

United States Department of the Interior
National Park Service

Big Bend National Park
Texas



Big Bend National Park

Final General Management Plan/
Environmental Impact Statement



Final
General Management Plan / Environmental Impact Statement
BIG BEND NATIONAL PARK

Brewster County, Texas

May 2004

This *General Management Plan / Environmental Impact Statement* describes and analyzes three alternatives for managing Big Bend National Park. The approved plan will help managers make decisions about managing natural and cultural resources, visitation, and development for the next 15 to 20 years. Some issues to be addressed are protection of natural and cultural resources; the strain on scarce water resources; employee housing, offices, and other development located in flash flood hazard areas; limited orientation and interpretation, and inadequate office space and storage for park staff. A separate management plan is being developed concurrently for the Rio Grande Wild and Scenic River.

Alternative A, the no-action or status quo alternative, reflects ongoing actions at the park and serves as a basis for comparing the other alternatives and knowing why certain changes may be advisable. Natural and cultural resources would be managed as they are now guided by laws, policies and guidelines. Issues would be resolved as they emerged and not as the result of a comprehensive plan. There would be limited if any changes in interpretation and visitor services would remain limited. Coordination with agencies and other groups would continue. There would be very little change in visitor facilities. The park would be operated and maintained as before with no new park management facilities except one new building to provide storage and office space for fire management and two new duplex units that will provide eight concession employee bedrooms at Panther Junction. The eight bedrooms will replace very old facilities (trailers) with modern housing. Staffing and funding levels would remain at or near current levels. Any development that is not tied to an approved plan would be designed to be temporary and reversible.

The two “action” alternatives describe various approaches to managing the park’s resources and visitation. **Alternative B — Preferred Alternative — Enhanced and Adequate Natural Resource Stewardship and Enhanced Visitor Facilities** — would create a more sustainable park and provide better protection for the park’s natural and cultural resources than the no-action alternative while offering an enhanced experience for visitors. Some facilities would be upgraded, and a new visitor center would be built at Panther Junction. **Alternative C — Maximize Natural Resource Stewardship and Preservation by Providing a More Resource-Oriented Visitor Experience** — would better protect the park’s natural resources than the no-action alternative and alternative B while providing for visitor use. All facilities except the main road, a trailhead with parking, and a restroom would be removed from Chisos Basin and Rio Grande Village. These and other actions would be taken to make the park more sustainable, greatly reduce water use, and promote ecological restoration.

For questions about this document, write Superintendent, Big Bend National Park, P.O. Box 129, Big Bend National Park, TX 79834-0129, call (915) 477-2251, or Email: www.nps.gov/bibe. Please note that the NPS practice is to make comments, including names and addresses of respondents, available for public review. After a 30-day no-action period, a course of action will be approved through the issuance of a record of decision.

SUMMARY

The purpose of this *General Management Plan / Environmental Impact Statement* is to define a direction for the management of Big Bend National Park for the next 15 to 20 years. The approved plan will provide a framework for making decisions about managing the natural and cultural resources, visitor use, development, and park operations so that future opportunities and problems can be addressed effectively. The plan will prescribe the resource conditions and visitor experiences to be achieved over time according to law, policy, regulations, public expectations, and the park's purpose, significance, and special mandates.

An updated plan is needed to address current issues related to water quantity at some developed areas, park facilities in floodplains, endangered species, degradation of natural systems, conflicts among various user groups, and the lack of adequate space for interpretive activities, park housing, storage, and staff offices.

ISSUES TO BE ADDRESSED

Natural resource issues that must be addressed are management of water quantity at some developed areas, floodplains, threatened and endangered species, and degradation of natural systems.

Water resources at Chisos Basin are overcommitted. Overnight visitors and park and concessioner employees compete with wetland plants and wildlife for water. At certain times of the year, nearly all of the water from Oak Spring is diverted for human use. At times when the total output of the spring is not sufficient for needs of the developed area, conservation measures must be implemented.

