



# The Paisano

Big Bend National Park  
Rio Grande Wild & Scenic River  
Visitor Guide

Volume 36 number 1 2016



C. BALLOU

Sleepy Orange (*Eurema nicippe*)

## 6 What to See & Do

Find out how to make the most of your time in the park. Includes detailed maps of the Chisos Basin and Rio Grande Village.

## 10 Campgrounds

Interested in camping in the park? Learn more about the three developed campgrounds as well as RV hook-ups.

## 11 Backcountry

Learn more about opportunities to enjoy Big Bend's wilderness including: primitive camping, backpacking, river trips, and horseback riding.

### More Inside...

Birds and Bird Watching .....	8
Border Information .....	3
Day Hikes .....	7
Feature Articles .....	4
In the News .....	2
Information and Services .....	12
Keeping Wildlife Wild .....	9
Night Skies .....	8
Park Partners .....	2
Safety .....	3
Weather and Climate .....	12

# Welcome to Big Bend National Park!

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 1,800 feet along the Rio Grande to nearly 8,000 feet in the Chisos Mountains, Big Bend includes massive canyons, vast desert expanses, forested mountains, and an ever-changing river. Here you can explore one of the last remaining wild corners of the United States.

In fact, early explorers found the Big Bend Region to be so remote, so wild, that they called this area El Desplado—the

uninhabited land. At first glance, the desert appears to be desolate and barren. One might feel alone in the wilderness of Big Bend, but even here you are surrounded by life.

From the forests of the Chisos down to the floor of the desert, over 1,200 types of plants thrive in the park and support ecosystems full of pollinators, herbivores, and other wildlife.

Take a drive along one of Big Bend's roads, or hike a scenic trail, and discover just how much diversity and life there is in the desert!



M. LAVENDER

### Superintendent's Message

Welcome to Big Bend National Park! In 2016, we celebrate the 100th birthday of the National Park Service. To mark this historic occasion, we are actively campaigning to spread the word about the amazing places we manage. Our national parks have inspirational stories to tell about our country's most remarkable natural resources, and our diverse cultural heritage.

Our centennial celebrations include a special Night Sky program in January, school events throughout the year, and the addition of an innovative Fossil Bone Exhibit. We have increased our social media presence on Facebook and Twitter allowing us to share this park with a wide-spread audience and provide timely information about the wonderful opportunities this year will bring. We invite you to celebrate along with us, discover more about these special places, and help us inspire our future generations.

*Cindy Ott-Jones*

Superintendent Cindy Ott-Jones



Wildlife Observation—a favorite visitor activity

EXPERIENCE YOUR AMERICA™

To:

Big Bend National Park  
PO Box 129  
Big Bend National Park, TX  
79834





National Park Service  
U.S. Department of the Interior

Big Bend National Park  
Rio Grande Wild & Scenic River

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.

#### Park Mailing Address

Big Bend National Park PO Box 129  
Big Bend National Park, TX 79834

#### Phone

432-477-2251

#### Park Websites

[www.nps.gov/bibe/](http://www.nps.gov/bibe/)  
[www.nps.gov/rigr/](http://www.nps.gov/rigr/)

#### On matters relating to the Paisano:

National Park Service  
Editor, The Big Bend Paisano  
PO Box 129  
Big Bend National Park, TX  
79834

[bibe\\_info@nps.gov](mailto:bibe_info@nps.gov)



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

**EXPERIENCE YOUR AMERICA™**



## A Century of Preservation

Park Ranger Maria Lavender

What is a school without a teacher, a city without law enforcement, or a nation without a President? In the early days of America's first national parks, the beauty and history of parks like Yosemite and Mount Rainier stood somewhat unprotected and unknown. But as visitors flocked to these national treasures, our nation's ability to manage them was questioned. How could we ensure the preservation of these places for future generations? Who would study Sequoia's iconic giant trees, protect Yellowstone's dwindling bison, or tell the story of Mesa Verde's cliff dwellings?

Before there was a unifying body to direct them, each park was managed by a hodge-podge of organizations within the War Department, Department of the Interior, and the Forest Service. Park advocates called for more protection, cohesiveness between the parks, and a vision for future management. On August 25, 1916, President Woodrow Wilson signed the act creating the National Park Service, a new federal bureau within the Department of the Interior, responsible for

protecting current and future national parks and monuments.

