



The Paisano

The official newspaper of
Big Bend National Park and the
Rio Grande Wild & Scenic River

Volume 29, number 1
Spring/Summer 2009



Floodwaters back up into the Langford Store ruin

Getting Started

8 What to See & Do

Find out how to make the most of your time in the park. Recommendations and suggested trip itineraries for one day, three day, or week long visits can be found here.

9 Day Hikes

Find descriptions of many of the most popular easy and moderate hiking trails here. Detailed descriptions of each trail include length, average time required, difficulty, and location.

16 Park Map

Don't know where you are? The park map can help. Detail maps of the Chisos Basin and Rio Grande Village are also found here. A list of useful phone numbers for services both in and outside the park is also included.

Wake of the Flood

WELCOME TO BIG BEND NATIONAL PARK AND THE RIO GRANDE WILD and Scenic River! Over 800,000 acres await your exploration and enjoyment. From an elevation of less than 2,000 feet along the Rio Grande to nearly 8,000 feet in the Chisos Mountains, Big Bend includes massive canyons, vast desert expanses, a sky island, and an ever-changing river. Here you can explore one of the last remaining wild corners of the United States where things seldom seem to change. Yet, every so often Big Bend does change. 2008 was one of those years. Visitors this last September witnessed the deepest flood in park history. This issue of the Big Bend Paisano is dedicated to this many-faceted story.

The Rio Grande is a dynamic river. Often slow and unassuming, it has proven yet again that it can roar. Its vast watershed can capture weather from very far away. Every so often, a tropical cyclone spins in from the Pacific Ocean to northern Mexico. The most recent of these was named Tropical Storm Lowell. While most folks were paying attention to Hurricane Ike as it ravaged Galveston, TX, Lowell did its work in Mexico. Rain fell into the watershed of the Rio Conchos, which drains into the Rio Grande. So much water fell that the peak of the flood crested at over 33 feet. It took over a month to return the reservoirs in Mexico to normal levels. When it was all over, the newest chapter in Big Bend's history book had been written.

Superintendent's Message:

2008 will go down in history as the year we faced a natural event of stunning magnitude. It has been over 30 years since we saw a flood comparable to what came down the river this fall. To save some of our most recognized and precious resources such as historic buildings and endangered fish, our volunteers, partners, and staff rallied. I am proud to say that they worked successfully to protect so many of the park's resources.

choke the riverbank were ripped out by their roots and twisted into clumps that rolled downstream like monstrous tumbleweeds. Boaters will find their favorite camping sandbars erased, yet new ones have appeared awaiting discovery. Historic buildings crumbled a bit as water seeped into adobes. River rangers saw a cow float downriver, climb out, walk upstream, and float down again. Such is life along the Rio Grande.

I encourage you to explore down by the river and witness the power of water as an agent of change. Flood waters were both destructive and productive. The new boardwalk nature trail at Rio Grande Village floated away. Swaths of non-native cane that used to

Places like Big Bend belong to us all and have many stories to tell. Parks will persevere for our children if we share them with each other and share in their protection. We hope that you find the experience you came here for.



William E. Wellman
Superintendent William E. Wellman

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What is a Paisano?

Paisano is a Spanish word meaning countryman or peasant that is used throughout the American southwest as a nickname for the greater roadrunner.



Big Bend on the Internet

Plan your next trip, or learn more about the fantastic resources of the Big Bend by visiting the *official* National Park websites. These are your best source of information for weather conditions, river levels, research, park news, trip planning, and more.

Big Bend National Park:

<http://www.nps.gov/bibe/>

Rio Grande Wild & Scenic River:

<http://www.nps.gov/rigr/>

Got Water? Got Salt?

Carry and drink water—at least 1 gallon per person per day. Eat salty snacks and regular meals. As you exercise, you lose salt and water (over a quart and a half in an hour during arduous exercise). You need both to survive, especially in this extreme environment.

Emergencies

Call 911 or 432-477-2251

24-hours a day or contact a Park Ranger.

EXPERIENCE YOUR AMERICA™

To: Big Bend National Park, TX 79834
PO Box 129
Big Bend National Park
Rio Grande Wild & Scenic River
U.S. Department of the Interior
National Park Service





National Park Service
U.S. Department of the Interior

Big Bend National Park
Rio Grande Wild & Scenic River

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National Park Service

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The National Park Service was established on August 25, 1916. . . "to conserve the scenery and the natural and historic objects and the wildlife. . . and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." Authorized by congress in 1935, and established in June 1944, Big Bend National Park preserves the most representative example of the Chihuahuan Desert ecosystem in the United States. As conservation educators, the park's Division of Interpretation and Visitor Services provides guided walks, talks, evening slide programs, workshops, and other educational activities as well as written materials such as this newspaper.

Big Bend Natural History Association

Executive Director, Mike Boren



The Big Bend Natural History Association, established in 1956 as a private, non-profit organization, champions

the mission of the National Park Service in facilitating popular interpretation of the scenic, scientific, and historic values of Big Bend and encourages research related to those values. The Association conducts seminars and publishes, prints, or otherwise provides books, maps, and interpretive materials on the Big Bend region. Proceeds fund exhibits, films, interpretive programs, seminars, museum activities, and research.

Photograph Credits

When possible *The Paisano* proudly uses photographs of the park taken by visitors and submitted to the website visitor photo gallery. These photographs bear the photographer's name; all uncredited images are NPS photographs.

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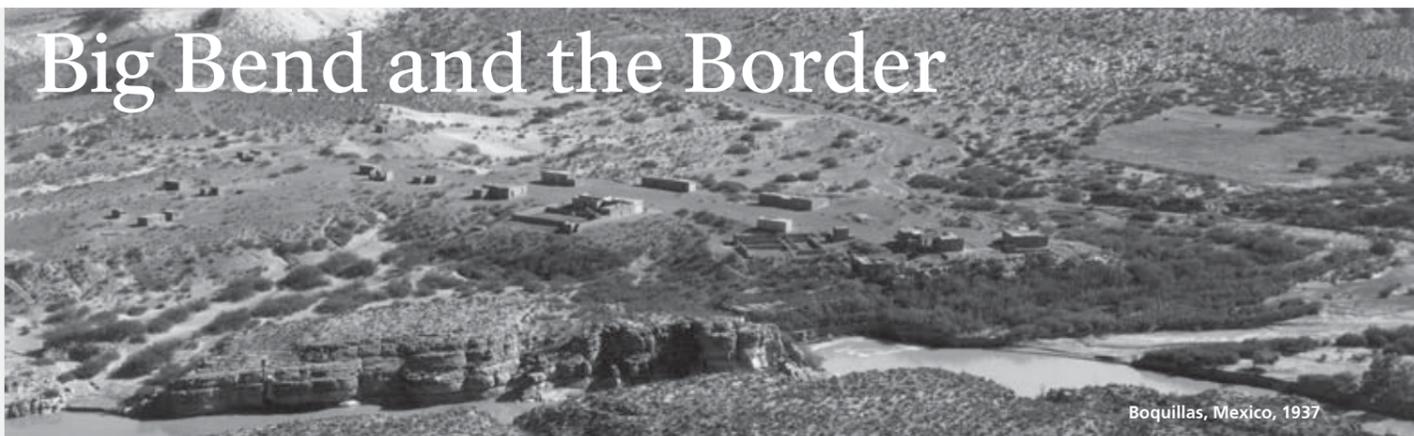
Official Park Websites

www.nps.gov/bibe/
www.nps.gov/rigr/

The National Park Service cares for the special places saved by the American people so that all may experience our heritage.

EXPERIENCE YOUR AMERICA™

Big Bend and the Border



Boquillas, Mexico, 1937

Viewing the sunset against the Sierra del Carmen mountains is a signature Big Bend experience, underlined by the irony that the mountains aren't a part of the National Park; in fact, they aren't even located in the United States. In addition to defining the curve that forms the Big Bend, the Rio Grande also serves as the international boundary between the United States and Mexico. Throughout much of its history the border along the Rio Grande has often been fluid, allowing people of both countries to come and go as needed. However, the border is an artificial boundary imposed on the natural environment, and as such is subject to political and social pressures.

Increased border restrictions have led to a number of important changes that affect the international boundary in Big Bend. A visit to Big Bend is a wonderful experience to learn about the park's history and to experience a wide variety of natural history and recreation options. The park's border with Mexico is part of our shared landscape and a chance to experience and learn about our neighbors. A few simple steps can help keep the park safe for everyone who is here.

Crossings Remain Closed

As a result of a 2002 US Customs and Border Protection decision, there are NO authorized crossings in Big Bend National Park. *Crossing at Boquillas, Santa Elena, or other locations along the Rio Grande is prohibited.* The closest legal ports of entry are Del Rio and Presidio, Texas.

The U.S. Attorney's Office has indicated that it will prosecute any criminal violations regarding any illegal crossings. If you re-enter the United States at any point within Big Bend National Park, you may be liable for a fine of not more than \$5,000 or imprisonment for up to one year, or both.

When Visiting A Border Park

Big Bend National Park shares the border with Mexico for 118 miles. This is a remote region. *Visitors should be aware that drug smuggling routes pass through the park.*

If you see any activity which looks illegal, suspicious, or out of place, please do not intervene. Note your location. Call 911 or report it to a ranger as quickly as possible.

Each year hundreds of people travel north through the park seeking to enter the United States. It is possible you could encounter an individual or small group trying to walk through the park with little or no water. Please *do not stop*, but instead, note your location and immediately call 911 or contact a ranger as soon as possible. Lack of water is a life-threatening emergency in the desert.

Fees: Your Dollars at Work

Why Do Parks Charge A Fee?

Much of the funding for Big Bend and other national parks comes from American taxpayers. However, protecting this land and ensuring that you have a safe, enjoyable and educational experience costs more than this tax base provides. Therefore, the U.S. Congress determined that people who use federal lands should pay fees to help offset the difference.

Where Does Your Money Go?

Twenty percent of the money collected from entrance and campground fees is redistributed to units of the National Park System that do not charge fees to assist in their upkeep and to upgrade those areas. Eighty percent of the money collected here stays in Big Bend National Park.



Border Merchants

Mexican Nationals may approach you from across the river to sell souvenir items (walking sticks, bracelets, crafts, etc.). If you agree to look at/or purchase their items and the Mexicans cross the river, they may be arrested for being in the U.S. illegally. They will be held until deported back to Mexico through Presidio (100 miles away). Mexican merchants will be arrested for illegal commercial operations which may result in a fine and/or additional incarceration while awaiting adjudication prior to deportation.

Items purchased will be considered contraband and seized by officers when encountered.

Rocks, minerals, archeological items, etc. cannot be purchased, imported, or possessed in the national park.

In addition, illegal trade impacts the resources of the park in a number of negative ways, including the creation of social trails, the cutting of cane along the river, erosion of riverbanks and an increased amount of garbage and contaminants along the Rio Grande watershed. Supporting this illegal activity contributes to continued damage of the natural resources along the Rio Grande, and jeopardizes the possibility of reopening the crossings in the future.

Sotol walking sticks and other handcrafted items made in Boquillas, Mexico can now be purchased legally at a number of sales outlets inside and outside of the park.



Hand-crafted items made in Boquillas, Mexico can now be purchased legally at the Chisos Mountain Lodge, camper stores and the bookstore in the Panther Junction visitor center.

Entrance Fees at Big Bend National Park

Private noncommercial automobile
\$20 (valid for 7 days)

Single entry (foot, bike, motorcycle, etc.)
\$10 (valid for 7 days)

Big Bend Annual Pass
\$40 (valid for one year from month of purchase)

Interagency Annual Pass
\$80 (This pass will be valid for one year from month of purchase for entrance fees to federal public land fee areas)

All currently valid passes will be accepted until expired, including the Golden Eagle Pass, Golden Age Passport, and Golden Access Passport.

How Is Your Money Used?

Your entrance and campground fees help Big Bend National Park complete important projects that directly benefit you and other park visitors.

