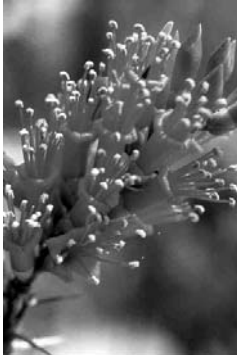


# PURPOSE OF AND NEED FOR THE PLAN



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# PURPOSE, NEED, AND SCOPING

## INTRODUCTION

This *General Management Plan/ Environmental Impact Statement* presents and analyzes three alternative future directions for the management and use of Big Bend National Park. One of the alternatives, alternative B, has been identified as the National Park Service's (NPS) preferred future direction. The potential environmental impacts of all alternatives have been identified and assessed.

General management plans are intended to be long-term documents that establish and articulate a management philosophy and framework for decision making and problem solving in the parks. General management plans usually provide guidance during a 15- to 20-year period.

Actions directed by general management plans or in subsequent implementation plans are accomplished over time. Budget restrictions, requirements for additional data or regulatory compliance, and competing national park system priorities prevent immediate implementation of many actions. Major or especially costly actions could be implemented 10 or more years into the future.

## BRIEF DESCRIPTION OF THE PARK

The park was established on June 20, 1935, by an act of Congress (see appendix A). Big Bend National Park is in south Brewster County in southwest Texas in a sparsely populated area of the country (see Park Area map). Brewster County has 6,204 square miles and a population of approximately 13,000 people. Most of the population resides in two towns, Marathon and Alpine, which lie 69 and 100 miles respectively to the north and northwest of park headquarters. The western gateway communities of Study Butte/Terlingua, and Lajitas have grown in recent years but remain less populated than Marathon and Alpine.

The maps in this document are for illustration purposes only and are not drawn perfectly to scale.

Big Bend National Park encompasses more than 801,000 acres. For more than 1,000 miles, the Rio Grande forms the international boundary between Mexico and the United States; Big Bend National Park administers approximately 25% of that boundary. Within the 118 twisting miles that define the park's southern boundary, the river's southeasterly flow changes abruptly to the northeast and forms the "big bend" of the Rio Grande. (The park also administers 125 miles of the Rio Grande Wild and Scenic River, which is outside the Big Bend National Park boundary.) South of the border, people call the Rio Grande by its Spanish name, Rio Bravo del Norte.

Because the Rio Grande serves as an international boundary, the park faces unusual constraints when administering and enforcing park rules, regulations, and policies. The park has jurisdiction only to the center of the deepest river channel; the rest of the river lies within the Republic of Mexico. South of the river lie the Mexican states of Chihuahua and Coahuila and their protected areas for flora and fauna known as the Maderas del Carmen and the Cañon de Santa Elena.

Big Bend National Park has national significance as the largest protected area of Chihuahuan Desert topography and ecology in the United States. Along with the Maderas del Carmen and Cañon de Santa Elena, Big Bend is part of one of the largest trans-boundary protected areas in North America. More than 2 million acres of Chihuahuan Desert resources, along with more than 200 miles of river, are under the national protection of the United States and Mexico. Few areas exceed the park's value for the protection and study of geologic and paleontologic resources. Cretaceous and Tertiary fossil organisms exist in variety and abundance. Archeologists have discovered artifacts that are estimated to be 9,000 years old, and historic

## PURPOSE OF AND NEED FOR THE PLAN

buildings and landscapes illustrate life along the international border at the turn of the century.

The park exhibits dramatic contrasts. Its climate may be characterized as one of extremes. Dry, hot late spring and early summer days often exceed 100°F in the lower elevations. Winters are normally mild throughout the park, but subfreezing temperatures occasionally occur. Because the altitude ranges from about 1,800 feet along the river to 7,800 feet in the Chisos Mountains, a wide variation in moisture and temperature exists throughout the park. These variations contribute to an exceptional diversity in plant and animal habitats.

The 118 river miles that form the southern park boundary include the spectacular canyons of Santa Elena, Mariscal, and Boquillas. The meandering Rio Grande in this portion of the Chihuahuan Desert has cut deep canyons with nearly vertical walls through three uplifts comprised primarily of limestone. Throughout the open desert areas, the highly productive Rio Grande riparian zone includes various plant and animal species and significant cultural resources. The vegetation extends into the desert along creeks and arroyos.

Cultural resources in the park range from the Paleo-Indian period 10,500 years ago through the historic period (mid 1500s to the present) represented by American Indian groups, such as the Chisos, Mescalero Apache, and Comanche. More recently, Spanish, Mexican, and American settlers farmed, ranched, and mined in the area.

Throughout the prehistoric period, humans found shelter and camped throughout the park. The archeological record reveals an Archaic-period desert culture whose inhabitants developed a nomadic hunting and gathering lifestyle that remained virtually unchanged for several thousand years.

In more recent times the park has been used for various subsistence or commercial land uses. The riparian and tributary environments were used for subsistence and irrigation farming. Transportation networks, irrigation structures, simple domestic residences and outbuildings,

and planed and terraced farmlands lining the streambanks characterize these landscapes.

Annual visitation to the park has averaged 300,000 in recent years. The 1992 Visitor Services Project determined that most visitors were 41 years of age or older. Most visitors came to the park in family groups. Visitors from foreign countries comprised 10% of park visitation, with 48% of the international visitors coming from Germany. Americans came from Texas (65%), with smaller numbers from other states. The average length of stay, three days, is higher than most other national park system areas.

## PURPOSE OF THE PLAN

The purpose of this *General Management Plan / Environmental Impact Statement* is to clearly define a direction for resource preservation and visitor experience at Big Bend National Park.

The approved plan will provide a framework for proactive decision making, including decisions on visitor use and on managing natural and cultural resources and development. This will allow managers to address future opportunities and problems effectively.

This plan will prescribe the resource conditions and visitor experiences that are to be achieved and maintained in the national park over time. Management decisions that must be made where law, policy, or regulations do not provide clear guidance or limits will be based on the park's purposes, the range of public expectations and concerns, resource analysis, and the evaluation of the natural, cultural, economic, and social impacts of alternative courses of action, including long-term costs to the park.

This document will not describe how particular programs or projects will be implemented or prioritized. Those decisions will be deferred to more detailed implementation planning, which will follow the broad, comprehensive decision making presented in this document.



North

— Roads



## Region

### Big Bend National Park

National Park Service  
U.S. Department of Interior

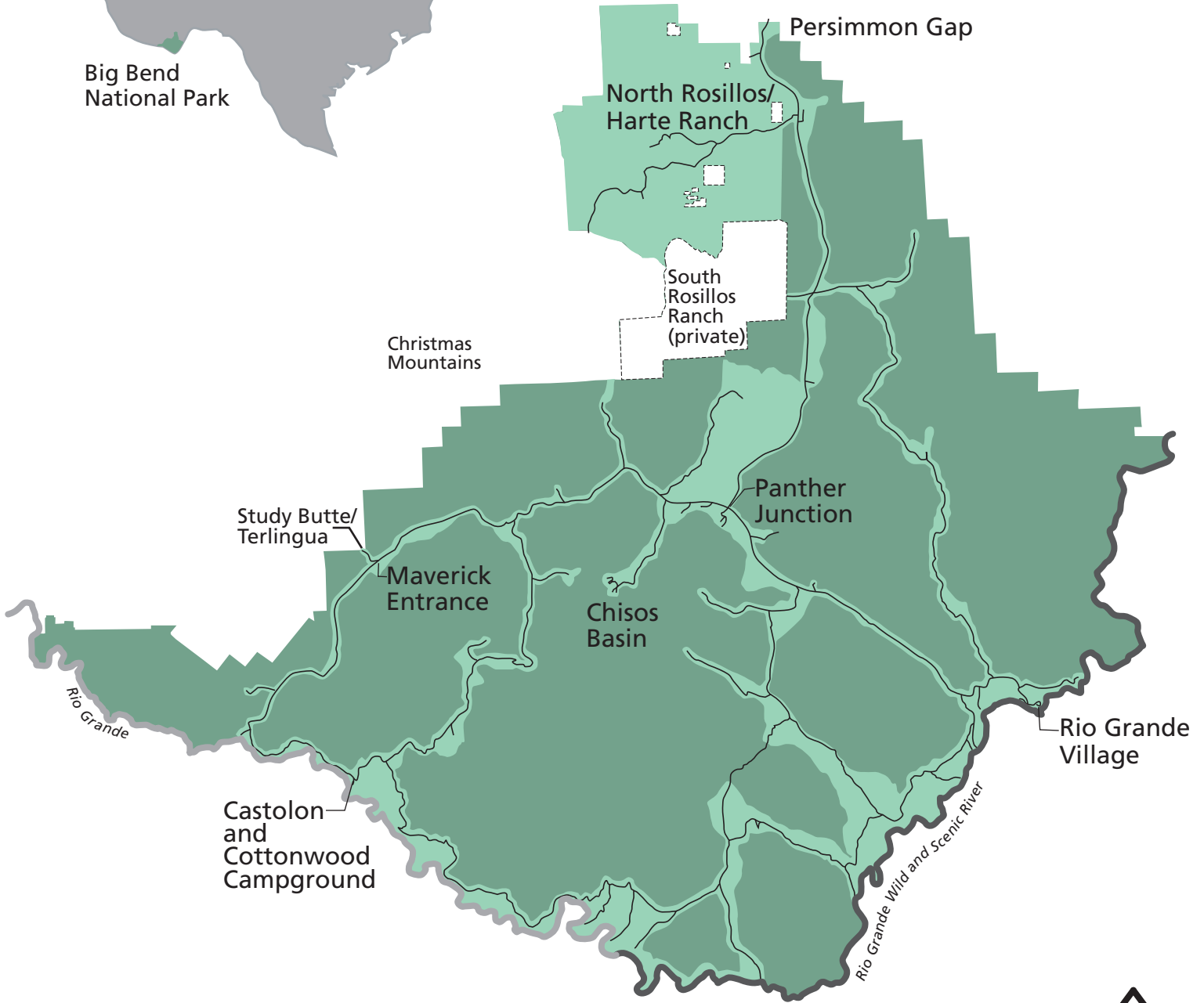
DSC • Dec 2002 • 155/20089





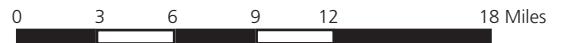


Texas

Big Bend National Park



-  Wilderness (1984 proposed)
-  Backcountry Nonwilderness



-  Private Lands
-  Roads

# Park Area Big Bend National Park

National Park Service  
U.S. Department of Interior  
DSC • Dec 2002 • 155/20073



## NEED FOR THE PLAN

The previous *General Management Plan* for Big Bend was approved in 1980. It needs to be updated. In the absence of an updated plan, park managers will continue to follow applicable laws, policies, and guidelines as part of its standard operating procedures. They include the National Environmental Policy Act of 1969 (NEPA), section 106 of the National Historic Preservation Act of 1966 (16 USC 470 et seq. as amended), and NPS *Management Policies*.