In the first 50 years, the National Park Service (NPS) gained more than 100 national park units including national historic sites, monuments, and memorials. As the NPS turned 50, emphasis shifted from just saving breathtaking scenery and unique natural features, to also making parks more accessible to the public. The "Mission 66 Program" provided many infrastructure projects including campgrounds, visitor centers, and roads. In 2016 the NPS turns 100, and we have our sights set on new goals to carry the Service into the next 100 years to connect people to parks, advance our education mission, preserve America's special places, and enhance professional and organizational excellence.

The "Every Kid in a Park" campaign strives to engage youth in our national heritage with online educational toolkits, outings for urban youth, and grants for schools to visit parks. Starting in September 2015, look for a downloadable coupon for free entry to a National Park unit for every 4th grader in the United States! Discover a new park and search for upcoming centennial events by visiting [www.FindYourPark.com](http://www.FindYourPark.com).

Share your national park experience with the global online community when using social media such as Facebook, Instagram, and Twitter with the hashtag #FindYourPark. Visit Big Bend in 2016 and enjoy our special centennial events including an Astronomy weekend, Junior Ranger Day, and the unveiling of our new Fossil Bone Exhibit. We hope to celebrate our past and our future with you in 2016 as the National Park Service turns 100!



Hiking in the Chisos Mountains

## 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 Big Bend Natural History Association (BBNHA) and Friends of Big Bend National Park (FBBNP) 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 \$100

#### Life Membership

- Individual/Family \$500
- Corporate \$1000
- Benefactor \$2500

#### Join online at:

[www.bigbendbookstore.org](http://www.bigbendbookstore.org)

#### For more information:

432-477-2236

## Park Partners

### Big Bend Natural History Association

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 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 in 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](http://www.bigbendbookstore.org)

### Friends of Big Bend

Founded in 1996, the Friends of Big Bend National Park is a private, non-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 air and water quality monitoring equipment, and the construction and renovation of the park infrastructure.

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

Big Bend custom license plates are available for your car, truck, or motorcycle from the state of Texas and most of the proceeds go to preservation and protection of Big Bend National Park.



PO Box 200  
Big Bend National Park, Texas 79834  
432-477-2242  
[www.bigbendfriends.org](http://www.bigbendfriends.org)

### Volunteers in the Park

Approximately 260 volunteers contribute 50,000 hours of work every year in Big Bend National Park! Whether staffing visitor centers and campgrounds or patrolling backcountry trails, volunteers protect valuable resources and help visitors learn about, and more safely enjoy, Big Bend National Park.

While you might not notice volunteer contributions at first, look around and you'll be surprised how many volunteers you see. It is primarily volunteers who provide visitor information at campgrounds, and at four of the five visitor centers in the park. They keep the campsites, backcountry roads, and trails in pristine condition, assist with maintenance projects, and are considered the eyes and ears of the park. Please thank them for their services if you have the opportunity. For more information, contact the volunteer coordinator at 432-477-1106.



[www.nps.gov/volunteer](http://www.nps.gov/volunteer)

# Big Bend and the Border



J. JURADO

## The Fluid Border

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 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 that continue to evolve. Increased border restrictions have led to a number of important changes that affect the international boundary in Big Bend.

## Border Safety

- Know where you are at all times, and use common sense. Cell phone service may be limited in areas of the park.
- Keep valuables, including spare change, out of sight and lock your vehicle.
- Avoid travel on well-used but unofficial “social trails.”
- Do not pick up hitchhikers.
- People in distress may ask for food, water, or other assistance. Report the location of the individuals to park staff or Border Patrol as soon as possible. Lack of water is a life-threatening emergency in the desert.

- Report suspicious behavior to park staff or the Border Patrol. Do not contact suspicious persons.
- Ask at the visitor center about areas where you may have concerns about traveling.

## Border Merchants

Near the border, you may encounter small “souvenir stands” and Mexican Nationals may attempt to sell you their crafts. Social trails created to place items and refuse left behind contribute to erosion problems and contamination of the watershed. Removal of natural resources from the park or Mexican protected areas causes resource damage. Individuals who place items are subject to arrest for illegal entry and commerce. They will be held until deported through Presidio, 100 miles from Big Bend National Park.

Items purchased illegally will be considered contraband and seized by officers when encountered. Port of Entry staff can answer questions about items that can be *legally* purchased and imported through the Port. By purchasing souvenirs legally you support the citizens of Boquillas, make the river corridor safer for all visitors, and help protect the resources of this ecosystem.