Recent Projects at Big Bend Made Possible By Your Fees:

- Major expansion of the Panther Junction visitor center
- Castolon historic district exhibits

Current Projects:

- Emory Peak Trail rehabilitation project to reduce erosion
- North Rosillos/Harte Ranch wayside exhibit
- Backcountry campsite construction

Park Partners



Floodwaters near Lajitas

Big Bend Natural History Association

ActiVets

Healing the Wounds of War with Wilderness

Big Bend Natural History Association (BBNHA) will enter its third year providing wilderness trips to wounded Iraq/Afghanistan veterans in 2009. Since its inception in 2007, BBNHA's ActiVets Program has grown into a regional program and will provide 10 wilderness trips throughout the National Park Service's Intermountain Region (IMR) this year. Four trips are planned in Big Bend, two in Amistad National Recreation Area, and four others throughout the IMR. If you would like to sponsor a wounded veteran's trip contact:

Mike Boren - BBNHA Executive Director
PO Box 196
BBNP, TX 79834
432-477-2236
borendon@hotmail.com

Please visit www.Activets.org to see our video. All donations are tax deductible

The Big Bend Natural History Association (BBNHA) was established in 1956 as a private, non-profit organization. The Association's goal is to educate the public and increase their understanding and appreciation of the Big Bend area and what it represents in terms of our historical and natural heritage. BBNHA champions the mission of the National Park Service of interpreting the scenic, scientific, and historic values of Big Bend and encourages research related to those values. The Association conducts seminars and publishes, prints, or otherwise provides books, maps, and interpretive materials on the Big Bend region. Proceeds fund exhibits, films, interpretive programs, seminars, museum activities, and research.



www.bigbendbookstore.org

Shopping Options

For those who prefer to shop in person, or during your visit, BBNHA operates sales outlets at Amistad National Recreation Area in Del Rio, Texas, and in Big Bend National Park Visitor Centers at the Chisos Basin, Panther Junction, Persimmon Gap, Castolon, and Rio Grande Village.

When preparing for a future visit, or remembering a previous trip, BBNHA offers both phone and internet sales. Phone orders can be placed during business hours seven days a week by calling 432 477-2236. Please browse through our online store at <http://www.bigbendbookstore.org/> You can enjoy safe, secure shopping in the comfort of your home. We offer many categories, authors, subjects, and titles.

Ongoing BBNHA projects include:

- Publish trail guides, brochures and the this newspaper
- Sponsor an on-going Seminar program
- Provide annual grants for research projects and administer grants and gifts received for the park
- Support the park's volunteer, Junior Ranger, and educational outreach programs

Friends of Big Bend

Founded in 1996, the Friends of Big Bend National Park is a private not-for-profit organization with a mission to support, promote, and raise funds for Big Bend National Park in partnership with the National Park Service and other supporters who value the unique qualities of this national resource on the Rio Grande. The Friends of Big Bend National Park has funded a range of critical projects, including wildlife research programs, the purchase of equipment to monitor air and water quality, and the construction and renovation of Park infrastructure.

The Friends of Big Bend National Park host a yearly membership event and in-park tour, which is an excellent opportunity to get to know the board of directors governing the organization and perhaps even to get more involved with the group. Also, several fund-raising events occur in the major Texas cities throughout the year and are another opportunity to get involved and help with the mission of the Friends Group. The group's website is a great place to look for upcoming events and current happenings.



PO Box 200
Big Bend National Park, Texas 79834
432 477-2242

www.bigbendfriends.org

Get In On the \$30-Per-Plate Fund Raiser

Big Bend custom license plates are now available for your car, truck or motorcycle from the state of Texas and most of the cost will be used to help preserve and protect Big Bend National Park, one of the world's last great wildernesses. It may be the most fulfilling contribution you'll ever make.



Volunteers in the Park

Volunteers are a valuable and valued part of our operation and our community. Last year over 200 volunteers contributed approximately 45,000 hours of service to Big Bend National Park. Some service groups come for a few days, other volunteers stay for months. Some are students; others are retirees looking for adventure during their "golden years."

Most of these volunteers work in visitor centers and as campground hosts; however, volunteers also help in science and resource management, maintenance, and administration. Regardless of age or background, these folks share a desire to make a positive contribution to the preservation and management of Big Bend National Park.



Honor Roll

Join us in thanking the following individuals and organizations who have recently donated 100 or more hours in volunteer service to Big Bend:

Jim & Jan Allen
Beth Bishop
Royce & Royann Brockett
Ed & Nancy Bump
Doug & Kay Combs
Teresa & Gary Cowan
Ed Davis
Lori Dillon
Robert Douat
Janelle Eastham
Steve & Tina Ehrman
Diane Flynn
Bud Frankenberger
Barnard Ghim
Nancy Hallett
Steve Harper
Jim & Ginny Herrick
Paula Jampsa
John & Elaine Jonker
Ray & Joan Kane
Mark Kirtley
Jenny Krouse
John & Linda Lightbourn
Matthew Longman
Ed Navarro
Lindsay Nygaard
Robert & Glenda Overfelt
Ron & Jane Payne
Jim Priddy
David & Donna Reismiller
Doug Shearer
David Sheedy
Steve & Toka Smith
Kenn & Linda Sutton
Christiann Tillman
Diana Warner
John Welsh
Steve Wick
Reine Wonite

Join us and support your park!

Become a member and create a lasting relationship with Big Bend National Park.

Do more with your dues!

Purchase a dual annual membership in both BBNHA and the Friends of Big Bend National Park for only \$100.

Member Benefits

Membership benefits include a 15% discount in BBNHA bookstores; a 10% discount on most seminars; a subscription to the *Big Bend Paisano*; a current Big Bend calendar; discounts at many other association bookstores in other national park sites; and the opportunity to support scientific, educational and research programs in Big Bend.

Annual Dues

- Individual \$50
 Associate \$100
 Corporate \$200
 Joint Membership (W/ FBBNP)
- Name _____
Address _____
City _____ State _____ Zip _____
Make checks payable to BBNHA or charge to:
____ Visa ____ Mastercard ____ Discover
Card Number _____ Exp. Date _____

Life Membership

- Individual/Family \$500
 Corporate \$1000
 Benefactor \$2500
 Renewal
 New Member
- Signature _____
Detach and mail to: Big Bend Natural History Association,
PO Box 196, Big Bend National Park, Texas 79834
Telephone: 432 477-2236
You can also join online at www.bigbendbookstore.org

A Rare Flood at Big Bend

Park Ranger Chris Wonderly

Near the base of 13,478-foot Canby Mountain in southern Colorado, melting snow feeds into streams, which eventually join to form North America's fifth-longest river, the Rio Grande. The river collects water from a vast territory. Its branches and tributaries drain 335,000 square miles in two countries. The Rio Grande as depicted on a map, however, is very different from the Rio Grande in Big Bend.

The majority of the water in Big Bend's stretch of the river actually comes from another river in another country. That river—the Rio Conchos—descends from the Sierra Madre of northern Mexico and adds more water to the Rio Grande where the rivers join near the border towns of Presidio, Texas, and Ojinaga, Chihuahua.

Tropical Storm Lowell, which made landfall along the Pacific coast of Mexico in September, 2008, provided the overall watershed with an influx of water, leading to Big Bend's biggest flood in recorded history. While considerable rain fell at the park, swelling the tributaries that flow into the Rio Grande, the heaviest downpours occurred in Mexico on the Rio Conchos watershed. Reservoirs along the Conchos filled to capacity, forcing officials there to release water downstream and into the Rio Grande. The subsequent flooding raised the water level at Big Bend from its normal two- to three-foot depth to over 26 feet.

The river was already a rich chocolate brown from early September monsoon rains, but when the flood reached its peak, the brown silty water gave the canyons and lowlands near the river a peculiar smell. Visitors to the area were greeted by an olfactory mix of stirred mud, the sulfur stink of rotting plants and muck, the heaviness of moisture, and a hint of cut grass. Standing on the bank of the river, visitors saw trees float by, and periodically, giant balls of river cane, which had been all twisted together by the current, roll downstream like giant novelty balls of twine. But, due to the depth of the water, the majority of the river through the park took the appearance of a broad, flat expanse of upwelling currents and sucking whirlpools. Unlike the rocky Colorado River, which is known for its frothy waves, the Rio Grande was fast and flat in most of the park. It did most of its erosive work under the surface, hidden from view.

With the rising flood waters, park staff worked quickly to help protect human infrastructure, including homes and residents in Rio Grande Village. National Park Service and Big Bend Resorts employees drove a fleet of trucks down to the river and emptied the camp store and visitor center, and helped to move employees out of their homes until the waters retreated. Not far away, park biologists were working, sometimes in the dark, to rescue some non-human residents before the flood waters hit.

In Rio Grande Village lives an unimposing, minnow-sized fish, the endangered Big Bend gambusia, commonly known as the mosquitofish. Endemic to the Big Bend reach of the Rio Grande, and dependent upon warm-water spring-fed ponds, nearly the entire world's population of mosquitofish hangs on in a few small maintained ponds. In fear of floodwaters reaching the main refugium pond and washing the mosquitofish downstream, park biologists and officials from the U.S. Fish and Wildlife Service rescued about 600 of them, to be transported to a New Mexico fish hatchery. There they joined other Big Bend mosquitofish already at the facility. These remaining fish represent the genetically viable stock, the safety net, which will serve to restore a healthy population to Big Bend.

The flood allowed us to not only witness the power of water to affect change on the landscape, but also to consider our impact on the river system.

For centuries the Rio Grande watershed—comprising both the Rio Grande and Rio Conchos—has been the lifeblood of communities, farms, and ranches on both sides of the border. In a land subject to extreme heat and frequent drought, the presence, or absence, of the rivers' water impacts the survival of the people who call this area home.

The U.S. section of the Rio Grande is so essential to the livelihood of millions of people that it has been fully appropriated; every ounce has been claimed. The river is impounded by dams and reservoirs, supplying water and generating electricity for the growing communities along its length. By the time the river reaches El Paso, it has slowed to a trickle. As a result, very little of the upper Rio Grande reaches the Big Bend. Indeed, the reach above Presidio to Fort Quitman so seldom carries water that locals call it the "Forgotten River." Mexico utilizes the Rio Conchos for the same purposes, meaning that the majority of the water flowing through Big Bend's canyons is controlled by another country.

Because of the high use of river water in both countries, the Rio Grande's average flow is reduced. In the past, floods often occurred every year, helping to maintain the river channel by clearing out mud and sediments, and creating healthy habitat for plants and animals. Today however, the lack of cleansing annual floods and persistent low flow deteriorates the channel, and allows invasive plants to move in and worsen the problem.

Historic photos of the Rio Grande show sparse patches of plants along its banks. Cottonwoods, willows, and other plants grew along the river, providing much-needed shade in the desert sun, and access to the river for animals and people alike. Today the scene is quite different. Exotic invasive plants like salt cedar and giant river cane

have moved in, growing in dense thickets along the river, and evicting native species. Their roots weave together in an impenetrable system, hardening the banks of the river and capturing more sediment. Consistent flows over the last few decades and exotic plants create a situation which further narrows and fills the channel, and sets the stage for more damaging floods.

Park managers are working to rehabilitate the river by removing cane and salt cedar and, in some places, replacing them with native plants. It's a daunting task. Only one side of the river is managed by Big Bend National Park. The other side is in a different country with its own management goals and priorities; Big Bend is just a small part of the larger Rio Grande watershed where cane and salt cedar grow in abundance.

This September's flood acted like a reset switch in some places. It cleared out banks by ripping out stands of cane and salt cedar, widened the river channel, and moved the river a bit closer to its natural state. The invasive nature of the exotics however, suggests they will likely repopulate areas cleared by the flood. Now park scientists have an opportunity to observe how cane and salt cedar repopulate an area and the impacts they create as they expand.

Park biologists also observe that channel-maintaining floods only serve to irrigate the cane and salt cedar while those plants trap

more and more sediment, building up the river banks. Larger, river-scouring floods do help restore sandbars, create shallow areas for aquatic species, and clear exotics from the riverside. With further study, park managers will be able to discover the ideal river flows necessary to maintain a healthy river system at Big Bend. Those higher flows however, depend on the release of water from upstream along the Rio Conchos and the upper Rio Grande.

From the high Rockies in Colorado, and the high Sierra Madre in northern Mexico, two rivers flow and supply water to millions of people. That water is also vital to a healthy ecosystem at Big Bend National Park. The Rio Grande is an oasis in the desert, supporting a variety of plant and animal species along its banks. Over the last few decades the river has changed in dramatic ways. The spread of exotic invasives and the lessening annual flow have altered the river from its historic state. The September floods offered a glimpse of history, and hope for the future. With further study and international cooperation, it may be possible to restore a natural flow to the river.

The National Park Service is dedicated to the survival and protection of natural ecosystems. Perhaps, in time, the Rio Grande at Big Bend National Park will become a healthier ecosystem, saved for the enjoyment of future generations as we balance our needs with those of nature.



