a quantitative nature is lacking, this area has been classified as potentially valuable for sodium. Other than reconnaissance work, no exploration or development activity of the sodium resource is known to have occurred. Based on the reported occurrence of sodium within the Muddy Creek Formation in this area, it has been assigned a moderate potential. The available data

provide direct evidence, but are quantitatively minimal to support the possible existence of a sodium mineral resource. The area has been assigned a certainty level of C.

The geologic history and rock units preserved in the Planning Area are not conducive to the formation and preservation of potassium resources. Therefore, there is low potential for the occurrence of this mineral resource. The available data provide quantitatively minimal direct evidence to support or refute the possible existence of potassium and has been assigned a certainty level of C.

Locatable Minerals

Any valuable minerals that are not salable or leasable, such as gold, silver, copper, tungsten, and uranium, are referred to as locatable minerals. Potentially favorable environments for the occurrence of metallic minerals in the Planning Area include carbonate-hosted gold, placer gold, and breccia pipe-related precious and base metal deposits, possibly containing rare earth elements. Favorable environments also occur for non-metallic industrial minerals such as gypsum. See Map 2.10 and Appendix 2.P for locatable mineral land classification locations.

Metallic Minerals

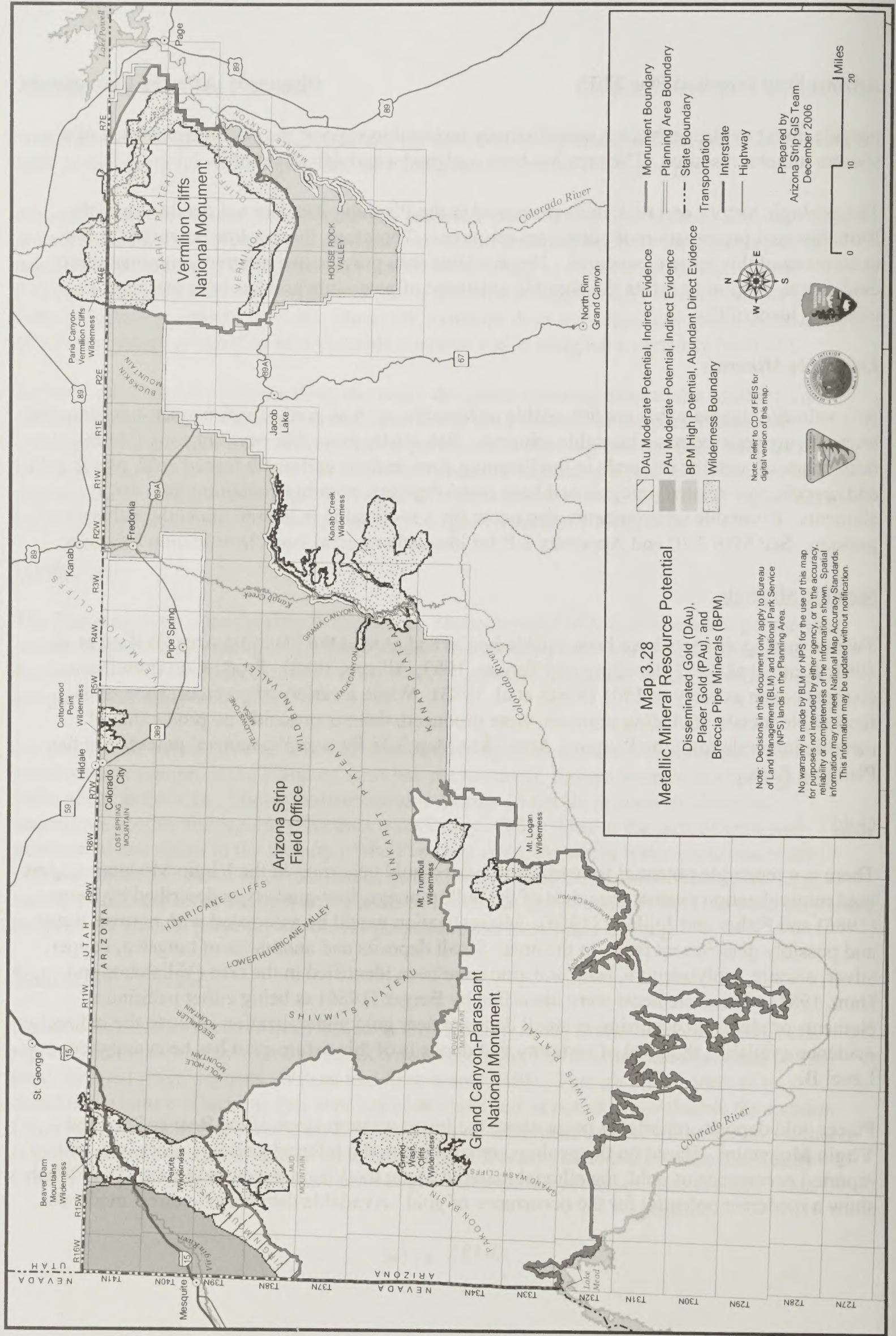
Twelve mining districts have been established in and around the Planning Area (Wilson et al. 1961; Keith et al. 1983; Doelling and Tooker, 1983; Allison, 1988). Production from these districts began as early as 1901 (Keith et al. 1983). While a variety of precious, base, and fissionable metals, including uranium, were produced, there is presently no production of metallic minerals from the Planning Area. See Map 3.28 for metallic mineral potential in the Planning Area.

Gold

There is a moderate potential for carbonate-hosted gold occurring in the Virgin Mountains. Any gold mineralization present would be of the bulk-tonnage, low-grade type described by Berger (1986) and Fisher and Juilland (1986). Mineralization would be associated with normal, thrust, and possibly detachment faults in the area. Small deposits and anomalies of tungsten, copper, silver, arsenic, molybdenum, lead, and zinc have been identified in the area (Villalobos and Ham, 1981). These elements were identified by Berger (1986) as being either pathfinder - elements or elements occurring in small deposits near gold mineralization. Due to the indirect evidence available, the level of certainty that deposits of this nature exist has been assigned Level B.

Placer gold deposits reportedly occur along the lower western slope of the Beaver Dam and Virgin Mountains. Based on the geologic environment, the inferred geologic processes, and reported occurrence of gold, the alluvial material along the Virgin River and Beaver Dam Wash show a moderate potential for the occurrence of gold. Available data provide direct evidence,

Map 3.28 Metallic Mineral Resource Potential



but are quantitatively minimal, to support the existence of a mineral resource of this type in this area and has therefore been assigned a certainty level of C.

Exploration and testing of gold mineralization in the Navajo Sandstone has occurred on the extreme western portion of the Paria Plateau. The gold is reportedly of the low grade/bulk tonnage type. The reported mineralization is of unknown origin.

Other Metals

Breccia pipe deposits containing precious and base metals occur along the lower Grand Wash Cliffs and eastern slope of the Virgin Mountains. These deposits reportedly contain copper (up to 23 percent), silver (up to 10 ounces per ton), and relatively minor amounts of lead, zinc, uranium, and gold (Keith et al. 1983). The rare metallic elements of germanium and gallium occur in the Apex deposit in Utah (Bernstein 1986). These two elements reportedly occur in breccia pipes along the Lower Grand Wash Cliffs (Winston 1988). Based on known deposits of this nature, the Lower Grand Wash Cliffs area and eastern slope of the Virgin Mountains have been rated as having a high potential for the occurrence of breccia pipe related metallic mineral resources. The level of certainty that these deposits exist is supported by abundant direct and indirect evidence and assigned a certainty level of D.

Uranium

Favorable environments for the occurrence of uranium minerals within the Planning Area include breccia pipe related uranium deposits and sandstone type uranium deposits. Breccia pipes originate in fractured Redwall Limestone and form collapse features in overlying rocks as recently formed as the Chinle Formation. Uranium mineralization occurs in the Supai through Toroweap formations (Krewedl and Carisey, 1986). Exploration and development operations for uranium deposits were very active in the Planning Area during the 1980s up through the mid-1990s. These activities resulted in the discovery of 18 uranium deposits and the construction of six uranium mines (Hack Canyon, Hermit, Pigeon, Arizona 1, Pinenut, and Kanab North mines). The mines were developed in breccia pipes found near Kanab Creek and its tributaries. The total production from these mines was 9,600 tons of uranium oxide (U_3O_8) and the proven reserves in the remaining deposits are estimated at 12,250 tons of U_3O_8 (Smith, R., personal communication, April 2002). Most of the developed deposits contained copper and silver, in addition to uranium. In the 1980s, the price of uranium fell dramatically, negatively affecting the economics of uranium mining. Currently three of the mines (Arizona 1, Pinenut, and Kanab North mines) are undergoing care and maintenance and are in stand-by mode. The other three mines have been closed and reclaimed. Generally, the reclaimed mines have responded very well to reclamation efforts. Through 1990, when production was suspended, uranium output from the Planning Area has totaled 23.3 million pounds of U_3O_8 with an average grade of about 0.60 percent U_3O_8 (McMurray 2003).

Sandstone-type uranium deposits occur in the Petrified Forest and Shinarump members of the Chinle Formation. These deposits typically occur in medium to coarse-grained sandstones and conglomerates deposited along ancient stream channels. Uranium mineralization is associated with carbonaceous material contained within the sandstone and conglomerates. Uranium was produced from sandstone type deposits in the 1950s (Keith et al. 1983; Scarborough 1981; Baillieu and Zollinger 1980). Approximately 1,524 tons of uranium ore averaging 0.201 percent U_3O_8 was produced from the Vermilion Cliffs deposits between 1954 and 1957 (Scarborough 1981). These deposits are located within Vermilion. Uranium was produced from similar deposits in the Rainbow Hills mining district though no production figures are available. In general, sandstone-type deposits are presently not economic to develop, being of too low a grade and discontinuous nature.

Uranium occurrences are also known from the Virgin Mountains and Littlefield areas. In the Virgin Mountains, these occurrences are probably associated with epithermal mineralization along faults. In the Littlefield area, the uranium probably occurs in playa deposits of the Muddy Creek Formation.

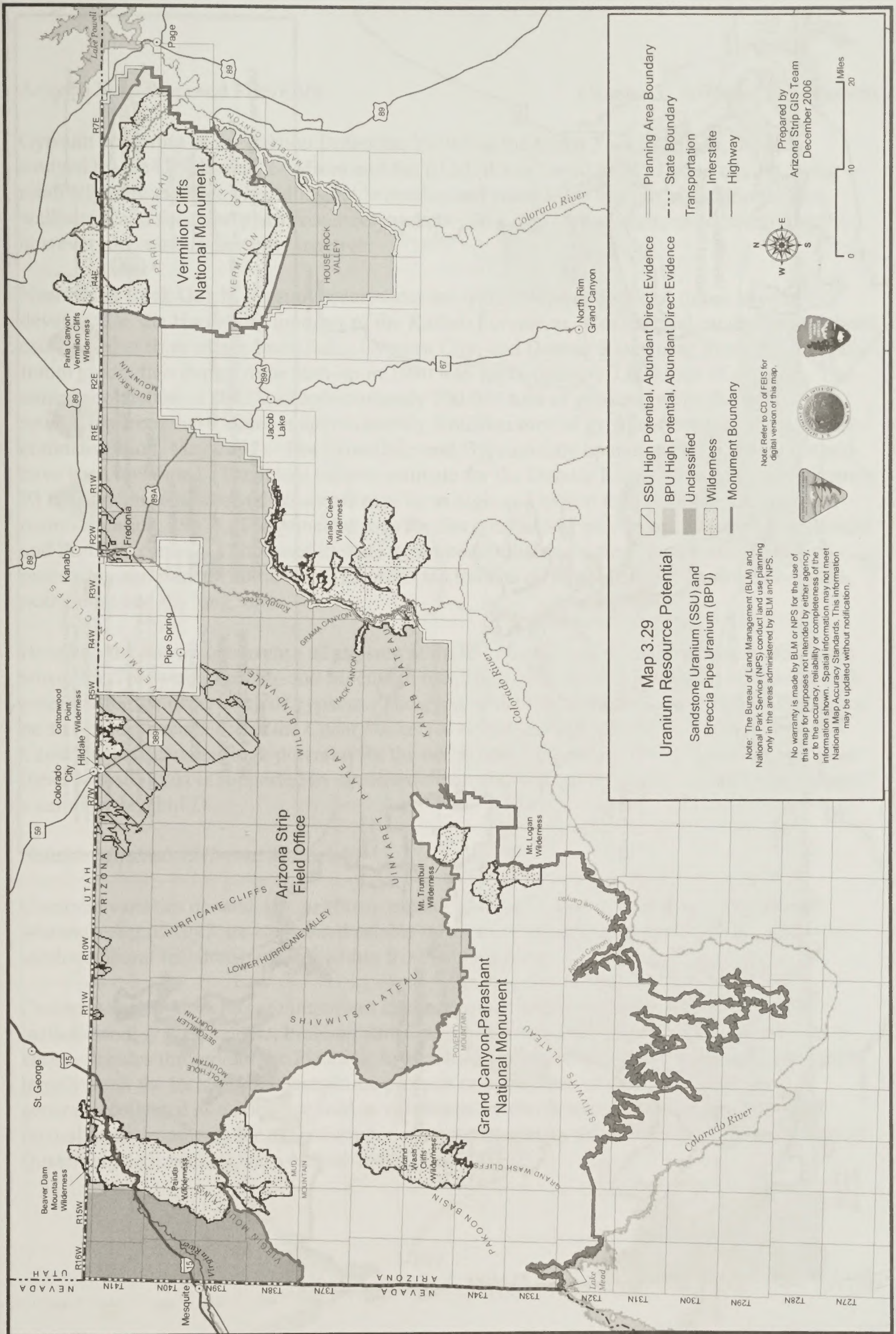
Based on the geologic environment, known deposits and mines in these areas there is a high potential for the occurrence of uranium resources (see Map 3.29). The level of certainty that these deposits exist is supported by abundant direct and indirect evidence and has been assigned a certainty level of D.

Non-metallic, Industrial Minerals

Non-metallic industrial minerals in the Planning Area include gypsum, halite, mica, and kaolinite (McCrorry and O'Hare 1965; Phillips 1988). These minerals are located primarily in the western half of the Planning Area. Gypsum is widespread in the area and occurs in the Pakoon Dolomite, the Harrisburg Member of the Kaibab Formation, and the Moenkopi Formation. The gypsum resource has been developed on a limited basis in the Cedar Pockets and a large deposit with many years of proven reserves is being mined in Black Rock Canyon areas. Mica occurs in the older Precambrian gneisses exposed on the west slope of the Virgin Mountains. Mineralized areas are small, discontinuous and of no economic significance. Kaolinite has been reported in a breccia pipe on the lower Grand Wash Cliffs. See Map 3.30 for non-metallic mineral resource potential within the Planning Area.

Gypsum

In the Planning Area, potentially favorable environments for the occurrence of gypsum include sabkha environments associated with marine regressions in rocks of Permian and Triassic age. Large gypsum deposits occur in the northwestern portion of the Planning Area. These deposits occur in the upper portion of the Pakoon Dolomite (Hintze 1986), the Harrisburg Member of the Kaibab Formation (Nielson 1986; Cheevers and Rawson 1979), and the Lower Red Member of the Moenkopi Formation (Hintze 1986; Nielson 1986; Moore 1972).

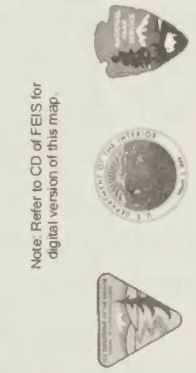
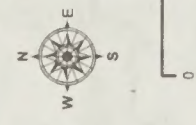


Map 3.29
Uranium Resource Potential
 Sandstone Uranium (SSU) and
 Breccia Pipe Uranium (BPU)

- SSU High Potential, Abundant Direct Evidence
- BPU High Potential, Abundant Direct Evidence
- Unclassified
- Wilderness
- Monument Boundary
- Planning Area Boundary
- State Boundary
- Transportation
 - Interstate
 - Highway

Note: The Bureau of Land Management (BLM) and National Park Service (NPS) conduct land use planning only in the areas administered by BLM and NPS.