## Border Crossing

The Boquillas Crossing Port of Entry is the gateway for visitors who wish to visit Mexico. Proper documentation is required to enter Mexico and re-enter the United States. Information about documentation and Boquillas is available from the staff at the Port of Entry or, visit the U.S. Customs website at:

[http://getyouhome.gov/html/eng\\_map.html](http://getyouhome.gov/html/eng_map.html)



M. YARBROUGH

A Member of the Boquillas Taxi Fleet

## Visiting Boquillas

- Everyone needs a passport; Mexico requires it for entry, and you must show your passport on return to the U.S.
- Citizens of countries other than the U.S., Mexico, Canada, and Bermuda need additional documentation (Check with Port of Entry staff).
- The Port of Entry is closed two days per week. Hours and days of operation are limited and subject to change. Check at park visitor centers for the current Port of Entry operations schedule.
- There are fees in Mexico for the ferry and transportation into the village.
- There are specific regulations regarding what you may take with you, and what you may bring back.
- All persons are subject to search both in and outbound from the Port of Entry.

# Protecting Yourself and the Park

Big Bend may be wild and unfamiliar country, yet it need not be dangerous. Whether hiking the high country, floating the Rio Grande, observing wildlife, or driving the scenic roads, let safety be your constant companion. By giving forethought to your actions you can have a safe, exciting, and rewarding experience in Big Bend National Park. Spend a moment reviewing these common safety considerations and resource protection guidelines.

## Collecting

It is the mission of the National Park Service to preserve all natural and cultural resources unimpaired for future generations. Taking crystals or arrowheads, or collecting plants or animals robs everyone of this heritage—once something is stolen, it cannot be replaced.

Please, do not destroy, deface, injure, dig, collect, or otherwise disturb park resources including plants or animals (dead or alive), fossils, rocks, or artifacts. It is a violation to possess park resources. Please, take only pictures, and leave only footprints.

## Driving

Drive within the speed limit (maximum of 45mph in most areas), and watch for wildlife grazing along the roadsides, especially at night. Park roads have limited shoulders and some are steep and winding and require extra caution. Remember, too, you share the road with bicyclists and pedestrians. Pull off the road to take pictures—do not stop or pause in roadways. Please, slow down...and enjoy!

## Drones/Unmanned Aircraft

Launching, landing, or operating an unmanned aircraft is prohibited in Big Bend National Park.

## Heat

The dry desert heat quickly uses up the body's water reserves. Carry and drink water—at least 1 gallon per person per day. As you exercise, you lose salt and water (over a quart and a half per hour during arduous exercise). You need both to survive in this extreme environment. Reduce alcohol and caffeine intake—the diuretic effects can result in accelerated loss of body water.

Protect your body—sensitive skin burns easily. Find shade, wear sunscreen, sunglasses, and a brimmed hat. Wear long-sleeves, trousers, and proper shoes.

## Hiking

Trails vary from easy and well maintained to strenuous primitive routes. Plan hikes within your ability. Avoid ridges during thunderstorms, and canyons or creek beds when flash flooding is possible. Carry a flashlight and first aid kit, and let someone know where you are going and when you expect to return. If you get hurt or lost, stay in one place to conserve water and energy.

Please keep your children close; don't let them run ahead on trails.

## Water Conservation

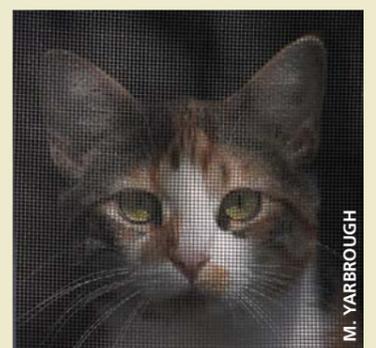
- Visitors are limited to 5 gallons of water per day, and are encouraged to conserve further; please consider bringing some of your water from home.
- Be water-wise when using the restroom; don't let faucets run unnecessarily.
- Wash only what clothing items you need.
- Fill water jugs and bottles at Rio Grande Village whenever it is convenient.
- Consider topping off RV water tanks at your next destination.
- Take brief showers.
- Please report noticeable faucet or water leaks.
- Use backcountry water sources sparingly; leave backcountry springs for wildlife.

## Wildlife

Observe Big Bend's wildlife from a distance. Wildlife is protected in the park; it is illegal to harass or harm wildlife. 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 food and trash securely.

Venomous snakes, scorpions, spiders, and centipedes are active during warm months. Pay attention: check shoes and bedding before use, and use a flashlight at night.