A Speck of Dust

Park Ranger Rob Dean

Chanita Gomez's granddaughter, Maria, swept her grandmother's patio with enthusiasm every morning, raising a dust cloud that would rival a group of whirling dervishes. The pirouetting cloud floated toward the docks of the little fishing village sitting on the Pacific coast of Chiapas, Mexico. Chanita would say that Maria was going to cause a hurricane with her "baile de la escoba" (broom dance). Interestingly, her comment recalls Chaos Theory, which posits the possibility that significant weather events (tropical storms, hurricanes, and tornados) may be initiated by the mere sweep of a hula grass skirt or a child's broom – an insignificant event resulting in complex disorganization. Such could describe the most recent flood on the Rio Grande caused by Tropical Storm Lowell.

Maria's cloud of dust drifted and swirled westward over the shallow shoreline toward the graying horizon, invisible, yet on a hectic dance to an unknown destination. The low pressure system building miles from the Chiapan coastline attracted Maria's dancing cloud along with countless other dancers. Some of the dusty particles fell exhausted to the surface to become ocean detritus; some were lifted aloft for thousands of feet, rising in massive tropical clouds

spinning like a twirling ice dancer unable to control direction and at the mercy of the moving system. The attendant dust and moisture added mass to Lowell's pasodoble as it stormed in a northeast track towards northern Mexico and west Texas. After landfall on September 11, 2008, the dancing storm's tempo changed from a lively fox trot into a violent Apache dance, dumping its heavy moisture, and Maria's dust, along México's Rio Conchos drainage. The massive downpour and resulting rapid runoff surpassed the capacity of Rio Conchos drainage area reservoirs, threatening dam integrity, and forcing managers to release water to relieve the pressures on the storage systems.

When Mother Nature wants to dance up a storm, it is wise to accept the offer and be ready to pay the fiddler. In anticipation of the coming rise, Big Bend National Park staff initiated an incident command system and established a flood response plan that was workable, effective, and successful due to a number of factors – smart people, hard work, and sufficient time. The plan was strengthened by sound judgment, staff commitment, and forethought. . . along with a good bit of luck that further area storms did not interfere with the plan.



Las Virgenes dam, Mexico, September, 2008: The reservoir was vastly overfull with water and dam operators had to spill excess water to prevent the dam from breaching. Note the frothing water on the left spillway.

The flooded Rio Grande Village campground received so much silt and sediment that park crews worked with dump trucks and loaders in a complicated Texas two step, moving up to 60 full loads of dirt a day to clear the campground. Thousands of loads have been moved, and from the effort, Maria's dust still swirls like a lost street performer without a stage.

Gary Martin, manager of the Rio Grande Village Store is still cleaning up the dust and dirt from the fandango. He gets help from his daughter Britney, as she swings her broom in a rhythm that stirs the air and sends the dust spinning to its next dance.

Rescuing History

Park Ranger Jennette Timmer

Trying to stop a flooding river is almost as impossible as stopping time. Historically, the Rio Grande floods several times every decade. Usually it is a small flood, rearranging beaches and redistributing sediments. Occasionally it is a large flood, escaping the main channel and causing vast alterations to the flood plain. Last September extremely heavy rainfall created one of these record flood events.

For nearly two weeks, low-lying areas all along the river were covered by a churning layer of brown water powerful enough to uproot and carry away trees. As the water rose higher, it threatened to also carry away some of Big Bend's history: the Alvino House below Castolon was in danger of being erased.

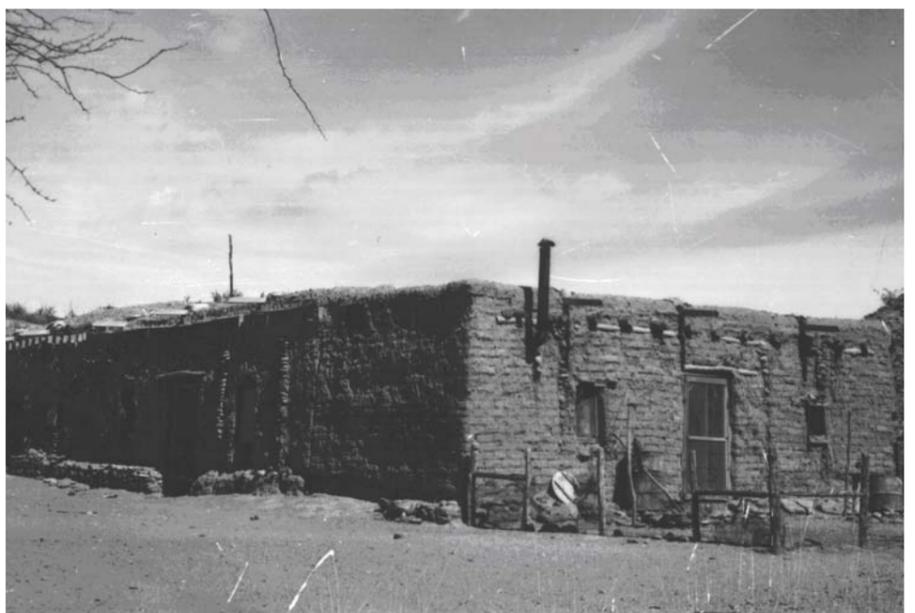
As floodwaters approached the foundation of this historic adobe, park staff moved in to attempt a rescue. Around the perimeter an earthen dam was constructed, covered with a tarp, and sandbagged. The water, however, crested just higher than this four foot wall. A pump was then employed to throw water back into the river until the floodwaters receded. The Alvino House survived another flood.

Why so much effort to save this one house? Unattended, adobe naturally melts back into the ground. More floods will come. The Alvino House though, is worth the time spent to preserve it.

Built in 1901 by Cipriano Hernandez, and later lived in by Alvino Ybarra, it is the oldest remaining adobe structure in Big Bend National Park. It represents one of the best examples of native adobe construction. More than just a classic adobe, the house also harbors stories of the everyday life of families living along this remote reach of the Rio Grande. As well as a residence and store, it also served as the Castolon social center. Weddings, baptisms, fiestas; these all occurred here. The Alvino House was a place where a community could gather and grow.

This was not the first time efforts were made to preserve this piece of Castolon's history. Over time, the elements attacked the dirt walls and decayed the wood vigas, causing the roof to sag. In 1994, residents of Santa Elena, Mexico, volunteered their expertise to restore the building to its former state. They made adobe bricks and replaced wood to stabilize the structure, just as their families have always done.

And so the Alvino House still stands today. One hundred and eight years after it was built, it survives as a reminder of the people who came before us. It points to a lifestyle of living off the land – of creating a home from the very dirt it is built upon. It is a piece of history left to explore. So take the time to visit Castolon, stop by this old adobe house, and discover what it can show you about those who came before.



Alvino House Circa 1940 - NPS Archives



Alvino House September, 2008

Getting Ready To Roar

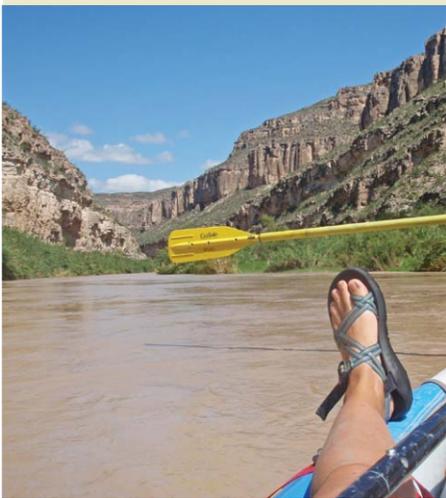


SAT SEP 06 2008
NWS NATIONAL HURRICANE CENTER MIAMI FL
NATIONAL WEATHER SERVICE BULLETIN

8:00 PM PDT - CONVENTIONAL AND MICROWAVE SATELLITE IMAGERY INDICATE THE STRONG TROPICAL DISTURBANCE LOCATED SOUTH OF MANZANILLO MEXICO HAS RAPIDLY ORGANIZED INTO TROPICAL STORM LOWELL. RAINFALL TOTALS OF 2 TO 4 INCHES IN MOUNTAINOUS AREAS OF CENTRAL MEXICO WILL BE POSSIBLE THROUGH SUNDAY...THERE IS CONSIDERABLE UNCERTAINTY IN THE LONG RANGE FORECAST.

B. BRAUCH

This was just the beginning. Normally a leisurely float, some intrepid visitors took advantage of an opportunity that only happens every few decades to test their mettle against everything the river could throw at them. Hazards included massive sucking whirlpools, giant rolling balls of cane, rafts forced into thickets of spine-filled tree tops, along with violent rapids that seldom, if ever, were rafted by anyone in Big Bend's history. The photo above was taken when the water had just begun to rise.



In many places, the water covered all the rocks that create rapids when the river is lower. Due to the speed of the water, trips that usually take three days were completed in five hours.



With the water levels threatening to rise substantially, park staff had to lash their rafts high up on the cliffs during a reconnaissance trip. The river depth changes often, but not usually by 25 feet.



Rafters got pushed into dense mazes of mesquite and willows such as this. Fighting currents and hidden hazards, it took hours for some groups to fight their way back to the main channel.



Park biotech saving the precious Gambusia fish that live nowhere else in the world but here. It was a mad dash to catch as many as possible with nets. Had the flood waters been only a few inches higher, they could have washed away.

Flood Stage



B. TRESTER

View from the Dorgan House near Castolon



R. SKILES

Water the color of chocolate milk seen here infiltrating the bosque at Rio Grande Village.

What to See and Do



You've driven many miles to get here, and have finally arrived at your destination: Big Bend National Park. But now what? Now that you're here, how do you spend your time? Where should you go? What should you explore? The park is big, and often visitors have a limited amount of time.

One Day

The visitor centers at Persimmon Gap, Panther Junction and the Chisos Basin are excellent places to begin your visit. Park staff there can answer your questions, and exhibits provide additional orientation. If time allows, drive to the **Chisos Basin** to take in spectacular views of the **Chisos Mountains**. Walk the 0.3-mile self-guiding **Window View Trail** to get a feel for the mountain scenery and one of the best sunset views in the park.

A trip along the **Ross Maxwell Scenic Drive** will give you a taste of the Chihuahuan Desert and will lead you to the Rio Grande. This drive highlights the geologic splendor and complexity that the Big Bend is famous for. There are many scenic overlooks and exhibits along the way. Sotol Vista, Mule Ears Overlook and Tuff Canyon are all worthwhile stops. The short walks to the Sam Nail Ranch, Homer Wilson (Blue Creek) Ranch and a visit to the Castolon Historic District will give you a glimpse into Big Bend's past.

A highlight is the short walk into **Boquillas Canyon**—one of Big Bend's most scenic spots. Travel to the end of the Boquillas Road near Rio Grande Village to access the trailhead. The trail affords a good view of the small Mexican village of Boquillas, thought to be named for the small cave-like holes in the cliff that look like little mouths ('bocas' in Spanish). Perhaps you will see Singing Victor standing on a sandbar, known to regale rafters with song. Just remember that it is illegal to purchase items from Mexican nationals.

Three Days

With three days to spend in the park, you can explore the major roads more thoroughly and still have time for hiking. In the Basin area, consider hiking the **Window Trail** (5 miles round trip) or the **Lost Mine Trail** (4.8 miles round trip); consult the *Hiker's Guide to Trails of Big Bend National Park*, for sale in park visitor centers, for trail descriptions.

In addition to the Basin and Ross Maxwell Scenic Drive (see suggestions for "one day") you can drive to **Rio Grande Village**, perhaps stopping at Dugout Wells along the way to walk the short Chihuahuan Desert Nature Trail. Many visitors are unaware that there is an enjoyable three mile trail from Daniel's Ranch to the Hot Springs. It follows the river. Alternately, the historic Hot Springs can be reached via an improved dirt road (not recommended for 'dooley' pickups or RVs)

The famous Balanced Rock can be found at the end of the Grapevine Hills Trail. A 15 minute drive down the Grapevine Hills dirt road will take you to the trailhead. While mostly easy, there is a steep section at the end where the balanced rock is located. A good time for pictures is the early morning or late afternoon.