Visitors' understanding of the significance of Big Bend National Park is limited by a lack of adequate orientation and interpretation. Additional interpretive emphasis is needed to foster visitor awareness of the park's principal stories.

The Panther Junction visitor center, a section of the "Mission 66" period (1960s) headquarters building, cannot accommodate the current level

of visitation or provide all the information and interpretation of park stories needed by visitors. Space in the visitor center used by park staff and the cooperating association is inadequate, as is storage space. At Panther Junction, there is a lack of adequate office and storage space for park staff.

ALTERNATIVES

To achieve the desired conditions at Big Bend National Park, the planning team developed a "no-action" alternative (continuing present management) and two "action" alternatives for managing the resources and visitor uses of Big Bend National Park. Each action alternative would assign various areas of the park to different management prescriptions (zones). The management prescriptions identify how different areas could be managed to achieve a variety of resource conditions and visitor experiences. In each action alternative, the five management zones — wilderness, backcountry nonwilderness, cultural, visitor services, and operations — would each specify a particular combination of resource, social, and management conditions.

Alternative A — The No-action or Status Quo Alternative, reflects ongoing actions at the park and serves as a basis for comparing the other alternatives and knowing why certain changes might be advisable. Current laws, policies, and guidelines would guide natural and cultural resource management actions. Interpretation and visitor services would remain limited, and any development that is not tied to an approved plan would be designed to be temporary and reversible. All the visitor facilities available for visitor use, such as the Chisos Basin development, Rio Grande Village, and Cottonwood campgrounds, would be available under this alternative. There would be limited, if any, changes in the management of the park. Coordination with agencies and other groups would continue.

One already approved building would be constructed in Panther Junction, outside the most dangerous portion of the maximum

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estimated floodplain. It would contain storage and office space for fire management. Some campsites at Rio Grande Village would be relocated to provide greater protection for the endangered fish, Big Bend gambusia. An alternative water source would be sought for human use to further protect the endangered fish. At Rio Grande Village and Cottonwood campgrounds and Panther Junction early warning systems and evacuation plans would be developed and implemented to protect visitors and staff occupying the floodplain. Failing utility (water and waste water) systems would be upgraded as funds become available. The park would be operated and maintained as before. Staffing and funding levels would remain at or near current levels.

Alternative B — Preferred Alternative — Enhanced and Adequate Natural Resource Stewardship and Enhanced Visitor Facilities would offer enhanced experiences for visitors while creating a more sustainable park and providing better protection for park resources. It is the National Park Service's preferred alternative. A new visitor center would be built at Panther Junction to provide room for interpretive media to adequately interpret key aspects of the park's stories and to help visitors plan their stays. The space in the headquarters building vacated by the visitor center function would be redesigned for staff offices. A storage warehouse, bunkhouse, and employee residence would also be built at Panther Junction. The natural resources and collection management building (described in the cumulative impact scenario) should adequately provide for the collection storage needs for the duration of this plan. In case additional collection storage space were necessary, the other new storage areas would be evaluated to accommodate this need. One employee residence and one employee bunkhouse would be removed from Chisos Basin to reduce human water use at that area.

At Rio Grande Village the RV campground would be enlarged by about 40% in area with no more than 30 total sites. Cottonwood Campground campsites would be relocated away from bank cave-in areas, and a new egress road would be constructed. Fifteen percent of park personnel and functions would be moved to gateway communities where offices and residences would be built or leased.

Alternative C — Maximize Natural Resource Stewardship and Preservation by Providing a More Resource-Oriented Visitor Experience would better protect the park's natural resources than alternative A (no-action) and alternative B while providing for visitor use. Development would be removed from Chisos Basin and Rio Grande Village except for the main roads. A trailhead with parking and a restroom would be constructed at each area. The visitor center function would expand within the headquarters building, and a new administrative building would be built at Panther Junction. A storage warehouse would also be constructed at Panther Junction. The natural resources and collection management building (described in the cumulative impact scenario) should adequately provide for the collection storage needs for the duration of this plan. In case additional collection storage space was necessary, the other new storage areas would be evaluated to accommodate this need. Fifteen percent of park personnel and functions would be moved to gateway communities where offices and residences would be built or leased.