Each unit in the national park system is guided by agencywide and park-specific laws, regulations, and policies. Understanding this guidance and how it affects each unit's mission is fundamental to planning for the future. This section highlights the park's missions (expressed as purpose, significance, and mission goals) and the legal and policy mandates that guide the management of Big Bend National Park. These mission and mandate statements define the parameters within which all management actions and alternatives must fall.

## MISSION AND GOALS

Big Bend National Park was authorized by Congress in 1935 to preserve and protect a representative area of the Chihuahuan Desert along the Rio Grande for the benefit and enjoyment of present and future generations. The park includes rich biological and geological diversity, cultural history, recreational resources, and outstanding opportunities for bi-national protection of shared resources.

### Park Purpose

Big Bend National Park's purpose is threefold:

- Preserve and protect all natural and national-register-eligible cultural resources and values.
- Provide educational opportunities to foster understanding and appreciation of the natural and human history of the region.
- Provide recreational opportunities for diverse groups that are compatible with the protection and appreciation of park resources.

## Park Significance

The park is significant because it contains the most representative example of the Chihuahuan Desert ecosystem in the United States. The park's river, desert, and mountain environments support an extraordinary richness of biological diversity, including endemic plants and animals, and provide unparalleled recreation opportunities. The geologic features and Cretaceous and Tertiary fossils in Big Bend National Park furnish opportunities to study the sedimentary and igneous processes. Archeological and historic resources provide examples of cultural interaction in the Big Bend Region and varied ways humans adapted to the desert and river environments. The Rio Grande is life-sustaining for plants, animals, and human inhabitants beyond its banks. Along with the two Mexican protected areas for flora and fauna, Maderas del Carmen and Cañon de Santa Elena, Big Bend is now part of one of the largest transboundary protected areas in North America. More than two million acres of Chihuahuan Desert resources, along with more than 200 miles of river, are now under the national protection of the United States and Mexico.

### Primary Interpretive Themes

The Park Service explains the park's natural, cultural, and historical resources to visitors through interpretation — so that visitors have an understanding of why the park was set aside by Congress. An integral part of providing for visitor enjoyment of national parks is offering them opportunities to forge their own intellectual and emotional connections to the ideas and meanings inherent in the resources of parks. Interpretive themes are ideas, concepts, or stories that are central to the park's purpose, significance, identity, and visitor experience.

The primary interpretive themes define concepts that every visitor should have the opportunity to learn. Primary themes also provide the framework for the park's interpretation and educational programs, influence the visitor experience, and provide direction for planners and designers of the park's exhibits, publications, and audiovisual programs. Below are the

primary interpretive themes (see appendix D for the subthemes and visitor experience goals).

1. Big Bend National Park's varied ecosystems — mountain, desert, and river — support an extraordinarily rich biological diversity.
2. Major resource threats, such as air and water pollution, intrusive sounds, and the presence of exotic plant and animal species as well as vandalism, graffiti, and the illegal collection of plants and animals, negatively impact both the resources of the park and the visitor experience.
3. Though rarely seen, water constitutes the most important resource in the Chihuahuan Desert environment. Water is the architect of the desert, and its presence or absence affects the desert's appearance, plant and animal life, and the ways that humans can use it.
4. The evidence left behind by different cultural groups over several thousand years, including American Indians, Spanish, Mexicans, Mexican-Americans, and Anglo-American settlers, gives us clues to the past and helps us imagine what life was like for these early inhabitants of Big Bend.
5. The Maderas del Carmen Protected Area in Coahuila and the Cañon de Santa Elena Protected Area in Chihuahua are two Mexican federally protected areas adjacent to Big Bend National Park and Big Bend Ranch State Park. Together with Black Gap Wildlife Management Area, these five areas preserve millions of acres of important habitat, protect biological corridors for wildlife migration, and provide unique opportunities for the United States and Mexico to work together to preserve a common ecosystem.
6. Big Bend National Park provides an excellent outdoor laboratory for researchers to study the natural world, the interactions that occur within, and the impacts of both natural events and human activity.
7. The legacy of human impacts (adverse and beneficial) on Big Bend National Park's varied environments exhibits changes from past to present, including soil erosion, watershed impairment, grasslands decline, and species reduction as well as conservation.

## THE SCOPING PROCESS — NOTICES, NEWSLETTERS, AND MEETINGS

The notice of intent (NOI) to prepare an environmental impact statement was published in the *Federal Register* May 3, 2000, with an amended NOI published on April 9, 2001. The first opportunity for the public to become involved in the development of this plan came in May 2000. A series of four public meetings were held in Study Butte/Terlingua, Alpine, Sander-son, and Austin. Sixty-three people attended these meetings. In addition to these meetings, at the end of July, three public meetings were held in Boquillas del Carmen, Santa Elena, and San Vicente. Several comments responding to the meetings and newsletter (spring 2000) were received. A number of these comments were incorporated into the issues for this general management plan. Comments were received in the general areas of natural and cultural resource protection, wilderness, interpretation and orientation, park boundary, and development.

A second newsletter, containing draft alternative concepts for the park, was distributed to the public in summer 2001. About 120 electronic and written comments were received. The two most commonly expressed thoughts were to leave things as they are now, alternative A, or to make most of the modest changes suggested in alternative B with the exception of the relocation of facilities at Rio Grande Village. There was no support for newsletter alternative C and very little for newsletter alternative D. (Note: alternative C from the newsletter was dismissed. Newsletter alternative D was modified and is called alternative C in this document.)

Objections to second newsletter alternatives C and D focused on the idea that the alternatives would exclude many people, including the elderly and young children, from enjoying the park as they have up to now. Many of those submitting comments suggested a mix of alternatives, primarily A and B. One person suggested a mix of C and D. Many commenters did not express a preference for any alternative. Rather they expressed negative views about certain proposed actions, primarily closing concessions facilities and campgrounds. Of these commenters, the largest number was

against closing facilities in Chisos Basin. About two-thirds as many were against closing facilities in Rio Grande Village. Leaving things basically as they are now was mentioned more than any other issue.

American Indian consultation occurred throughout the planning process. Tribes identified as being affiliated with the park were sent a letter inviting them to participate in the planning process and all newsletters.

For information on how the preferred alternative was developed see appendix B.

## ISSUES

Several issues were raised by park staff and the public in meetings, newsletter responses, and discussions with staff from other agencies and organizations.

### Issues to Be Addressed

The following issues will be addressed in the planning process.

**Water Quantity.** Upstream impoundments and diversions, compounded by additional development and cultivated lands along the Mexican Rio Conchos, and the Rio Grande and their tributaries severely reduce river flows reaching the park. These conditions, exacerbated by recurring droughts, have effectively eliminated river recreation for parts of the year from 1994 through 2002.

The park's previous management plan refers to river recreation, but the river's minimum flow to sustain riparian and aquatic habitat and river recreation has yet to be determined.

**Water is a Limiting Factor for Development and Use.** Water sources at Chisos Basin and Panther Junction at times produce inadequate amounts of water for current development and use.

**Floodplains.** Flood control structures and heavy use on the Rio Grande outside the park

have severely damaged the riparian woodland system. The problem affects all the low elevation flatlands along the park's southern border including Rio Grande Village and Cottonwood Campground. Floodplain values are further compromised by the presence of some development in the 100-year floodplain. Irrigation at Rio Grande Village causes vegetation to be unnaturally lush, facilitates the growth of exotic plants, and creates unnatural wildlife habitat.

**Aesthetics.** Aboveground powerlines obstruct scenic views in Big Bend National Park. Park developments and night lighting affect views from key resource areas such as Chisos Basin, Panther Junction, roads, and trails.

**Visitor Facilities.** At Panther Junction, the visitor center space is inadequate. The building is often crowded. There is insufficient space for exhibits to introduce aspects of the primary interpretive themes and to provide adequate information for visiting sites in the park. The bookstore has grown into the lobby space, which aggravates the overcrowding. Also, the visitor center has no theater for showing audio-visual programs to further highlight elements of the interpretive themes, depict the park at different times of the year, show geological and other natural processes, or re-create scenes and events from the past.

**Development.** Despite the shortage of park housing and the need for improved visitor and staff facilities, additional development is of concern because of water quality and quantity issues and the importance of scenic views.

The park's aging infrastructure, including deteriorating water and wastewater systems, unimproved sections of road, and overcrowded campgrounds and parking lots, no longer are sufficient to support park operations and visitor use. In some cases, inadequate infrastructure threatens to degrade park resources.

**Inadequate Staff Facilities.** Overcrowding has extended to the administrative and operations of the Panther Junction headquarters facility. Since the facility was constructed, the park staff has grown, increasing both office and storage needs. The growth of the cooperating association staff



and the volume of sales items also have created the need for more office and stock storage space.

The park does not have adequate housing for its employees. The problem is compounded by the limited amount of land that is suitable for housing development within the park. The remoteness of the area makes commutes from the gateway communities prohibitively long.

### Issues beyond the Scope of this Plan

The following issues are beyond the scope of this general plan because they are not under NPS control. However, park staff is continuing to work with others to improve conditions related to these topics.

**Air Quality.** Big Bend National Park, a Class I area under the Clean Air Act, at times has the dirtiest air in terms of visibility impairment of any western national park. The scenic vistas that historically encompassed more than 150 miles are disappearing. Increased acid deposition from sulfur dioxide emissions from coal-fired, electricity-generating plants southeast of the park could damage natural and cultural resources and seriously impact public health. Please see the “Impact Topics Dismissed from further consideration” and “Laws, Policies, and Mandates” sections.

**Water Quality.** The Texas Commission on Environmental Quality has notified the park that drinking water at some locations in the park is not in compliance with state standards. Please see the “Laws, Policies, and Mandates” section.

**Exotic Species.** Many species of invasive exotic plants and animals have become established throughout much of the park and threaten native species. In time, these aggressive exotic plants and animals can greatly expand their populations, alter forest and wildlife habitats, and change scenery by smothering and displacing native species. These effects, which are already occurring in some areas of the park, will worsen substantially if left untreated. A sustained effort is needed to control these internal threats to the native species and their

natural habitats. Please see the “Laws, Policies, and Mandates” section.

### IMPACT TOPICS (RESOURCES AND VALUES AT STAKE IN THE PLANNING PROCESS)

Specific impact topics were developed for discussion focus and to allow comparison of the environmental consequences of each alternative. These impact topics were identified on the basis of federal laws, regulations, and executive orders; the 2001 NPS *Management Policies*; project issues identified during scoping, and NPS knowledge of limited or easily impacted resources.