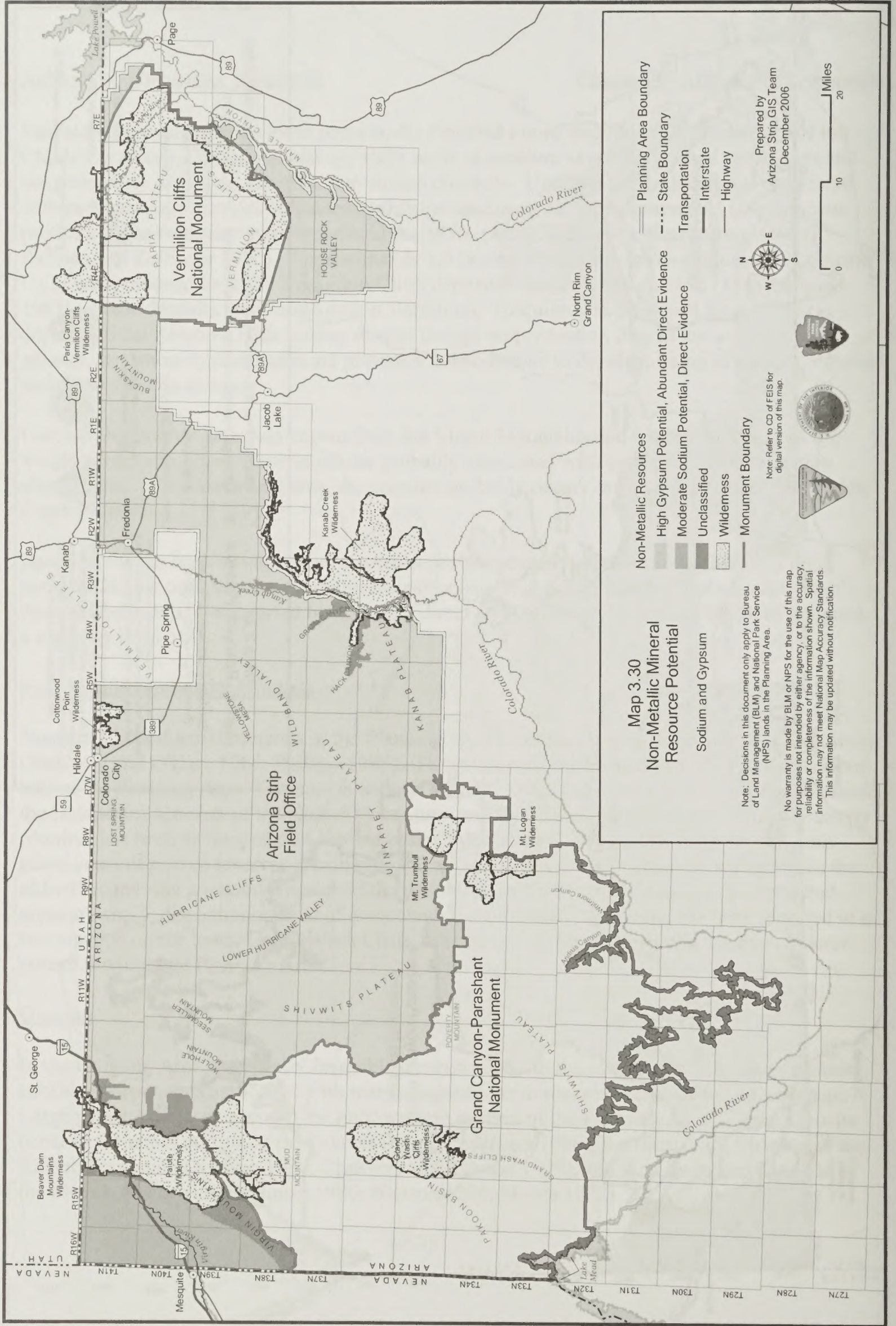
No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.



Prepared by
 Arizona Strip GIS Team
 December 2006

Map 3.29 Uranium Resource Potential

Map 3.30 Non-Metallic Mineral Resource Potential



Gypsum occurring in the Pakoon Dolomite, known as the Cedar Pocket deposit, has been assayed by the U.S. Bureau of Mines and the BLM, it was found to be of good quality, being relatively pure and free of acid insoluble residue and suitable for cement, agricultural, filler, wallboard, and food and pharmaceutical markets. This deposit has been mined intermittently; however, the mine is presently inactive.

Near Black Rock Gulch, gypsum occurrences are wide spread and several mines have been developed in the Harrisburg member of the Kaibab Formation. Commercial production has been established at three mines Snowflake, Gypsum City, and Domtar Ridge near Black Rock Gulch. Initial production during mine start-up in 1990 was approximately 7,000 tons of gypsum. The annual production in 2001 was approximately 700,000 tons of gypsum, while the total production from these mines is approximately 5 million tons of gypsum (Cercala, D., personal communication, May 2002). The Snowflake and Gypsum City operations were mined out and have been reclaimed. The initial reserve estimate for the Domtar Ridge Mine was approximately 93 million tons and inferred resources may be as high as 5 billion tons (Cercala, D., personal communication, 1997). The principal uses for this commodity include manufacturing wallboard and Portland cement. Other uses include agricultural, pharmaceutical, feed grade, food processing and mineral additives. The predicted trend is an increase in production in both the near future and the long term.

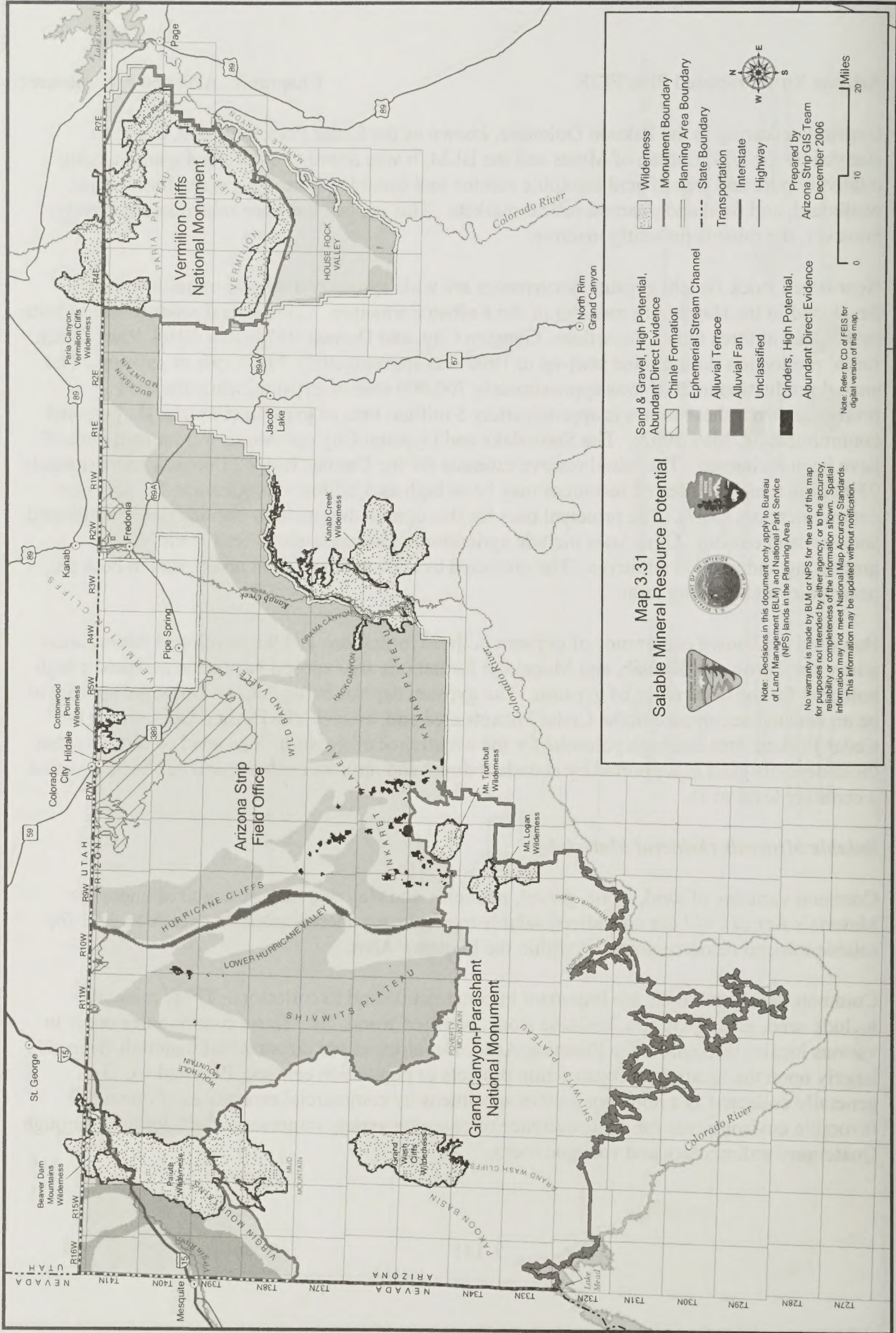
Based on the known occurrence of gypsum in these formations and the developed mines, areas where the Toroweap, Kaibab, and Moenkopi formations are exposed have been assigned a high potential for the occurrence of gypsum. The gypsum deposit in the Pakoon Dolomite appears to be an isolated occurrence in the Cedar Pockets area and, as such, the Pakoon Dolomite in the Cedar Pockets area has high potential for the occurrence of gypsum. The level of certainty that these deposits exist is supported by abundant direct and indirect evidence and has been assigned a certainty level of D.

Salable Minerals (Mineral Materials)

Common varieties of sand, stone, gravel, pumicite, and clay that may be acquired under the Materials Act of 1947 are considered salable minerals or mineral materials. See Map 3.31 for salable mineral resource potential within the Planning Area.

Common variety minerals are important in construction and to collectors. These minerals include sand, gravel, cinders, building stone, petrified wood, etc. These commodities occur in various locales throughout the Planning Area. Development of construction materials depends largely upon the location of construction projects or population centers. Petrified wood is generally collected as a hobby or sold as specimens by commercial enterprises. Potentially favorable environments for the occurrence of common variety minerals include Permian through Quaternary sedimentary and volcanic rocks.

Map 3.31 Salable Mineral Resource Potential



Map 3.31
Salable Mineral Resource Potential



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Legend

- Stippled pattern: Sand & Gravel, High Potential, Abundant Direct Evidence
- Diagonal lines: Chinle Formation
- Horizontal lines: Ephemeral Stream Channel
- Vertical lines: Alluvial Terrace
- Solid black: Alluvial Fan
- Solid grey: Unclassified
- Black square: Cinders, High Potential, Abundant Direct Evidence
- Stippled pattern: Wilderness
- Thick solid line: Monument Boundary
- Thin solid line: Planning Area Boundary
- Dashed line: State Boundary
- Double line: Transportation
- Single line: Interstate
- Thick solid line: Highway

Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for digital version of this map.

0 10 20 Miles

Authorized mineral material disposal areas are shown in Appendix 2.Q. Mineral material disposal sites in the table include community pits, common use areas, negotiated sales, and free use permits. In all of the cases, materials were used in connection with the expansion of local communities. Decorative boulders were purchased for use in landscaping at Zion National Park, Utah and by commercial operators for use in nearby communities. Limestone blocks were used to construct the Navajo Bridge Information Center near Lees Ferry. Flagstone is sold for construction projects in the St. George area and outlying communities.

Sand and Gravel

In the western portion of the Planning Area, gravel is abundant along the lower portions of the western slopes of the Virgin and Beaver Dam Mountains. Alluvial fans have formed in this area and the gravel is expected to be unsorted but of good quality.

Gravel also occurs along the Beaver Dam Wash and the Virgin River. Well-sorted good quality gravel is expected in the stream channels and along stream terraces that have formed along both sides of the channels. Based on the surface exposures of gravel in these environments, these areas are assigned a high favorability for the occurrence of gravel with a certainty level of D.

Sand and gravel resources in significant accumulations are relatively scarce in the central portion of the Planning Area. Large deposits are confined to isolated exposures of gravel in the lower portions of the Moenkopi Formation. Both Cedar Knoll and Little Cedar Knoll are examples of this type of deposit. These deposits, though few, contain substantial quantities of good quality gravel. The remainder of the central portion of the Planning Area is relatively gravel-poor. Good quality gravel is confined to exposures of the Shinarump Member of the Chinle Formation, Quaternary aged ephemeral stream channels cut into the Kaibab Formation, and Quaternary aged alluvial fan deposits formed along the western slope of the Hurricane Cliffs. Examples of deposits developed in these environments include the Yellowstone Mesa community pit in the Shinarump Member and a stream channel deposit west of Hack Reservoir. Gravel deposits within the Shinarump Member may be cemented and drilling, blasting, or ripping may be required to develop the gravel resources in some areas. Gravel that occurs in Quaternary stream channel deposit would probably be confined to a relatively narrow zone, averaging approximately 75 feet in width. Gravel from alluvial fans on the western slope of the Hurricane Cliffs provides a significant source of gravel just north of the Planning Area in Utah. This same environment could contain significant gravel resources in Arizona. Based on the known occurrence of gravel in these environments, these areas have been assigned a high potential for the occurrence of this resource. The certainty that gravel exists in these areas is high and it has been assigned a level of D.

In the extreme eastern portion of the Planning Area, gravel is relatively scarce. In the House Rock Valley area, the Shinarump Member of the Chinle may contain good quality gravel in large quantities. However, accessible exposures of this unit are rare and gravel from this unit should not be counted on as a long-term source. Recent gravel deposits of large quantity and relatively

good quality have formed at the bottom of the western slope of the Kaibab monocline. Gravel in these deposits is expected to be poorly sorted with sizes ranging from boulder to sand. In addition to these two types of deposits, potential also exists for stream channel gravels to occur on exposures of the Kaibab Formation. Deposits of this nature would be similar to those in the central portion of the Planning Area, as described above. Based on the physical exposures of gravel from these environments in the House Rock Valley area, these areas have been assigned a high potential for the occurrence of gravel with a certainty level of D.

Building Stone

Building stone occurs throughout the Planning Area and community pits for flagstone are established in the Moenkopi Formation. The existing sites established for this use is expected to meet local demand. Due to the widespread occurrence of this commodity, no attempt has been made to classify areas of high potential.

Cinders

Cinders are known to occur in the immediate vicinity of some of the volcanic centers on the Shivwits and Uinkaret plateaus. Only those deposits identified as authorized mineral material disposal areas have been designated as high potential and assigned a certainty level of D.

Parashant Minerals

Upon designation, Parashant lands were withdrawn from location, entry, and patent under the mining laws, subject to valid existing rights. There are no active mining claims in Parashant. However, non-federal mineral estate exists in the Monument and is not subject to the decisions in this Proposed Plan/FEIS (See Lands and Realty section in this chapter).

Locatable mineral production in Parashant has come exclusively from breccia pipe-type deposits. Copper mining dates back to the late 1800s and uranium was first recognized in association with copper mineralization in the 1940s. The Copper Mountain Mine, a mineralized breccia pipe, operated from 1913 to 1974 and produced 634,000 lbs. of copper, 6,000 lbs. of lead, 17,000 lbs. of zinc, 200 ounces of gold, and 7,000 ounces of silver (Keith and others, 1983).

Breccia pipe related precious and base metal deposits also occur in the Lower Grand Wash Cliffs area on the west side of Parashant. The Grand Gulch Mine operated between 1901 and 1966 and produced 18,000 tons of copper, lead, zinc, and silver. The deposit reportedly contained copper (up to 23 percent of the deposit), silver (up to 10 ounces per ton), and relatively minor amounts of lead, zinc, uranium, gold, gallium, and germanium (Keith and others, 1983). Other, less prolific, mines in this area include the Savanic, Cunningham, and Hidden Canyon. Production from these mines/prospects included copper and silver, however, very little is known about the history of these mines.

The Monument was extensively explored during the 1970s and 1980s, after two new uranium ore bodies were discovered at Hack Canyon. Exploration often included examination of low altitude, 1:24,000 scale, color aerial photographs for the following features: (1) concentrically inward-dipping beds that generally surround a basin; (2) amphitheater-style erosion along cliff faces; (3) concentric drainage, soil, and vegetation patterns; (4) breccia; and (5) altered and mineralized rock (Wenrich 1988). Fieldwork included geological mapping and drilling to confirm the presence of these features.

Vermilion Minerals

Upon designation, Vermilion lands were withdrawn from location, entry, and patent under the mining laws, subject to valid existing rights. No active mining claims currently exist in the Monument. However, non-federal mineral estate exists in the Monument and is not subject to the decisions in this Proposed Plan/FEIS (See Lands and Realty section in this chapter).

Exploration and testing of gold mineralization in the Navajo Sandstone has occurred on the extreme western portion of the Paria Plateau in Vermilion. The gold is reportedly very low in grade and not economic to mine. The mineralization is of unknown origin.

The only mineral production known to occur in the Monument is uranium. Approximately 1,524 tons of uranium ore was produced from Vermilion Cliffs deposits between 1954 and 1957 (Scarborough 1981).

Arizona Strip FO Minerals

There are reports that uranium was first discovered in the 1940s associated with copper in the Hack Canyon Mine, a breccia pipe copper mine with production dating back to the early 1850s (McMurray 2003). Though a minor amount of ore was shipped from the Hack Canyon Mine in the early 1950s, it was not until Western Nuclear leased the mine in 1974 and subsequently discovered two additional breccia pipe ore bodies, Hack II and Hack III, when exploration emphasis began to be focused on uranium-bearing breccia pipes. Energy Fuels Nuclear acquired the Hack Canyon complex of ore bodies in 1980, and the first shipment of ore from this complex was made that same year. Energy Fuels Nuclear conducted extensive uranium exploration on the Arizona Strip and eventually put another five, breccia pipe related uranium mines into production. Through 1990, when mining for uranium on the Arizona Strip ceased, production totaled 1.472 million tons of ore (McMurray 2003). Of these eight deposits, five were mined out and have been reclaimed (Hack Mines I, II and III, Pigeon Mine, and Hermit Mine). The other three (Kanab North, Arizona I, and Pinenut mines) are presently shut down. Uranium mining ceased in 1990 after the price fell to less than \$10 per pound.

Large gypsum deposits have been identified in the northwestern portion of the Arizona Strip, near Black Rock Gulch. These deposits occur in the upper portion of the Pakoon Dolomite (Hintze 1986), the Harrisburg Member of the Kaibab Formation, and the Lower Red Member of

the Moenkopi Formation (Hintze 1986; Nielson 1986; Moore 1972). Near Black Rock Gulch, gypsum occurrences are widespread and commercial production has been established. Western Mining and Minerals is currently producing gypsum from the Harrisburg member of the Kaibab Formation. Initial production during mine start-up in 1990 was approximately 7,000 tons of gypsum. The annual production in 2001 was approximately 700,000 tons of gypsum, while the total production from these mines has reached approximately 5 million tons (Cercala, D., personal communication, 2002). The principal uses for this commodity include manufacturing wallboard and Portland cement. Other uses include agricultural, pharmaceutical, feed grade, food processing, and mineral additives.

RECREATION AND VISITOR SERVICES/INTERPRETATION AND ENVIRONMENTAL EDUCATION

Overview

Recreation-Tourism Service Delivery System

Area Bounds

Local communities within and adjacent to the Planning Area such as Littlefield, Scenic, Beaver Dam, Arizona; Mesquite, Nevada; St. George, Hurricane, Washington, Santa Clara, Hildale, and Kanab, Utah; and Colorado City, Fredonia, and Page, Arizona all contribute to producing recreation-tourism opportunities for local, regional, national and international visitors and residents.