ENVIRONMENTAL CONSEQUENCES

The planning team evaluated the potential consequences that the actions of each alternative could have on natural resources, cultural resources, the visitor experience, and the socioeconomic environment. The beneficial or adverse effects were categorized as either short term or long term, and their intensity was rated as negligible, minor, moderate, or major. The impacts of the various alternatives are compared in table 5.

For **alternative A, the no-action or status quo alternative**, during periods of extended drought as well as at certain very limited times when it is not raining during normal years, continued use of nearly all the water at Oak Spring for human use would cause negligible, intermittent, long-term, adverse impacts on the quantity of water in Oak Spring and the wetland there. The irrigation of shade trees and lawns at the campgrounds at Rio Grande Village and Cottonwood using water from the river would continue to cause the growth of unnaturally lush vegetation and allow exotic species to flourish — an ongoing, moderate, long-term adverse impact. Improving

Big Bend gambusia habitat by eliminating competition for spring water and relocating campsites would have a minor to moderate, long-term, beneficial impact on the endangered fish. The natural and beneficial values of floodplain areas would continue to be compromised by the presence of campgrounds at Rio Grande Village, and the developments in the flash flood hazard area at Panther Junction. This continuing long-term adverse impact on natural processes would be moderate. Although severe flooding has been infrequent and risks are minor to moderate, flooding at Panther Junction could result in major adverse impacts on visitors or employees involved. Even though the risk is not great, loss of infrastructure at Panther Junction from flooding could cause a major, long-term adverse impact on operations and require the park to find temporary housing and offices outside the park.

Ongoing identification and protection of archeological resources would have a minor to moderate beneficial impact on these resources. Research, documentation, identification, evaluation, and preservation of ethnographic resources would result in long-term, negligible to moderate beneficial impacts on ethnographic resources.

Alternative A would result in continuing degradation of the visitor experience from noise, congestion, and visitor frustration at not finding adequate interpretive and education facilities. This alternative would result in a continuing long-term adverse impact on visitors coming to the park at peak times. Visitors would have many opportunities to travel around the park at their own pace — a long-term, major beneficial impact. Retaining the campgrounds, picnic areas, and lodge would have an ongoing, moderate, long-range beneficial impact on the visitor experience.

The existing benefits of the park to the local and regional economy would continue. In addition, there would be minor, short-term, beneficial impacts on temporary employment opportunities and revenues during restoration and construction activities.

Under **alternative B** restoring soils on 61.5 acres to natural contours, rerouting runoff to natural drainages, and revegetating an area greater than

20 acres would have a major, long-term, beneficial impact on soils, vegetation, and smaller animals. Reducing human use of water from Oak Spring by removing some facilities at Chisos Basin would result in a 3% reduction in annual water use there — a minor long-term beneficial impact on plants and a moderate long-term beneficial impact on wildlife that use water from the spring. Withdrawal of 50% of the irrigation water from about 14 acres of exotic vegetation at Rio Grande Village would allow native vegetation to return — a moderate to major long-term beneficial impact on native vegetation.

Finding a separate source of drinking water for visitors and employees at Rio Grande Village would have a major, long-term, beneficial impact on the pond water system water quantity and a minor to moderate, long-term beneficial impact on the endangered Big Bend gambusia. Although a report finds that the risk is not great, flooding at Panther Junction could cause major adverse impacts on the visitors and employees involved. Flooding at Panther Junction could cause major adverse impacts on operations and could require the park to find temporary offices and housing outside the park.