## Pets in the Park



M. YARBROUGH

Having a pet with you may limit some of your activities and explorations in the park. Abiding by these pet regulations will ensure a safer, more enjoyable visit for yourselves, other park visitors, your pet, and the park's wildlife.

- Pets are not allowed on trails, off roads, or on the river. Your pet can only go where your car can go.
- Pets need to be on a leash no longer than six feet in length (or in a cage) at all times.
- You may not leave your pet unattended in vehicles if it creates a danger to the animal, or if the animal becomes a public nuisance.
- If you plan to hike, someone must stay behind with the pet, or you will need to make arrangements with a kennel service. There is no kennel service in the park.
- Pet etiquette and park regulations require that you always clean up after your pet and dispose of waste in trash receptacles.

# 100 Years of History



## Our Sanguine Anniversary

Park Ranger Bryan Frobieter

This year marks the 100th anniversary of the creation of the National Park Service, and parks across the country including Big Bend are hosting programs and events to raise awareness of this proud achievement. But while the Park Service may have been founded in 1916, it wasn't until nearly three decades later on June 6th, 1944 that Big Bend became the 32nd area administered by the service. Far from the sprawling nature preserve and scenic getaway that it is today, the sparsely settled "Big Bend" region of Texas was a very different place a century ago, and 2016 also marks the 100th anniversary of a bloody raid by Mexican bandits that occurred at Glenn Springs, a small community near the center of what would later become Big Bend National Park.

Almost nothing remains of the small village that once existed near Glenn Spring, a reliable source of water in the arid desert

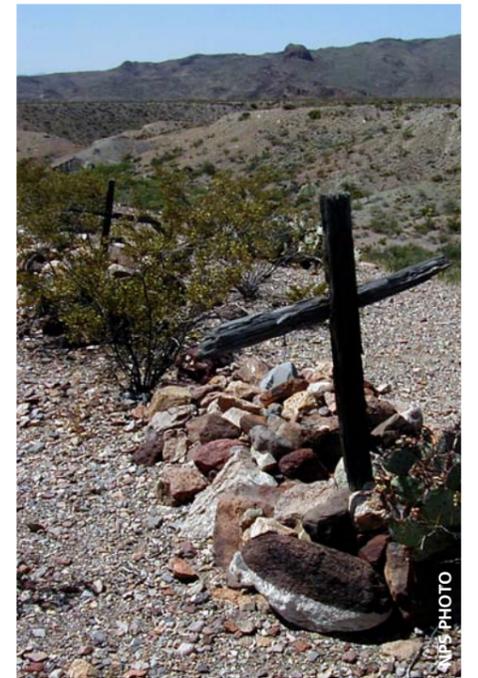
that has attracted Big Bend's residents and travelers since prehistoric times. The settlement was named after H.E. Glenn, an Anglo settler who was killed there in the 1880s. By 1916, nearly eighty people lived and worked near Glenn Spring, a busy little community which also served as the social center for local ranches. Two years before, "Captain" C.D. Wood and Mr W.K. Ellis had built a factory there employing Mexican workers to render a durable wax from candelilla plants, a process that involved boiling the stems in vats of sulfuric acid and large amounts of water brought from the spring. It was hot, hard work in a rugged, remote part of the country, and were it not for the bandit raid and shootout that occurred on the night of May 5, 1916, leaving four people dead and the town and factory in ruins, likely very little of consequence would have been recorded about the history of Glenn Springs.

It was a tumultuous time in Mexico, and hostile incursions along the border prompted the U.S. government to send troops to the Big Bend region in 1911. Nine soldiers from Troop "A" of the 14th Cavalry

were stationed at Glenn Spring on the night of the raid. Around 11pm, the storekeeper was awakened by several Mexican men at his door, inquiring if there were any soldiers stationed in the village. He said no, hoping they would go away, and took his small daughter to safety in another portion of the settlement. He was coming back for his nine-year-old son when the attack occurred: A Mexican outlaw named Rodriguez Ramirez and his group of well-armed men rode into the village, awakening the nine cavalrymen, who fled their tents, took up positions in an adobe structure and began firing on the bandits.