Recreation-Tourism Providers

Producing recreation and tourism opportunities within the Planning Area involves more than just programs and activities provided on public lands by the BLM and NPS. The USFS, local and surrounding counties (i.e., Mohave and Coconino in Arizona and Washington and Kane in Utah,) and American Indian groups (the Paiute Tribe and Navajo Nation) also contribute to producing recreation and tourism opportunities, primarily through the management of entry to and through recreation areas or “landscapes.” State governments in Arizona and Utah also play important roles in various facets of recreation delivery in the Planning Area, including the management of game and fish and recreation activities on state trust lands, creation and funding of grant programs that enhance OHV and non-motorized recreation opportunities, and providing state law concerning vehicle-related licensing.

Non-government recreation providers also play an important role in producing recreation and tourism opportunities. Many local and regional businesses provide for a variety of direct recreation opportunities on public and state lands that enable customers to realize specific recreation experiences via numerous commercial and competitive activities or events. Many other businesses also contribute indirectly or “off-site” to producing recreation opportunities,

such as local bike shops, OHV dealerships, outdoor equipment retailers, hotels, and restaurants. Taken all together, producing recreation and tourism opportunities in the Planning Area are influenced, guided, constrained, and managed by many providers.

Resource Attractions

Much of the Planning Area and the surrounding region can be enjoyed by driving for pleasure, flying, or vehicle exploring in mostly natural, quiet settings under night skies that are only slightly affected by indirect sources of outdoor artificial light emissions. (See Map 3.32 for recreation and historic trails, fee areas, recreation sites, etc.) Ponderosa and pinyon pine forests, basalt-capped mesas, colorful sandstone and limestone cliffs, deep slot canyons, and Mojave Desert bajadas and basins are some of the popular settings that attract visitors. Interstate 15, U.S. Highway 89A, State Route 389, and old U.S. Highway 91 are major tourist routes into the northern part of the Planning Area and provide the only paved roads to the entire region. A number of backcountry airstrips also provide recreation aviators access to a variety of attraction sites across the south-central portion of the Planning Area.

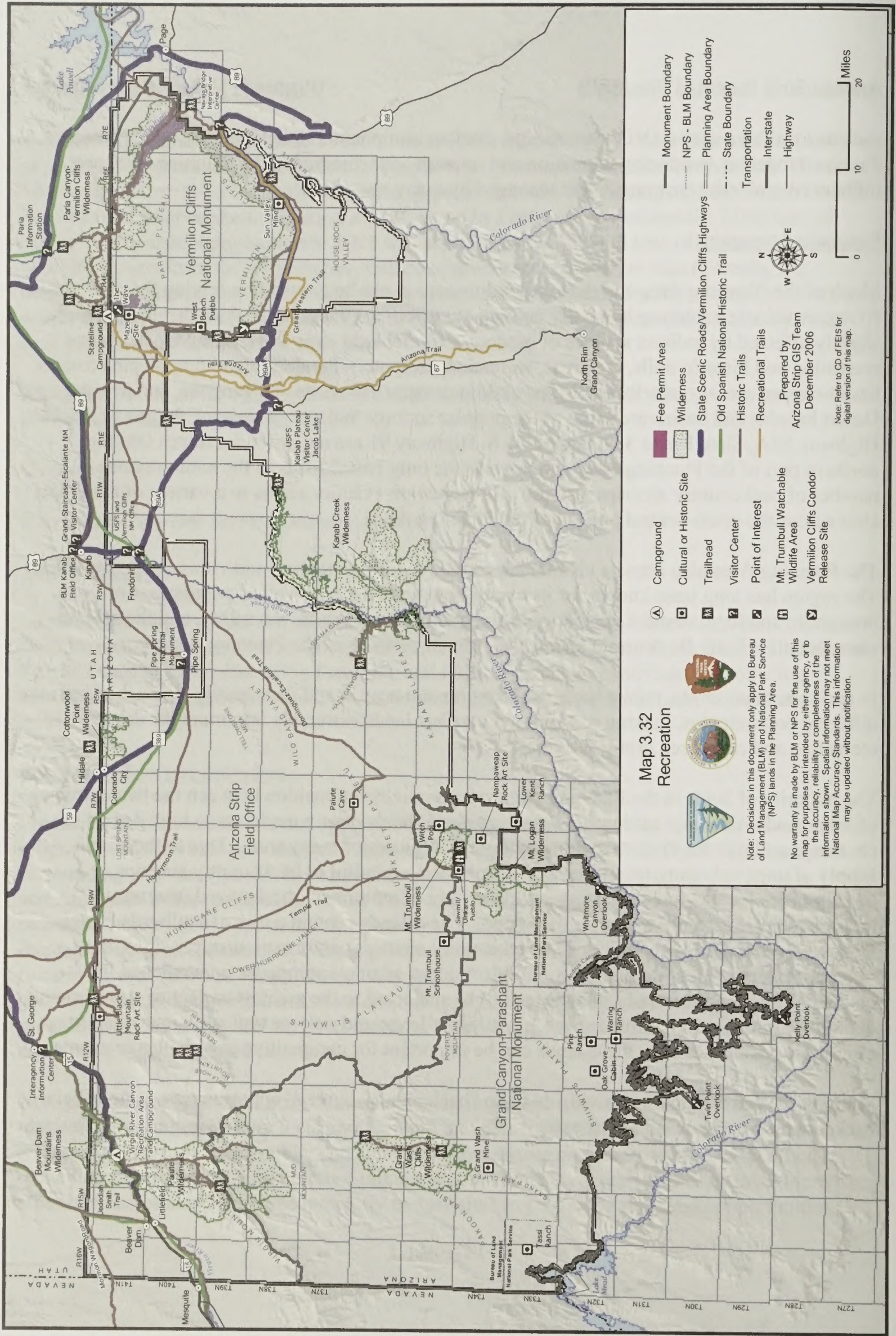
The Planning Area also attracts visitors interested in wildlife hunting and viewing opportunities. The region has long been known for its trophy-size mule deer, as well as populations of pronghorn antelope, coyotes, Kaibab squirrel, quail, dove, rabbits, waterfowl, and the seldom seen mountain lion. Bighorn sheep are also seen in portions of the Planning Area.

In contrast, many of the public lands in the region are near to and thus readily accessible from six different communities, making community interface lands extremely important for day-use recreation and organized group activities.

The majority of lands in the Planning Area are essentially a transition between the two extremes of urban and wilderness settings. These transitional lands offer a moderate to high degree of challenge and risk for visitors seeking outdoor adventures of many sorts. Due to the ample supply of unpaved roads, primitive roads, trails, and a handful of backcountry airstrips, opportunities for the public to enjoy a wide variety of motorized, mechanized, and non-motorized recreation activities are very good. These lands contain a mix of trailheads (ranging from well developed with facilities to backcountry airstrips), information/safety signs, and rudimentary recreation facilities that provide modest, setting-appropriate convenience for visitors. The near-urban public lands tend to be subjected to the greatest variety of simultaneous visitor use in the most confined space. While challenge and risk are typically not as important as in more remote settings, these lands can be important for competitive and challenge events.

Many of the primary routes provide de facto "backcountry byway" opportunities, as no official backcountry byway designations exist.

Map 3.32 Recreation



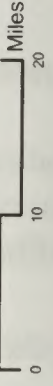
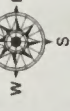
Map 3.32 Recreation



Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

- Campground
 - Cultural or Historic Site
 - Trailhead
 - Visitor Center
 - Point of Interest
 - Mt. Trumbull Watchable Wildlife Area
 - Vermilion Cliffs Condor Release Site
 - Fee Permit Area
 - Wilderness
 - State Scenic Roads/Vermilion Cliffs Highways
 - Old Spanish National Historic Trail
 - Historic Trails
 - Recreational Trails
 - Monument Boundary
 - NPS - BLM Boundary
 - Planning Area Boundary
 - State Boundary
- Transportation
- Interstate
 - Highway



Prepared by
Arizona Strip GIS Team
December 2006

Note: Refer to CD of FEIS for digital version of this map.

Existing Conditions

Recreation Activities

The Planning Area provides a wide array of recreation opportunities, ranging from competitive events, to vehicle exploring and sightseeing, to backcountry aviation, to backpacking. Probably the most popular activities in the region involve some form of OHV driving for pleasure. Exploring or sightseeing constitutes the activity of choice for many visitors and can involve various modes of transportation, such as sports-utility vehicle, equestrian, small aircraft, walking, OHV, hiking, motorcycle, bicycle, sedan, or motor home. The fact that “transportation/access” was the issue that received the most public input during the public scoping for this Plan attests to the popularity of exploring.

Wildlife viewing and hunting, for both big and small game, are two other popular recreational activities in the Planning Area. The AGFD has a responsibility to manage wildlife resources in the state of Arizona, including regulation of hunting, fishing, and trapping activities, where not prohibited by law.

Other popular activities include visiting cultural sites, bird watching, viewing wildflowers, camping, hiking, backpacking, climbing, and seasonal whitewater boating. Flying radio-controlled aircraft, rock crawling, parasailing, and geocaching are also growing in popularity.

Recreation Setting Conditions

Critical to producing recreation opportunities is the condition of recreation settings on which those opportunities depend. These settings conditions can range along a continuum from primitive to urban and can be classified and mapped, based on the variation that exists among the various physical, social, and administrative attributes of any landscape. The physical setting describes variations in components such as remoteness, naturalness, and facilities. The social setting reflects the variations in components such as group size, number and types of contacts and encounters between individuals or groups and the evidence of use by others. The administrative setting can reflect variations in the kind and extent of components such as visitor services, management controls, user fees, and mechanized use.

Using the Recreation Opportunity Spectrum (ROS) as a basis for classifying existing recreation setting character conditions, the Planning Area contains combinations of five out of the six recreation environments described in the ROS table in Appendix 3.H. They range from areas that are primitive, have low-use, and involves inconspicuous administration, to rural areas near communities with higher-use and highly visible administrative presence. The wide variety of moderately regulated recreation settings in the Planning Area greatly enhances the quality of recreation experience and benefit outcomes for most visitors.

Recreation Management – Resources, Signing, Recreation Facilities

A network of unpaved roads, primitive roads, trails, and a number of backcountry airstrips provide entry to the central and southern parts of the region. Many of these provide the only motorized and/or mechanized entry to some of the more remote areas of Grand Canyon National Park and Lake Mead and Glen Canyon NRAs. Most primary county and BLM roads are marked at most intersections and directional signing provides direction and mileage to primary destinations. Several of the backcountry airstrips are depicted on aeronautical charts, but few are marked or signed on the ground.

The Virgin River Campground and Stateline Campground are the only developed campgrounds in the Planning Area. At-large camping occurs throughout the Planning Area at many existing primitive or undeveloped sites along existing routes, spur routes, and at backcountry airstrips. Several areas provide tables for visitors for picnicking and camping.

Recreation Marketing – Visitor Services, Information, Interpretation, and Environmental Education

Interpretation and education opportunities in the Planning Area have not been extensively developed. Only a handful of small interpretive sites and a variety of single interpretive signs are scattered throughout the Planning Area. Currently, visitors receive information on opportunities in the Planning Area, as well as on safety concerns, from both off-site and on-site sources. Off-site sources include assorted resource brochures distributed throughout the area, maps, programs given by resource specialists or local historians, teacher information packets, field trips, fact sheets, BLM and NPS web sites, and souvenirs such as posters, pins, and T-shirts. On-site information is obtained from directional signs, road markers, ranger patrols, and interpretive signs.

An integral part of the BLM's recreation outreach is the Interagency Visitor Information Center in St. George, Utah operated by the Arizona Strip Interpretive Association (ASIA), which provides interpretation, education, and information to visitors interested in route conditions, the recreation opportunities available in the region, and current events. ASIA also provides information on the Planning Area at six additional visitor centers: Fredonia Welcome Center, Arizona; Kane County Visitor Center, Kanab BLM, and Grand Staircase-Escalante National Monument Visitor Center in Kanab, Utah; the Paria Contact Station between Kanab, Utah and Page, Arizona; and the Pine Valley Heritage Center in Pine Valley, Utah.

The continual increase of residents to Washington County, Utah, especially retired winter residents, and their acute interest in interpretive programs, is expected to place additional demands on BLM, NPS, and ASIA for interpretive spaces and media, both at the information center and in the field.

Recreation Monitoring - Visitation

Due to the remote nature of much of the area and the dispersed nature of most recreation activities in which visitors engage, it is difficult to obtain actual numbers of most visits to the Planning Area. For example, no reliable visitor data exists for river running or backcountry aviation activities, though these activities are known to take place. Currently, the estimates for BLM visitor use are based on data collected from various traffic counters, registration sheets, and professional assumptions based on field patrol experience. The visitation figures in Table 3.27 were primarily obtained from those reported in the Recreation Management Information System (RMIS), which is the BLM’s database of historic recreation visitation statistics. NPS visitation data is derived primarily from traffic counters located at numerous locations at or near the NPS boundary within the Monument. Traffic counter installations were completed in 2004 so data is sparse and inconclusive. Additionally, visitor registration boxes have been installed at various destination locations to obtain information to help determine needs and trends as well as visitation data. In addition, visitor use data from the remaining portion of Lake Mead NRA, Grand Canyon National Park, and Zion National Park contribute to the overall validity of visitor statistics for the region.

Table 3.27: Recreation Visits

Year	Arizona Strip FO	Parashant		Vermilion
		BLM	NPS	
1999	114,252	13,093	---	39,704
2000	120,150	12,058	---	39,702
2001	125,472	12,949	---	41,884
2002	118,745	14,280	---	39,934
2003	112,475	25,298	8,880	45,329
2004	112,846	44,233	9,180	39,093

The Interagency Visitor Information Center has recorded visitation over the past six years (see Table 3.28).

Table 3.28: Interagency Visitor Center Visitation (ASIA)

Year	Number of Visits
1998	Not Recorded
1999	93,048
2000	87,926
2001	96,062
2002	100,387
2003	84,384
2004	85,875

In the past five years, Lake Mead NRA, Grand Canyon National Park, and Zion National Park have recorded a slight, but steady increase in visitation. While visitor use for many years has had its peak-use periods during the spring and fall months, improved navigation technologies, outdoor gear, transportation modes and promotion of attraction sites have contributed to visitation increases in what were “shoulder” or “off-season” periods.

Within the Planning Area, the trends are similar, but for very localized reasons. For example, winter use in the St. George Basin involves all but true winter sports activities, as the mild winter climate provides excellent opportunities for non-snow-related motorized and non-motorized activities while most of the remaining region to the north and east lie under snow. Another example of changing seasons of use is the Coyote Buttes area. International notoriety, huge demand, a truly unique scenic resource, and visitor use limits have pushed visitor use into summer and winter months previously thought to be intolerable due to temperatures and route conditions.

With the continuing demographic shift of population to the Southwest, the increasing popularity of National Monuments, and the growing interest in “adventure tourism,” the demand for recreation opportunities in key areas across the Planning Area is expected to increase during the life of the Plan. Still another trend is the continued shortening of recreation visit duration. Visitors are investing less time in their visits, pointing, in part, to a potential increase in demand for all manner of recreation opportunities closer to communities. Given such a trend, identifying and maintaining appropriate recreation settings in near-urban areas will be more important.

Recreation Administration – Visitor Limits and Regulations; Permits and Fees

Many existing regulations govern visitor use on both public lands and within NPS units. The primary sources of standard regulations related to visitor use are found at 43 CFR 8300 for BLM lands and 36 CFR 2 for NPS units. Other supplemental rules applicable to a specific management unit may be developed under the regulations cited above.

Permits are typically issued for specific uses of public lands and related waters. They are issued as a means to mitigate or eliminate potential resource impacts, control visitor use, provide recreational resources, or as a mechanism to accommodate commercial services that assist the public in realizing recreation experience opportunities offered by the public lands. The agencies manage a wide variety of permit types within the Planning Area (see Table 3.29). Permits are typically required from any agency that manages the land where the use will take place, requiring some users to obtain permits from more than one agency.

Table 3.29: Number of Active Permits by Use Type (9/1/2002)

Type of Permits	Arizona Strip FO	Parashant		Vermilion
		BLM Lands	NPS Lands	
Backpacking (Overnight) (SRP)	2	1	0	0
Environmental Education	0	2	0	0
Guided Big Game Hunts (SRP)	7	18	2	0
Hiking/Walking (Day) (SRP)	1	1	0	3
Horseback Riding (SRP)	1	1	0	0
Scenic Route Tours (SRP)	1	0	0	1
Viewing Cultural Sites (SRP)	0	0	0	1
Competitive Motor Events (SRP)	1	0	0	0
OHV Tours (SRP)	0	2	1	2
Row/Float/Raft (SRP)	0	0	0	0
Virgin River Canyon Recreation Use Permits	2,695	0	0	0
Non-Commercial, Special Area (SRP)	0	0	0	5,448
Source: RMiS and Office Files				

Parashant Recreation and Visitor Services/Interpretation and Environmental Education

Recreation-Tourism Service Delivery System

Area Bounds

Local communities such as Littlefield, Scenic, Beaver Dam, Arizona; Mesquite Nevada; St. George, Hurricane, Washington, Santa Clara, Hildale, and Kanab, Utah; and Colorado City and Fredonia, Arizona, all contribute to the delivery of recreation-tourism opportunities to local, regional, national, and international visitors and residents.

Recreation-Tourism Providers

See discussion above, in the Overview section.

Resource Attractions

The Mt. Trumbull area is currently identified as a Watchable Wildlife area. Much of the Monument is contiguous to the western portion of the Grand Canyon and offers excellent scenic vistas of the canyon. Specific attraction sites include Whitmore Canyon, Mt. Trumbull, Shivwits Plateau, Twin Point, Kelly Point, and part of Black Rock Mountain.