Preservation actions taken under this alternative would have a long-term, moderate beneficial impact on some park historic structures. Water conservation measures at Rio Grande Village could change the vegetation characteristic of this potential cultural landscape — a long-term, moderate adverse impact. There would be a long-term, major, beneficial impact on artifacts and collections at Panther Junction.

Provision of adequate space for interpreting the park's primary themes, conducting interpretive and educational programs, and ensuring that visitors receive enough information to plan their stay effectively by constructing a new visitor center at Panther Junction would have a major long-term beneficial impact on most park visitors.

There would be increases in temporary and permanent employment opportunities and revenues as planned upgrades of facilities and programs are implemented.

Under **alternative C**, removing development, restoring natural contours, and revegetating 700

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acres at Chisos Basin, Rio Grande Village, and the Maverick entrance station would have long-term, beneficial impacts. Impacts on soils would be major, on vegetation and wildlife moderate, and on black-capped vireo moderate to major. Impacts on water quantity at Oak Spring, plants that use water from Oak Spring, and wetlands at Oak Spring would be major. Impacts on animals that use water from Oak Spring would be moderate, and impacts on natural and beneficial floodplain values at Rio Grande Village would be major. Withdrawal of irrigation water from about 638 acres of exotic vegetation at Rio Grande Village would allow native vegetation to return — a major, long-term beneficial impact on native vegetation and a moderate long-term beneficial impact on water quantity in the Rio Grande.

Removing all human use from the spring at Rio Grande Village would be a major, long-term beneficial impact on wetlands and on water quantity in the pond system used by Big Bend gambusia. Along with the additional water available in the pond system where it lives, restoration of Rio Grande Village to more natural conditions through revegetation, and potentially doubling the available habitat through wetland restoration, would be expected to have a minor to moderate long-term beneficial impact on the fish. Although a report finds that the risk is not great, flooding at Panther Junction could cause major adverse impacts on the visitors and employees involved. Flooding at Panther Junction could cause major adverse impacts on operations and could require the park to find temporary offices and housing outside the park.

Demolition of some historic structures would result in a long-term minor to major, adverse impact on historic structures. Loss of some potential cultural landscapes would be a potential long-term, major, adverse impact on these landscapes. There would be long-term, moderate adverse impacts on ethnographic resources, and long-term, major beneficial impacts on the park collections.

Removal of overnight facilities at Chisos Basin and Rio Grande Village would have a major, long-term beneficial impact on the visitor

experience of natural and cultural resources. A rehabilitated visitor center at Panther Junction would have a moderate, long-term benefit for most park visitors. Removing lodging and camping facilities would result in the loss of overnight experiences for some visitors, and removing interpretive centers at Chisos Basin and Rio Grande Village would eliminate opportunities for visitors to learn about key themes and resource management issues. Together, the loss of these facilities would be a major long-term adverse impact on the visitor experience. Retaining the Cottonwood Campground and picnic areas would constitute a moderate long-term beneficial impact on visitors, and moving some campsites further from the river would lessen the potential from flooding.

There would be increases in temporary and permanent employment opportunities and revenues as planned upgrades of facilities and programs were implemented.

COMMENTS ON THE DRAFT PLAN

The *Draft General Management Plan / Environmental Impact Statement* for Big Bend National Park was sent out for public review and comment. During the review period, public meetings were held; after the review period comments were analyzed and changes were made, as appropriate, to the draft document. In response to public comment, the proposal to remove a 12-room motel unit from Chisos Basin is no longer in the preferred alternative. The “Purpose of and Need for the Plan” section and some impact discussions have been modified in response to comments. Comments and responses are in the “Consultation and Coordination” chapter. The final plan includes agency letters and all organization and individual letters with substantive comments. Following release of the *Final General Management Plan / Environmental Impact Statement* and a 30-day no-action period, a record of decision identifying the selected alternative (the approved plan) will be issued.

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