A nearly three-hour shootout ensued, until the raiders set fire to the thatched roof of the building which sent the cavalrymen running to a nearby hill. Three were killed and four others were seriously wounded. In addition, the store was looted, buildings were burned, much of the wax factory was destroyed and the storekeeper's son had been fatally shot. The incident received national attention, and a permanent cavalry camp was established at Glenn Springs, which never fully recovered from the effects of the raid. In 1919 Wood

and Ellis sold their property and left the village, along with everyone else. Twenty five years later the area became part of Big Bend National Park, where we continue to preserve the history of that tragic evening a century ago.



Glenn Springs Cemetery

# Beyond Our Horizons



## Moon Life?

Park Ranger Gail Abend

When you hear the opening fanfare to *Also Sprach Zarathustra* by Richard Strauss, what is the first thing that comes to mind? If you are like me you think of the 1968 Stanley Kubrick film *2001: A Space Odyssey*. The music introduces us to our early human ancestors, possibly pre-humans as they hesitantly investigate an enormous rectangular monolith supposedly left by an extraterrestrial super intelligence. In the film, astronauts in the year 2001 find this monolith buried on the Moon and when they gingerly touch the inexplicable object it sends out a piercing screech-like sound toward the planet Jupiter. In the sequel entitled: "2010" astronauts travel to Jupiter and the moon Europa discovering life in an unexpected place. But that's fiction. Or is it?

Did the moon ever have life or can it presently harbor life? It certainly would be an unexpected place. Yet water has been found on the Moon and water is required

for life as we know it. The possibility of life on the Moon has always intrigued people. In August of 1835, a long serialized article appeared in the New York Sun describing in great detail observations of life on the Moon. According to the article, a new telescope invented by noted British Astronomer John Herschel, discovered deer-like critters with spiral horns and furry human-like creatures with wings. Readers were addicted, and the paper enjoyed increased circulation, until the truth came out that the whole thing was a hoax.

Jupiter's moon Europa (there it is again) might harbor life. Europa, 485,000,000 miles from the sun, more than five times the distance between the Earth and the sun has the foundation for life. While it is cold out there, this moon has a liquid water ocean, albeit covered by ice. Surprisingly this deep space ocean is relatively warm due to tidal forces from Jupiter and possibly warm seafloor vents such as the "black smokers" on our planet. The warmth of Europa's ocean may prove critical to the evolution and survival of simple organisms if they exist. It's

possible in this unexpected place to find life.

To date, the only life found on the Moon came from the American Apollo missions from July 1969 to December 1972. During their visits they saw no unicorns or winged-humans. They did collect a lot of rocks. The rock analysis revealed water, but in those days it was thought that the water was contamination during transport on Earth.

As of January 1, 2012, our rocky satellite has two of its own, United States probes Grail A and B. They will combine efforts to measure the Moon's gravitational field. The probes will study the Moon inside and out, from core to crust to learn how the Moon formed and evolved. Many theories have surfaced over the years; today we believe the Moon formed from the ejected debris when a Mars-sized object struck the young Earth. The Moon was also bombarded by the debris swirling around the sun in the early solar system. The craters, bright highland basalts and dark lava "seas" or mares, a result of this bombardment, give us the "man on the moon".

Our Moon with its friendly glow and crescent smile holds many secrets, but probably never harbored life, nevertheless, there's Europa (cue *Also Sprach Zarathustra*).



Desert Moonrise



# A Fundamental Purpose

## Preserving for Future Generations

Park Ranger Bob Smith

When the National Park Service was created by the Organic Act in 1916, the obligation set into law, which paraphrased says...to preserve the National Parks unimpaired for the enjoyment of future generations. What is a future generation? Our children? Our childrens' children? Our 500-years-from-now children? The mission is for all time. And all of our future generations.

When looking at a park like Big Bend, which, when added to the system had many compromised resources, it took many years to realize what an abundance of significant areas the service was charged to preserve. Preserve for future generations. The riverine ecosystem of the Rio Grande had been steadily declining since the early part of the 20th century. The grasslands had been severely depleted by the ranching communities. The forest community had been used to fire the furnaces during the quicksilver mining era. There were remnants

of the untouched ecosystems in place, but the Park Service had a tremendous job ahead to adhere to the Organic Act. Starting in 1944, the process began.

So how do we go about our mandated duty of preservation, unimpaired, for the enjoyment of future generations? One tool we have in the chest is resource science. We have many dedicated scientists doing research about the parks resources and performing on the ground projects which both enhance and restore the disturbed areas in addition to establishing benchmarks for future projects.

A second tool is the park maintenance staff. Visitors require amenities to their visit which include good roads and trails to access their park, and pleasant campgrounds that allow them to stay for multiple days which have basic services like clean water and restrooms. Proper signage is placed to help visitors find their way and many other unseen things that provide for their enjoyment.