#### Natural Resource Topics

The planning team selected seven natural resource impact topics. The selection was based on the major values or issues the team identified early in the planning process, as well as on applicable laws and executive orders (for example, the Endangered Species Act of 1973, as amended, Executive Order 11988, “Floodplain Management,” and Executive Order 11990, “Protection of Wetlands”). The following aspects of the natural environment will be impact topics because actions of the alternatives may affect them: soils; vegetation; wildlife; water quantity; threatened, endangered, and candidate species (black-capped vireo and Big Bend gambusia); wetlands; and floodplains.

#### Cultural Resource Topics

Cultural resource impact topics were selected on the basis of major values identified in the park’s enabling legislation, values identified in the scoping process, and applicable laws and executive orders pertaining to cultural resources (e.g., the 1966 National Historic Preservation Act and the National Environmental Policy Act). The topics are archeological resources, ethnographic resources, historic structures, cultural landscapes, and collections.

### Visitor Experience Topics

The planning team identified visitor experience as an important issue that could be appreciably affected under the alternatives. Impact topics in this category are visitors' experiences of the park resources, orientation and interpretive information, and visitor safety.

### Socioeconomic Environment Topics

Analyzing the local and regional economic impacts would show the possible impacts on the local and regional area that could result from implementation of the alternatives. In addition, the national park has neighbors that could be affected by plan alternatives. The topics discussed are businesses and park neighbors, recreation spending, commercial river runners and hotel/motel operators, and the local and regional economy.

### IMPACT TOPICS CONSIDERED AND DISMISSED FROM FURTHER CONSIDERATION

#### Threatened, Endangered, and Proposed Species

Two federally endangered species, Big Bend gambusia (fish) and black-capped vireo (bird) are analyzed as impact topics. However, the following species have been dismissed from consideration.

The following species listed by the U.S. Fish and Wildlife Service in their July 2000 letter as occurring in Brewster or Terrell Counties, Texas (see appendix C), have been dismissed because they are not known to occur in the park. Neither are any actions proposed by this plan likely to impact them. In the following lists, (E) stands for endangered, (T) for threatened, (C) for candidate and (SOC) for species of concern.

#### Edwards Aquifer species:

- Comal Springs riffle beetle (E)
- Comal Springs dryopid beetle (E)
- Fountain darter (E)
- Peck's cave amphipod (E)

- San Marcos gambusia (E)
- Texas wild-rice (E)
- Texas blind salamander (E)
- San Marcos salamander (T)

#### Migratory species common to many or all counties:

- Least tern (E)
- Whooping crane (E)
- Piping plover (T)
- White-faced ibis (SOC)

#### Brewster County:

- Golden-cheeked warbler (E)
- Northern aplomado falcon (E)
- Southwestern willow flycatcher (E)
- Davis' green pitaya (E)
- Nellie cory cactus (E)
- Terlingua Creek cats-eye (E)
- Hinckley's oak (T)
- Mountain plover (T)

The bald eagle, a threatened species, does not nest at Big Bend. It is occasionally seen in the park along the Rio Grande. As a result of its only occasional presence in the park, it is very unlikely to be affected by any action taken to implement any alternative of the *General Management Plan*. Therefore impacts on the bald eagle will not be analyzed in this document.

Impacts on the following species were not analyzed because, although found in the park, they are not in any of the areas that would be affected by actions of any alternative of the *General Management Plan*. Management actions described in the "Servicewide Laws and Policies, Threatened and Endangered Species" section, and in the mitigation listed near the end of this chapter, would ensure that these special species are inventoried and monitored and that mitigating measures would be taken as appropriate.

- Bunched cory cactus (also known as Big Bend cory cactus) (T)
- Chisos Mountain hedgehog cactus (T)
- Lloyd's Mariposa cactus (T)
- Tall paintbrush (C)
- Guadalupe fescue (C)
- Loggerhead shrike (SOC)
- Mexican long-nosed bat (E)

The Texas Parks and Wildlife Department, Endangered Resource Branch, provided a Special Species List for Brewster County (see appendix C). Some species from the state list, other than those already described, occur in the general area. However, all but one, the common black-hawk, are unlikely to be affected because they are not known to occur in the immediate vicinity of alternative actions. The common black-hawk is found at Rio Grande Village where some actions are proposed. Management actions described in the “Servicewide Laws and Policies, Species of Special Concern” section and mitigation measures listed at the end of the “Alternatives Including the Preferred Alternative” chapter would ensure that these special species are inventoried and monitored and that mitigating measures are taken as appropriate. This would make it very unlikely that these species would be impacted. Therefore, these species have been dismissed from further consideration.

### **Prime and Unique Farmland**

In August 1980 the Council on Environmental Quality (CEQ) directed that federal agencies must assess the effects of their actions on farmland soils classified as prime or unique by the Natural Resource Conservation Service, U.S. Department of Agriculture. Prime or unique farmland is defined as soil that produces general crops such as common foods, forage, fiber, and oil seed. Unique farmland produces specialty crops such as fruits, vegetables, and nuts. According to the Natural Resource Conservation Service, Texas State office (pers. comm. 8/7/01), there are no prime or unique farmlands in Big Bend National Park; therefore, the topic of prime and unique farmland has been dismissed as an impact topic in this document.

### **Air Quality**

Big Bend National Park is designated as a mandatory Class I air quality area under the National Clean Air Act of 1977. This most stringent air quality classification protects national parks and wilderness areas from air quality degradation. The Clean Air Act gives

federal land managers the responsibility for protecting air quality and related values, including visibility, plants, animals, soils, water quality, cultural resources, and public health from adverse air pollution impacts.

The monitoring of air quality at Big Bend began in 1982. The most significant air-quality-related value for the park is visibility. Air quality parameters are currently monitored through the use of the following instruments: automated camera; solar-powered satellite downloaded transmission; ozone monitoring module package; national atmospheric deposition program (NADP) sampler (wet side only) along with a rainfall event recorder; the IMPROVE particulate sampling system, and a digital camera at Panther Junction pointed toward a prominent landmark in Mexico.

Research since 1978 has shown that the park is among the NPS units having the most severely degraded air quality and visibility in the western United States. Threats to visibility and air quality include windblown dust, natural aerosols, and long-range transport of sulfates. Air quality is often degraded due to emissions of air pollutants transported from industrial and urban Texas Gulf Coast centers, heavy industries (e.g., smelters and steel mills) and power plants in northeastern Mexico.

The most current threat to increased visibility degradation is the construction of coal-fired electrical power plants near Piedras Negras, Mexico. These large power plants are designed to use a relatively high sulfur, high ash coal. Little or no technological engineering design to reduce fine particulates has been incorporated into the facilities. Negotiations with Mexico are currently underway in an attempt to mitigate this problem.

Although the park manages sources of air pollution in the park, works cooperatively with the Texas Commission on Environmental Quality regarding park visibility conditions, participates with the Air Resources division of the National Park Service to address regional haze issues in the central United States, and cooperates with the U.S. Environmental Protection Agency to monitor air quality, it has

very little direct control over air quality in the air shed encompassing the park.

There are no general management plan proposals that, when considered along with required mitigation, would further impact air quality. Therefore, alternatives for this topic have not been developed and there would be no impacts on air quality from implementing any of the actions in the alternatives of this general management plan.

### Water Quality in the Rio Grande

Most factors affecting water quality at Big Bend originate outside the park, (USDI, U.S.- Mexico Border Field Coordinating Committee in “Water Resources Issues in the Rio Grande–Rio Conchos to Amistad Reservoir Subarea, Fact Sheet 3,” April 1998). Many of them require coordination with regional or international groups. Park staff and others have developed a *Water Resources Management Plan* (NPS1996) that describes strategies the park will employ to address, among other issues, water quality. The water resources plan provides comprehensive treatment of this issue and is reaffirmed in the “Special Mandates and Administrative Commitments,” section of the “Purpose, Need and Scoping,” chapter of this document. Alternatives of the general management plan might impact water quality in the Rio Grande by raising fuel storage tanks above the level of the 500-year floodplain or protecting them from the 500-year flood. This would reduce the chances that fuel would enter floodwaters. Removing most development from Rio Grande Village in alternative C would reduce the number of vehicles in the area thereby reducing hydrocarbons that might drip from vehicles and find their way into the river. Therefore, water quality is not an impact topic in this document.

### Traffic

Visitation to the park principally affects traffic on U.S. 385 from Marathon, Texas, to the main park road and traffic on Texas Route 118 from Alpine, Texas, to the main park road. There is very little traffic on either of these roads. None

of the alternatives described would appreciably alter traffic on U.S. 385 and Texas 118, so there would be no impact on traffic. Therefore, the topic of traffic has been considered and dismissed.

### Indian Trust Resources

President Clinton’s April 29, 1994, “Memorandum for the Heads of Executive Departments and Agencies” directs that:

Each executive department and agency shall assess the impact of federal government plans, projects, programs, and activities on tribal trust resources and assure that tribal government rights and concerns are considered during the development of such plans, projects, programs, and activities.

Also, order 3175 (Secretary of the Interior, November 8, 1993) states:

The heads of bureaus and offices are responsible for being aware of the impact of their plans, projects, programs or activities on Indian trust resources. Bureaus and offices when engaged in the planning of any proposed project or action will ensure that any anticipated effects on Indian trust resources are explicitly addressed in the planning, decision and operational documents. These documents should clearly state the rationale for the recommended decision and explain how the decision will be consistent with the Department’s trust responsibilities.

One definition of tribal trust resources (subsection B, section 3, Secretarial Order 3206, Babbitt 6/5/1997) is

those natural resources, either on or off Indian lands, retained by, or reserved by or for Indian tribes through treaties, statutes, judicial decisions, and executive orders, which are protected by a fiduciary [trust] obligation on the part of the United States

None of the lands in Big Bend are trust resources according to this definition. Therefore, this topic has not been analyzed.

**Environmental Justice**

Executive Order 12898, “General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental

effects of their programs and policies on minorities and low-income populations and communities. No alternative would have health or environmental effects on minorities (including American Indian tribes) or low-income populations or communities as defined in the Environmental Protection Agency’s *Environmental Justice Guidance* (1998). Environmental justice has been dismissed as an impact topic in this document.

## LAWS, POLICIES, AND MANDATES

### **SPECIAL MANDATES AND ADMINISTRATIVE COMMITMENTS**

This section identifies what must be done at Big Bend National Park to comply with federal laws and NPS policies. Many park management directives are specified in these mandates and are therefore not subject to alternative approaches. Big Bend has many other current plans and ongoing planning efforts. Those most directly related to the general management plan or potentially affected by it are listed below.

#### **International Boundary and Water Commission, United States and Mexico (IBWC)**

The following information came from a July 25, 2003, letter from the International Boundary and Water Commission United States and Mexico to John A. King, Superintendent at Big Bend National Park.