Trails of several types lie within Parashant, such as remnants of the Temple Historic Trail as well as recreation trails at Mt. Trumbull and Grand Bench. A number of backcountry airstrips provide recreation aviators access to a variety of attraction sites across the Parashant. The

overwhelming majority of Parashant, however, is without formally constructed trails for foot, horse, bike, or motorcycle. Therefore, exploration of the routeless areas of Parashant via off-route foot or horse travel, or backcountry aviation requires exceptional navigation and outdoor skills.

Four statutory wilderness areas, NPS-proposed wilderness, and various lands with wilderness characteristics within Parashant offer some of the best backcountry opportunities to enjoy recreation activities in the most primitive, challenging settings. The fact that many of these areas typically include incredible scenic beauty and diverse landscape settings increases their recreational quality.

Existing Conditions

Recreation Activities

The Monument's remote, open, sparsely developed area and engaging scenery provides a wide array of dispersed recreation opportunities for moderately regulated recreation. Exploration, driving for pleasure, hiking, backpacking, camping, picnicking, big and small game hunting, and wildlife observation are the most common activity types. Motorized or mechanized vehicle, small aircraft, walking, or equestrian are typical modes of travel.

Recreation Setting Conditions

Current recreation setting conditions for Parashant range from Primitive to Roded Natural (see Appendix 3.H, ROS Settings). No Rural or Urban settings are present in the Monument. (See Map 3.32, depicting key attraction sites, trails, Special Recreation Management Areas (SRMAs), and wilderness.)

Recreation Management – Resources, Signing, Recreation Facilities

The Monument has 758 miles of maintained roads out of a total of 1,809 miles. Many are primitive roads, can be rough, and are rutted much of the year. Most of these primitive roads provide outstanding opportunities for 4WD and ATV exploring. This system of roads, primitive roads, trails, and a number of backcountry airstrips provide a variety of rustic recreation opportunities to travel to destination attractions, or just enjoy the variety of recreation activities mentioned above.

Camping occurs at many existing primitive or undeveloped sites along existing routes, spur routes, and at backcountry airstrips. In the ponderosa pine groves near Dellenbaugh, several tables are available to visitors for picnicking and camping. Otherwise, no developed campgrounds exist within Parashant.

Recreation Marketing – Visitor Services, Information, Interpretation, and Environmental Education

There are a few small interpretive sites, such as at the Sawmill Site, and a few single interpretive signs, such as in the forest restoration area, in Parashant.

Recreation Monitoring - Visitation

Due to the dramatic changes of ecosystem types and elevations throughout the Monument, its types and seasons of use are cyclic and change throughout the year. In 2003, an estimated 25,300 recreational users visited the BLM portion of Parashant. A Social Indicators Survey completed on Parashant (Northern Arizona University 2003) provides a descriptive analysis of a population of recreation users, non-recreational users, and surrounding community members. Most returned surveys came from Arizona (40 percent), Utah (39 percent), and Nevada (8 percent). A majority of the visitors to Parashant were male (68 percent), age 35-59 (57 percent), with a total annual household income of \$20,000- <\$50,000 (27 percent). Eighty-four percent of the respondents participate in outdoor recreation activities with their spouse/partner (31 percent), family (29 percent), or friends (24 percent). Ninety-four percent have no special needs to be accommodated by land managers when participating in outdoor recreation activities. Ninety-one percent have some form of college education and 69 percent have some type of college degree.

Seventy-six percent of the respondents to the mail back survey have visited Parashant. The most visited area is the Mt. Trumbull region (Survey Area E; 57 percent), followed by the Shivwits Plateau, (Survey Area C; 55 percent), Whitmore Canyon area, (Survey Area D; 50 percent), the lower Paiute Wilderness area (Survey Area A; 45 percent), and the Pakoon Basin (Survey Area B; 44 percent). In the last two years, most visitors to Parashant have visited these areas one to five times. No reliable visitor data exists for backcountry aviation activities, though these activities are known to take place.

Recreation Administration – Visitor Limits and Regulations; Permits and Fees

Even though the intent of management is to administer BLM and NPS lands within Parashant as seamlessly as possible, differences in basic mission mandates are evident in rules and regulations, recreation management, and visitor statistics reporting. The primary sources of standard regulations related to visitor use are found at 43 CFR 8300 for BLM lands and 36 CFR 2 for NPS units. Other supplemental rules applicable to a specific management unit may be developed under the regulations cited above.

Permits or fees are currently not required for public recreation use in Parashant. However, commercial recreation operators are required to obtain and pay for permits. Applicable rules and regulations for such permits are significantly different between NPS and BLM.

Vermilion Recreation and Visitor Services/Interpretation and Environmental Education***Recreation-Tourism Service Delivery System***Area Bounds

Local communities such as Kanab, Utah and Fredonia and Page, Arizona contribute to the delivery of recreation-tourism opportunities to local, regional, national, and international visitors and residents.

Recreation-Tourism Providers

See discussion above, in the Overview section.

Resource Attractions

The Paria Canyon, Coyote Buttes, and Vermilion Cliffs offer excellent hiking, backpacking, and photography opportunities, while the network of primitive roads on the Paria Plateau offers a variety of opportunities for vehicle exploring and driving for pleasure. The area is contiguous to a portion of the Glen Canyon NRA and much of the upland areas of the Monument offer excellent scenic vistas of Lake Powell, the Echo Cliffs, Marble Canyon, the Kaibab Plateau, and House Rock Valley. Visitors typically enjoy the Monument spring through fall, although winter use has increased, especially in the Coyote Buttes area, due to greater demand for use in the area.

One statutory wilderness area and various lands with wilderness characteristics within Vermilion offer some of the best backcountry opportunities to enjoy recreation activities in the most primitive, challenging settings. The fact that many of these areas typically include incredible scenic beauty, diverse landscape settings, and are readily accessible by the network of primitive road increases their recreational quality.

Remnants of historic trails such as the Honeymoon Trail and the Dominguez-Escalante Route lie within Vermilion.

Existing ConditionsRecreation Activities

The Monument's rugged, open, sparsely developed area and engaging scenery provides a wide array of dispersed recreation opportunities for moderately regulated recreation. Backcountry exploration, driving for pleasure, recreation aviation, hiking, backpacking, camping, picnicking, big and small game hunting, and wildlife observation are the most common activity types. Motorized or mechanized vehicle, small aircraft, walking, or equestrian are typical modes of travel.

Recreation Setting Conditions

Current recreation setting conditions for Vermilion range from Primitive to Roaded Natural (see Appendix 3.H, ROS Settings). No Rural or Urban settings are present in the Monument. (See Map 3.32, depicting, key attraction sites, trails, SRMAs, and wilderness.)

Recreation Management – Resources, Signing, Recreation Facilities

The Monument has only 117 miles of maintained roads, out of a total of 564 miles of existing roads. Most are primitive roads and very sandy. This system of primitive roads provides outstanding opportunities for 4WD and ATV exploring and driving opportunities to key destinations and features.

No formally constructed trails for foot, horse, bike, or motorcycle are present. However, getting into areas such as Paria Canyon, Sand Hill Crack, and Sun Valley Mine require hiking along canyon-bottom or abandoned roads. Due to this, exploration of the backcountry areas of Vermilion require excellent navigational, outdoor and, in many places, canyoneering skills.

No developed campgrounds and no backcountry airstrips exist in Vermilion. At-large camping occurs at many existing primitive or undeveloped sites along existing routes and spur routes.

Recreation Marketing – Visitor Services, Information, Interpretation, and Environmental Education

Various small interpretive sites, such as Dominguez-Escalante (with picnic tables) and the Condor Viewing Site, and a small number of single interpretive signs are scattered throughout the area, such as along the Honeymoon Trail.

Recreation Monitoring - Visitation

In 2004, an estimated 39,093 recreational users visited Vermilion. This number would be much higher were it not for the current visitor use limits in the Paria Canyon / Coyote Buttes Special Management Area. Current visitor use limits are 20 persons per day (cumulative from all access points), in each of the three sections of the Special Management Area: Paria Canyon, Coyote Buttes North, and Coyote Buttes South, or an total daily limit of 60. Within the visitor use limits, group sizes are also in place. Maximum group size in Paria Canyon is 10, and in Coyote Buttes North and South the limit is six. Dogs are allowed in all areas, but are subject to applicable fees (see next section).

Recreation Administration – Visitor Limits and Regulations; Permits and Fees

The primary source of standard regulations related to visitor use is found at 43 CFR 8300 for BLM lands. Other supplemental rules applicable to a specific management unit may be developed under the regulations cited above.

Non-Commercial Special Recreation Permits are currently required for use in the Paria Canyon / Coyote Buttes Special Management Area of Vermilion. The permit/fee program helps to regulate use and protect sensitive biological, geological, archeological, and social features of these areas. This area is a component of the Federal Lands Recreation Enhancement Act and is managed in partnership with the BLM Kanab Field Office and the Grand Staircase Escalante National Monument. Fees for all non-commercial permits are \$5 per person, per day. For visitors wishing to bring their dogs into the Special Management Area, the cost is \$5 per dog, per day. Commercial recreation operators within the Monument are also required to obtain and pay for permits. Currently, no new commercial recreation permits are being issued, pending the completion of this Plan.

Arizona Strip FO Recreation and Visitor Services/Interpretation and Environmental Education

Recreation-Tourism Service Delivery System

Area Bounds

Local communities such as Littlefield, Scenic, Beaver Dam, Arizona; Mesquite Nevada; St. George, Hurricane, Washington, Santa Clara, Hildale, and Kanab, Utah; and Colorado City, Fredonia, and Page Arizona all contribute to the delivery of recreation-tourism opportunities to local, regional, national and international visitors and residents.

Recreation-Tourism Providers

See discussion above, in the Overview section.

Resource Attractions

A vast network of improved roads and primitive roads offer a variety of opportunities for driving for pleasure, flying, or vehicle exploring. Several backcountry airstrips provide recreation aviators access to a variety of attraction sites across the planning area. Remnants of historic trails such as the Temple Trail, Honeymoon Trail, Dominguez-Escalante Route, and the recently designated Old Spanish National Historic Trail are within the Arizona Strip FO. Additionally, portions of the Great Western Trail and the last 12 miles of the Arizona Trail are in the eastern portion of the planning area. The Woodhill Loop Road, an R&PP lease, is located east of

Fredonia and provides a mix of sedan-accessible picnic and campsites. Unfortunately, vandalism of recreation facilities and signing has plagued this project. The overwhelming majority of Arizona Strip FO is without formally constructed trails for foot, horse, bike, or motorcycle. Therefore, exploration of its routeless areas via off-route foot or horse travel, or backcountry aviation requires exceptional navigation and outdoor skills.

Four statutory wilderness areas and various lands with wilderness characteristics within the Arizona Strip FO offer some of the best backcountry opportunities to enjoy recreation activities in the most primitive, challenging settings. The fact that many of these areas typically include incredible scenic beauty and diverse landscape settings increases their recreational quality. The Kanab Creek and Paiute wilderness areas offer excellent hiking, backpacking, and photography opportunities. The area is contiguous to portions of the Glen Canyon NRA, Grand Canyon National Park, Grand Staircase-Escalante National Monument, and Kaibab National Forest. The open landscapes provide long-distance vistas easily viewed from both paved and unpaved routes.

The entire segment of U.S. Highway 89-A through the Arizona Strip FO is designated by the State of Arizona as a state scenic road. The segment, along with the other paved routes mentioned, are part of the multiple-partner Vermilion Cliffs Highways Project – an initiative to provide interpretation signs at some 23 sites under the major theme of “Saga of Exploration and Survival.”

Existing Conditions

Recreation Activities

The plains, plateaus, mountains, cliffs, and sweeping scenery of the Arizona Strip provide a wide array of dispersed recreation opportunities for moderately regulated recreation. Exploration, driving for pleasure, hiking, backpacking, camping, picnicking, big and small game hunting, wildlife observation, and competitive and organized group events are the most common activity types. Motorized or mechanized vehicle, small aircraft, walking, or equestrian are typical modes of travel.

The Arizona Strip FO also produces the bulk of mountain biking, rock climbing, geocaching, and rock crawling activity opportunities in the Planning Area. This area likely accommodates most of the equestrian use as well, including the occasional equestrian endurance-racing event.

Recreation Setting Conditions

Current recreation setting conditions for the Arizona Strip FO range from Primitive to Rural. No Urban settings are present directly on public lands; however, the Arizona Strip FO interfaces with all six communities on or adjacent to the Planning Area. (See Map 3.32, depicting, key attraction sites, trails, SRMAs, and wilderness.)

Recreation Management – Resources, Signing, Recreation Facilities

The Arizona Strip FO has 1,943 miles of maintained routes, out of a total of 5,193 miles of routes. Many are primitive and can be rough and rutted much of the year. This system of routes provides a variety of backcountry driving opportunities and access to key destinations and features.

This remote area offers both the hearty, outdoor adventurer and the sightseeing tourist a wide variety of primitive roads that provide outstanding opportunities for 4WD and ATV exploring and driving opportunities to key destinations and features or for just enjoying the variety of recreation activities. Exploration of most of the backcountry areas of Arizona Strip FO requires excellent navigational, outdoor and, in many places, canyoneering skills.

Few formally constructed trails for foot, horse, bike, or motorcycle are present in the Arizona Strip FO. However, a short accessible nature trail leading to an interpretive wayside is maintaining in the Virgin River Canyon Recreation Area. Little Black Mountain Petroglyph Site contains a small network of nature/interpretive trails. The Dutchman and Sunshine Mountain Bike Trails are delineated primarily along portions of both existing and abandoned vehicle routes. The Mokaac Trail is primarily laid out along old routes. Other hiking routes in the Arizona Strip FO tend to take advantage of canyon bottoms, such as Soap Creek and Sullivan and Hack canyons, or old cattle trails, such as around Lyon Point, Willow Spring, and the Esplanade, or ridgelines and old roads, such as Paiute Trails and Pocom Cove.

The Virgin River Canyon Recreation Area and the closed ADOT rest area nearby, located in the Virgin River Gorge, and the Stateline Campground in Coyote Valley far to the east are the only significantly developed camping facilities within the entire Planning Area. At-large camping occurs at many existing primitive or undeveloped sites along existing routes and spur routes. In the ponderosa pine groves of Black Rock Mountain, several scattered tables are provided for visitors for picnicking and camping.

Recreation Marketing – Visitor Services, Information, Interpretation, and Environmental Education

Various small interpretive sites, such as Little Black Mountain and Mt. Trumbull Schoolhouse, and a variety of single interpretive signs are scattered throughout the area, such as at Hayrocks (also a picnic site) and along the Temple and Honeymoon Trails.

Recreation Monitoring - Visitation

As mentioned earlier, the Arizona Strip FO's community interface areas probably see the greatest variety of recreation users and the highest day-use visitation rates in the Planning Area. Motorized activities in these areas are popular and increasing, along with the demand for more opportunities. For instance, local community groups envision the potential to establish formal

networks of OHV and/or motorcycle routes connecting various communities in the Arizona Strip FO. With such increases in motorized-vehicle use come some undesired consequences, such as the development of new routes created by off-road travel. Proactive management solutions are thus needed to avoid such consequences.

Visitors typically enjoy the area spring through fall, although summer use in the Virgin Slope and Beaver Dam Slope areas is virtually intolerable due to excessive heat. Winter use in these hot, lower-elevation deserts is popular.

While the figures in Table 3.27 are estimates based on route counters, trail registers, and patrols, they represent the overall number of visitors to the area. No social surveys have been conducted for Arizona Strip FO lands in recent years. In addition, no reliable visitor data exists for river running or backcountry aviation activities, though these activities are known to take place.

Recreation Administration – Visitor Limits and Regulations; Permits and Fees

The primary source of standard regulations related to visitor use is found at 43 CFR 8300 for BLM lands. Other supplemental rules applicable to a specific management unit may be developed under the regulations cited above.

Recreation Use Permits are required for day, overnight, and group area use in the Virgin River Campground of the Virgin River Canyon Recreation Area. Fees are not currently charged for the 4-unit Stateline Campground or for public recreation use in the remaining Arizona Strip FO. Commercial recreation operators within the Arizona Strip FO are required to obtain and pay for permits.

The Arizona Strip FO manages many of the commercial guides for touring, sightseeing, and hiking, as well as the several competitive and organized group events. In coordination with the St. George Field Office, the Arizona Strip FO has hosted, for some 20 years, the annual Rhino Rally, sponsored by the Wizards Motorcycle Club, as well as portions of the Color Country Endurance Ride (an equestrian event). In recent years, organized events such as the Tri-State ATV Jamboree have provided well-managed, guided ATV touring, using numerous combinations of looping routes in the Southern Utah/Northern Arizona area. Its popularity has grown beyond local and regional riders to national renown.

TRAVEL MANAGEMENT

Overview

Paved roads to public lands in the Arizona Strip are limited. Major highways include a 59-mile segment of Interstate 15 in the northwest corner of the Planning Area and US Highway 89A between the Utah State line north of Fredonia and the Navajo Bridge at Marble Canyon. One other major highway, Arizona State Route 389, runs between Fredonia and the Utah state line at Colorado City. These latter two highways provide a single east-west route across about two-

thirds of the Planning Area. There are two additional small segments of paved roads, Highway 91 near Littlefield and Forest Road 22 (Ryan Road) south of Fredonia. All other routes into the Planning Area are either improved natural-surfaced roads or primitive roads. Various federal, state, or county agencies and private groups or individuals maintain these roads. Inventory of these routes (including capture of the route by Global Positioning System (GPS) devices) has been completed for Parashant and Vermilion. The inventory, while incomplete for Arizona Strip FO, continues, with completion slated for no later than 2008. Table 3.30 provides the total miles or “network footprint” of various existing route types in the Planning Area.

Route	Length
Paved Roads	193
Primary Unpaved Roads	631
Secondary Unpaved Roads	2,052
Tertiary Unpaved Roads	4,082
Single Track Routes	53
Closed Routes	126
Undetermined Routes	431
Non-Motorized Trail	464
Total	8,032

Source: GIS data based on Route Inventory, Aerial Photos from 1992 and 2002, and existing transportation data.