Keeping visitors safe and the resources protected from human caused strife is the service provided by our patrol rangers. They

find lost or injured guests, fight structural and wildland fire, and keep the peace should that be required. All of these tasks are integral to both protecting the resources and providing for enjoyment.

Finally, there is resource education. Interpretive rangers provide visitors with orientation information, and backcountry permits for camping, backpacking, and boating. They provide comprehensive interpretive activities in the form of amphitheater programs, guided hikes, specific school programs, Jr Ranger activities, printed materials such as this paper and exhibits in our visitor centers. These activities have been the foundation of personal visitor experiences since the inception of the National Park Service, helping all visitors become the stewards of our national parks and contributing to the enjoyment of future generations.

All of the above tools, including our many visitors, contribute to the mission of the National Park Service. Whether the park is like Big Bend or Yosemite, historic places like Independence Hall or Vicksburg, a seashore like Padre Island, or a recreation

area such as Gateway, all share the same mission...

...for the enjoyment of future generations. All of them.



Fishing Is For Everyone



# The Call of the Wild

## The Missing Predator

Park Ranger Dustin Schalue

Big Bend National Park has been missing something for a long time now. It's something that keep the other animals in balance and healthy. It's also something we tend to fear, love, or hate: it's the wolf. Wolves were once part of this landscape and, while not abundant, played a vital role in the environment.

Have you ever seen wolves in the wild? Most people never have, and likely never will. We do know that the Mexican Gray Wolf (*Canis lupus baileyi*) historically roved the landscape that is now Big Bend National Park. However, according to the U.S. Fish and Wildlife Service, there are approximately 83 Mexican Gray Wolves left in the wild. They have been gone from this state for quite some time now with the last confirmed wild wolf in Texas killed in 1978.

The answer to why they are gone lies with humans. Wolves have been part of our culture for ages, from the Big Bad Wolf to Little Red Riding Hood, and these stories have fueled the fear of wolves. But also, wolves are in competition with us for food such as deer, elk, bison, cattle, and sheep. This fear and competition has led to their destruction through the use of traps, shooting, and poison. Often these measures have additional collateral damage, leading to the killing of non-targeted species as well as pets. In the absences of the wolf, these fears and concerns along with the control measures have carried over to the wolf's close relative, the coyote (*Canis latrans*).

Some ranchers have used non-lethal proactive management to successfully reduce livestock kills from wolves with ranger riders, electric fences, and feeding wolves road kill; however, this creates additional costs and effort on the behalf of ranchers.

Why should we care if wolves are gone? Is it enough that we still have bears and mountain lions? If you have ever had a dog (*Canis*

*familiaris*), you know they behave differently than other pets. The same is true with wolves and other wildlife: wolves have different hunting styles than other predators such as mountain lions, bears, and coyotes, and thus affect the environment differently. Prey animals change their behavior depending on the predator's behavior and hunting styles. In fact, wolves have even been credited for changing rivers in Yellowstone National Park by changing behavioral habits of elk.

Within Big Bend National Park, the most suitable hunting and breeding grounds would have been the Chisos Mountains, with prey to eat, shelter from heat, and water from springs. It is estimated that this area could only support one pack of wolves.

We know wolves are important to many healthy ecosystems. Is it possible to bring wolves back? What have we lost without the wolf? The issue is complex, as the loss of habitat and food sources, residual fear, and ranching lifestyles are all factors that need to be considered. We might not have all the answers, but we need to actively pursue

conservation on their behalf. Then someday we will once again hear the howls, whines, yips, growls, and barks of the wolf echoing across this land.



Mexican Gray Wolf (*Canis lupus baileyi*)

# What to See and Do

## Chisos Basin

A drive to the Chisos Basin is an excellent way to experience the transition between arid desert and cooler mountain habitats. As this scenic, winding road rises over two thousand feet above the desert floor, it offers vistas of the mountain peaks and the erosion-formed basin area.

Within the Chisos Basin area is a visitor center, campground, lodge, restaurant, gift shop, camp store, and miles of hiking trails.

With limited time, walk the Window View Trail for easy access to mountain vistas, and a classic sunset view. If time permits, consider hiking (or backpacking) into the High Chisos to witness the towering forests of Boot Canyon or the unparalleled vistas of the South Rim.

Note: the road into the Basin is not suitable for RVs longer than 24' or trailers longer than 20'.