The mission of the International Boundary and Water Commission, United States and Mexico (IBWC), is to apply the rights and obligations that the governments of the United States and Mexico assumed under numerous boundary and water treaties and related agreements. The United States section of the IBWC (USIBWC) by virtue of the Treaty of February 3, 1944 (the 1944 Water Treaty) for "Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande" (TS 994; 59 Stat 1219), and agreements concluded thereunder by the United States and Mexico is responsible for ensuring that the United States government meets the obligations incurred in those agreements.

Implementation of the 1944 Water Treaty required the IBWC to keep a record of the Rio Grande waters belonging to each country. The IBWC operates and maintains two gauging stations in Big Bend National Park on the main channel of the Rio Grande at Johnson Ranch and on the measured tributary Terlingua Creek. As required by USIBWC, continued access to

these stations by established roads in the park will continue to be provided under the general management plan.

The Treaty to Resolve Pending Boundary Differences and Maintain the Rio Grande and Colorado River as the International Boundary between Mexico and the United States, November 23, 1970 (23 U.S.T.371, T.I.A.S. No. 7313), prohibits the construction of works that may cause deflection or obstruction of the normal flow of the river or its flood flows. The USIBWC required that proposed construction or tree planting activities be accomplished in a way that does not impede or change flows in the Rio Grande or alter historic surface runoff characteristics at the international border. This requirement is intended to ensure that developments in one country will not cause damage to lands or resources in the other country. Accordingly, all engineering drawings and any necessary supporting calculations will be submitted to USIBWC for review and approval before beginning work. The drawings and calculations will show that the activities and construction will be undertaken without changing historic surface runoff characteristics. The National Park Service will continue to assure USIBWC that structures constructed along the United States/Mexico border are maintained in an adequate manner and that liability issues created by these structures are addressed.

The USIBWC and the National Park Service do not anticipate that any management strategies discussed in this general management plan conflict with the mission of the IBWC. The two agencies will continue to work together to ensure the preservation of the international boundary along the Rio Grande boundary of Big Bend National Park and to achieve the desired management goals for the area.

**Letter of Intent Between The Department of the Interior (DOI) of the United States and The Secretariat of Environment, Natural Resources and Fisheries (SEMARNAP) of the United Mexican States for Joint Work in Natural Protected Areas on the United States-Mexico Border**

Under this agreement, the two agencies plan to expand cooperative activities in the conservation of contiguous natural protected areas in the border zone and to consider new opportunities for cooperation in the protection of natural protected areas on the United States-Mexico border. Among the listed areas are the wildlife protection areas in Mexico of Maderas del Carmen in Coahuila and Cañon de Santa Elena in Chihuahua, and the adjacent protected area in the United States, Big Bend National Park in Texas. Nothing in this *General Management Plan* would conflict with this letter of intent.

**Wildfire Prevention Agreement with Mexico**

An agreement with Mexico on the prevention of wildfires was signed in 1999. None of the actions proposed in this *General Management Plan* will conflict with the agreement.

**Proposed Wilderness Classification**

In 1984, as required by the Wilderness Act of 1964 (PL 88-577), the National Park Service published a *Final Environmental Impact Statement, Proposed Wilderness Classification, Big Bend National Park, Texas*. It proposed that 533,900 acres of the park be designated as wilderness and that an additional 25,700 acres be designated as potential wilderness addition. Until Congress acts on this proposal, the National Park Service will manage those lands as wilderness.

**Water Resources Management Plan, Wildland Fire Management Plan, Backcountry Management Plan, Castolon Long-Range Interpretive Plan, Drought Contingency Plan, Water Conservation Plan**

The “Water Resources Management Plan” was published in February 1995, the “Wildland Fire Management Plan” was approved in 1994, the “Backcountry Management Plan” was published in 1995, and the “Castolon Long Range Interpretive Plan” in 1997. A “Drought Contingency Plan” and a “Water Conservation Plan” are in draft form in fall 2003. This *General Management Plan* reaffirms these plans. No alternative of this plan suggests revisions.

**Rio Grande Wild and Scenic River Management Plan**

A segment of the Rio Grande was designated a national wild and scenic river in 1978 under the Wild and Scenic Rivers Act (16 USC 28 page 1274), making it a unit of the national park system. The unit is administered by Big Bend National Park. The National Park Service wrote a general management plan/development concept plan for the river in 1981, however, it was never approved. A river management plan is in progress for the Rio Grande Wild and Scenic River. Among other things, the plan evaluates segments that are not part of the wild and scenic river for designation. A draft plan / environmental impact statement for the river is expected to go on public review in 2003. This *General Management Plan* proposes no actions that could adversely affect the values that qualify the Rio Grande River for the national wild and scenic river system. None of the actions proposed in this *General Management Plan* conflict with the draft river management plan.

**Wild and Scenic River Assessment**

Parks that contain one or more river segments listed in the national rivers inventory maintained by the National Park Service, or that have characteristics that might make them eligible for the National Wild and Scenic Rivers System, will comply with section 5 (d) (I) of the Wild and Scenic Rivers Act, which instructs each federal agency to assess whether those rivers are suitable for inclusion in the system. Other than the Rio Grande, there are no rivers in Big Bend National Park that meet wild and scenic river criteria. There are arroyos, which only have

water at times of heavy rains, and some small nonnavigable creeks and spring areas, but none of these could be considered a wild and scenic river. In conclusion, water sources for the Rio Grande Wild and Scenic River have been considered in the planning effort for Big Bend National Park, and no other eligible river than the Rio Grande exists in park boundaries.

### Wilderness Suitability Assessment

A “Draft Wilderness Suitability Assessment of North Rosillos/Harte Ranch in Big Bend National Park” was conducted by the National Park Service in December 2001 (see appendix E. This is the first required step in determining if all or part of this land is suitable for inclusion in the congressionally designated national wilderness preservation system. NPS regulations require the assessment of all national park system lands for wilderness suitability. Most of Big Bend National Park has already been studied for wilderness suitability, but the land in question was acquired in 1987 after the original park wilderness study was completed.

When the “Wilderness Suitability Assessment” has been approved by the Director of the National Park Service in Washington, D.C., the final determination of the area’s suitability or nonsuitability as wilderness will be published in the *Federal Register*. If the area, or parts of the area, is determined suitable, a wilderness study will be conducted.

### Commercial Visitor Services Assessment

Public Law 105-391, *The Concessions Management Improvement Act of 1998* states that “the development of . . . services in units of the National Park Service shall be limited to those accommodations, facilities, and services that . . . are necessary and appropriate for public use and enjoyment of the unit of the National Park System.”

A service is necessary if

- it is needed to accomplish the purpose of the park

- it does not have significant resource impacts
- it assists in managing visitor use
- it generally is not available nearby

A service is appropriate if

- there are no significant resource impacts
- it enhances visitor experience
- it is consistent with laws, regulations, and policy,
- it doesn’t interfere with other park uses
- it does not exclude the general public from participating in the same recreational opportunities

Because of the size and isolation of Big Bend National Park, a variety of services and facilities are necessary and appropriate. These include accommodations (lodging, campgrounds, and recreational vehicle parking), food, gasoline, and sundry items (suntan lotions, first-aid items, etc.).

### SERVICEWIDE LAWS AND POLICIES

As with all units of the national park system, the management of Big Bend National Park is guided by the 1916 Organic Act (which created the National Park Service), the General Authorities Act of 1970, the act of March 27, 1978, relating to the management of the national park system, and other applicable federal laws and regulations, such as the Endangered Species Act and the National Historic Preservation Act. Actions are also guided by the National Park Service’s *Management Policies* (NPS 2001a). Also see “Appendix A: Legislation.”

Many resource conditions and some aspects of visitor experience are prescribed by these legal mandates and NPS policies. This plan is not needed to decide, for instance, whether or not it is appropriate to protect endangered species, control exotic species, protect archeological sites, provide access for visitors with disabilities, or conserve artifacts. The plan will not explore alternatives because these things must be done. Although attaining some of these conditions set forth in these laws and policies has been temporarily deferred in the park because of funding or staffing limitations, the National Park



PURPOSE OF AND NEED FOR THE PLAN

Service will continue to strive to implement these requirements with or without a new general management plan.

The conditions prescribed by laws, regulations, and policies most pertinent to the planning and management of the park are summarized in this chapter.

**Natural Resource Management Requirements**

<b>SOILS</b>	
Current laws and policies require that the following conditions be achieved in the park:	
<b>Desired Condition</b>	<b>Source</b>
The Service will actively seek to understand and preserve the soil resources of parks, and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources.	<i>NPS Management Policies</i>
Management action will be taken by superintendents to prevent — or if that is not possible, to minimize — adverse, potentially irreversible impacts on soils. Soil conservation and soil amendment practices may be implemented to reduce impacts. Importation of offsite soil or soil amendments may be used to restore damaged sites. Offsite soil normally will be salvaged soil, not soil removed from pristine sites, unless the use of pristine site soil can be achieved without causing any overall ecosystem impairment. Before using any offsite materials, parks must develop a prescription, and select the materials that will be needed to restore the physical, chemical, and biological characteristics of original native soils without introducing any exotic species.	<i>NPS Management Policies</i>
When soil excavation is an unavoidable part of an approved facility development project, the Park Service will minimize soil excavation, erosion, and offsite soil migration during and after the development activity.	<i>NPS Management Policies</i>
When use of a soil fertilizer or other soil amendment is an unavoidable part of restoring a natural landscape or maintaining an altered plant community, the use will be guided by a written prescription. The prescription will be designed to ensure that such use of soil fertilizer or soil amendment does not unacceptably alter the physical, chemical, or biological characteristics of the soil, biological community, or surface or ground waters.	<i>NPS Management Policies</i>
<b>Compliance Actions</b>	
The National Park Service will take the following kinds of actions to meet legal and policy requirements related to soils:	
<ul style="list-style-type: none"> <li>• Update soils map of the park in digital format that can be used in the park’s geographic information system (GIS).</li> <li>• Whenever possible, park staff would educate visitors about soils.</li> <li>• Research soil properties including nutrients, microorganisms and soil crusts to learn how to restore native plant communities.</li> <li>• Determine source of soil nutrients and the effects of atmospheric pollution on soils and soil biological crusts.</li> </ul>	