Interstate 15 is a major north-south artery that runs from California to Montana and carries thousands of vehicles per day. The portion of the Interstate through the Virgin River Gorge is very scenic and provides views into the Beaver Dam Mountains and Paiute wilderness areas, which are rated Class I under the VRM system. The interstate also provides easy access to recreational opportunities located at the Virgin River Gorge Campground. The other paved roads (US 89A, US 389, Highway 91, and Forest Road 22) are used as travel corridors by local and out-of-town users for entry into and across the Planning Area.

Several thousand miles of unpaved roads provide essential access to destinations within the Planning Area. These roads are necessary for access to livestock operations, mining properties, utility and communication facilities, range and wildlife developments, wildfire prevention/management and suppression, special use areas, recreation sites, research areas, monitoring stations, and intermingled private and state-owned lands. The transportation network also provides for important wildlife management activities including wildlife surveys (big game, small game, and special status species), wildlife transplants, wildlife law enforcement, and wildlife habitat improvements (e.g., controlled burns and pinyon-juniper thinning).

Increasingly, the public uses such roads and trails for touring and general recreation. The most commonly used unpaved roads (with average daily traffic (ADT)) from west to east are Whitney Pockets (9 ADT), Lime Kiln (15 ADT), Quail (57 ADT), Antelope (5 ADT), Clayhole (12

ADT), Toroweap (21 ADT), and Two Mile (7 ADT.) These roads are either BLM or county maintained. The public also uses numerous routes that currently are not officially maintained by any agency (non-system routes). Traffic on these routes is generally much lighter and often consists of OHVs. There are no designated OHV play areas in the Planning Area. Table 3.31 provides information on the agencies responsible for route maintenance throughout the Planning Area.

Table 3.31: Total Miles of Routes by Responsibility

	Federal	State	County	BLM	NPS	FS	Non-System	Non-Motorized Trails
Parashant	0	0	135	595	162	0	916	25
Vermilion	0	0	0	111	0	0	453	71
Arizona Strip FO	106	16	258	1,835	0	25	2,954	368
Total	106	16	395	2,541	162	25	4,323	464

Existing Rights-of-Way/Easements for Public Use

The Federal Highway Administration or ADOT has obtained rights-of-way for those portions of the public highways crossing public lands within the Planning Area. The USFS has acquired a right-of-way for the paved road south from Fredonia to the Kaibab National Forest boundary (Ryan Road). By Resolution No. 947, dated August 19, 1974, Mohave County adopted and approved a traffic safety study thereby setting forth the proposed county highway system. This county highway system identified and classified each route including those within the Planning Area. The BLM acquired easements for Quail Hill Road (BLM Road 1069); one easement from the state of Arizona just south of the Arizona/Utah state line and three from private individuals near Wolf Hole Lake where this route connects to Mohave County Road 5.

Overall Trend

As estimated via traffic counters, visitor registrations, and permits, visitation in the Planning Area over the past five years appears to be on a slight upward trend. The designation of the Monuments has increased interest in these areas and visitation most likely will continue to increase. Recent construction and improvement of Quail Hill Road south of St. George, Utah, increased visitor use in the western portion of the Planning Area and will undoubtedly play a factor in increasing visitation to Parashant.

Routes Open for Administration Use Only

Sixty-one miles of routes in the Planning Area are closed to the public but open for administrative use. Primarily these are routes within designated wilderness areas that provide for occasional motorized and/or mechanized entry to facilities associated with agency, grazing permittee, private/state inholdings, or AGFD programs or interests.

Transportation Facilities

Transportation facilities in the Planning Area include roads (see Appendix 2.S for road types and construction and maintenance standards; see this section for road specifics), trails, pullouts, interpretive panels and kiosks, and one rest stop in the Virgin River Gorge off Interstate 15. No roads in the Planning Area have administrative, conservation, historical, or back country byway designations.

Work on the Vermilion Cliffs Highway Project is ongoing and will include 27 interpretive panels at 11 pullouts along the major highways in the region. Partners in the project include: Coconino, Mohave, and Washington counties; the cities of Page, Washington, Hurricane, Kanab, and St. George; the towns of Colorado City and Fredonia; Kaibab Paiute Tribe; Navajo Department of Tourism; Kaibab National Forest; Glen Canyon NRA; Grand Staircase-Escalante and Pipe Springs National Monuments; AGFD; Marble Canyon, Lees Ferry, and Cliff Dwellers Lodges; ASIA; and Glen Canyon Natural History Association.

Parashant Travel Management

Table 3.32 provides the “network footprint” of various existing route types in Parashant. The Parashant proclamation called for prohibiting all off-road motorized and mechanized vehicle use, with the exception of emergency or authorized administrative purposes.

Route	Length
Paved Roads	0
Primary Unpaved Roads	140
Secondary Unpaved Roads	577
Tertiary Unpaved Roads	992
Single Track Routes	5
Closed Routes	13
Undetermined Routes	27
Non-Motorized Trail	25
Total	1,834

Source: GIS data based on Route Inventory, Aerial Photos from 1992 and 2002, and existing transportation data.

There are no paved roads in Parashant. The closest paved road is roughly 6 miles west of the Monument, originating from Bunkerville, Nevada. It is known as the Whitney Pockets Road, which turns into a primary unpaved road prior to crossing the Nevada/Arizona State line and then becomes Pakoon Springs Road (County Road 111). The Lime Kiln Road (County Road 242) is another primary unpaved road entering the northeastern edge of the Monument, originating from Mesquite, Nevada. The primary unpaved roads that originate from the north in Utah are Quail Hill Road (BLM Road 1069) from St. George and Antelope/Temple Trail Road (BLM Road 1015/1001) from Hurricane. Other routes entering the Monument from the

northeast and originating in Arizona include Mt. Trumbull Loop Road (County Road 5), originating in Colorado City, and Antelope Valley Road (County Road 109), beginning between Fredonia and Pipe Springs. All of these primary unpaved roads provide access to numerous secondary and four-wheel drive roads within the heart of the Monument.

The Lake Mead NRA General Management Plan (NPS 1986) established a system of approved roads for the NRA, including those areas now within Parashant. The recognized approved road system on the NPS lands within Parashant remains the recognized route network.

Transportation Facilities

Kiosks and interpretive panels are located at Nixon Springs on the south side of Mt. Trumbull.

Vermilion Travel Management

Table 3.33 provides the “network footprint” of various existing route types in Vermilion. The Vermilion proclamation called for the prohibition of all off-road motorized and mechanized vehicle use, with the exception of emergencies or authorized administrative purposes.

Route	Length
Paved Roads	0
Primary Unpaved Roads	12
Secondary Unpaved Roads	16
Tertiary Unpaved Roads	426
Single Track Routes	0
Closed Routes	13
Undetermined Routes	96
Non-Motorized Trails	71
Total	634

Source: GIS data based on Route Inventory, Aerial Photos from 1992 and 2002, and existing transportation data.

While there are no paved roads within Vermilion, Highway 89A parallels the southern boundary of the Monument, providing numerous entry portals for access to the base of the Vermilion Cliffs. Heading north from Highway 89A at the western edge of the Monument is a primary unpaved road known as Two Mile Road (BLM Road 1065). This road is located mostly along the western boundary of the Monument. Stemming off Two Mile Road and heading east is Pine Tree Pocket Road (BLM Road 1017). This road is the primary means of motorized entry onto the Paria Plateau and connects to numerous secondary unpaved roads and four-wheel drive routes.

The Glen Canyon NRA General Management Plan (NPS 1979) established a system of approved roads for the NRA, which lies contiguous to the eastern edge of the Monument. This recognized approved road system remains the recognized route network for the NRA.

Transportation Facilities

Pullouts and interpretive panels and kiosks occur along Highway 389A on the south side of the Monument. Most of the interpretive panels are part of the Vermilion Cliffs Highway Project. They interpret the scenery, history, biology, cultures, and geography of the area for people traveling along this major highway. Some of the pullouts and interpretive panels also highlight the California Condor and their release site on top of the Vermilion Cliffs.

Arizona Strip FO Travel Management

Table 3.34 provides the “network footprint” of various existing route types in the Arizona Strip FO.

Route	Length
Paved Roads	194
Primary Unpaved Roads	480
Secondary Unpaved Roads	1,459
Tertiary Unpaved Roads	2,663
Single Track Routes	48
Closed Routes	44
Undetermined Routes	308
Non-Motorized Trails	368
Total	5,564

Source: GIS data based on Route Inventory, Aerial Photos from 1992 and 2002, and existing transportation data.

The Arizona Strip FO encompasses all of the paved roads in the Planning Area (Interstate 15, US 89A, US 389, County Road 91, and Forest Road 22). The communities of Fredonia, Colorado City, Centennial, Cane Beds, Desert Springs, Littlefield, Beaver Dam, and Marble Canyon are located along these roads. These communities depend upon the roads to connect them to larger cities and towns outside the Planning Area, as well as providing them motorized/mechanized passage to various destinations in the Planning Area for work and recreation purposes.

The Glen Canyon NRA General Management Plan (NPS 1979) established a system of approved roads for the NRA, which lies contiguous to the eastern edge of the Arizona Strip FO. This recognized approved road system remains the recognized route network for the NRA.

Transportation Facilities

Pullouts, interpretive panels, and kiosks occur along Highways 389 and 89A from Colorado City, Arizona, through Fredonia and over the Kaibab Plateau. Most of the interpretive panels are part of the Vermilion Cliffs Highway Project. The Virgin River Gorge Rest Area along Interstate 15 transferred from ADOT to BLM in 2003. ADOT closed the rest area in 1996 before the transfer. BLM is presently working on plans to reopen the facility as an interpretive and educational site.

SPECIAL DESIGNATIONS

CONGRESSIONAL DESIGNATIONS

Wilderness Areas

Overview

Permanent wilderness protection for federal lands comes only through Congressional action that creates “statutory” or “designated” wilderness areas. Such lands are managed under the mandates of the Wilderness Act of 1964 and any special management instructions that Congress may include in the specific legislation that “designates” specific wilderness areas.

The Wilderness Act dictates that wilderness areas are managed to protect and preserve their “wilderness character.” The factors that make up an area's wilderness character are spelled out in the Wilderness Act's definition of wilderness (section 2(c)) and are specifically documented during an inventory prior to designation. They are:

- **Size** -- A wilderness, with few exceptions, contains at least 5,000 acres of federal land.
- **Naturalness** -- A wilderness area “generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable.” Wilderness areas must be managed to ensure that this condition is maintained or enhanced.
- **Outstanding Opportunities for Solitude or a Primitive and Unconfined Type of Recreation:** A wilderness area can have either “outstanding opportunities for solitude or a primitive and unconfined type of recreation” or it can have both. Solitude is defined as: (1) the state of being alone or remote from habitations (isolation) and (2) a lonely, unfrequented, or secluded place. The emphasis is on the opportunities a person has to avoid the sights, sounds, and evidence of other people within a particular area. Primitive and unconfined types of recreation are defined as those activities that provide dispersed, undeveloped recreation that do not require facilities or motorized equipment. In most cases, opportunities for solitude and primitive recreation go hand-in-hand. Wilderness areas must be managed to ensure that these opportunities are not degraded.
- **Special Features:** Congress specified that wilderness areas “may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.” These optional wilderness features are also documented during the inventory; some combination of features is usually present in wilderness areas. In some cases, these features may be a prime reason for wilderness designation. In addition, these features may contribute directly to an area's opportunities for primitive recreation. Wilderness areas must be managed to ensure that these features are not degraded.

The NPS portion of Parashant also contains seven proposed wilderness units (see Map 2.6). They were proposed in 1979 (Lake Mead NRA Wilderness Proposal) after the NPS lands were inventoried for wilderness character. NPS proposed wilderness would continue to be managed similar to designated wilderness, as required by NPS Management Policies (2001) and Director's Order 41 in order to protect wilderness characteristics and values until Congress has completed the legislative process.

There are eight wilderness areas across the Planning Area, which are also considered SRMAs. These are presented in Table 3.35 and illustrated in Map 2.6. All wilderness areas in the Planning Area have wilderness management plans in place except for the Kanab Creek Wilderness Area. The Paiute Wilderness is the only one that transcends planning boundaries, with the southern section located in Parashant and the northern section located in the Arizona Strip. The Arizona Wilderness Act of 1984 designated these eight areas, two of which are jointly managed with Utah BLM (Paria Canyon-Vermilion Cliffs and Beaver Dam) and one jointly with the USFS (Kanab Creek).

Name	Location	Acres on BLM Lands in Arizona	Acres on NPS Lands	Acres of Private Inholdings	Acres of State Lands in Arizona	Acres outside the Planning Area
BLM Wilderness Areas						
Paiute (Southern Section)*	Parashant	35,278	0	0	0	0
Grand Wash Cliffs*	Parashant	35,272	0	0	0	0
Mt. Trumbull*	Parashant	7,999	0	0	0	0
Mt. Logan	Parashant	14,560	0	40	0	0
Paria Canyon-Vermilion Cliffs*	Vermilion	89,598	0	227	0	22,365 Utah BLM
Paiute (Northern Section)*	Arizona Strip FO	52,484	0	3	0	0
Kanab Creek	Arizona Strip FO	6,804	0	0	0	61,592
Cottonwood Point*	Arizona Strip FO	6,442	0	133	0	0
Beaver Dam Mountains*	Arizona Strip FO	14,900	0	0	0	3,652 Utah BLM
NPS Proposed Wilderness Units						
Azure Ridge	Parashant	0	8,602	0	0	0
Cockscomb	Parashant	0	16,798	0	0	0
Balanced Rock	Parashant	0	14,709	0	0	0
Shivwits Plateau	Parashant	0	84,881	0	0	0
Andrus Point	Parashant	0	16,129	0	0	0
Whitmore Point	Parashant	0	37,707	0	0	0
Lava	Parashant	0	11,649	0	0	0
*Wilderness Management Plan in place						

Parashant Wilderness Areas

Paiute Wilderness Area (Southern Section)

The southern portion of the Paiute Wilderness Area ranges from ponderosa pine atop Black Rock Mountain to pinyon-juniper woodlands below (the northern portion of the wilderness is in the Arizona Strip FO). The large elevation changes in the area provide diverse vegetation communities and wildlife habitat for over 250 species including mule deer, mountain lion, and desert bighorn sheep. Outcrops of red sandstone provide a colorful contrast to the predominant greens of pinyon and juniper and the blacks of basalt in the Pocum Cove and Sand Cove areas. Broad vistas of distant and striking landscapes to the north, east, and south from Black Rock Mountain are some of the highest quality on the Arizona Strip.

Grand Wash Cliffs Wilderness Area

This 13-mile stretch of the Grand Wash Cliffs Wilderness Area is wild and very remote. Many rugged canyons, scenic escarpments, miles of cliffs, and sandstone buttes mark the transition between the Colorado Plateau and Basin and Range provinces. The cliffs are important habitat for desert bighorn sheep and raptors, while the low desert area contains desert tortoise and Gila monsters.

The Grand Gulch Bench road “corridor” passes through the entire wilderness, north to south. This route, while not open for public motorized or mechanized use, is available for occasional administrative and grazing permittee use, as depicted on Congressional maps that accompany the enabling legislation. It is also used as a hiking trail.

Mt. Trumbull Wilderness Area

The Mt. Trumbull Wilderness Area contains the slopes and summit of Mt. Trumbull (named by John Wesley Powell), involving an elevation change of nearly 2,700 feet. The area has basalt ledges, pinyon-juniper woodlands, ponderosa pine forests, and groves of Gambel oak and aspen. These vegetation communities are habitat for mule deer, wild turkey, and the unique Kaibab squirrel. Broad vistas of distant and striking landscapes can be seen in all directions from Mt. Trumbull and are some of the most beautiful on the Arizona Strip.

Mt. Logan Wilderness Area

The Mt. Logan Wilderness Area is one of recent volcanic origin and contains Mt. Logan (named by John Wesley Powell) and portions of the Uinkaret Mountains. It includes basalt ledges, ponderosa pine forests, pinyon-juniper woodlands, and a large, colorful, naturally-eroded amphitheater known as Hell’s Hole. Like Mt. Trumbull Wilderness Area, it provides habitat for deer, turkey, and Kaibab squirrels. The ponderosa stand here contains some of the largest pines

of this species found anywhere in Arizona. The broad vistas of distant and striking landscapes in all directions from Mt. Logan, Mt. Emma, and various overlooks are some of the highest quality on the Arizona Strip.

Parashant Proposed Wilderness Areas (NPS Lands Only)

Azure Ridge Proposed Wilderness Area

The Azure Ridge Proposed Wilderness Area is located at the southeastern end of Gold Butte, along the Arizona/Nevada State line, set back 300 feet from the high water line and stretching towards the Azure Ridge. The area provides panoramic views of Grand Wash and well as Grand Wash Bay of Lake Mead. The sedimentary landscape is interrupted by a lava flow in the northern third of the proposed wilderness area, creating a dramatic contrast in the geology of the area. The area is accessible from adjacent roads in Cottonwood Canyon and Grand Wash, and is be accessible by boat from the waters of Lake Mead during periods with high water levels.

Cockscomb Proposed Wilderness Area

The Cockscomb Proposed Wilderness Area is located on the eastern side of Grand Wash Bay and the God's Pocket area of Lake Mead. Cockscomb contains the Cockscomb, a tilted and rugged multi-colored limestone ridge that dominates the landscape in the area. The brighter red clays of the Moenkopi Formation lie in sharp contrast with the browns and grays of the typical sedimentary geology. The combination of the isolated and rugged setting along with the striking and colorful geology, create a unique wilderness setting. This area is accessible from the north by the Pigeon Wash Road and from the shoreline of Lake Mead or the Colorado River, depending on water levels.