One Week

With a week or more to spend in Big Bend, endless possibilities are open to you. You'll have plenty of time to explore the roads mentioned in the previous sections, and will also have time to drive some of the "primitive" dirt roads. For these, you'll need a high clearance or four-wheel drive vehicle. *Always check at visitor centers for current road conditions, and carry appropriate gear.*

The River Road, Glenn Springs Road and Old Ore Road are some of the more popular primitive roads. A visit to Ernst Tinaja near the south end of the Old Ore Road is a Big Bend highlight. The Pine Canyon Trail, located at the end of the primitive Pine Canyon Road, is an excellent hike to experience firsthand the transition from desert to mountains.

If you don't have high clearance or four-wheel drive, improved dirt roads such as the Old Maverick Road, Dagger Flat and Grapevine Hills will get you "off the beaten path." Hike the Chimneys Trail, or Grapevine Hills Trail for a closer look at the desert environment.

If you'd like to explore the Chisos Mountains, trails to Boot Canyon, Emory Peak and the South Rim offer good views of the park and take you into another world which seems far removed from the desert. There are plenty of opportunities for overnight backpacking along these trails. A backcountry use permit is required and can be obtained at park visitor centers.



Camping at Pine Canyon



Overlooking the desert



Floating the Lower Canyons of the Rio Grande

Floating the Rio Grande

If you have the time and a spirit of adventure, you may want to consider a river trip. Seeing the park's canyons from the middle of the Rio Grande is both fascinating and gratifying. There are many possibilities, from half-day floats to extended seven-day excursions. Park Rangers can recommend a trip that meets your abilities and interests. Outfitters and equipment rental companies are listed on page 16. See "Backcountry Planning" on page 14 for additional information.

Backcountry roads

If you have a high-clearance or four wheel drive vehicle, Big Bend's backcountry roads call for further exploration. There are over 200 miles of dirt roads in the park. Improved dirt roads like the Dagger Flat and Grapevine Hills roads are usually in good condition and accessible to normal passenger vehicles, except following rainstorms. Unimproved dirt roads, such as the Old Maverick Road, Old Ore Road, or the River Road, generally require high-clearance vehicles and/or four wheel drive. *Always* check current road conditions at a visitor center before traveling any of the park's primitive roads. Standard backcountry road conditions are listed on page 14.

Enjoying Your Visit

No matter how limited your time in Big Bend, remember that you will enjoy the park more if you stop your car and explore on foot. That doesn't mean that you have to hike miles on steep grades; there are many short, easy walks and roadside exhibits where you can stretch your legs and enjoy the sights, smells and sounds of the Chihuahuan Desert.

Hiker's guides and road guides are available at visitor centers throughout the park, and they offer more detailed information about Big Bend's trails and roads. Attending **ranger-led walks** and **evening programs** are also good ways to learn more about Big Bend; check at the visitor centers and park bulletin boards for current activities.

Remember, you will NOT be able to see everything on this trip. You will probably enjoy the park more if you choose a few spots and explore them thoroughly to get a taste of what Big Bend has to offer. Then, come back again sometime to see the rest!



Take a Day Hike on Big Bend Trails

From the 7,832 foot (2,387 m) summit of Emory Peak, to the banks of the meandering Rio Grande, visitors will find over 200 miles of hiking trails in Big Bend National Park. Trails range from strenuous primitive routes through rugged desert backcountry to short handicapped-accessible pathways. Whatever your style of hiking, you can find it in abundance in Big Bend.

On this page are descriptions of some of the most popular easy and moderate hiking trails, divided by the geographic areas of the park. Most of these trails are perfect for shorter day hikes of up to several hours.

Trail	Trailhead Location	Round Trip (mi/km) (avg. time)	Elevation (ft/m)	Description
Eastside — Panther Junction and Rio Grande Village				
Grapevine Hills <i>Balanced Rock</i>	Grapevine Hills Road - 3.5 miles west of Panther Junction Usually passable to all vehicles.	2.2/3.5 1 hour	240/73	Easy Follows a sandy wash through boulder field. A short but steep climb at the end over beautiful eroded granite takes you to a large balanced rock.
Hot Springs 	End of Hot Springs Road. Unpaved and narrow road.	0.75/1.2 1/2 hour	0/0	Easy Walk past historic buildings to the riverside hot spring. Take a bathing suit and soak in 105°F water. <i>Spring is subject to flooding due to rising river levels.</i>
Daniel's Ranch to Hot Springs Trail	Daniel's Ranch parking area, west of Rio Grande Village	6/10 2 hours	100/31	Moderate Trail leads from Daniel's Ranch to the Hot Springs. Cliff dropoffs prevent access to the river along most of the route.
Boquillas Canyon	End of Boquillas Canyon Road	1.4/2.3 1 hour	40/12	Easy Begins with a short climb, then descends via a sandy path to the river. Ends near a huge sand dune "slide."

The Chisos Mountains

Basin Loop	Chisos Basin Trailhead (near the Basin Store)	1.6/2.6 1 hour	350/107	Moderate Connects the Laguna Meadow and Pinnacles Trails. Nice views of the Basin area.
Window View  	Chisos Basin Trailhead (near the Basin Store)	0.3/0.5 1/4 hour	0/0	Easy Level, paved, handicapped accessible. Great mountain views. The best place in the Basin to catch sunset through the Window.
Lost Mine 	Basin Road mile 5 at the pass	4.8/7.7 3 hours	1100/335	Moderate but steep Provides excellent mountain and desert views. For those who want a shorter hike, 1 mile down this trail is a great view to the southeast.
The Window	Chisos Basin Trailhead or Basin Campground	5.6/9.0 4 hours 4.4/7.0 3 hours	980/299 500/152	Moderate with steep return Descends to the top of the Window pouroff. Great scenery and wildlife viewing. For a shorter hike, start at the Basin campground.

Smoking is prohibited on all trails in the Chisos Mountains.

Westside — Ross Maxwell Scenic Drive

Blue Creek Ranch	Ross Maxwell Drive mile 8	0.5/0.8 1/2 hour	90/27	Easy Descends from overlook via old road to 1930s ranch buildings; connects the Blue Creek Canyon & Dodson trails.
The Chimneys	Ross Maxwell Drive mile 13	4.8/7.7 2 hours	400/122	Moderate due to length Flat and scenic desert trail to rock formations. Look for rock art. No shade.
Mule Ears Spring	Ross Maxwell Drive mile 15	3.8/6.1 3 hours	20/6	Moderate A beautiful desert hike to a small spring. Spectacular geology and mountain/desert views.
Upper Burro Mesa Pouroff	Ross Maxwell Drive mile 6	3.6/5.75 2 hours	300/91	Moderate Walk in the wash downstream through two canyons to reach the upper lip of a waterfall that is wet only after rain. Do not take this trail when storms are likely due to a lack of escape routes.

 = Self-guiding trail

 = Accessible trail

Looking for more hikes and information?

For information on longer, more challenging routes, or to plan an extended backpacking trip, stop by any park visitor center. A large selection of maps and trail guides are available and park rangers can assist you with trip preparations and backcountry permits. Visitor center bookstores carry a large selection of maps and guides. Below are a number of items that can assist in planning your Big Bend adventure.



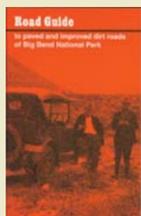
Hiker's Guide to Big Bend National Park
Updated in 2005. Covers all major trails in the park, from short self-guiding nature trails to strenuous backpacking routes. \$1.95



Guide to backcountry roads
Updated in 2004. Detailed mileage logs of Old Ore Road, Glenn Spring Road and River Road. Good descriptions of historic sites and scenery. \$1.95



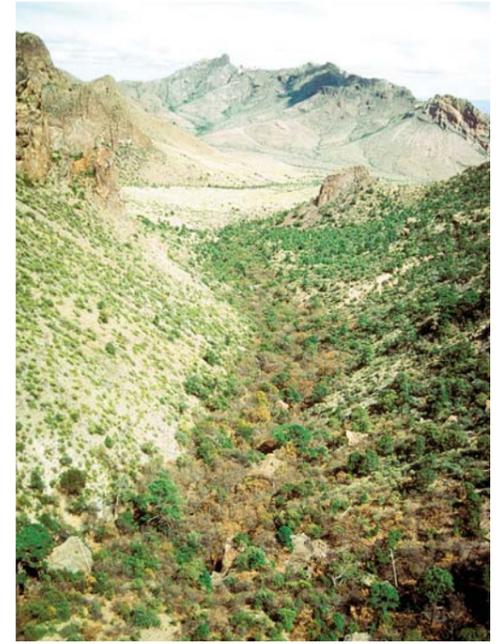
Hiking Big Bend
In collaboration with National Park rangers, Laurence Parent has compiled a comprehensive guide to 44 of the most popular hikes. Photos show terrain and views. Describes difficulty, elevation changes, and maps needed. Also includes three hikes in Big Bend Ranch State Park. \$14.95



Guide to paved and improved dirt roads
Describes points of interest visible from all paved and improved dirt roads in the park. \$1.95



Chisos Mountains Trails Map
A topographic map that includes all trails in the Chisos Mountains. Includes trail lengths and descriptions. 99¢



Pine Canyon overlook

Featured Hike

Pine Canyon

Distance: 4 miles (6.4 km) round-trip
Overview: Moderate desert hike with some shade in the morning and late afternoon. Steep ascent at the end.

Of all the trails at Big Bend National Park, the Pine Canyon Trail may be the park's leader in terms of sheer surprise value. Visitors who have not previously hiked the trail will be stunned to discover a lush forest secluded within a vast desert. Inside this small forest, rare trees that can only be found in this part of the country stand alongside coniferous giants more often associated with cool northern climates.

To get to the trailhead, you need a high clearance vehicle. Take the Glenn Springs Road near Nugent Mountain, then turn right onto the Pine Canyon Road after 2.5 miles. Proceed for 4.4 miles past the Pine Canyon campsites until you reach the small parking area and trailhead. Along the way, feast your eyes on the spectacular geology of the eastern Chisos Mountains.

The trail is a four-mile roundtrip. Along the trail, hikers will find that the sotol-rich grassland typical of the Chihuahuan desert in Big Bend transitions to something far more verdant and green. Increasing numbers of trees begin to appear and the wooded canyon that is the highlight of the trail becomes visible.

Why is this forest here? Above the canyon's thick vegetation, notice a high protective rim of volcanic stone. This rim creates shade in the morning and evening as it blocks direct sunlight from scorching the ground. The protective shade cuts out just enough sunlight during the day that soil moisture is higher and temperatures lower than can be found in the nearby desert. The effect of this shade is almost imperceptible to us, but to the trees, an ancient volcanic bulwark has created a climate oasis.

The first trees found along the trail are primarily pinyon pines and weeping junipers. As hikers transition to the shade zone, Big Bend's famous Texas madrones appear. These unique trees shed their bark in crimson sheets to reveal a beautiful cream-colored inner bark. Because they are fairly rare, the number of trees found in Pine Canyon is sure to amaze. Further along the canyon, tall Arizona pines come into view. Closely related to ponderosa pines, Arizona pines trees tower over all of the other trees found in the canyon. Toward the end of the canyon, the trail gains a considerable amount of elevation, and ends at a large dry waterfall.

If you decide to make the trek through Pine Canyon, be mindful of the delicate environment found inside of it. Pine Canyon represents one of the few areas in the Chihuahuan desert where this type of ecosystem exists.

Protecting Our Starry Skies

Park Ranger Mary Kay Manning

“Big Bend has probably the most pristine night sky in terms of its absence of human light pollution of any park in the (contiguous) 48 states.” So read a report to the park superintendent from the National Park Service Night Sky Team in 2003. Formed in 1999 to address the loss of night sky quality in national parks, the Team visited Big Bend National Park in 2003 and in 2007. Using special camera equipment, they took panoramic photos from a desert location and from the top of Emory Peak, the highest point in the park. Their photos confirmed that Big Bend’s remote location protects its night skies from the artificial light of cities.

This recognition of our naturally dark skies verifies what many visitors and amateur astronomers have known for years: Big Bend National Park is a great place to see starry skies! Researchers and casual stargazers alike rave about the quality of the night sky over the park.

The Night Sky Team’s report also came with a challenge, however, for it went on to note that the only light pollution noticeable came from developments within the park itself, particularly the Chisos Basin. A follow-up survey of exterior light fixtures throughout the park found that only 18% of our 900-plus lights are properly shielded. In addition to polluting our views of the night sky, these improperly-shielded lights also waste energy and money and can negatively affect wildlife behavior.