<b>NATIVE VEGETATION AND WILDLIFE</b>	
Current laws and policies require that the following conditions be achieved in the park:	
<b>Desired Condition</b>	<b>Source</b>
The National Park Service will maintain as parts of the natural ecosystem, all native plants and animals in the park.	NPS <i>Management Policies 2001</i> ; NPS-77 “Natural Resources Management Guideline”
<b>Actions</b>	
The National Park Service will take the following kinds of actions (listed in priority order) to meet legal and policy requirements related to native wildlife and vegetation:	
<ul style="list-style-type: none"> <li>• Complete an inventory of plants and animals in the park and regularly monitor the distribution and condition (e.g., health, disease) of selected species that are (a) indicators of ecosystem condition and diversity, (b) rare or protected species, (c) invasive exotics, (d) native species capable of creating resource problems (e.g., habitat decline due to overpopulation).</li> <li>• Develop methods to restore native grasslands and stabilize eroding areas.</li> <li>• Develop and institute annual mountain lion and bear population monitoring strategies.</li> <li>• Develop and institute a food source monitoring strategy to identify periods when insufficient food is available.</li> <li>• Determine the frequency and extent of human-caused lion mortality in the park lion population due to administrative actions.</li> <li>• Determine genetic integrity and viability of the mountain lion population through DNA analysis (already done for bears). Establish and implement bear and lion genetic monitoring strategies for cyclic implementation.</li> <li>• Monitor bighorn population movements, habitat use, reproduction and predation. Determine threats to population growth and recolonization of park habitat.</li> <li>• Develop methods to restore native biological communities.</li> <li>• Minimize human impacts on native plants, animals, populations, communities and ecosystems and the processes that sustain them.</li> <li>• Restore native plant and animals populations in the park that have been extirpated by past human-caused action, where feasible.</li> <li>• Whenever possible, natural processes will be relied upon to maintain native plant and animal species, and to influence natural fluctuations in populations of these species.</li> <li>• Protect a full range of genetic types (genotypes) of native plant and animals populations in the park by perpetuating natural evolutionary processes and minimizing human interference with evolving genetic diversity.</li> </ul>	

<b>WATER RESOURCES</b>	
Current laws and policies require that the conditions delineated below be achieved in the park:	
<b>Desired Condition</b>	<b>Source</b>
Surface water and groundwater will be restored or enhanced.	Clean Water Act; Executive Order (EO) 11514; <i>NPS Management Policies</i>
NPS and NPS-permitted programs and facilities will be maintained and operated to avoid pollution of surface water and groundwater.	Clean Water Act; EO 12088; Rivers and Harbors Act; <i>NPS Management Policies</i>
<b>Compliance Actions</b>	
The National Park Service will take the following kinds of actions (listed in priority order) to meet legal and policy requirements related to water resources:	
<ul style="list-style-type: none"> <li>• Determine which methods can be used to ensure minimum flows under state and federal law and/or international efforts.</li> <li>• Determine minimum flow needs to sustain aquatic life and provide recreational boating opportunities.</li> <li>• Investigate and monitor water quality including salinity and trace elements. Study the effects of the water quality on aquatic life.</li> <li>• Determine methods to restore the Rio Grande to a sustainable river ecosystem with a native riparian vegetation community and natural river geomorphology.</li> <li>• Promote water conservation by the Park Service, concessioner, visitors, and park neighbors.</li> <li>• Apply best management practices to all pollution-generating activities and facilities in the park, such as NPS maintenance and storage facilities and parking areas; minimize the use of pesticides, fertilizers, and other chemicals and manage them in keeping with NPS policy and federal regulations.</li> <li>• Continue to monitor water flows and quality and to participate in the Texas Watch program.</li> <li>• Continue to work with the Rio Grande Compact Commission, the International Boundary and Water Commission, the U.S. Geological Survey, the Bureau of Reclamation, and the Texas Commission on Environmental Quality to explore long-term strategies to ensure minimum flow levels and treaty compliance.</li> <li>• Work with other entities to determine the impact on local aquifers of Big Bend National Park, Big Bend Ranch State Park, Black Gap Wildlife Management Area, and gateway communities.</li> <li>• Work through or with other entities to ameliorate known water quality problems.</li> <li>• Promote, with the assistance of other agencies, the development of pretreatment programs for existing and new maquiladora facilities along the Rio Grande and Rio Conchos.</li> <li>• Press for continued and expanded monitoring to fulfill the database requirement and thus reveal any unknown water quality problems.</li> <li>• Continue to follow the recommendations of the 1996 <i>Water Resources Management Plan for Big Bend National Park</i> (National Park Service).</li> <li>• Work with interested groups along the border to achieve cooperative ecosystem management of the Rio Grande corridor through a long-term, comprehensive plan for conservation and use.</li> </ul>	

PURPOSE OF AND NEED FOR THE PLAN

<b>EXOTIC SPECIES</b>	
Current laws and policies require that the following conditions be achieved in the park:	
<b>Desired Condition</b>	<b>Source</b>
The management of populations of exotic plant and animal species, up to and including eradication, are undertaken wherever such species threaten park resources or public health and when control is prudent and feasible.	NPS <i>Management Policies 2001</i> ; EO 13112, “Invasive Species”; NPS-77, “Natural Resources Management Guidelines”
<b>Actions</b>	
The National Park Service will take the following kinds of actions (listed in priority order) to meet legal and policy requirements related to exotic species.	
<ul style="list-style-type: none"> <li>• Complete an inventory of plants and animals in the park and regularly monitor the distribution and condition (e.g., health, disease) of selected species that are (a) invasive exotics or (b) native species capable of creating resource problems (e.g., habitat decline due to overpopulation).</li> <li>• Develop a long-term program for reversing the destructive effects of exotic species.</li> <li>• Study the environmental and ecological effects of exotic species invasion to assess threats and prioritize management actions.</li> <li>• Undertake research to assess the methods by which exotic species become established and spread into native plant communities so that strategies for preventing introduction and establishment can be developed and implemented.</li> <li>• Manage exclusively for native plant species in pristine and primitive management prescriptions. In other management prescriptions, limit planting of nonnative species to noninvasive plants that are justified by the historic scene or operational needs.</li> <li>• Control or eliminate exotic plants and animals, exotic diseases, and pest species where there is a reasonable expectation of success and sustainability. Base control efforts on:             <ul style="list-style-type: none"> <li>• the potential threat to legally protected or uncommon native species and habitats</li> <li>• the potential threat to visitor health or safety</li> <li>• the potential threat to scenic and aesthetic quality</li> <li>• the potential threat to common native species and habitat</li> </ul> </li> <li>• Manage exotic diseases and pest species based on similar priorities.</li> <li>• Provide interpretive and educational programs on the preservation of native species for visitors and for residents neighboring the park.</li> </ul>	

<b>THREATENED AND ENDANGERED SPECIES</b>	
Current laws and policies require that the following conditions be achieved in the park:	
<b>Desired Condition</b>	<b>Source</b>
Federally listed and state-listed threatened and endangered species and their habitats will be sustained.	Endangered Species Act; <i>NPS Management Policies 2001</i>
Native species populations that have been severely reduced in or extirpated from the park will be restored where feasible and sustainable.	<i>NPS Management Policies 2001</i>
<b>Compliance Actions</b>	
The National Park Service will take the following kinds of actions (listed in priority order) to meet legal and policy requirements related to species of special concern:	
<ul style="list-style-type: none"> <li>• Complete an inventory of plants and animals in the park and regularly monitor the distribution and condition (e.g., health, disease) of selected species that are (a) indicators of ecosystem condition and diversity, (b) rare or protected species, (c) invasive exotics, (d) native species capable of creating resource problems (e.g., habitat decline due to overpopulation).</li> <li>• Develop a long-term program for reversing the destructive effects of exotic species.</li> <li>• Study the environmental and ecological effects of exotic species invasion to assess threats and prioritize management actions.</li> <li>• Undertake research to assess the methods by which new species become established and spread into native plant communities so that strategies for preventing introduction and establishment can be developed and implemented.</li> </ul>	

<b>FLOODPLAINS</b>	
Current laws and policies require that the conditions delineated below be achieved in the park:	
<b>Desired Condition</b>	<b>Source</b>
Natural floodplain values will be preserved or restored.	EO 11988; Rivers and Harbors Act; NPS <i>Management Policies</i> ; Special Directive 93-4
<p>Long-term and short-term environmental effects associated with the occupancy and modification of floodplains will be avoided.</p> <p>When it is not practicable to locate or relocate development or inappropriate human activities to a site outside the floodplain or where the floodplain will not be affected, the National Park Service will</p> <ul style="list-style-type: none"> <li>• Prepare and approve a statement of findings in accordance with DO 77-2.</li> <li>• Use nonstructural measures as much as practicable to reduce hazards to human life and property while minimizing impacts on the natural resources of floodplains.</li> <li>• Ensure that structures and facilities are designed to be consistent with the intent of the standards and criteria of the National Flood Insurance Program (44 CFR 60).</li> <li>• Avoid direct or indirect support of new construction in wetlands unless there are no reasonable alternatives and the preferred alternative includes all practicable measures to minimize harm to wetlands.</li> <li>• Compensate for remaining unavoidable adverse impacts on wetlands by restoring wetlands that have been previously destroyed or degraded.</li> </ul>	DO 77-2, “Floodplain Management”; National Flood Insurance Program (44 CFR 60); NPS <i>Management Policies</i>
<b>Compliance Actions</b>	
The National Park Service will take the following kinds of actions to meet legal and policy requirements related to floodplains:	
<ul style="list-style-type: none"> <li>• Continue to follow the recommendations of the 1996 <i>Water Resources Management Plan for Big Bend National Park</i> (National Park Service).</li> <li>• Prepare a quantitative analysis of flood depth to allow park staff to develop appropriate mitigation measures for the flash flood prone area at Panther Junction.</li> <li>• Remove from the 500-year floodplain or protect from the 500-year flood the diesel, gasoline, and propane storage tanks that are marginally within the 100-year floodplain at Rio Grande Village, or protect them as required by NPS policy. Should an alternative such as constructing an embankment be chosen, a statement of findings would be prepared and approved.</li> <li>• Establish a flood awareness, preparedness and warning system to evacuate the most flood and erosion prone structures at Panther Junction, Rio Grande Village, and Cottonwood Campground at times of imminent danger.</li> <li>• Any future construction on the Panther Junction alluvial fan would be accompanied by a statement of findings describing the need to develop within the maximum estimated flood (Qme), the flood hazard associated with the proposed development site, and the plans for mitigation of this flood hazard.</li> <li>• Visitors, including those hiking, parking and picnicking in or near small channels, would be made aware of hazards associated with flash flooding and informed of what to do when water is flowing in low-water road crossings.</li> <li>• The camping area at Terlingua Abaja, an area susceptible to flash flooding, will be relocated a few hundred feet away on higher ground, and/or visitor instructions will be provided describing necessary action in the case of extreme flooding.</li> <li>• At Castolon, unstable bank areas will be clearly marked in order to reduce risk to visitors.</li> </ul>	