Balanced Rock Proposed Wilderness Area

Located along the Grand Wash Cliffs, Balanced Rock Proposed Wilderness Area contains many features associated with the Colorado Plateau physiographic province. The most notable feature of the area is the spectacular Grand Wash Cliffs that make a dramatic abrupt 2,000-foot rise above the slopes adjacent to the God's Pocket area of the Colorado River or Lake Mead, depending upon water levels. The area is extremely remote, accessible by road only from the north and by boat from the Colorado River corridor. Because of its remoteness, the area receives only limited visitation.

Shiwits Plateau Proposed Wilderness Area

Visitors to the Shiwits Plateau Proposed Wilderness Area are provided a diversity of recreational activities in a remote and primitive area, ranging from backcountry exploration to hunting. Due to the higher elevations above Lake Mead, the region is cooler, receives more precipitation, and support pinyon-juniper and ponderosa pine forests and a wider variety of

wildlife, including the highest number of mule deer to be found in the Lake Mead NRA. The area is characterized as “plateau country” and provides spectacular views of the Grand Canyon. A few road corridors containing gravel roads are cherry-stemmed within the proposed wilderness area, offering visitors vehicular access to many parts of the area, including Twin and Kelly Point overlooks.

Andrus Point Proposed Wilderness Area

The Andrus Point Proposed Wilderness Area is located on the plateau between Andrus and Parashant Canyons. Andrus Point, located on the southern end of the plateau, is at an elevation of 5,425 feet, is accessible only by foot, and offers spectacular views of the Colorado River 3,000 feet below. Pinyon-juniper vegetation and rich artifacts of the Ancestral Puebloan and Paiute peoples characterize the plateau. The proposed wilderness area is extremely remote and receives only limited visitation.

Whitmore Point Proposed Wilderness Area

Extremely diverse in its topography and ecology, the Whitmore Point Proposed Wilderness Area is the only proposed wilderness area in the NPS portion of Parashant that includes lands below the rim of the Shivwits Plateau. The most predominate feature is Whitmore Point, a 5,491-foot peninsula that is accessible by roads and provides a dramatic 180-degree panoramic of the Grand Canyon. Most of the proposed wilderness, however, includes lands below the plateau rim at elevations 1,500 feet below Whitmore Point, which are dramatically different from the plateau in terms of geology and ecology. Below the rim, the geology primarily consists of sandstone formations and black lava flows. Plant communities are a mixture of the Great Basin, Mojave, and Sonoran Deserts. The Sonoran elements include noticeable and conspicuous species such as Ocotillo and crucifixion thorn. A number of access corridors are cherry-stemmed within the proposed wilderness area, with most visitations occurring at Whitmore Point.

Lava Proposed Wilderness Area

The Lava Proposed Wilderness Area is uniquely characterized by Colorado Plateau topography with extensive areas consumed by lava flows. Volcanism is the dominate feature of the area with dramatic exhibits of free flowing lava over the layered plateau cliff lines. The resulting topography is a gently sloping area flowing south toward the Grand Canyon between elevations of 7,154 and 3,000 feet. At the southern end is an abrupt and dramatic cliff where the Colorado River has cut into the geology. The area is remote and rugged and because it slopes toward the Colorado River, and provides a dramatic overview of the inner Grand Canyon. Visitation to the proposed wilderness area is limited primarily due to its remoteness.

Vermilion Wilderness Areas

Paria Canyon-Vermilion Cliffs Wilderness Area

The Paria Canyon-Vermilion Cliffs Wilderness Area straddles the Utah-Arizona state line and is jointly managed by Arizona and Utah BLM offices. The wilderness in Arizona is contiguous along almost 10 miles of its boundary with NPS lands in Glen Canyon NRA. Several tracts of private land inholdings in the Jacob Pool area have been identified for acquisition.

The wilderness area is nationally known for its beauty and solitude. Paria Canyon has towering walls streaked with desert varnish, huge red rock amphitheaters, sandstone arches, wooded terraces, and hanging gardens. Along the bottom of the canyon, the Paria River and numerous springs combine to form a ribbon-like oasis of willows and cottonwoods.

Joining Paria Canyon at its mouth are the Vermilion Cliffs. This 3,000-foot escarpment dominates the area with its thick Navajo Sandstone face; steep, boulder-strewn slopes; rugged arroyos; and stark overall appearance. This attraction is visible along a Highway 89A and 89 south of Page, Arizona.

Petrified logs, dinosaur tracks, and two historic trails, the Honeymoon Trail and the Dominguez-Escalante Route, provide information on the history of the area. Several significant archaeological sites on the Paria Plateau are included in the wilderness. Desert bighorn sheep inhabit the wilderness area.

Coyote Buttes is a geologically spectacular area where crossbeds of the Navajo Sandstone exhibit colorful banding in surreal hues of multiple colors. It is internationally recognized and continues to gain fame, creating a greater demand for visitors wanting to enter the area.

Arizona Strip FO Wilderness Areas

Kanab Creek Wilderness

Managed jointly by the BLM and USFS, Kanab Creek is part of the largest canyon system on the north side of the Grand Canyon. It is rich in impressive rock formations, colorations, and features carved by wind and water. Numerous springs provide an interesting contrast with the generally arid terrain. The cliffs are home to bands of desert bighorn sheep as well as Peregrine Falcons.

The wilderness straddles the Mohave-Coconino county line, and is contiguous along about 14 miles of its boundary with NPS lands in Grand Canyon National Park that are currently proposed for wilderness designation. The Hack Canyon portion of the wilderness consists primarily of the canyon bottom. Most of the canyon slopes, cliffs, and rims are excluded due to pre-designation negotiations designed to allow for future exploration and potential extraction of uranium.

Paiute Wilderness (Northern Section)

The Virgin Mountains form the backbone of the Paiute Wilderness Area, which ranges from ponderosa pine forest to the Mojave Desert. It includes the south side of the Virgin River Gorge, which is readily seen from I-15. The large elevation changes contain diverse vegetation communities and wildlife habitat for over 250 species including mule deer, mountain lion, desert tortoise, and desert bighorn sheep. Excellent scenic vistas are available from the top of the Virgin Mountain ridgeline and the Black Rock Mountain area. The long and deep Sullivan Canyon is a distinctive contrast to the high ridges of the Virgin Mountains to the west. Spectacular folding and faulting of massive beds of stone are evident in the northern portion of the wilderness. Exposures of Precambrian formations in and to the west of the main ridges provide a rare opportunity outside of the Grand Canyon to view these oldest of rocks.

The wilderness is adjacent to the rapidly growing communities of Mesquite, Nevada and Beaver Dam, Littlefield, and Scenic, Arizona, and I-15 in the Virgin River gorge. Urban sights and sounds are readily noticeable from much of the western and northern portions of the wilderness.

Cottonwood Point Wilderness

This wilderness is part of the impressive Navajo Sandstone plateau overlooking the Arizona Strip to the south. The 1,000-foot multicolored Vermilion Cliffs, wooded canyons, craggy pinnacles, and alcoves dominate the landscape and are visible from scenic State Highway 389. The Cottonwood Spring area contains excellent riparian habitat set against the striking colors of the Vermilion Cliffs.

The wilderness is contiguous to the southern end of the BLM's Canaan Mountain WSA in Utah, which has been recommended for wilderness designation. The wilderness is adjacent to the small communities of Colorado City, Arizona, and Hildale, Utah, and the rural settlement of Cane Beds. Urban sights and sounds are readily noticeable from much of the wilderness. The exterior wilderness boundary encompasses various parcels of private lands, primarily around the southern periphery of Lyon Point. Since designation, 37.5 acres have been acquired through exchange and the remaining 134 acres have been identified for acquisition.

Beaver Dam Mountains Wilderness

This wilderness consists of rugged mountains, gently sloping alluvial fans, and the north side of the Virgin River gorge. Vegetation includes Joshua trees, desert shrubs, and several rare plant species. Notable wildlife species include desert bighorn sheep, desert tortoise, woundfin minnow, the Virgin River chub, and various birds of prey. The Beaver Dam area contains the northern reaches of the Grand Wash that crosses the Grand Canyon and finally peters out near Kingman, Arizona. This unit also contains approximately 3 miles of the Virgin River that has

been found suitable for designation as wild and scenic river segment with a potential classification as wild.

Ironically, Interstate 15, enabling millions of travelers to view the wilderness as they drive through the Virgin River Gorge, separates this wilderness from the Paiute Wilderness. Excellent scenic vistas are available from the top of the Beaver Dam Mountains ridgeline.

BLM Road 1005 corridor passes through the entire wilderness. This route is open for public motorized or mechanized use, as depicted on the congressional maps that accompanied the enabling legislation, and used for entry to private landholdings along the road. The wilderness is close to the rapidly growing communities of Mesquite, Nevada, Beaver Dam, Littlefield, and Scenic, Arizona, and I-15 in the Virgin River gorge. Urban sights and sounds are readily noticeable from much of the western portion of the wilderness.

Wild and Scenic Rivers

Overview

The Wild and Scenic Rivers Act of 1968, as amended, was passed to protect free flowing rivers or river segments and their related outstandingly remarkable values (e.g. scenic, recreational, geologic, fish and wildlife, historic, or cultural values). The Wild and Scenic Rivers Act establishes three wild and scenic river classifications: wild, scenic, and recreational. Wild rivers are free of dams, diversions, or other impoundments and generally inaccessible except by trail, with essentially primitive watersheds or shorelines and unpolluted waters. Scenic rivers are generally free of impoundments, with largely primitive shorelines or watersheds and shorelines mostly undeveloped, but accessible in places by roads. Recreational rivers are readily accessible by road or railroad, may have some development along their shorelines, and may have undergone some impoundment or diversion in the past. The BLM and NPS are required to evaluate all rivers located on land under their respective administrations in order to determine if the rivers are eligible and suitable for inclusion in the National Wild and Scenic Rivers System.

In 1994, the Arizona State Office of the BLM finalized the Arizona Statewide Wild and Scenic Rivers Legislative EIS, which analyzed the proposed action to recommend 13 rivers to Congress as suitable for inclusion in the National Wild and Scenic Rivers System. Two of these rivers, the Paria and Virgin, are located in the Planning Area. Table 3.36 lists wild and scenic rivers in the Planning Area.

Table 3.36: Suitable Wild and Scenic Rivers in the Planning Area

Suitable River	Segment	Length in Miles Across BLM Lands	Outstandingly Remarkable Values	Tentative Classification	Location
Paria River	1	27.0	Scenic, Recreational, Fish and Wildlife, Cultural and Historic, Geologic	Wild	Vermilion
Virgin River	1	2.9	Scenic, Recreational, Fish and Wildlife, Geologic, Aquatic	Wild	Arizona Strip FO
	2	7.6		Scenic	
	3	6.7		Recreational	
	4	12.1		Recreational	

The Arizona Statewide Wild and Scenic Rivers Legislative EIS (BLM 1994) identifies certain interim management prescriptions that include management objectives, management actions, and appropriate allocations of land and resource uses that maintain or enhance the outstandingly remarkable values and tentative classification of the suitable rivers. Pursuant to the Wild and Scenic Rivers Act of 1968 on the wild and scenic eligibility and suitability determinations, no uses will be authorized which would reduce or threaten their potential eligibility classification or suitability for consideration for inclusion in the National Wild and Scenic Rivers System until Congress makes final decisions.

Parashant Wild and Scenic Rivers

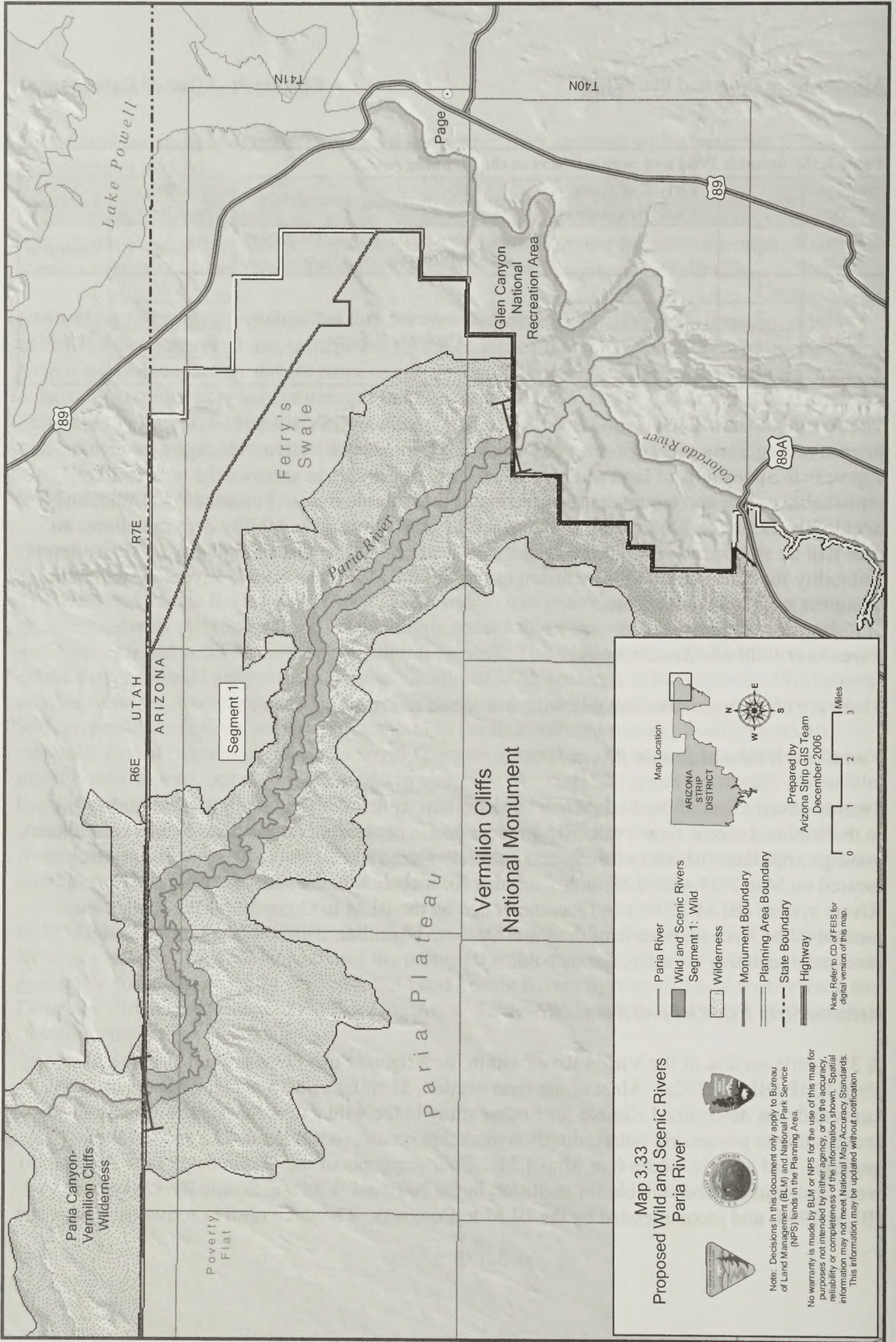
There are no designated or suitable wild and scenic rivers in Parashant.

Vermilion Wild and Scenic Rivers

Twenty-seven miles of the Paria River in Vermilion were identified as eligible for further study in the wild and scenic river evaluation process due to possessing outstanding scenic, recreational, geologic, riparian, fish and wildlife, and cultural values (BLM 1994a). The river segment, located on Map 3.33, was determined suitable for inclusion in the National Wild and Scenic Rivers system (BLM 1994a) and recommended by the BLM to Congress. All 27 miles are located in the Arizona portion of the Paria Canyon-Vermilion Cliffs Wilderness Area and received a tentative classification as wild.