## Rio Grande Village

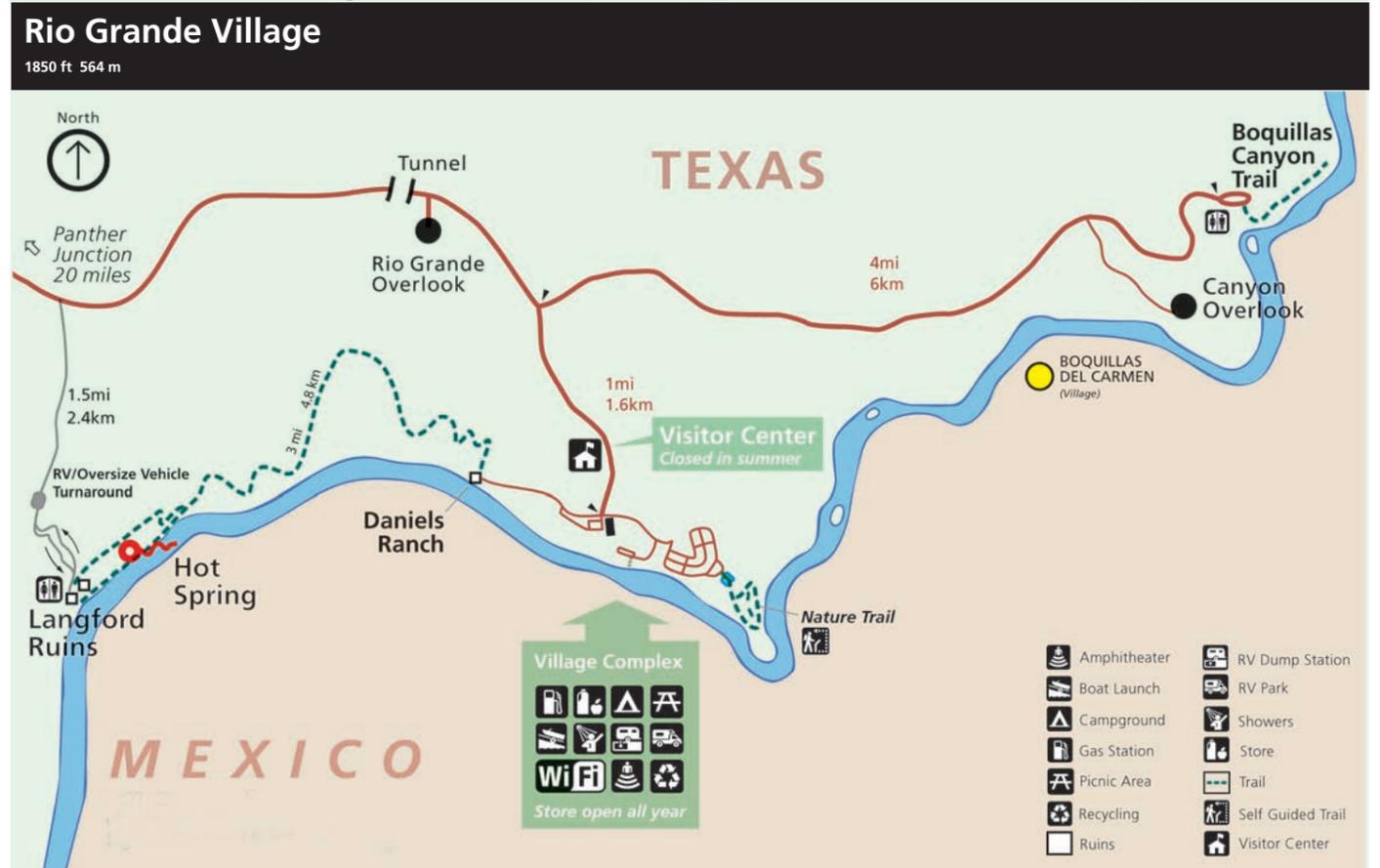
The drive to Rio Grande Village traverses ancient limestone and has marvelous vistas of the magnificent Sierra del Carmens. Along the way is the oasis at Dugout Wells and a spur road leads to the popular Hot Springs.

Continue the drive to Boquillas Canyon, where a short hike offers excellent views of the Rio Grande as it enters the canyon.

Rio Grande Village has a visitor center, campground, RV hook-ups, camp store, gas station, and picnic area.