<b>WETLANDS</b>	
Current laws and policies require that the conditions delineated below be achieved in the park:	
<b>Desired Condition</b>	<b>Source</b>
The natural and beneficial values of wetlands will be preserved and enhanced.	Clean Water Act; EO 11990; NPS <i>Management Policies</i> ; DO 77-1, “Wetland Protection”; Rivers and Harbors Act
The National Park Service will implement a “no net loss of wetlands” policy and strive to achieve a longer-term goal of net gain of wetlands across the national park system through the restoration of previously degraded or destroyed wetlands.	DO 77-1, “Wetland Protection”; EO 11514
<b>Compliance Actions</b>	
The National Park Service will take the following kinds of actions to meet legal and policy requirements related to wetland resources:	
<ul style="list-style-type: none"> <li>• Conduct a wetlands inventory of the park using the Cowardian system.</li> <li>• Determine methods to restore the Rio Grande to a sustainable river ecosystem with a native riparian vegetation community and natural river geomorphology.</li> <li>• Continue to follow the recommendations of the 1996 <i>Water Resources Management Plan for Big Bend National Park</i> (National Park Service).</li> <li>• All facilities would be located to avoid wetlands if feasible. If avoiding wetlands was not feasible, other actions would be taken to comply with Executive Order 11990 (“Protection of Wetlands”), the Clean Water Act, and Director’s Order 77-1 (“Wetland Protection”).</li> <li>• A statement of findings for wetlands will be prepared if the selected alternative would result in adverse impacts on wetlands. The statement of findings would include an analysis of the alternatives, delineation of the wetland, a wetland restoration plan to identify mitigation, and a wetland functional analysis of the impact site and restoration site.</li> </ul>	



PURPOSE OF AND NEED FOR THE PLAN

<b>WILDERNESS</b>	
<p>The National Park Service will manage wilderness areas including those proposed for wilderness designation for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness.</p>	
<b>Desired Condition</b>	<b>Source</b>
<p>Each park containing wilderness resources will develop and maintain a wilderness management plan or equivalent planning document to guide the preservation, management and use of these resources. The wilderness management plan will identify desired future conditions, as well as establish indicators, standards, conditions, and thresholds beyond which management actions will be taken to reduce human impacts to wilderness resources.</p>	<p>NPS <i>Management Policies</i>, DO 41 “Wilderness Preservation and Management”</p>
<p>If new areas of 5,000 acres or more are added to a park, a wilderness suitability assessment will be undertaken.</p>	
<b>Compliance Actions</b>	
<p>The National Park Service will take the following kinds of actions (listed in priority order) to comply with the policies mentioned above.</p>	
<ul style="list-style-type: none"> <li>• A wilderness suitability assessment of the North Rosillos/Harte Ranch will be undertaken and included in Appendix E of this <i>General Management Plan</i>.</li> <li>• Managers contemplating the use of aircraft or other motorized equipment or mechanical transportation within wilderness must consider impacts to the character, aesthetics, and traditions of wilderness before considering the costs and efficiency of the equipment.</li> <li>• In evaluating environmental impacts, the National Park Service will take into account wilderness characteristics and values, including the primeval character and influence of the wilderness; the preservation of natural conditions (including the lack of man-made noise); and assurances that there will be outstanding opportunities for solitude, that the public will be provided with a primitive and unconfined type of recreational experience, and that wilderness will be preserved and used in an unimpaired condition. Managers will be expected to appropriately address cultural resources management considerations in the development and review of environmental compliance documents for actions that might impact wilderness resources.</li> <li>• Scientific activities will be encouraged and permitted when consistent with NPS responsibilities to preserve and manage wilderness.</li> </ul>	

<b>AIR QUALITY</b>	
<p>The park is a class I air quality area. Current laws and policies require that the following conditions be achieved in the parks.</p>	
<b>Desired Condition</b>	<b>Source</b>
<p>Inventory the air quality-related values associated with each park.                      Monitor and document the condition of air quality and related values.                      Evaluate air pollution impacts and identify causes.                      Minimize air quality pollution emissions associated with park operations, including the use of prescribed fire and visitor use activities.                      Ensure healthful indoor air quality at NPS facilities.</p>	<p>Clean Air Act, NPS <i>Management Policies</i></p>
<b>Compliance Actions</b>	
<p>The National Park Service will take the following kinds of actions (listed in priority order) to meet legal and policy requirements related to air quality.</p>	
<p>Although the National Park Service has very little direct control over air quality in the air shed encompassing the park, park managers will continue to cooperate with the Texas Commission on Environmental Quality and the U.S. Environmental Protection Agency to monitor air quality and ensure that air quality is not impaired.</p> <ul style="list-style-type: none"> <li>• Research effects of atmospheric deposition on plants, soils and wetlands in Big Bend National Park.</li> <li>• Determine changes in ecosystem function caused by atmospheric deposition and assess the resistance and resilience of native ecosystems in the face of these external perturbations.</li> <li>• Participate in federal, regional, and local air pollution control plans and drafting of regulations and review permit applications for major new air pollution sources</li> <li>• Conduct operations in compliance with federal, state, and local air quality regulations.</li> <li>• Maintain constant dialogue with the Texas Commission on Environmental Quality regarding visibility conditions at the park.</li> <li>• Participate with the Air Resources Division on the regional planning group that includes the Texas Commission on Environmental Quality that was formed to address regional haze issues in the central United States.</li> </ul>	

<b>GEOLOGIC RESOURCES</b>	
Current laws and policies require that the following conditions be achieved in the park:	
<b>Desired Condition</b>	<b>Source</b>
Preserve and protect geologic resources as integral components of park natural systems. The Park Service will (1) assess the impacts of natural processes and human-related events on geologic resources (2) maintain and restore the integrity of existing geologic resources; (3) integrate geologic resource management into Service operations and planning; and (4) interpret geologic resources for park visitors.	NPS <i>Management Policies</i>
Paleontological resources, including both organic and mineralized remains in body or trace form, will be protected, preserved and managed for public education, interpretation, and scientific research. Superintendents will establish programs to inventory paleontological resources and systematically monitor for newly exposed fossils, especially in areas of rapid erosion.	NPS <i>Management Policies</i>
The Park Service will manage caves in accordance with approved cave management plans to perpetuate the natural systems associated with the caves.	NPS <i>Management Policies</i>
<b>Compliance Actions</b>	
The National Park Service will take the following kinds of actions (listed in priority order) to meet legal and policy requirements related to geologic resources:	
<ul style="list-style-type: none"> <li>• Update geologic map of the park in digital format that can be used in the park’s geographic information system (GIS).</li> <li>• Update geologic history of the park, using modern theory and techniques.</li> <li>• Update geologic interpretations of localities that are the subject of interpretive stops or displays.</li> <li>• Prepare a geologic inventory, including the identification of the significant geologic processes that shape park ecosystems and the identification of the human influences on those geologic processes (i.e., “geoindicators”); identification of geologic hazards; inventory of type sections or type localities within the park; inventory of “textbook” localities that provide particularly good or well-exposed examples of geologic features or events, and that may warrant special protection or interpretive efforts; and, identification of interpretive themes or other opportunities for interpreting the significant geologic events or processes that are preserved, exposed, or occur in the park.</li> <li>• Prepare a cave survey, including maps, locations, and assessments of park caves, using NPS protocols.</li> <li>• Prepare a cave management plan.</li> <li>• Undertake a paleontological inventory and survey, including information on paleontological research that has already been performed in the park, lists of fossil species found in the park, maps of high probability areas expected to produce fossils, recommendations for future research, identification of threats to fossil resources, and strategies for their protection.</li> <li>• Prepare a paleontology site layer for the park’s GIS (i.e., database of fossil localities that have been excavated or are known to contain fossils).</li> </ul>	

<b>NATURAL SOUNDS</b>	
<p>An important part of the NPS mission is to preserve or restore the natural soundscapes associated with national parks. The sounds of nature are among the intrinsic elements that combine to form the environment of our national parks. Current laws and policies require that the following conditions be achieved in the park:</p>	
<b>Desired Condition</b>	<b>Source</b>
<p>The National Park Service will preserve the natural ambient soundscapes, restore degraded soundscapes to the natural ambient condition wherever possible, and protect natural soundscapes from degradation due to human-caused noise. Disruptions from recreational uses will be managed to provide a high-quality visitor experience in an effort to preserve or restore the natural quiet and natural sounds.</p>	<p>NPS <i>Management Policies</i>, DO 47, “Sound Preservation and Noise Management”</p>
<p>Noise sources are managed to preserve or restore the natural soundscape.</p>	<p>Executive memorandum signed by President Clinton on April 22, 1996</p>
<b>Compliance Actions</b>	
<p>The National Park Service will take the following kinds of actions (listed in priority order) to comply with the policies mentioned above.</p>	
<ul style="list-style-type: none"> <li>• Actions will be taken to prevent or minimize unnatural sounds that adversely affect park resources or values or visitors’ enjoyment of them.</li> <li>• The National Park Service will work with the Federal Aviation Administration (FAA), tour operators, commercial businesses, and general aviation interests to encourage aircraft to fly outside the park, especially for flights where the presence of the park is incidental to the purpose of the flight (i.e., transit between two points). Actions that might be considered to encourage pilots to fly outside the park include identifying the park on route maps as a noise-sensitive area, educating pilots about the reasons for keeping a distance from the park, and encouraging pilots to comply with FAA regulations and advisory guidance, in a manner that will minimize noise and other impacts.</li> <li>• The park staff will continue to require tour bus companies to comply with regulations designed to reduce noise levels (e.g., turning off engines when buses are parked).</li> <li>• Noise generated by NPS management activities will be minimized by strictly regulating administrative functions such as the use of motorized equipment. Noise will be a consideration in the procurement and use of equipment by the park staff.</li> </ul>	

<b>NIGHT SKY</b>	
<p>The park’s night sky is a feature that contributes to visitors’ experiences. Current laws and policies require that the following conditions be achieved in the park:</p>	
<b>Desired Condition</b>	<b>Source</b>
<p>The National Park Service will cooperate with park neighbors and local government agencies to find ways to minimize the intrusion of artificial light into the night scene in the park. In natural areas, artificial outdoor lighting will be limited to basic safety requirements and will be shielded when possible.</p>	<p>NPS <i>Management Policies</i></p>
<b>Compliance Actions</b>	
<p>The National Park Service will take the following kinds of actions to comply with the policy mentioned above:</p>	
<ul style="list-style-type: none"> <li>• The park staff will work with local communities and other agencies to encourage the protection of the night sky.</li> <li>• The park staff will evaluate the impacts on the night sky caused by park facilities. If light sources in the park are affecting night skies, the staff will study alternatives such as shielding lights, changing lamp types, or eliminating unnecessary sources.</li> <li>• A new Brewster County ordinance protects the night skies and the park will work with the county to reduce or eliminate the impacts of artificial outdoor lighting.</li> </ul>	

PURPOSE OF AND NEED FOR THE PLAN

<b>WILDLAND FIRE</b>	
Current laws and policies require that the following conditions be achieved in the park:	
<b>Desired Condition</b>	<b>Source</b>
Park fire management programs will be designed to meet resource management objectives prescribed for the various areas of the park and to ensure that the safety of firefighters and the public are not compromised.	NPS <i>Management Policies</i> ; DO 41, “Wilderness Preservation and Management”
All fires burning in natural or landscaped vegetation will be classified as either wildland fires or prescribed fires. All wildland fires will be effectively managed, considering resource values to be protected and firefighter and public safety, using the full range of strategic and tactical operations as described in an approved fire management plan. Prescribed fires are those fires ignited by managers to achieve resource objectives. To provide information on whether specified objectives are met, monitoring programs will be instituted for such fires to record fire behavior, smoke behavior, fire decisions, and fire effects.	NPS <i>Management Policies</i>
<b>Compliance Actions</b>	
The National Park Service will take the following kinds of actions to meet legal and policy requirements related to management of wildland fire:	
Periodically revise the “Fire Management Plan” to reflect changes in wildland fire policy, fire use applications, and the body of knowledge on fire effects within the park’s vegetation types.	