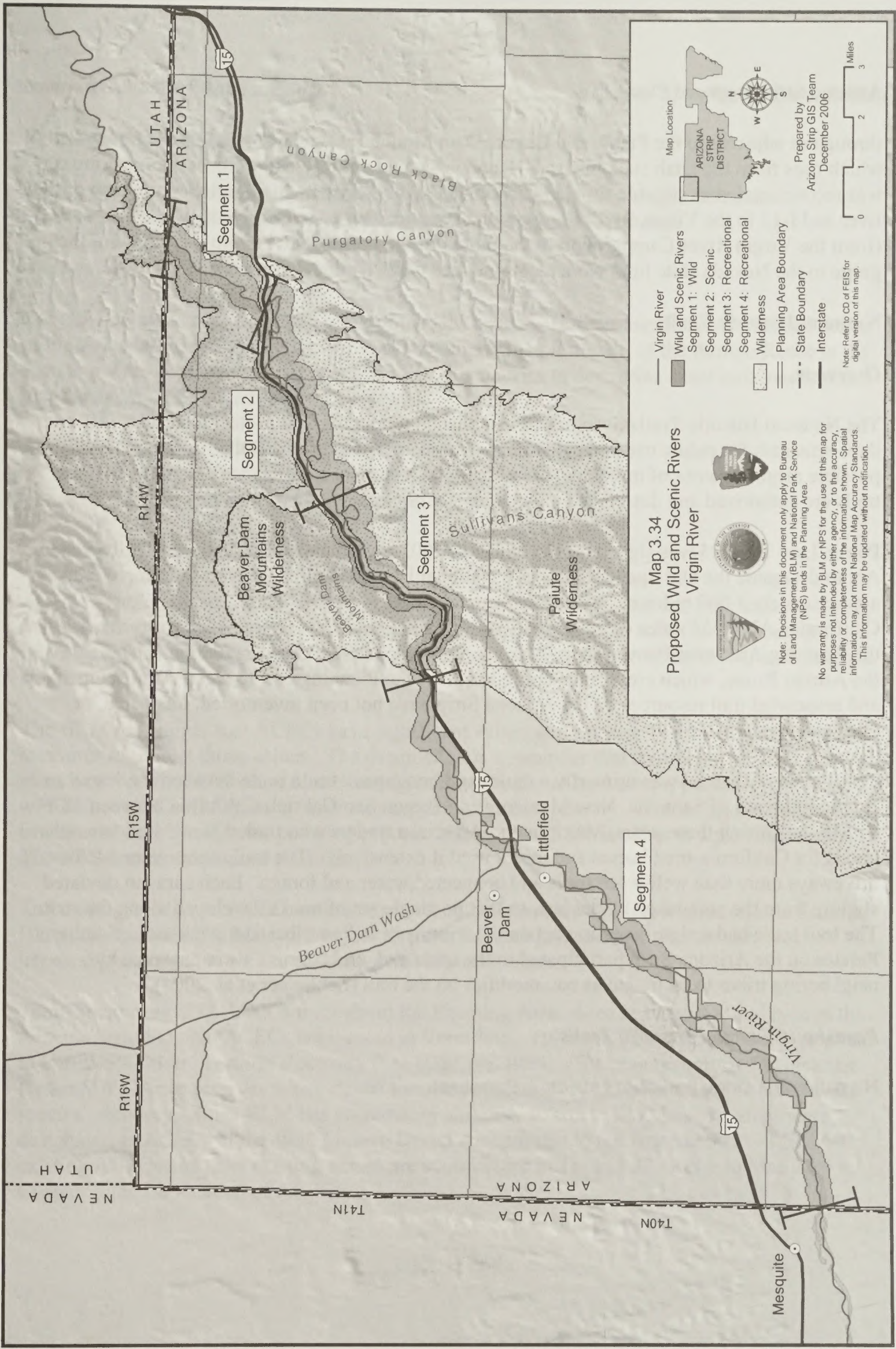
Arizona Strip FO Wild and Scenic Rivers

A 38.5-mile section of the Virgin River within the Arizona Strip FO was studied in the Arizona Strip RMP (BLM 1992a). Most of the river section, 31 miles or 80.5 percent, occurs on BLM lands and was determined eligible for further study in the wild and scenic river evaluation process due to possessing outstandingly remarkable scenic, recreational, fish and wildlife, geologic, and aquatic values (see Map 3.34). Four segments of the Virgin River (see Table 3.36) were determined to be suitable for inclusion in the National Wild and Scenic Rivers system (BLM 1994) and recommended by the BLM to Congress. The three upstream river segments run






Map 3.33 Proposed Wild and Scenic Rivers - Paria River

Map 3.34 Proposed Wild and Scenic Rivers - Virgin River



**Map 3.34
Proposed Wild and Scenic Rivers
Virgin River**

Note: Decisions in this document only apply to Bureau of Land Management (BLM) and National Park Service (NPS) lands in the Planning Area.

No warranty is made by BLM or NPS for the use of this map for purposes not intended by either agency, or to the accuracy, reliability or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Virgin River
 Wild and Scenic Rivers
 Segment 1: Wild
 Segment 2: Scenic
 Segment 3: Recreational
 Segment 4: Recreational
 Wilderness
 Planning Area Boundary
 State Boundary
 Interstate

Prepared by
 Arizona Strip GIS Team
 December 2006

Miles
 0 1 2 3

Note: Refer to CD of FEIS for digital version of this map.

Map Location
 ARIZONA STRIP DISTRICT

through or adjacent to the Paiute and Beaver Dam Mountains wilderness areas. Segment 1, which runs from the Utah state line to I-15 and is located entirely within the wilderness areas, was recommended as suitable for classification as wild. Segment 2 (from the confluence of the river and I-15 to the Virgin River Campground) was recommended as scenic, while segments 3 (from the Virgin River Campground to the mouth of the gorge) and 4 (from the mouth of the gorge to the Nevada state line) were recommended as recreational segments.

National Historic Trails

Overview

The National Historic Trails System was established to identify and protect historic routes and their remnants for public use and enjoyment. These are extended trails that follow as closely as possible original routes of travel that are of national historical significance. National historic trails are authorized and designated only by an Act of Congress.

Public Law 107-325 was signed on December 4, 2002 and amended the National Trails System Act to designate the Old Spanish Trail as a National Historic Trail. This legislation recognizes approximately 3,000 miles of trail routes from Santa Fe, New Mexico to Los Angeles, California. About 34 miles of the primary trail route crosses the extreme northwestern corner of the Planning Area near Beaver Dam, Arizona. Also included in this designation is a portion of the Armijo Route, which crosses the entire length of the Planning east to west. Trail segments and associated trail resources on the Arizona Strip have not been inventoried, identified, or evaluated yet.

The Old Spanish Trail was primarily a mule- and horse-pack trade route between the Mexican frontier outposts of Santa Fe, New Mexico, and Mission San Gabriel, California between 1829 and 1848. During these years, Mexican and American traders who traded New Mexico woolen goods for California-bred horses and mules used it extensively. The trail routes resembled stock driveways more than well-worn trails and connected water and forage. Each caravan deviated slightly from the path taken by the last, so that no single set of tracks developed along the route. The trail trade had a significant impact on the American Indian tribes along the trail. Southern Paiutes on the Arizona Strip participated in the trade and, on occasion, were enslaved by neighboring tribes to be traded as commodities on the trail (Schlanger et al. 2004).

Parashant National Historic Trails

No national historic trail segments cross Parashant.

Vermilion National Historic Trails

Segments of the Armijo Route of the Old Spanish Trail may cross through Vermilion. Inventories that would confirm or refute this have not yet been conducted.

Arizona Strip FO National Historic Trails

Roughly, 34 miles of the primary route of the Old Spanish Trail crosses the northwestern corner of the Arizona Strip FO near Beaver Dam, Arizona. Most, if not all, of the Armijo Route in the Planning Area occurs in the Arizona Strip FO. Inventories to determine exact trail location and length have not been conducted.

ADMINISTRATIVE DESIGNATIONS**Areas of Critical Environmental Concern*****Overview***

ACECs contain one or more resources that require special management and protection to maintain the value of the area and its resources. Areas designated as ACECs may contain important historic, cultural, and scenic values, or habitat for endangered, sensitive, or threatened species.

The BLM recognizes that ACECs have significant values and establishes special management measures to protect those values. The designation is a reminder that significant values exist that must be accommodated when future management actions and land use proposals are considered within the ACEC. Designation may also support a funding priority. The designation of ACECs is achieved only through the planning process, either in the RMP itself or in a plan amendment. The NPS does not designate ACECs.

To be designated as an ACEC, an area must meet the relevance and importance criteria listed in BLM Manual 1613 (BLM 1988) and require special management to protect and prevent irreparable damage to relevant and important resource values.

There are currently 12 ACECs throughout the Planning Area: three in Parashant and nine in the Arizona Strip FO. No ACECs are located in Vermilion. Three ACECs were created in response to USFWS's Desert Tortoise Recovery Plan (USFWS 1994). The plan recommended creating Desert DWMA as reserves where desert tortoise populations could be managed to achieve the species' recovery. Since BLM has no statutory authority to create DWMA, the areas were designated as ACECs in the 1998 Mojave Desert Amendment to the Arizona Strip RMP. All existing ACECs and their existing values are summarized in Table 3.37. Refer to Map 2.20 in Chapter 2 for the location of ACECs.

Table 3.37: ACECs Currently Existing in the Planning Area

Name	Size (acres)	Values	Location
Witch Pool ACEC	279	Cultural	Parashant
Nampaweap ACEC	535	Cultural	Parashant
Pakoon ACEC	76,014	Desert Tortoise	Parashant
Beaver Dam Slope ACEC	51,197	Desert Tortoise	Arizona Strip FO
Virgin River Corridor ACEC	8,075	Riparian Endangered Fish Scenic Desert Tortoise Wild and Scenic River	Arizona Strip FO
Virgin Slope ACEC	39,931	Desert Tortoise	Arizona Strip FO
Little Black Mountain ACEC	241	Cultural	Arizona Strip FO
Fort Pearce ACEC	916	Watershed Siler Pincushion Cactus	Arizona Strip FO
Marble Canyon ACEC	11,012	Brady Pincushion Cactus Scenic Raptors	Arizona Strip FO
Johnson Springs ACEC	2,464	Cultural Siler Pincushion Cactus	Arizona Strip FO
Lost Spring Mountain ACEC	8,262	Cultural Siler Pincushion Cactus	Arizona Strip FO
Moonshine Ridge ACEC	5,095	Cultural Siler Pincushion Cactus	Arizona Strip FO

Parashant ACECs

Parashant currently contains three ACECs. These are described as follows:

- **Witch Pool ACEC** was designated in the 1992 Arizona Strip RMP to protect cultural and historical values. It is located on the northeast side of Mt. Trumbull and consists of 279 acres. This may be the location of John Wesley Powell’s visit with Southern Paiutes in 1870 when he was inquiring about the three missing members of his historic expedition down the Colorado River in 1869.
- **Nampaweap ACEC** was designated in the 1992 Arizona Strip RMP to protect cultural values. It encompasses 535 acres of an east-west trending canyon that leads from the high Ponderosa pine country of Mt. Trumbull east to Tuweep Valley. Within this ACEC is a half-mile long rock art site containing rock art figures related to Archaic, Ancestral Puebloan, and Southern Paiute cultures. The canyon itself may have been a travel corridor in prehistoric times leading to and from differing ecosystems exploited by earlier people during specific seasons.

- **Pakoon ACEC** was designated in the 1998 Arizona Strip RMP Mojave Desert Amendment to protect desert tortoises. It encompasses 76,014 acres of BLM lands in the Pakoon Basin, north of Lake Mead NRA and east of the Arizona/Nevada State line. The ACEC designation was considered important for the maintenance of viable tortoise populations in the Pakoon Basin and includes designated critical habitat for the species.

Vermilion ACECs

No ACECs currently exist in Vermilion.

Arizona Strip FO ACECs

- **Beaver Dam Slope ACEC** was designated in the 1992 Arizona Strip RMP to protect desert tortoises. Under the 1992 designation, it encompasses 20,800 acres. Under the Mojave Desert Amendment, the ACEC was expanded to 51,197 acres in 1998. The ACEC is located in the northwestern corner of the Arizona Strip FO; west of the Beaver Dam Mountains, east of Beaver Dam Wash, north of the Virgin River, and south of the Arizona/Utah state line. The ACEC designation was considered important for the maintenance of viable tortoise populations on the Beaver Dam Slope.
- **Virgin River Corridor ACEC** was designated in the 1992 Arizona Strip RMP to protect riparian, endangered fish, and scenic values. The ACEC encompasses 8,075 acres, including 29 miles of the Virgin River. The Virgin River and associated riparian area provides habitat for two federally listed fishes, the Virgin River chub and the woundfin minnow. The corridor pushes through the Virgin/Beaver Dam Mountains and contains unique scenic values, which are visible to many thousands of people who travel through the corridor on Interstate 15. In 1998, the objectives for the Virgin River Corridor ACEC were modified under the Mojave Amendment to include protection of a desert tortoise population. In 1994, the corridor was recognized as suitable for its wild and scenic river values in the Arizona Statewide Wild and Scenic Rivers Legislative EIS (BLM 1994).
- **Virgin Slope ACEC** was designated in the 1998 Arizona Strip RMP Mojave Desert Amendment to protect a population of desert tortoises. It encompasses 39,931 acres between the Virgin River (Interstate 15) and the Virgin Mountains. This area is designated as critical habitat for the species.
- **Little Black Mountain ACEC** was designated in the 1992 Arizona Strip RMP to protect cultural values and interpret them for public use. The ACEC encompasses 241 acres directly south of the Arizona/Utah state line, about 5 miles east of St. George, Utah and includes a large rock art site with rock art styles related to Archaic, Ancestral Puebloan, Southern Paiute, and historic cultures.

- **Fort Pearce ACEC** was designated in the 1992 Arizona Strip RMP to protect critical watershed resources and a population of endangered cactus. The ACEC encompasses 916 acres directly south of the Arizona/Utah state line and just east of Little Black Mountain ACEC. The Fort Pearce area is a large watershed subject to flooding and severe erosion. Soils in the area are highly saline and contribute to the salinity of the Colorado River. It also includes a dense population of the endangered Siler pincushion cacti.
- **Marble Canyon ACEC** was designated in the 1992 Arizona Strip RMP to protect a population of endangered cactus. It also has scenic values and is the home to a number of raptors, including Peregrine Falcons, Bald Eagles, and Ferruginous Hawks. The ACEC encompasses 11,012 acres at the eastern-most edge of the Arizona Strip FO, along the rim of the Marble Canyon section of Grand Canyon National Park, and includes one of only two populations of Brady pincushion cactus known to occur on public lands. It is also the only area where the species overlaps with Fickeisen pincushion cactus.
- **Johnson Springs ACEC** was designated in the 1992 Arizona Strip RMP to protect cultural values and a population of endangered cactus. The ACEC encompass 2,464 acres adjacent to the Utah border approximately 9 miles east of Fredonia. The area includes the Shinarump Cliffs, which contain a wide range of Ancestral Puebloan sites. The area also includes dense population of the endangered Siler pincushion cactus.
- **Lost Spring Mountain ACEC** was designated in the 1992 Arizona Strip RMP to protect cultural values and a population of endangered cactus. The ACEC encompass 8,262 acres due west of Colorado City, on top of a pinyon-juniper-covered mesa known as Lost Spring Mountain. The ACEC contains archaeological site types that represent a broad range of human occupancy and activity including pithouses, camps, rock shelters, petroglyphs, pictographs, and pueblos. The area also includes a dense population of the endangered Siler pincushion cactus.
- **Moonshine Ridge ACEC** was designated in the 1992 Arizona Strip RMP to protect cultural values and a population of endangered cactus. The ACEC encompass 5,095 acres on top of Yellowstone Mesa, approximately 14 miles south of Colorado City. It contains a high density of significant Ancestral Puebloan sites that represent a continuous use of the area. The area also includes dense population of the endangered Siler pincushion cactus.

Resource Conservation Areas

Overview

Resource Conservation Areas (RCAs) are different from ACECs in that they are not official designations and are thus not afforded the same protection as ACECs. RCAs cover large landscapes, are reminders that significant resource values exist that must be accommodated in future management actions, and emphasize a broad spectrum of recreation opportunities. These areas were designated in the 1992 Arizona Strip RMP to recognize special values in these areas, to encourage more detailed planning, and to focus management in these areas. The NPS does not designate RCAs.

There are currently three RCAs within the Planning Area, two in Parashant and one in Vermilion. There are no RCAs in the Arizona Strip FO.

Parashant Resource Conservation Areas

- **Parashant Area RCA** encompasses 39,868 acres that contain important wildlife habitat and livestock grazing, cultural, recreation, and watershed values. A unique ponderosa pine community occurring outside its normal range distinguishes this area. The ponderosa pines mixed with pinyon-juniper woodlands provide habitat for mule deer, small game, Merriam's turkey, raptors, and various non-game species. Its remote location offers opportunities for primitive and semi-primitive recreation activities, and provides access to Mount Dellenbaugh and several remote canyons in Lake Mead NRA and Grand Canyon National Park.
- **Mt. Trumbull Area RCA** encompasses 102,307 acres that contain wildlife habitat, livestock grazing, recreation, Ponderosa forest, cultural, scenic, wilderness, watershed, and geologic resource values. The RCA encompasses both the Mt. Trumbull and Mt. Trumbull Wilderness areas in the southeastern corner of Parashant and includes archaeological sites representing human occupancy from Archaic to recent historic times. The area also contains remnants of sawmills built in 1872 that were used to provide lumber for construction of the Mormon Temple in St. George. Wagons hauled the timber some 68 miles along the Temple Trail, which begins in the RCA. The Uinkaret Volcanic Field is also located within the area and includes 144 square miles of cinder cones, basalt capped mesas, ice caves, and rugged lava flows.

Vermilion Resource Conservation Areas

- **Canyons and Plateaus of the Paria RCA** encompasses 293,689 acres that contain cultural, recreation, scenic, wilderness, and wildlife values. The RCA contains the spectacular Vermilion Cliffs and the dramatic views of and from them. The Paria Canyon-Vermilion Cliffs Wilderness Area is within this RCA and many opportunities

exist for a wide range of recreational activities, including primitive backpacking and hiking in the Paria Canyon and Coyote Buttes. A wide range of cultural resources exists ranging in age from Archaic through Southern Paiute. The pinyon-juniper forest and sagebrush provides habitat for mule deer, small game, raptors, and other non-game species. In addition, it is the major release site for the California Condor.

Arizona Strip FO Resource Conservation Areas

No RCAs currently exist in the Arizona Strip FO.

SOCIAL AND ECONOMIC CONDITIONS

SOCIOECONOMICS

Overview

The Planning Area encompasses the northern portions of Coconino and Mohave Counties in Arizona. Due to the size of the Planning Area and its influence on neighboring states, counties, and communities, the socioeconomic study area also includes southern Washington and Kane counties, Utah, and extreme southeastern Clark and Lincoln counties, Nevada. There are 17 “communities” within these five counties, which are included below:

- Coconino County, Arizona: Fredonia, Page, and the Marble Canyon area (includes Vermilion Cliffs, Marble Canyon, and Cliff Dwellers)
- Mohave County, Arizona: Colorado City and the Virgin River Communities (includes Desert Springs, Beaver Dam, Littlefield, Scenic, and Arvada)
- Coconino and Mohave Counties: Kaibab-Paiute Reservation and the Town of Moccasin
- Kane County, Utah: Big Water and Kanab
- Washington County, Utah: Apple Valley, Hildale, Hurricane, Ivins, St. George, Santa Clara, and Washington
- Clark County, Nevada: Bunkerville and Mesquite
- Lincoln County, Nevada

Below is a brief description of the counties and communities in the study area. Appendix 3.I provides a much more detailed socioeconomic description.

In general, the study area is sparsely populated but has an exceptional growth rate. Sixteen of the 17 communities had a total combined population of 104,687 in 2000 (Apple Valley is not included in this number as the town was just incorporated in 2004). Almost half of this number lives in St. George, Utah. Thirteen of the communities experienced an average population increase of 75.1 percent over the 10-year period between 1990 and 2000, which is remarkable when compared to the national average increase of only 11.6 percent over the same period.