Improving the park’s many light fixtures takes planning, time, and money. The park and our concessioner, Forever Resorts, have received a grant from the National Park Foundation and a donation of \$10,000 from the Friends of Big Bend National Park for this project. We have partnered with Musco Lighting, a company that specializes in energy-efficient, low-impact outdoor lighting, to design improved fixtures and

provide many of the materials. Work will begin in 2009 and will initially focus on the Panther Junction headquarters building and gas station and on facilities throughout the Chisos Basin. New lighting designs will still illuminate the facilities necessary for visitor and staff safety, but will eliminate the glare and misdirected light that impair our ability to see at night and ruin our view of the night sky. These new designs will also be more energy efficient, saving taxpayers’ money.

Other national parks have taken similar steps to protect their night skies. For instance, Natural Bridges National Monument in Utah worked with the Night Sky Team to evaluate every exterior light in the park and to then modify more than 80% of them. They added shields to direct light downward and even installed motion sensors on some fixtures. Switching to compact fluorescent bulbs reduced stray light and costs. The International Dark-Sky Association

designated Natural Bridges as the world’s first International Dark-Sky Park, partly in recognition of its dark night skies, as well as its efforts to preserve the view of these starry skies by reducing its own light pollution, and its work in educating visitors about this amazing resource.

Big Bend National Park already meets two of these three qualifications: our clear, dark night skies provide excellent stargazing opportunities, and our interpretive staff present astronomy programs throughout the year. Perhaps our renovated lighting will enable us to also earn the title of International Dark-Sky Park.

“We’re hopeful that these changes will enable more visitors and park residents to enjoy Big Bend’s world-class night skies,” said park superintendent Bill Wellman. “We’re grateful to our donors and partners for their assistance in protecting this resource.”

Birds and Birdwatching

Park Ranger Mark Flippo

In this issue of the Paisano we have highlighted the record fall season flood event of 2008. A flood of a different kind is now approaching, as the spring migration of birds will soon descend upon the park, bringing a tremendous diversity of birds. Of the 452 species on the official park checklist, almost 190 (42%) are migrants that pass through the region to breeding grounds farther north. Such diversity offers much to those who plan their vacations around the potential for viewing birds.

The annual spring migration begins in late February. Through March and April the number of migrants increases steadily until peaking in the last two weeks of April and the first week of May. In this flood of birds are many neotropical migrants returning from wintering ranges in Latin America, including Townsend’s, hermit, and black-throated gray warblers. Among the expected passage migrants comes the occasional rare and accidental species that have wandered off their normal course or are pushing the extreme edge of their normal range. Last spring a very rare northern pygmy owl was found in the Pinnacles Pass and Baird’s sparrows made appearances at Rio Grande Village and Sam Nail Ranch

Also arriving in spring will be neotropical species that nest in the park, including some Big Bend specialties. The much-sought Colima warbler may arrive as early as mid-March, but typically isn’t on territory in the high Chisos until the first weeks of April. In your search for Colima warblers, keep an eye out for other interesting birds, including



Dusky-capped Flycatcher (*Myiarchus tuberculifer*)

blue-throated hummingbirds, cordielleran and dusky-capped flycatchers, painted redstarts, and black-chinned sparrows, all possible in the forested canyons of the high Chisos mountains. Lucifer hummingbirds generally arrive in late March, and can be found feeding on early-blooming ocotillos in the foothills of the Chisos and lower surrounding desert. The first two to three

miles of the Blue Creek Trail has been a reliable area to find this little hummer in early spring, as well as being a great place to find gray vireos and varied buntings.

If you are limited for time, head to the river (including Rio Grande Village and Cottonwood Campground). Nearly 75% of all the listed species have been observed

in riparian areas. Gray, common black, and zone-tailed hawks are all probable in cottonwood areas along the river during the spring. The diversity of flycatchers there is high, from the unmistakable and eye-stopping male vermilion flycatcher to noisy Cassin’s, western and tropical kingbirds. Among the most colorful birds, male painted, lazuli and indigo buntings are most easily seen along the river, as is an impressive display of orioles, including orchard, Bullock’s and hooded. Whether from a trail or a canoe, birding the river will be productive.



While you are enjoying the birds, keep in mind that many of the migrant species you may observe are members of populations in decline. You can help in several ways: tread softly in fragile habitat and don’t damage water sources; don’t disturb nesting birds with excessive noise or intrusive attempts at photography. Please share your observations with us, particularly of rare or accidental species. Your detailed report becomes part of the record and can be an aid to researchers. Enjoy the birds of spring, and do all that you can to ensure their return next year.

Keeping Wildlife Wild



Javelina that become habituated to human food become more aggressive. At developed campgrounds, take down your tents when away from the site.

J. HINES

There really are no problem animals—only problem people. Carelessness can kill. Don't be responsible for the death of a wild animal. Your actions affect both Big Bend's wildlife and future park visitors. With your help, wildlife and humans CAN live safely together in Big Bend National Park.

Mountain Lions

Solitary and secretive, the mountain lion is Big Bend's top predator, and is vital in maintaining the park's biological diversity. Everywhere you go in Big Bend, you are in the territory of at least one lion. From mountain to desert, biologists estimate that the park has a stable population of approximately two dozen lions. Within the delicate habitats of the Chihuahuan Desert, mountain lions help balance herbivores and vegetation. Research shows that these large predators help keep deer and javelina within the limits of their food resources. Without lions, the complex network of life in Big Bend would certainly be changed.

Each year, an average of 130 sightings of mountain lions are reported by the visiting public within Big Bend National Park. While over 60 percent of these sightings were along park roadways, encounters along trails have also occurred. Mountain lions live throughout the park, including the Chisos Mountains, where they sometimes use man-made trails. The best plan of action is for you to be aware of your surroundings. Watch children closely; never let them run ahead of you. Avoid hiking alone or at dusk and dawn.

A free brochure with more information about mountain lions is available at all visitor centers.



Javelinas

For many visitors to Big Bend National Park, seeing a javelina (pronounced *hav-uh-LEE-nuh*) is a new experience. These curious creatures, also known as collared peccaries, are only found in the United States in Texas, New Mexico, and Arizona. They are covered with black, bristly hairs and generally weigh between 40 and 60 pounds. They usually travel in groups called bands that consist of 10-25 individuals. Peccaries have a highly developed sense of smell, but very poor vision. Physically, javelinas resemble pigs, but in reality, they are not closely related to pigs at all and have been genetically distinct from them for millions of years.

A javelina's diet includes prickly pear cactus, grasses, mesquite beans, piñon pine nuts, fruits, berries, and seeds. Unfortunately however, many javelinas now include human food as part of their diet.

Every year we are seeing more and more campsites in the park raided by javelina. Although normally not aggressive, they can be when food is involved. Protect yourselves and the javelina by properly storing all your food inside a vehicle or in the food storage lockers provided in the campgrounds. Do not leave coolers or food boxes unattended on picnic tables or in a tent. Flatten tents when you are away from your campsite. It is important that javelinas and all park animals eat their natural food sources to stay healthy and safe. With your help, these unique animals can continue to thrive and thrill park visitors for years to come.



B. DUNCAN

Black Bears

The return of black bears to Big Bend National Park is a success story for both the bears and the park. Native to the Chisos Mountains, bears disappeared from this area by the 1940s. After an absence of nearly fifty years, bears began returning to the park from Mexico in the late 1980s. Today, wildlife biologists estimate that between 15-20 black bears may live in the park.

Black bears are omnivorous; their normal diet is comprised of large amounts of nuts, fruits, sotol and yucca hearts, and smaller quantities of small mammals, reptiles, and carrion. Bears normally avoid humans, but bears that learn to get food from human sources often become aggressive in their attempts to get more "people" food. Rangers may have to kill bears that lose their fear of people and endanger humans in their attempts to get our food.

Big Bend has made it easy to keep edible items away from bears. Campers at the Chisos Basin Campground, at High Chisos backpacking sites, and at some primitive roadside campsites will find bearproof storage lockers for storing all edibles. Hard-sided vehicles are also suitable for storing edible items. All dumpsters throughout the park are bearproof, as well.

A free brochure with more information about black bears is available at all visitor centers.



B. BAUMANN



Do Not Feed the Animals.
Not even once. It's bad for them, they can hurt you, and it's against the law. Don't touch, don't feed.

Please Help

In Developed Campgrounds

- Store food, beverages, toiletries, pet food, and dishes in the bearproof storage locker provided at your site.
- Keep your campsite clean. Take trash and food scraps to a dumpster.
- Dump liquids in restroom utility sinks, not on the ground.
- Ice chests and coolers are not bear-proof; store them in your vehicle.

Cyclists

- Use food storage lockers when provided.

At the Lodge

- Leave nothing outside your room, on the balcony, or on the porch.

In the Backcountry

- Never leave packs or food unattended.
- Avoid carrying odorous food and toiletries.
- Leave excess food and beverages in your trunk or food storage box.
- Carry out **all** trash, including orange peels, cigarette butts, and left-over food.
- Ice chests and coolers are not bear-proof; store them in your vehicle.

If you encounter a bear or mountain lion:

- Do not run (you may resemble prey).
- Watch children closely and never let them run ahead or lag behind.
- Try to look large. Wave your arms. Throw rocks or sticks at it.
- If attacked, fight back.
- Report any bear or mountain lion sightings or encounters to a park ranger as soon as possible.

Information and Services



Ranger Programs

Join a park ranger for a guided hike, evening slide show, talk, or workshop on Big Bend's natural and cultural history. These free programs are offered most days. Consult the Interpretive Activities Schedule posted on visitor center and campground bulletin boards for more information.

Camper Stores

Forever Resorts Inc., operates camper stores year-round at three locations in the park: Castolon, the Chisos Basin, and Rio Grande Village. Groceries, camping supplies and souvenirs are available in all locations. The gas station at Panther Junction also has a limited selection of groceries.

Banking

There are NO banking facilities in Big Bend National Park. ATMs are located in the park at the Chisos Mountains Lodge and the Rio Grande Village Store. The nearest bank is located in Study Butte, 26 miles west of park headquarters. Most stores accept major credit cards; however, some local services accept only cash. It is advisable to have small bills (\$1, \$5, \$10, \$20) since larger bills are often difficult to change.

Lodging

The Chisos Mountains Lodge, operated by Forever Resorts Inc., is located in the Chisos Basin at 5,400 feet elevation. The lodge offers 72 rooms, plus a gift shop and dining room. For reservations or more information, please call 432 477-2291 or visit their website at www.chisosmountainslodge.com

Gas Stations

Gasoline is available at two locations in the park operated by Forever Resorts Inc. The Panther Junction station offers gas and diesel, and can undertake minor repairs. The gas station at Rio Grande Village also provides propane.

Post Office

A full-service Post Office is located at the Panther Junction headquarters, across the porch from the visitor center entrance. A mail drop is also available in front of the Chisos Basin store. Open M-F daily 8am - 1pm and 3pm-4:30pm except federal holidays.

Showers and Laundry

Public showers and laundry facilities are located at the Rio Grande Village store.

Fires

Ground fires and wood fires are prohibited throughout the park. Use only gas stoves or charcoal within a BBQ grill. Pack out all evidence of use, including ash. In the backcountry, charcoal fires are only allowed at roadside campsites and are prohibited in the High Chisos or zone camping areas.

Public Phones

Public phones are located at visitor centers, campgrounds, camper stores, and the Chisos Mountains Lodge.

Cell Phones

Limited cell phone coverage is available in the Big Bend area. *Do not* depend on your phone to work in the Chisos Basin or remote portions of the park.

Recycling

Please use the recycling cans provided in campgrounds, around stores, and near visitor centers. On average, the park recycles around 100,000 pounds of aluminum, cardboard, glass, plastic, metal and other materials each year. Every pound of material that can be recycled means one less pound buried in the park landfill. Please recycle!

Accessibility

All visitor centers are accessible. Wheelchair-accessible campsites and restrooms are located in the Chisos Basin and Rio Grande Village Campgrounds. The Chisos Mountains Lodge restaurant is accessible, as are some motel rooms. A Telecommunications Device for the Deaf is available at park headquarters. Employees with sign language abilities may be available. Some ranger-led programs are also accessible. The Window View Trail is paved and fairly level. A brochure on accessibility is available at all visitor centers.



A summer thunderstorm.