<b>WILD AND SCENIC RIVERS</b>	
Current laws and policies require that the conditions delineated below be achieved in the park:	
<b>Desired Condition</b>	<b>Source</b>
The values that qualify the river for designation under the act will be preserved.	Wild and Scenic Rivers Act; NPS <i>Management Policies</i>
<b>Compliance Actions</b>	
The National Park Service will take the following kinds of actions to meet legal and policy requirements related to wild and scenic rivers:	
The park will ensure that no management actions are undertaken that could adversely affect the values that qualify the Rio Grande for inclusion in the National Wild and Scenic Rivers System.	

<b>BACKCOUNTRY</b>	
The National Park Service will manage backcountry areas for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment.	
<b>Desired Condition</b>	<b>Source</b>
Backcountry use will be managed in accordance with a backcountry management plan (or other plan addressing backcountry uses) that is designed to avoid unacceptable impacts on park resources or adverse affects on visitor enjoyment of appropriate recreational experiences. The Park Service will seek to identify acceptable limits of impacts, monitor backcountry use levels and resource conditions, and take prompt corrective action when unacceptable impacts occur.	NPS <i>Management Policies</i>
<b>Compliance Actions</b>	
The National Park Service will take the following kinds of actions to comply with the policies mentioned above.	
<ul style="list-style-type: none"> <li>• The park’s backcountry management plan will be updated to avoid unacceptable impacts on park resources or adverse affects on visitor enjoyment of appropriate recreational experiences.</li> <li>• Special attention will be paid to occupancy limits in primitive road sites and the zone areas.</li> </ul>	

<b>LAND PROTECTION</b>	
The National Park Service will manage for protection of park lands.	
<b>Desired Condition</b>	<b>Source</b>
Land protection plans should be prepared to determine and publicly document what lands or interests in land need to be in public ownership, and what means of protection are available to achieve the purposes for which the unit was created.	NPS <i>Management Policies</i>
<b>Compliance Actions</b>	
The National Park Service will take the following kinds of actions to comply with the policies mentioned above.	
Prepare a land protection plan for the park.	

**Cultural Resource Management Requirements**

<b>ARCHEOLOGICAL RESOURCES</b>	
Current laws and policies require that the following conditions be achieved in the parks:	
<b>Desired Condition</b>	<b>Source</b>
Archeological sites will be identified and inventoried and their significance determined and documented. Archeological sites will be protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable. When disturbance or deterioration is unavoidable, the site will be professionally documented and excavated and the resulting artifacts, materials, and records curated and conserved in consultation with the Texas Historical Commission (state historic preservation office) and American Indian tribes. Some archeological sites that could be adequately protected might be interpreted to the visitor.	National Historic Preservation Act; EO 11593; Archeological Resources Protection Act; the <i>Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> ; programmatic memorandum of agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Council of State Historic Preservation Officers (1995); NPS <i>Management Policies</i> , DO 28 "Cultural Resource Management Guideline"
<b>Compliance Actions</b>	
The National Park Service will take the following kinds of actions (listed in priority order) to meet legal and policy requirements related to archeological sites:	
<ul style="list-style-type: none"> <li>• Conduct a parkwide cultural resource inventory.</li> <li>• Identify and inventory archeological sites park wide, determine and document their significance. The most critical area for study is park land where development or visitor activity is planned.</li> <li>• Determine which archeological sites should be added to the Archeological Sites Management Information System (ASMIS) and the National Register of Historic Places.</li> <li>• Educate visitors on regulations governing archeological resources and their removal and transport.</li> <li>• Monitor archeological sites.</li> <li>• Treat all archeological resources as eligible for listing on the National Register of Historic Places pending a formal determination by the National Park Service and the Texas Historical Commission (state historic preservation office) as to their significance.</li> <li>• Protect all archeological resources eligible for listing or listed on the national register; if disturbance to such resources is unavoidable, conduct formal consultation with the Advisory Council on Historic Preservation, as appropriate, and the Texas Historical Commission (state historic preservation office) and Indian tribes in accordance with the National Historic Preservation Act and implementing regulations.</li> </ul>	

<b>ETHNOGRAPHIC RESOURCES</b>	
<p>Certain contemporary American Indian and other communities are permitted by law, regulation, or policy to pursue customary religious, subsistence, and other cultural uses of NPS resources with which they are traditionally associated. Recognizing that its resource protection mandate affects this human use and cultural context of park resources, the National Park Service plans and executes programs in ways to safeguard cultural and natural resources while reflecting informed concern for contemporary peoples and cultures traditionally associated with them.</p>	
<b>Desired Condition</b>	<b>Source</b>
Appropriate cultural anthropological research will be conducted in cooperation with groups associated with the park.	National Historic Preservation Act; Advisory Council for Historic Preservation implementing regulations; NPS <i>Management Policies</i> , DO 28 “Cultural Resource Management Guideline”
All agencies, including the National Park Service, are required to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoid adversely affecting the physical integrity of these sacred sites.	EO 13007 on American Indian Sacred Sites; American Indian Religious Freedom Act
NPS general regulations on access to and use of natural and cultural resources in parks will to the extent practicable, permitted by law, and not clearly inconsistent with agency functions be applied in an informed and balanced manner consistent with park purposes. Also, the Park Service will not unreasonably interfere with any American Indian use of traditional areas or sacred resources that does not result in the degradation of resources. Consumptive use of sacred resources is permitted only to the extent authorized by 36 CFR subsections 2.1(c) and 2.1(d).	EO 13007 on American Indian Sacred Sites; American Indian Religious Freedom Act; NPS <i>Management Policies</i>
Other federal agencies, state and local governments, potentially affected American Indian and other communities, interested groups, the state historic preservation officer, and the Advisory Council on Historic Preservation will to the greatest extent practicable, and to the extent permitted by law, be given opportunities to become informed about and comment on anticipated NPS actions at the earliest practicable time.	National Historic Preservation Act; programmatic memorandum of agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Council of State Historic Preservation Officers (1995); EO 11593; American Indian Religious Freedom Act; Native American Graves Protection and Repatriation Act; EO 13007 on American Indian Sacred Sites, Presidential memorandum of April 29, 1994, on government-to-government relations with tribal governments; NPS <i>Management Policies</i>
All agencies are required to consult with tribal governments before taking actions that affect federally recognized tribal governments. These consultations are to be open and candid so that all interested parties may evaluate for themselves the potential impact of relevant proposals. Parks (including Big Bend National Park) must regularly consult with traditionally associated American Indians regarding planning, management, and operational decisions that affect subsistence activities, sacred materials or places, or other ethnographic resources with which they are historically associated.	American Indian Religious Freedom Act; Presidential memorandum of April 29, 1994, on government-to-government relations with tribal governments; National Historic Preservation Act; Advisory Council for Historic Preservation implementing regulations



PURPOSE OF AND NEED FOR THE PLAN

<b>ETHNOGRAPHIC RESOURCES (cont.)</b>	
<b>Desired Condition</b>	<b>Source</b>
The identities of community consultants and information about sacred and other culturally sensitive places and practices will be kept confidential when research agreements or other circumstances warrant.	National Historic Preservation Act; NPS <i>Management Policies</i>
American Indians and other individuals and groups linked by ties of kinship or culture to ethnically identifiable human remains, sacred objects, objects of cultural patrimony, and associated funerary objects will be consulted when such items may be disturbed or are encountered on park lands.	NPS <i>Management Policies</i> ; Native American Graves Protection and Repatriation Act
<b>Compliance Actions</b>	
To accomplish the above goals, the National Park Service will do the following (listed in priority order):	
<ul style="list-style-type: none"> <li>• Prepare a cultural affiliation study to determine which tribes should be consulted for actions at Big Bend.</li> <li>• Prepare an ethnographic overview and assessment.</li> <li>• Continue to provide access to sacred sites and park resources by American Indians when the use is consistent with park purposes and the protection of resources.</li> <li>• Survey and inventory ethnographic resources and document their significance.</li> <li>• Treat all ethnographic resources as eligible for listing on the National Register of Historic Places pending a formal determination by the National Park Service and the state historic preservation officer as to their significance.</li> <li>• Protect all ethnographic resources determined eligible for listing or listed on the national register. If disturbance of such resources is unavoidable, conduct formal consultation with the Advisory Council for Historic Preservation, as appropriate, with the state historic preservation officer, and with American Indian tribes. This consultation will be in accordance with the National Historic Preservation Act and the Advisory Council for Historic Preservation implementing regulations and programmatic agreement.</li> <li>• Conduct regular consultations with affiliated tribes to continue to improve communications and resolve any problems or misunderstandings that occur.</li> <li>• Continue to encourage the employment of American Indians on the park staff to improve communications and working relationships and encourage cultural diversity in the workplace.</li> </ul>	

<b>HISTORIC BUILDINGS/STRUCTURES</b>	
Current laws and policies require that the following conditions be achieved for historic properties (e.g., buildings, structures, roads, trails, or cultural landscapes):	
Desired Condition	Source
Historic structures and cultural landscapes will be inventoried and their significance and integrity evaluated under National Register of Historic Places criteria. The qualities that contribute to the listing or eligibility for listing of historic properties on the national register will be protected in accordance with the <i>Secretary of the Interior's Standards</i> (unless it is determined through a formal process that disturbance or natural deterioration is unavoidable).	National Historic Preservation Act; EO 11593; Archeological and Historic Preservation Act; the <i>Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> ; <i>Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for the Treatment of Cultural Landscapes</i> ; programmatic memorandum of agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Council of State Historic Preservation Officers (1995); NPS <i>Management Policies</i> , DO 28 "Cultural Resource Management Guideline."
<b>Compliance Actions</b>	
The National Park Service will take the following kinds of actions (listed in priority order) to meet legal and policy requirements related to historic properties:	
<ul style="list-style-type: none"> <li>• Update and certify the list of classified structures (LCS) and complete the Level 2 cultural landscape inventory.</li> <li>• Determine the appropriate level of preservation for each historic property formally determined to be eligible for listing or listed on the National Register of Historic Places (subject to the <i>Secretary of the Interior's Standards</i>).</li> <li>• Implement and maintain the appropriate level of preservation for such properties.</li> <li>• Analyze the design elements (e.g., materials, colors, shape, massing, scale, architectural details, and site details) of historic structures and cultural landscapes in the park (e.g., intersections, curbing, signs, and roads and trails) to guide the rehabilitation and maintenance of sites and structures.</li> <li>• Before modifying any historic properties on the National Register of Historic Places, such as Barker Lodge at Rio Grande Village or the Castolon Historic District, the Park Service will consult with the state historic preservation officer and the Advisory Council for Historic Preservation, as appropriate.</li> <li>• Before modifying any structures associated with "Mission 66," the structures would be evaluated for listing on the national register in consultation with the state historic preservation office.</li> </ul>	