The 16 communities in the study area had a combined civilian labor force of 45,512 in 2000. Unemployment rates in the study area were generally higher than the national average rate in 2000. Per capita income for most communities was several thousand dollars lower than the national average.

The study area is diverse in terms of employment opportunities, with no single occupation dominating the whole area. The same can be said about industry, although a few communities are dominated by the arts, entertainment, recreation, accommodation, and food services industry. This suggests that these communities rely heavily on tourism.

Although ranching is currently not a major industry in the study area in terms employment numbers, it has played a vital role in the economic development of the area and brings in a sizeable amount of “new money” into the economy. The BLM manages roughly 180,000 AUMs for livestock in the Planning Area. A rough dollar value per AUM is \$35.96 (Fletcher et. al 2006), which makes the value of livestock AUMs in the Planning area at \$6,472,800. Table 3.38 illustrates the estimated economic contribution per AUM as well as for the 180,000 AUMs managed by the BLM on the Arizona Strip.

Table 3.38: Estimated Economic Contributions of Grazing in the Planning Area

Economic Contribution	One AUM of Grazing	180,000 AUMs of Grazing
Total economic activity	\$89.70	\$16,145,767
Total earned income	\$15.94	\$2,869,856
Total number of jobs	0.0014845	267
Indirect business taxes	\$2.68	\$482,507
Based on \$38.90 per AUM. Source: Fletcher et al. 2006.		

Another important economic contributor to the Planning Area stems from outdoor recreation activities, specifically that relating to OHV use. OHV-related expenditures contribute \$215.3 million to local economies in Coconino County and \$182 million to local economies in Mohave County (Arizona State Parks 2003).

Parashant Socioeconomics

Parashant is located within Mohave County, Arizona. No communities identified in the study area are located within the Monument boundaries. The closest communities are Mesquite and Bunkerville, Nevada and the Virgin River communities in Arizona. Fredonia, Colorado City, the Kaibab Paiute Reservation, and Moccasin are the closest communities on the northeast side of the Monument.

Vermilion Socioeconomics

Vermilion is located within Coconino County, Arizona. No communities identified in the study area are located within the Monument’s boundaries, although the businesses and dwellings in the Marble Canyon area are located adjacent to the southern boundary. Page, Arizona, is located just

outside the eastern corner of the Monument, while Big Water, Utah, is located directly north of the Monument.

Arizona Strip FO Socioeconomics

The incorporated communities of Fredonia and Colorado City, Arizona, are located inside the boundaries of the Arizona Strip FO. The businesses and dwellings in the Marble Canyon area are also located within the boundaries of the Arizona Strip FO, against the southern boundary of Vermilion. The Kaibab-Paiute Reservation is surrounded by the Arizona Strip FO on three sides, while Kanab and all the Washington County communities in Utah are located directly north of the Planning Area. Mesquite, Nevada is directly west of the Arizona Strip FO.

ENVIRONMENTAL JUSTICE

Overview

Executive Order 12898, dated February 11, 1994, established the requirement to address environmental justice concerns within the context of federal agency operations:

To the greatest extent practical and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health and environmental effects of its programs, policies, and activities on minority populations and low-income populations in the U.S.

As part of the NEPA process, agencies are required to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income communities. Six general principals for environmental justice under NEPA include:

1. Identify minority and low-income populations in the area affected by the project;
2. Consider relevant public health data and industry data regarding potential multiple and cumulative exposures of minority and low-income populations to human health or environmental hazards;
3. Recognize interrelated cultural, social, occupational, historical, or economic factors that could amplify environmental effects of the project;
4. Develop effective public participation strategies that overcome linguistic, cultural, institutional, geographic, and other barriers;
5. Assure meaningful community representation in the process; and
6. Seek tribal representation consistent with the government-to-government relationship between the U.S. and tribal governments.

Environmental justice concerns include any adverse affect on minority and low-income populations in the study area. Key indicators reviewed for environmental justice include minority populations, poverty rates, and income within a community.

Minority Populations

Table 3.39 shows the race and ethnicity (Hispanic or Latino) of the population in the study area. With the exception of Coconino County, Clark County, the community of Page, and Kaibab Census Designated Place (CDP), the study area has percentages of white population higher than the 2000 national average of 77.1 percent. Mohave County and Colorado City, Arizona, and all the counties and communities in Utah were over 90 percent white. The largest population of non-whites in the Utah portion of the study area was in Big Water, where American Indians make up 4.1 percent of the population.

The county with the greatest percentage of minorities was Coconino County. The county's major population center, Flagstaff, is a university town with more ethnic diversity than many outlying areas of the county. Whites made up 65.1 percent of the population in Coconino County in 2000, which was smaller than both the Arizona and the U.S. averages. The largest minority group was American Indians who made up nearly 30 percent of the population, compared to 5.7 percent in Arizona and only 1.5 percent nation-wide. This is not surprising as Indian reservation lands, including the Navajo, Hopi, Paiute, Havasupai, and Hualapai Nations, comprise 38.1 percent of lands in Coconino County.

Although Fredonia has a higher percentage of whites than the Arizona and national averages, it also had a greater percentage of American Indians, although only about one-third as much as Coconino County. Page more accurately reflects the racial makeup of Coconino County, with 70 percent being white and 29 percent being American Indian. The Navajo Nation surrounds Page, which explains the high percentage of American Indians living within the city.

Over half of the population in the Kaibab CDP, 54.9 percent, was American Indian, with 43.6 percent being white. Most whites, 58.2 percent, live in the community of Moccasin, which is not on reservation lands.

The population in Clark County more closely reflects that of the nation, being 75 percent white, 10.5 percent some other race, 10 percent black, and 6.6 percent Asian. Much of the diversity within Clark County can be found in Las Vegas, the county's major population center, which is approximately 55 miles from the western border of Parashant and Arizona Strip FO. At 10 percent of the population, Clark County has the only significant black population in the study area, although it is below the national average of 12.9 percent. The Asian population in Clark County is slightly higher than the national average.

Though Hispanics made up 12.5 percent of the Nation's population in 2000, they are not very prominent in the study area. While the percentage of Hispanics in Arizona's population was

Table 3.39: Race and Persons of Hispanic or Latino Origin

	RACE (Percentages) ¹						Hispanic or Latino			POVERTY ²	
	White	Black or African American	American Indian or Alaska Native	Asian	Pacific Islander	Some Other Race	#	%	% Individuals in Poverty	% Families in Poverty	
UNITED STATES	77.1	12.9	1.5	4.2	0.3	6.6	35,305,818	12.5	12.4	9.2	
Arizona	77.9	3.6	5.7	2.3	0.3	13.2	1,295,617	25.3	13.9	9.9	
<i>Coconino County</i>	65.1	1.4	29.7	1.1	0.2	5.0	12,727	10.9	18.2	13.1	
Fredonia	87.2	1.3	12.5	0.1	0.1	0.7	15	1.4	15.0	12.3	
Page	70.0	0.7	28.9	0.8	0.3	2.5	320	4.7	13.9	12.8	
<i>Mohave County</i>	92.0	0.7	3.3	1.1	0.2	4.9	17,182	11.1	13.9	9.8	
Colorado City	97.8	0.2	0.6	0.6	0.7	2.5	97	2.9	31.9	29.0	
Kaibab CDP	43.6	--	54.9	--	--	5.1	21	7.6	29.5	26.8	
Kaibab Paiute Tribe	28.6	--	69.9	--	--	6.6	20	10.2	31.6	29.7	
Virgin River Com.	85.6	0.0	1.8	0.6	0.3	13.7	355	23.2	12.4	10.4	
Utah	91.1	1.1	1.8	2.2	1.0	5.1	201,559	9.0	9.4	6.5	
<i>Kane County</i>	97.3	0.1	2.4	0.4	0.2	1.1	140	2.3	7.9	5.5	
Big Water	95.2	--	4.1	0.2	0.5	1.2	22	5.3	14.5	11.0	
Kanab	97.9	0.1	1.7	0.5	0.3	0.8	67	1.9	5.6	4.0	
<i>Washington County</i>	95.1	0.4	2.1	0.8	0.7	2.8	4,727	5.2	11.2	7.7	
Hildale	97.2	0.2	1.2	0.6	0.6	0.9	19	1.0	41.2	37.0	
Hurricane	97.1	0.3	1.6	0.4	0.5	1.4	224	2.71	13.1	10.8	
Ivins	96.0	0.3	2.2	0.6	0.6	2.6	175	3.9	6.8	4.9	
St. George	93.9	0.5	2.2	0.9	1.0	3.5	3,337	6.7	11.6	7.4	
Santa Clara	98.4	0.3	0.6	0.8	0.6	0.7	94	2.0	3.5	2.7	
Washington	95.3	0.4	2.0	0.6	0.3	2.6	384	4.7	7.9	7.5	
Nevada	78.4	7.5	2.1	5.6	0.8	9.7	393,970	19.7	10.5	7.5	
<i>Clark County</i>	75.0	10.0	1.5	6.6	0.9	10.5	302,143	22.0	10.8	7.9	
Bunkerville CDP	80.5	0.9	1.6	2.4	1.0	19.7	252	24.9	7.9	3.6	
Mesquite	82.0	1.0	1.6	1.9	0.2	15.7	2,324	24.8	10.2	6.2	
<i>Lincoln County</i>	93.3	2.1	2.6	0.6	0.2	3.5	221	5.3	16.5	11.5	

CDP = Census Designated Place. "--" = No Data Available.

¹ Alone or in combination with one or more of the other races listed. The six percentages may add to more than 100 percent because individuals may report more than one race.

Data Sources: U.S. Census Bureau, Census 2000. ²Poverty data is from 1999.

about twice as high as the national average, all of the counties and communities within the Arizona portion of the study area were below the national average, with the exception of the Virgin River communities, which were 23.2 percent Hispanic. The Utah counties and communities in the study had a much lower than National average percent of Hispanics, ranging from only 1 percent of the population in Hildale, to 6.7 percent in St. George. Nevada had a relatively large Hispanic population at 19.7 percent for the state, 22 percent for Clark County, and roughly 25 percent in both Bunkerville CDP and Mesquite.

Poverty Rates and Income

Table 3.39 includes the percent of individuals and families living in poverty in the study area. In 2000, 12.4 percent of individuals and 9.2 percent of families lived in poverty nationwide. Half of the communities within the study area fell below these numbers. The neighboring communities of Hildale, Utah and Colorado City, Arizona, were the worst off in terms of poverty. Thirty-seven percent of Hildale's families and 41.2 percent of individuals lived in poverty. These communities also had the lowest per capita income in the study area, \$4,728 for Hildale and \$5,293 for Colorado City, substantially lower than the national average per capita income of \$21,587 during that same period. A contributing factor to the low per capita income levels and high poverty rates was both communities' large family size, at 8.10 for Hildale and 7.58 for Colorado City, more than twice the national average family size of 3.14.

The Kaibab-Paiute tribe also had a very high individual poverty rate at 31.6 percent, a high family poverty rate at 29.7 percent, and a low per capita income at \$7,951. Family size did not seem to play an important role in the tribe's poverty rates and low per capita income. The tribe's average family size was 3.51, only slightly higher than the national average.

Other areas with individuals and families living in poverty and low per capita incomes were Fredonia and Page in Arizona and Big Water and Hurricane in Utah. The Virgin River communities had relatively low per capita income and a slightly higher percentage of families living in poverty than the national average, although the percent of individuals living in poverty was similar to the national average.

All of the communities in the study area had per capita income lower than the national average, even those with relatively low individual and family poverty rates. All of the communities, with the exception of Page and Santa Clara, had lower family income than the national average. A number of the communities have higher than average family sizes, which decreases the average per capita income.

Non-labor income, much of it brought by retirees, is the largest source of income in several of the counties involved, and the second highest in the other counties. Increasing numbers of retiring baby boomers are choosing to relocate from big cities to rural towns to enjoy the lower cost of living, slower pace of life, and outdoor recreational opportunities that such communities

offer. The income that these new residents bring can have beneficial economic effects for local restaurants, stores, and service and health care businesses.

HEALTH AND SAFETY

Abandoned Mines

Overview

Based on available information (BLM 2004b), there are 239 abandoned mines in the Planning Area: 105 in Parashant, 17 in Vermilion, and 117 in Arizona Strip FO. Twenty of the abandoned mines in Parashant are on NPS lands and the remaining 85 are on BLM lands.

Environmental and public hazards identified in association with these abandoned mines include size and depth of opening, stability of ground around the opening, the amount of waste present, presence of structures, and any water present at the mine. The potential for public interaction or accessibility with the mine was also analyzed (BLM 2004b). These categories include the accessibility of the mine, the distance from a populated area, the visibility of the mine, the difficulty of rescue, the amount of recreational activities around the mine, and the potential for land development near the mine.

Parashant Abandoned Mines

Nine mines located in Parashant are considered public safety hazards and/or are suspected of being environmental concerns due to potentially containing hazardous materials. These are presented in Table 3.39

Table 3.40: Parashant Mines with Suspected Public Safety and/or Environmental Concerns	
Mine Name	Type of Potential Hazard
Grand Gulch Mine	Environmental and Public Safety
Copper Mountain Mine (NPS)	Environmental and Public Safety
Cunningham Mine	Public Safety
White Pockets Mine	Public Safety
Savanic Mine	Public Safety
Hidden Mines	Public Safety
Goddess Mine	Public Safety
Unnamed Mine (Mt Bangs)	Public Safety
Unnamed Mine (Hen Springs)	Public Safety

Vermilion Abandoned Mines

Two mines located in Vermilion are considered public safety hazards and/or are suspected of being environmental concerns due to potentially containing hazardous materials. These are presented in Table 3.41.

Mine Name	Type of Potential Hazard
Sun Valley Mine	Environmental and Public Safety
Red Wing Mine	Environmental and Public Safety

Arizona Strip FO Abandoned Mines

Five mines located in the Arizona Strip FO are considered public safety hazards or are suspected of being environmental concerns due to potentially containing hazardous materials. These are presented in Table 3.42

Mine Name	Type of Potential Hazard
Unnamed (White Pockets)	Environmental
Unnamed (Wild Band Pockets)	Environmental
Unnamed (White Sage Flat)	Environmental
Unnamed Mine (Gyp Hills)	Public Safety
Unnamed Mine (Elbow Canyon)	Public Safety

Hazardous Materials

Overview

As defined by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and the Superfund Amendments and Reauthorization Act of 1986, a hazardous material is a substance, pollutant, or contaminant that, due to its quantity, concentration, or physical or chemical characteristics, poses a potential hazard to human health and safety or to the environment if released into the workplace or the environment.

The Resource Conservation and Recovery Act (RCRA) of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984, defines hazardous waste as a solid waste or combination of wastes that, due to its quantity, concentration, or physical, chemical, or infectious characteristics, could cause or significantly contribute to an increase in mortality, an increase in serious irreversible or incapacitating reversible illness, or could pose a substantial present or future hazard to human health or the environment when improperly treated, stored, disposed of, or otherwise managed. A solid waste is a hazardous waste if it is not excluded from regulation as a hazardous waste; exhibits any ignitable, corrosive, reactive, or toxic characteristic; or is listed in Subpart D of the RCRA.

The RCRA requires that hazardous wastes be managed through a record keeping system that entails tracking properly labeled hazardous shipments from point of generation to ultimate disposal. Also required by federal law are proper labeling, storage, containerization, training, and emergency procedures for hazardous waste. Materials can leak from improperly closed,

improperly removed, or existing storage tanks, potentially contaminating ground and surface water.

There are no known aboveground storage tanks or underground storage tanks on BLM or NPS lands in the Planning Area. In general, the occurrence of hazardous materials has been incidental, mostly close to towns or along highways. These include the dumping of used oil and lead-acid batteries and the burning of wire. Household trash dumps are inspected for hazardous chemicals and are cleaned-up as part of the Hazardous Materials program. Many of the old, unauthorized small dumpsites that exist throughout the Planning Area, many are now considered historic. Information regarding authorized active and closed landfills can be found in the Lands and Realty Section. Some dynamite and blasting caps have been found in remote areas, such as abandoned mines and ranching operations. Ranchers and the BLM use herbicides for controlling noxious weeds and sagebrush.

Parashant Hazardous Materials

Illegal dumping of hazardous materials in Parashant is rare due to the Monument's remoteness. Minor oil and fuel spills at administrative sites, along roads, and at old farms and ranches have occurred. These have been cleaned up. Small amounts of waste, such as oil and fuel, have leaked from well pumping engines near ranching developments. One of the largest concentrations of hazardous materials located in the Monument was at Pakoon Springs Ranch, which was recently acquired by the BLM and subsequently cleaned-up. Hazardous materials found at the site included lead acid batteries, diesel fuel, gasoline, solvents, insecticides, herbicides, used motor oil, petroleum contaminated soil, and a variety of household chemicals.

Vermilion Hazardous Materials

Illegal dumping of minor waste, such as used oil and lead-acid batteries, has occurred in Vermilion close to the settlements along Highway 89. The potential for hazardous wastes on the Paria Plateau is much lower due the remoteness of the area, although some wastes may be located near ranching developments. Blasting caps and dynamite have been found and cleaned-up at a few abandoned mines.

Arizona Strip FO Hazardous Materials

Most incidents of illegal dumping of hazardous materials in the Planning Area, such as used oil and lead-acid batteries, have occurred in the Arizona Strip FO due to its proximity to towns and highways. Accidental fuel spills also occur along the highways and major routes due to vehicle crashes. Illegal dumping and accidental spills will probably continue and potentially increase, along with growth in the local population.



As the nation's principle conservation agency, the Department of Interior has the responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environment and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

United States
Department of the Interior
Bureau of Land Management
National Park Service
345 East Riverside Drive
St. George, UT 84790

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

PRIORITY MAIL
U.S. POSTAGE AND FEES PAID
U.S. DEPARTMENT OF THE INTERIOR
PERMIT NO. G-76