Camping



Tent Camping

The National Park Service operates campgrounds at Rio Grande Village, the Chisos Basin, and Castolon. The cost is \$14.00 per night for a site. Campsite fees can be paid in US currency, personal checks, or credit card. Camping is also available at primitive backcountry campsites in the Chisos Mountains and along backcountry roads. High-clearance or 4-wheel drive vehicles are necessary to reach most road sites. Backcountry permits are required and can be obtained in person at park visitor centers up to 24 hours in advance (see page 14).

Camping areas are often full during the Thanksgiving and Christmas holidays, as well as during spring break in March or April.

Trailers & RVs

All park campgrounds can accommodate trailers and RVs, but vehicle lengths have a great deal to do with safely reaching the campground and finding a suitable space.

The only hookups available in Big Bend National Park are at Rio Grande Village in the 25-site, Rio Grande Village RV Park operated by Forever Resorts Inc. Although there is no size restriction, your vehicle must be equipped with water and electrical hookups as well as a three-inch sewer connection. Register at the store. No advance reservations.

Near the RV park is the 100-site Rio Grande Village Campground operated by the National Park Service. Water, flush toilets, and a dump station are available. Set in a large grove of cottonwoods, the campground is adjacent to the Rio Grande. Many of the sites are pull-throughs. Generator use is limited: from 8:00 am to 8:00 pm daily. A no-generator use area is also designated.

The 60-site Chisos Basin Campground is rugged and hilly. The sites are small and most are not suited to recreational vehicles or trailers. The road to the Basin is steep and curvy, especially at Panther Pass—the road's highest point. The road into the campground is a 15 percent grade. Trailers longer than 20 feet and RVs longer than 24 feet are not recommended.

Cottonwood Campground, near Castolon, offers pit toilets and potable water, but no hookups or dump station. *Cottonwood is a NO-generator campground.*

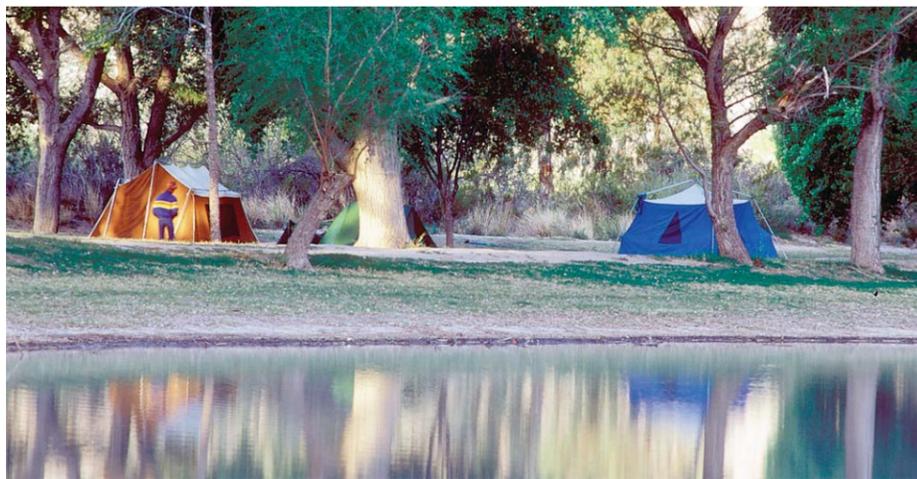
Big Bend's unpaved roads are generally unsuitable for RVs and trailers. Overnight camping in any primitive site requires a backcountry permit, which can be obtained in person at park visitor centers up to 24 hours in advance (see page 14 for more information).

Group Camping

Groups of 10 or more are eligible to reserve a spot in one of the park's Group campsites at the Rio Grande Village, Chisos Basin, and Cottonwood Campgrounds. Group sites are reservable year round and reservations may be made 360 days in advance through recreation.gov.

Camping Limits

It is understandable that visitors may want to stay here in Big Bend forever. But, the park must be shared, so the park has instituted the following limits. Visitors can stay in the park only up to 14 consecutive nights, whether in a front or backcountry site, with a limit of 28 total nights in the park in a calendar year. Campers can occupy a specific site up to 14 total nights in a year. Between February 1 and April 15, visitors are limited to 14 total nights in the park.



Camping at Rio Grande Village

Developed Campgrounds at a Glance

	Elevation (ft/meters)	Sites	Nightly Fee	Facilities	Registration	Comments
Chisos Basin	5,401 / 1,646	60	\$14.00*	Flush toilets, dump station	Self-pay station	Surrounded by rocky cliffs; many hiking trails nearby
Cottonwood	2,169 / 661	31	\$14.00*	Pit toilets, <i>no generator use allowed</i>	Self-pay station	In a cottonwood grove along the river. Grassy sites.
Rio Grande Village	1,850 / 564	100	\$14.00*	Flush toilets, dump station	Self-pay station	Largest campground; shady sites. Laundry and showers nearby.
Rio Grande Village RV	1,850 / 564	25	\$27.00 and up	Full hookups	RGV Camper Store	Concession-operated; register at the RGV store.

* \$7.00 with an eligible Federal Recreation Pass



Pets in the Park

What Not to Do

"I led a bird walk at Rio Grande Village this morning. A woman asked if she and her dog could join our hike. When I told her that she was welcome but the dog was not, she tied the poodle to a picnic table and joined the group. After the hike, as we approached the woman's campsite, instead of finding 'Fifi' yapping away at us, we discovered only its remains. A javelina was just completing a poodle-dinner."

- Ro Wauer
Chief Naturalist, 1970

Pets in a Wilderness Park

Having a pet with you will limit your activities and explorations in the park. In addition, desert temperatures and predators are a serious threat to your pet's well being. Please keep in mind the following points when bringing a pet to the park:

- A National Park is a refuge for the animals and plants living within it. Even if your pet doesn't chase animals, dogs present the image and scent of a historical predator. The result is stress on native wildlife.
- Keep your pet on a leash no longer than six feet in length (or in a cage) at all times. Pets are not allowed on park trails, or anywhere off established roadways. Pets may not be left unattended in the park.
- Pet etiquette and park regulations require that you always clean up after your pet and dispose of waste in trash receptacles.
- Predators such as owls, coyotes, javelina, and mountain lions CAN and DO kill pets here. Even large dogs cannot defend themselves against such predators.

Remember, desert heat is *deadly*. Do NOT leave your pet alone in a vehicle. Pets are not allowed on trails, off roads, or on the river.



Pets must be on a leash at all times.



Pets are not allowed on trails or in backcountry areas.



Kennels

The following kennel and veterinary services operate in the greater Big Bend area:

Alpine Veterinary Clinic
Alpine, Texas
(432) 837-3888

Alpine Small Animal Clinic
Alpine, Texas
(432) 837-5416

Big Bend is for Kids



Explore!

Big Bend's habitats range from the Chihuahuan Desert to the Rio Grande to the Chisos Mountains, and all are rich with plants, animals, and stories of human history, giving children plenty of opportunity to explore.

Kids visiting the park enjoy the exhibits and relief map of the park at the Panther Junction Visitor Center, the Fossil Bone Exhibit area, the Hot Springs, the sand dune in Boquillas Canyon, the mountain lion exhibit at the Chisos Basin Visitor Center, and the hands-on exhibits at the Castolon Visitor Center.

Get kids involved in ranger-led programs. These include guided hikes, slide programs, bird walks, and explorations of various park features. Check the schedule at any visitor center to make sure you take advantage of all the available programs. Stop by any visitor center for further suggestions.

Hike a Trail!

Many park trails are suitable for families. Consult the listing of Easy and Moderate Hikes on page 9. For children in strollers, consider the Window View Trail, a paved ¼-mile loop trail that begins at the Chisos Basin trailhead. Remember to watch children closely and never let them run ahead or lag behind.

Be Safe

Be sure to talk to your children about safe behavior before you begin hiking or exploring the park. Require children to walk with adults, rather than by themselves. Keep all your children with you and stand as a group. Desert vegetation can be sharp; have a first aid kit and tweezers handy. Please see pages 11 and 15 for additional safety information.



Become a Junior Ranger!

Learn desert secrets, identify the parts of a cactus, and discover what javelina eat! The Big Bend Junior Ranger program is designed for kids of all ages. Through activities, games, and puzzles, kids can have fun as they learn about the park. They can also earn a badge or patch, a bookmark, and a certificate.

The Junior Ranger Activity Book costs \$2.00 and is available at all park visitor centers.

Is there any place to swim in the park?

At the risk of repeating the obvious, Big Bend is a desert park; water is a precious commodity here and often difficult to find. *Swimming in the Rio Grande is not recommended.* See page 15 for important water safety information. The end of the Boquillas Canyon Trail and the Santa Elena Canyon trailhead area may be suitable for wading at certain times of the year (always check river conditions first). You can soak in the 105°F Hot Springs (near Rio Grande Village). When the Rio Grande rises due to rain, the hot spring becomes submerged.

If you really want to swim, Balmorhea State Park (about a three-hour drive north of Big Bend) boasts the "world's largest spring-fed swimming pool." Contact Balmorhea State Park at 432 375-2370 for more information.

Leave No Trace in Big Bend

Plan ahead and prepare

Big Bend is a land of extremes. Plan on high desert temperatures in the summer with little to no shade; in the winter freezing temperatures are possible in the Chisos Mountains. Schedule your visit to avoid peak season. Visit in small groups. Split larger parties into groups of 4-6. Use a map and compass to eliminate the use of marking paint, rock cairns or flagging.

Travel and Camp on Durable Surfaces

Durable surfaces include established trails and campsites, rock, and gravel. Protect riparian areas by camping at least 100 yards from springs, creek beds, and tinajas. Good campsites are found, not made. While on the trail, walk in single file in the middle of the trail, even when wet or muddy. Keep campsites small. Focus on areas where vegetation is absent.

Dispose of Waste Properly

Pack it in, pack it out. Inspect your campsite and rest areas for trash or spilled foods. Pack out all trash, leftover food, and litter. Deposit solid human waste in cat-holes dug 6 to 8 inches deep at least 1/4 mile from water, camp, and trails. Cover and disguise the cat-hole when finished. *Pack out toilet paper and hygiene products.*

Leave What You Find

Preserve the past. Examine, but do not touch, cultural or historic structures and artifacts. Leave rocks, wildflowers and other natural objects as you find them. Avoid introducing or transporting non-native species. Do not build structures, furniture, or dig trenches.

Minimize Campfire Impacts

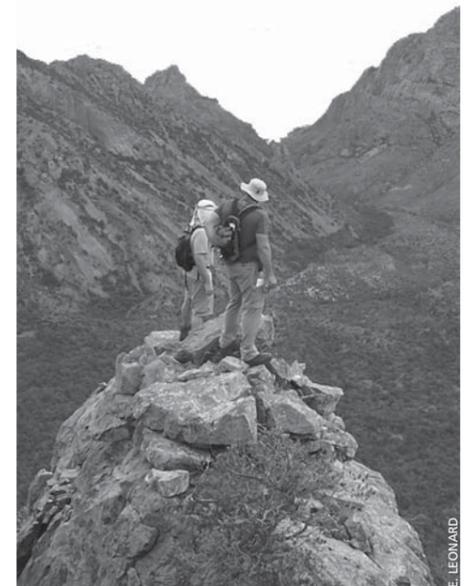
Campfires are not allowed in Big Bend National Park. In order to cook foods you may use a backpacking stove, portable fuel stove or the barbeque grills in your campsite.

Respect Wildlife

Observe Big Bend's wildlife from a distance. Do not follow or approach them. Never feed wild animals. Feeding wild animals damages their health, alters natural behaviors, and exposes them to predators and other dangers. Protect wildlife and your food by storing rations and trash securely. Pets are not allowed in the backcountry or on trails. Pets should be on leash and under supervision at all times.

Be Considerate of Other Visitors

Respect other visitors and protect the quality of their experience. Be courteous. Yield to other users on the trail. Step to the downhill side of the trail when encountering pack stock. Take breaks and camp away from trails and other visitors. Let nature's sound prevail. Avoid loud voices and noises.



It's not just about today—do your part to maintain the resources of Big Bend exactly as you see them so that future visitors can do the same.

Backcountry Planning



P. HIGGINS

Backcountry Regulations

Groundfires and woodfires are prohibited.

Use only gas stoves or charcoal within a BBQ grill. Pack out all evidence of use. Smoking is prohibited on all Chisos Mountains trails.

Pack out all trash

Help preserve the park's natural beauty by packing out all trash including cigarette butts and toilet paper.

No pets on trails or in the backcountry.

Pets may harm or be harmed by wildlife, and can attract predators.

Do not cut switchbacks on trails.