<b>COLLECTIONS</b>	
Current laws and policies require that the following conditions be achieved in the park for museum collections:	
Desired Condition	Source
All museum objects and manuscripts will be identified and inventoried, catalogued, documented, preserved, protected, and provision made for their access to and use for exhibits, research, and interpretation.  The qualities that contribute to the significance of collections will be protected in accordance with established standards.	National Historic Preservation Act; American Religious Freedom Act; Archeological and Historic Preservation Act; Archeological Resources Protection Act; Native American Graves Protection and Repatriation Act; NPS <i>Management Policies</i> , DO 28 "Cultural Resource Management Guideline"
<b>Compliance Actions</b>	
To accomplish the above goals, the National Park Service will do the following (listed in priority order):	
<ul style="list-style-type: none"> <li>• Inventory and catalog all park museum collections in accordance with standards in the NPS <i>Museum Handbook</i>.</li> <li>• Develop and implement a collection management program according to NPS standards to guide the protection, conservation, and use of museum objects.</li> <li>• Remove collections from the floodplain at Panther Junction or protect them against flooding as required by NPS policy.</li> </ul>	

**Other Requirements**

<b>VISITOR UNDERSTANDING AND PARK USE REQUIREMENTS</b>	
<p>Current laws, regulations, and policies leave considerable room for judgment about the best mix of types and levels of visitor use activities, programs, and facilities. For this reason, most decisions related to visitor experience and use are addressed in the section “What Might Be Achieved,” below, and in the alternatives. However, the authority to charge fees is dictated by law and is therefore the same for all alternatives.</p>	
<b>Desired Condition</b>	<b>Source</b>
Visitor and employee safety and health will be protected.	<i>NPS Management Policies</i>
Visitors will understand and appreciate park values and resources and have the information necessary to adapt to the park’s environments; visitors will have opportunities to enjoy the national park in ways that leave the resources unimpaired for future generations.	NPS Organic Act; <i>NPS Management Policies</i> ; DO 22, “Fee Collection”
Recreational uses will be promoted and regulated, and basic visitor needs will be met in keeping with park purposes.	NPS Organic Act; Title 36 of the Code of Federal Regulations (CFR); <i>NPS Management Policies</i> .
All reasonable efforts will be made to make buildings and facilities of the NPS accessible to and usable by all people including those with disabilities.	Architectural Barriers Act of 1968; Americans with Disabilities Act of 1990; 28 CFR Part 36 on Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities (ADAAG — ADA Accessibility Guidelines for Buildings and Facilities); Uniform Federal Accessibility Standards of 1984 (UFAS); US Access Board Draft Accessibility Guidelines for Outdoor Developed Areas of 1999; <i>NPS Management Policies</i> ; DO 42 — Director’s Orders: Accessibility for Visitors with Disabilities in NPS Programs, Facilities, and Services
All reasonable efforts will be made to make programs and services of the NPS accessible to and usable by all people including those with disabilities.	Rehabilitation Act of 1973; Secretary of the Interior’s regulation 43 CFR 17 — Enforcement on the Basis of Disability in the Interior Programs; <i>NPS Management Policies</i> ; DO 42 — Director’s Orders: Accessibility for Visitors with Disabilities in NPS Programs, Facilities, and Services
Visitors who use federal facilities and services for outdoor recreation may be required to pay a greater share of the cost of providing those opportunities than the population as a whole.	<i>NPS Management Policies</i> ; 1998 Executive Summary to Congress; Recreational Fee Demonstration Program, <i>Progress Report to Congress</i> , vol. 1: <i>Overview and Summary</i> (U.S. Department of the Interior, National Park Service, U.S. Fish and Wildlife Service, Bureau of Land Management; U.S. Department of Agriculture, Forest Service)
The park will identify implementation commitments for visitor carrying capacities for all areas of the unit.	1978 National Parks and Recreation Act (PL 95-625), <i>NPS Management Policies</i>

## VISITOR UNDERSTANDING AND PARK USE REQUIREMENTS (cont.)

## Compliance Actions

The National Park Service will take the following kinds of actions to meet legal and policy requirements related to visitor understanding and use of the national park unit:

- Give visitors the opportunity to understand, appreciate, and enjoy the park (management directions within this broad policy are discussed in the alternatives).
- Continue to enforce the regulations governing visitor use and behavior in Title 36 of the *Code of Federal Regulations* (36 CFR).
- Undertake an updated visitor survey (by the park staff) that would define visitor expectations.
- Prepare a comprehensive interpretive plan.
- **Architectural and Site Access.** The National Park Service would develop strategies to ensure that all new and renovated buildings and facilities, including those provided by concessioners, are designed and constructed in conformance with applicable rules, regulations and standards. Existing buildings and facilities would be evaluated to determine the degree to which they are currently accessible to and usable by people with disabilities, and to identify barriers that limit access. Action plans would be developed identifying how barriers would be removed. Action plan elements and funding strategies would be included within annual and strategic (5-year) plans.
- **Programmatic Access.** The National Park Service would develop strategies to ensure that all services and programs, including those offered by concessioners, volunteers, cooperating associations, and interpreters, are designed and implemented in conformance with applicable rules, regulations and standards. Existing programs, activities, and services (including interpretation, telecommunications, media, and web pages) would be evaluated to determine the degree to which they are currently accessible to and usable by people with disabilities, and to identify barriers to access. Action plans would be developed identifying how barriers would be removed. Action plan elements and funding strategies would be included within annual and strategic (5-year) plans.
- The park will continue to monitor visitor comments on issues such as crowding, encounters with other visitors in the backcountry, availability of campsites at busy times of the year, availability of parking and visitor encounters with bears. Should bear encounters increase to a level unacceptable to the park, actions such as seasonal closures, moving trails, reduction of visitor numbers in the area and increased education would be taken. Should any of the trends increase to levels unacceptable to park management, the National Park Service will undertake detailed planning to establish visitor carrying capacity strategies and monitoring programs. Studies will determine what levels of visitation will be consistent with the experiences that visitors desire and preservation of park resources.

<b>SUSTAINABLE DESIGN/DEVELOPMENT</b>	
<p>Sustainability can be described as the result achieved by managing units of the national park system in ways that do not compromise the environment or its capacity to provide for present and future generations. Sustainable practices minimize the short- and long-term environmental impacts of developments and other activities through resource conservation, recycling, waste minimization, and the use of energy-efficient and ecologically responsible materials and techniques.</p>	
<b>Desired Condition</b>	<b>Source</b>
<p>NPS and concessioner visitor management facilities will be harmonious with park resources, compatible with natural processes, aesthetically pleasing, functional, as accessible as possible to all segments of the population, energy-efficient, and cost-effective.</p>	<p>NPS <i>Management Policies</i>; EO 13123, “Greening the Government through Efficient Energy Management”; EO 13101, “Greening the Government through Waste Prevention, Recycling, and Federal Acquisition”; NPS <i>Guiding Principles of Sustainable Design</i>; DO 13, “Environmental Leadership”; DO 90, “Value Analysis.”</p>
<b>Compliance Actions</b>	
<p>The NPS <i>Guiding Principles of Sustainable Design</i> (1993b) directs NPS management philosophy. It provides a basis for achieving sustainability in facility planning and design, emphasizes the importance of biodiversity, and encourages responsible decisions. The guidebook articulates principles to be used in the design and management of tourist facilities that emphasize environmental sensitivity in construction, the use of nontoxic materials, resource conservation, recycling, and integrating visitors with natural and cultural settings. Sustainability principles have been developed and are followed for interpretation, natural resources, cultural resources, site design, building design, energy management, water supply, waste prevention, and facility maintenance and operations. The Park Service also reduces energy costs, eliminates waste, and conserves energy resources by using energy-efficient and cost-effective technology. Energy efficiency is incorporated into the decision-making process during the design and acquisition of buildings, facilities, and transportation systems emphasizing the use of renewable energy sources.</p> <p>In addition to following these principles, the following also will be accomplished:</p> <ul style="list-style-type: none"> <li>• The staff of the national park will work with appropriate experts to make park facilities and programs sustainable. Value analysis and value engineering, including life cycle cost analysis, will be performed to examine the energy, environmental, and economic implications of proposed developments.</li> <li>• The park staff will support and encourage suppliers, permittees, and contractors to follow sustainable practices.</li> <li>• Interpretive programs at the national park will address sustainable practices within and outside of the national park unit.</li> </ul>	

<b>RIGHTS-OF-WAY AND TELECOMMUNICATION INFRASTRUCTURE</b>	
Current laws and policies require that the following conditions be achieved in the national park:	
<b>Desired Condition</b>	<b>Source</b>
Park resources or public enjoyment of the park will not be denigrated by nonconforming uses. Telecommunication structures will be permitted in the park to the extent that they do not jeopardize the park’s mission and resources. No new nonconforming use or rights-of-way will be permitted through the park without specific statutory authority and approval by the director of the National Park Service or his representative, and will be permitted only if there is no practicable alternative to such use of NPS lands.	Telecommunications Act; 16 USC 79; 23 USC 317; 36 CFR 14; NPS <i>Management Policies</i> ; DO 53A, “Wireless Telecommunications”; Reference Manual 53, “Special Park Uses.”
<b>Compliance Actions</b>	
<p>The Telecommunications Act of 1996 directs all federal agencies to assist in the national goal of achieving a seamless telecommunications system throughout the United States by accommodating requests by telecommunication companies for the use of property, rights-of-way, and easements to the extent allowable under each agency’s mission. The National Park Service is legally obligated to permit telecommunication infrastructure in the parks if such facilities can be structured to avoid interference with park purposes.</p> <p>The management of Big Bend National Park has determined that because of the scenic and ethnographic significance of the park’s resources, there are no appropriate locations for telecommunication infrastructure in Big Bend National Park.</p>	