Although cross-country hiking is allowed, help prevent trail erosion by staying on marked trails.

Collecting any natural or historical feature or object is prohibited.

Leave park features intact for others to enjoy.

Contaminating natural water sources and their surroundings is prohibited. Camp at least 100 yards from any water source.

Desert water sources and springs are fragile and vital for the plants and animals that depend on them for survival. Soaps, oils, skin lotions, and food residues from bathing and washing can seriously impact water quality. Minimize your impact to areas surrounding springs, seeps, and other temporal water sources.

Camp within designated sites.

When camping in a designated site prevent resource damage by camping within the area outlined by rocks, logs, or brush.

Generator use is not permitted in backcountry campsites.

Natural quiet is a protected resource; help preserve a quiet wilderness experience.

In open zones, camp at least 1/2 mile and out of sight from any road and at least 100 yards from any trail, historical structure, archeological site, dry wash, or cliff edge.

Minimize your impact to the natural landscape.

Bury human waste at least 6 inches deep. Pack out toilet paper.

Human waste is unsightly and unsanitary. Carry a digging trowel. Locate latrines 1/4 mile from any water source and well away from camp.

Motorized vehicles and bicycles are permitted only on designated public roads.

Off-road vehicle travel causes visual and environmental damage.

Do not feed wildlife.

Feeding wildlife is illegal; it often results in having to destroy the animal. Keep food, ice chests and cookgear in a hard-sided vehicle or food storage locker where provided. Remember that when people leave open food containers and trash laying around the site that they are inadvertently feeding animals, so keep trash contained in vehicles or bear boxes.

Getting a Permit

A permit is required for all river use, horse use, and overnight backcountry camping, and can be obtained in person only, up to 24 hours in advance of the trip. Permits can be written for as many as fourteen (14) consecutive nights in the backcountry. Park staff can assist you with trip planning based on your needs and current trail conditions. Permits can be obtained at all visitor centers during normal operating hours.

Overnight Use Fee

A \$10-per permit fee is required for all overnight backcountry use permits, including multi-day river trips, and overnight backcountry camping. This fee is payable when the permit is issued, and all funds collected go to projects to improve or protect the backcountry experience, including hardening/improving river access points, backcountry campsite maintenance, and trail maintenance.

Plan Ahead

Detailed information on backcountry campsites in the Chisos Mountains and along the backcountry roads is available on the park's website at www.nps.gov/bibe. A wide variety of maps, books, hiking guides and river guides is available for purchase at park visitor centers. If you would like to order them in advance of your trip, call the Big Bend Natural History Association at 432 477-2236 or visit their online bookstore at www.bigbendbookstore.org.

Hiking & Backpacking

Big Bend National Park offers over 200 miles of hiking trails in the Chisos Mountains and desert terrain. A permit is required for all overnight trips in the backcountry. Decide how much distance you want to cover and how much time you have. Desert hiking can be unpleasant or deadly in hotter months.

In the Chisos Mountains, the Southeast Rim Trail and a portion of the Northeast Rim Trail from the Boot Canyon/Southeast Rim junction are closed during the peregrine falcon nesting season (February 1 - May 31).

Zone camping permits are available for those who wish to camp outside of the Chisos Mountains. The park is divided into a number of zones ranging from areas along popular trails to extremely isolated areas.

Backcountry Roads

For those who wish to camp in the backcountry without having to backpack, Big Bend offers over seventy primitive campsites along backcountry roads. While some sites are accessible to most vehicles, a high clearance and/or four wheel drive vehicle is necessary to reach others. Other than a nice view, isolation, and a flat gravel space, these sites offer no amenities and no shade. A backcountry permit is required to use these sites.

Backcountry Water

The dry desert air quickly uses up the body's water reserves. Each hiker should carry and drink a minimum of one gallon of water for each day they are in the backcountry. Spigots for drinking water are available at all visitor centers. Big Bend is a desert environment. Springs and tinajas (depressions in rock where water collects) are rare and often unreliable. Water should be filtered. Every gallon removed from backcountry water sources is one less for the wildlife which depend on them. Please carry enough water to supply your own needs—don't risk your life by depending on desert springs. Caching water is recommended for extended hiking trips in the desert.

Horses

Visitors are welcome to bring and use their horses in the park. A stock-use permit is required and may be obtained in person at any of the park's visitor centers up to 24 hours in advance of the trip. Every horse user should obtain a copy of the regulations regarding use of horses in the park.

While horses are not permitted on paved roads or road shoulders, all gravel roads are open to horses. Cross-country travel is permitted in the park, except in the Chisos Mountains. The Chisos Mountain and Burro Mesa trails are day-use only.

Floating the Rio Grande

The Rio Grande follows the southern boundary of Big Bend National Park for 118 miles. In this distance it has carved three major canyons, Santa Elena, Mariscal, and Boquillas, which have rapids varying in difficulty from Class I to Class IV. Between the canyons, the river is generally slower-paced. The Rio Grande Wild and Scenic River extends downstream beyond the park boundary for an additional 127 miles.

If you plan to take a river trip in Big Bend National Park, you may bring your own equipment, or you can hire a guide service. Three local companies (see page 16 for telephone numbers) provide guide service in the park—you may reserve a trip by contacting them directly. If you plan to use your own equipment, you must obtain a permit at a park visitor center. Stop by the Panther Junction Visitor Center for your permit and for current river condition information prior to your trip.

Permits for the Lower Canyons of the Rio Grande Wild and Scenic River may be obtained at the Persimmon Gap Visitor Center. Permits for floating Santa Elena Canyon may be obtained at the Barton Warnock Center in Lajitas. However, we encourage all parties to get their permits at a park visitor center when possible, to obtain the most up-to-date river information and conditions.



R. ZERR

During the summer low elevation activities, such as desert hiking, are often best done in the morning, to avoid the heat of the day.

Standard Backcountry Road Conditions

	Road open to:	Notes
Croton Spring	All Vehicles	Slippery mud after any rain
Dagger Flat	All Vehicles	Bumpy but ok for cars; very sandy near end of rd.
Glenn Springs	High Clearance	Narrow road; no RVs, Trailers or wide vehicles
Grapevine Hills	All Vehicles	Usually passable for all vehicles to trailhead
Hot Springs	All Vehicles	Narrow road; no RVs, Trailers or wide vehicles
North Rosillos	High Clearance	Deep ruts and sand; little-traveled
Juniper Canyon	High Clearance	High-clearance vehicles only; rough, rocky, & slow
Old Maverick	High Clearance	Rough; often impassable after heavy rains
Old Ore	High Clearance	High-clearance vehicles only, 4X4 recommended
Paint Gap	All Vehicles	High-clearance past PG 3 campsite
Pine Canyon	High Clearance	High-clearance vehicles only; rough, rocky, & slow
River Road East	High Clearance	High-clearance vehicles only
River Road West	High Clearance	High-clearance vehicles only, 4X4 recommended
Black Gap	4X4 only	4x4 required! never maintained

Always inquire at a visitor center regarding updated road conditions before heading out, and be prepared for any contingency. Weather conditions (such as heavy, or any, rain) may cause road conditions to deteriorate. Remember: all vehicles must be street legal and stay on established roadways.

Safety is *Your* Responsibility

Big Bend is unfamiliar country to most visitors yet it need not be dangerous. Whether hiking the highcountry, rafting the Rio Grande, observing wildlife, or simply driving the scenic roads of this wilderness park, let safety be your constant companion. Spend a moment reviewing these common safety concerns so that you may have an enjoyable visit.

Big Bend is wild country. In fact, many people visit precisely because it is so remote and rugged. But remember, as you enjoy the splendor of this great wilderness area, to make safety a priority. By giving forethought to your actions you can have a safe, exciting, and rewarding experience in Big Bend National Park.

Driving

Of the few accidental deaths in Big Bend that occur some years, most result from car accidents. Drive within the speed limit, 45 mph maximum in the park, and watch for javelina, deer, and rabbits grazing along road shoulders, especially at night. Federal regulations require that ALL occupants of a vehicle wear seats belts while in a national park. Remember, too, that you share the road with bicyclists and pedestrians. Some park roads, such as the road into the Chisos Basin, are steep and winding and require extra caution. The Basin Road is not recommended for RVs over 24 feet or trailers over 20 feet. Finally, always select a designated driver before drinking alcoholic beverages.

Heat

Desert heat can kill you. Carry and drink at least one gallon per person, per day. Wear a hat, long pants, long-sleeved shirt, and sun screen when hiking. Springs are unreliable and often dry up for much of the year. Travel in the early morning or late evening hours rather than during the heat of the day.

Mountain Lions

Big Bend is mountain lion country, especially the Chisos Mountains. While lion attacks are rare, two have occurred in the last twenty years. Should you encounter an aggressive mountain lion, hold your ground, wave your arms, throw stones, and shout. Never run. Keep groups together and consider hiking elsewhere with young children if you come across a special mountain lion warning sign posted at a trailhead.

Hiking

Exploring this desert and mountain country on foot requires both mental and physical preparation. Trails vary from well maintained in the Chisos to primitive and barely visible in the desert. Plan hikes within your ability. Take along a map and compass and know how to use them. Flash floods may occur following thunderstorms so avoid narrow canyons or dry washes. Stay low and avoid ridges during thunderstorms. Carry a flashlight and a first aid kit. Let someone know where you're going and when you expect to return. If you get hurt or lost, stay in one place to conserve water and energy.

Fire

Fire danger is always an important safety consideration in Big Bend. *Wood or ground fires are not permitted in the park*, and you must exercise caution in the use of gas stoves, charcoal grills, and cigarettes. During drought conditions some restrictions may apply to the use of these heat sources. Check with a ranger for the latest information about fire safety in the park. *Smoking is prohibited on all trails in the Chisos Mountains.*

Poisonous Animals

Venomous snakes, scorpions, spiders, and centipedes are all active during the warmer months. Wear shoes or boots at night instead of sandals. Inspect shoes and sleeping bags or bedding before use and always carry a flashlight at night. While snake bites are rare, they usually occur below the knee or elbow. Pay attention to where you walk and place your hands.

Desert Wildlife

Black bears, javelinas, skunks, coyotes, and raccoons frequent Big Bend's campgrounds. Although they sometimes appear tame, all of the animals in the park are wild, and could pose a threat to your health and safety if you attempt to approach or feed them. *Never feed any of Big Bend's wildlife.* To prevent these creatures from becoming habituated to people, store all food, coolers, cooking utensils, and toiletries in a hard-sided vehicle, preferably in the trunk of your car. Food storage lockers are available for hikers and campers in the Chisos Mountains. Dispose of garbage properly in the special animal-proof dumpsters and trash cans provided.

Remember to report all bear or mountain lion sightings to a ranger.

Swimming

Hot weather makes the muddy Rio Grande look very inviting, but swimming is not recommended. Water-borne micro-organisms and other waste materials can occur in the river and cause serious illness. The river can be hazardous, even in calm-looking water. Strong undercurrents, deep holes, and shallow areas with sharp rocks and large tree limbs are common and make the Rio Grande unsafe for swimming. If you do choose to swim, wear a life jacket and avoid alcohol.

If you really want to swim, Balmorhea State Park (three hours north of Big Bend) boasts the "world's largest spring-fed swimming pool." Contact Balmorhea State Park at 432 375-2370 for more information.



Share the Road

Every year park rangers investigate an increasing number of motorcycle accidents. Unfortunately, a significant number involve serious injuries.

Be alert

Animals may dart out from road edges. Other drivers may pay too much attention to the scenery and cross over the center line into your travel lane or may suddenly stop their vehicles in the middle of the road to observe wildlife. These and other unforeseen conditions can lead to motorcycle accidents.

Suggestions for Motorcycle Riding

- Watch for vehicles straying over the center line.
- Stay alert for sudden stops or traffic slow-downs, especially around scenic pullouts or other congested areas.
- Wear brightly colored clothing or jackets to increase visibility to other motorists.
- Be aware of road surfaces as you ride. Never over-ride the road conditions.
- Watch for wildlife at the road edge.
- Secure your motorcycle and valuables when you are away from your bike.
- Ride with headlights on.

Survive the Sun

In all seasons, whether walking, backpacking, or day hiking, follow these tips to conserve your internal water reserves:

REDUCE YOUR ACTIVITY

During the warmest days, generally from May through August, avoid hiking in the lower elevations during the heat of the day—generally from 10:00 am to 6:00 pm.

FIND SHADE

Shade in the desert means the difference between excessive heat gain from the radiant sun and sheer comfort. In an emergency, a person resting in the shade will survive longer than someone exposed to the sun.

DRINK YOUR WATER

Don't try to conserve the drinking water you have. Whether strolling in the Basin, or hiking the South Rim Trail, you must DRINK your available water. Carry plenty of drinking water—at least 1 gallon per person per day. Balance your food and water intake. Eat a salty snack every time you take a drink of water.

REDUCE ALCOHOL & CAFFEINE INTAKE

Water is the best remedy for dehydration and listlessness. The diuretic effects of caffeine and alcohol can result in an accelerated loss of body water.

PROTECT YOUR BODY

Our sensitive skin burns easily; it needs shade, sunscreen, sunglasses, a widebrimmed hat, and proper footwear. Dehydration is accelerated by exposed skin, so keep your clothing on. Wear long-sleeved, loose-fitting, light-colored clothes.

Weather and Climate

Weather

Elevational differences in Big Bend mean that temperatures can be vastly different in different areas of the park. The lower areas along the Rio Grande are very hot during the summer months, while the Chisos Mountains are considerably cooler. Winter weather generally occurs between November and February, with temperatures dropping dramatically as cold fronts move through the area. Between June and October thunderstorms and flash floods may occur. Bring clothing for both warm and cool weather, as well as rain gear, when visiting Big Bend any time of the year.

Summer and Fall

Temperatures along the river tend to be the warmest in the park. Plan your activities with the weather in mind; visit the river in the morning, and always carry plenty of water. Higher elevations in the Chisos Mountains lead to lower temperatures. July brings thunderstorms; precipitation can liven up the landscape, but rains can reap havoc on the primitive roads throughout the park.

How Hot Is It?

Average temperatures and rainfall at Panther Junction elevation 3,750 feet

	Avg. High/Low	Avg. Rainfall"
January	61/35	.46
February	66/34	.34
March	77/45	.31
April	81/52	.70
May	88/59	1.50
June	94/66	1.93
July	93/68	2.09
August	91/66	2.35
September	86/62	2.12
October	79/53	2.27
November	66/42	.70
December	62/36	.57
Yearly Avg.	79/47	15.34"

Temperatures in the Chisos Basin vary 5-10 degrees below these readings, while daytime temperatures along the Rio Grande average 5-10 degrees warmer.

Area Phone Numbers

Services inside the Park

EMERGENCY Call 911

National Park Service
General Information 432 477-2251

Big Bend Natural History Association
Booksales & Seminars 432 477-2236

Visitor Centers
Castolon 432 477-2666
Chisos Basin 432 477-2264
Panther Junction 432 477-1158
Persimmon Gap 432 477-2393
Rio Grande Village 432 477-2271

U.S. Post Office
Panther Junction 432 477-2238

Lodging / Restaurant
Chisos Mountains Lodge 432 477-2291

Park Gasoline Service
Panther Junction (diesel) 432 477-2294
Rio Grande Village 432 477-2293

Campground Stores
Rio Grande Village 432 477-2293
Chisos Basin 432 477-2291
Castolon 432 477-2222

Services outside the Park

Lodging
Lajitas
Lajitas Resort 877 525-4827

Marathon
Gage Hotel 432 386-4205
Marathon Motel 432 386-4241

Study Butte/Terlingua area
Big Bend Motor Inn 800 848-2363
Easter Egg Valley Motel 432 371-2254
El Dorado Motel 432 371-2111
Longhorn Ranch Hotel 432 371-2541
Ten Bits Ranch 866 371-3110

Camping
Big Bend Motor Inn 800 848-2363
Big Bend Ranch State Park 432 424-3327
Big Bend Travel Park 432 371-2250
Heath Canyon Ranch 432 376-2235
Longhorn Ranch 432 371-2541
Stillwell's Trailer Camp 432 376-2244
Study Butte RV Park 432 371-2468

Convenience Stores/Gasoline
Big Bend Motor Inn 800 848-2363
Study Butte Store 432 371-2231
Stillwell Store & Station 432 376-2244
Terlingua Store 432 371-2487

Medical Services
Terlingua Fire and EMS 911
Big Bend Medical Center 432 837-3447

Banks
Quicksilver Bank/ATM 432 371-2211

Float Trip Outfitters/Rentals/Guide Services
Big Bend River Tours 800 545-4240
Desert Sports 888 989-6900
Far Flung Outdoor Center 800 839-7238

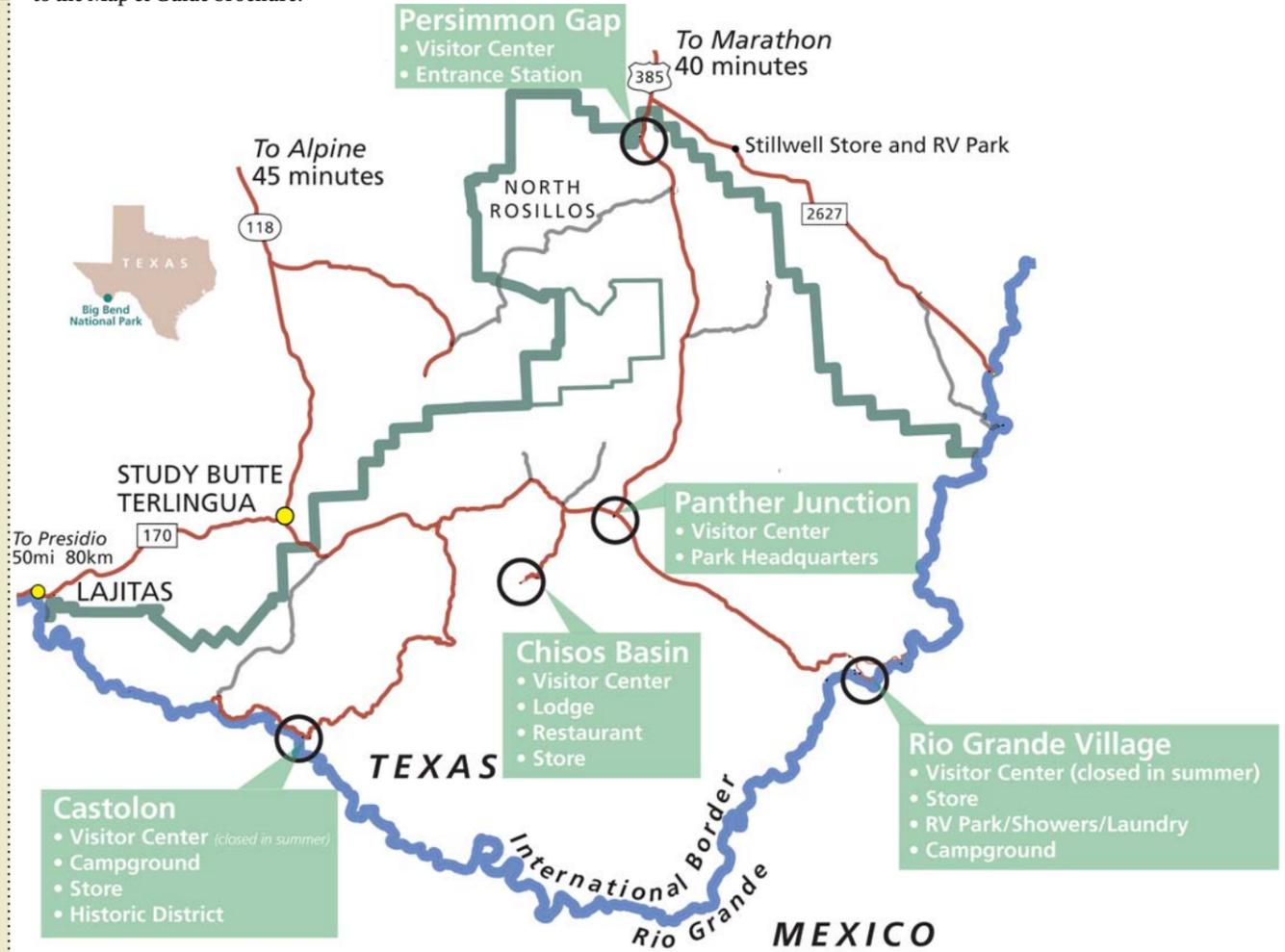
Horseback Riding
Big Bend Stables 800 887-4331
Lajitas Livery 432 424-3238

The facilities and services listed here are located within the greater Big Bend area, and vary from 30 to 100 miles from Big Bend National Park. The communities of Terlingua/Study Butte (30 miles west) and Marathon (70 miles north) offer basic services, including gas stations, restaurants, lodging, and campgrounds. Alpine, 100 miles to the northwest of the park, offers the greatest number of services.

This listing of local services is a courtesy to our visitors and implies no endorsement by the National Park Service or Big Bend National Park

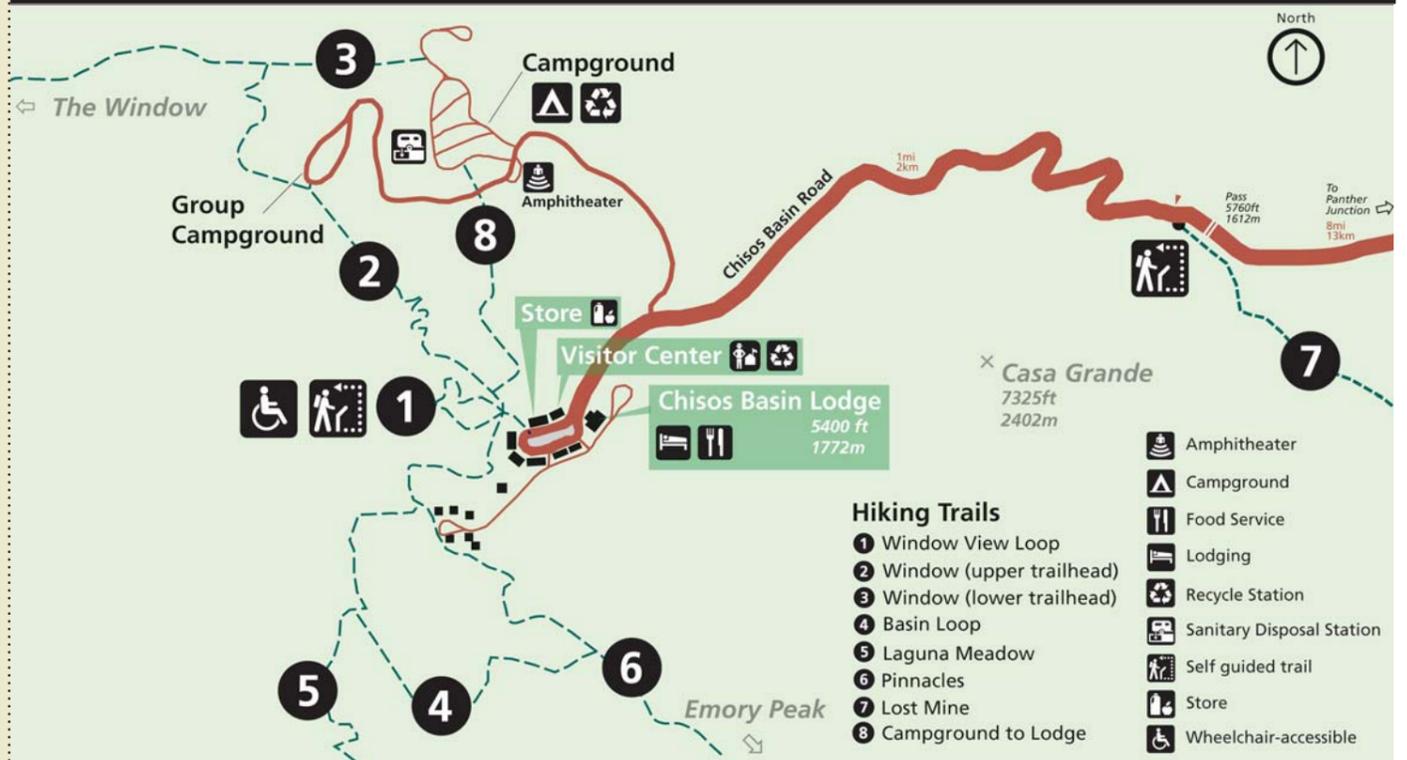
Park Overview Map

For a more detailed park map refer to the Map & Guide brochure.



Chisos Basin

5401ft 1646m



Rio Grande Village

1850ft 564m