Take a stroll (or a short drive) from the store to Daniels Ranch; this is a great area for birding. Picnic tables are near the historic ruins.

The Rio Grande Village Nature Trail crosses a wildlife viewing boardwalk, then gradually climbs the hillside, offering panoramic views of the river, Sierra del Carmens, and Crown Mountain. This is an excellent sunset vista.



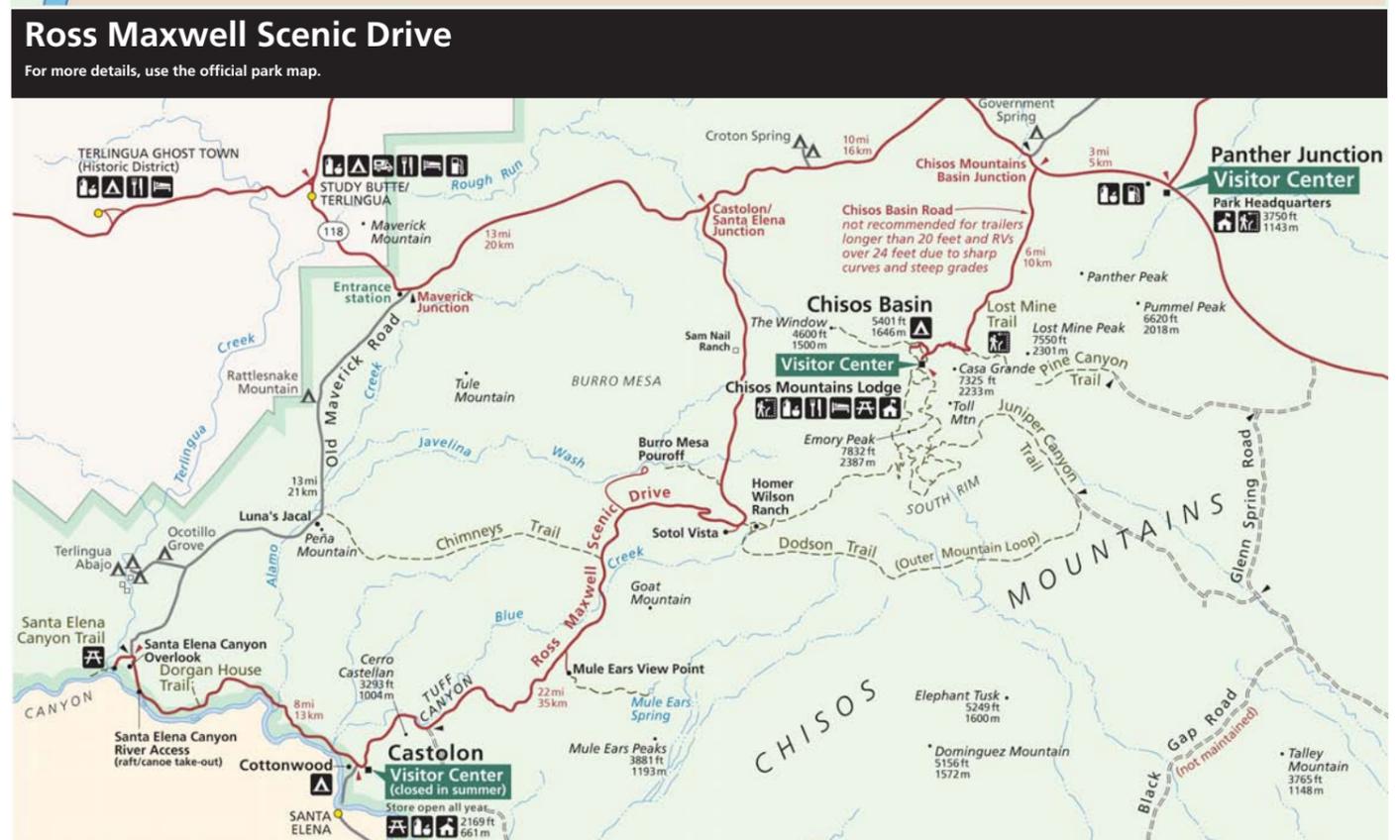
## Ross Maxwell Scenic Drive

A trip along the Ross Maxwell Scenic Drive highlights the geologic splendor Big Bend is famous for, and offers many scenic overlooks and exhibits along the way. Sotol Vista, Mule Ears Overlook, and Tuff Canyon are all worthwhile stops.

History is highlighted at Sam Nail Ranch, Homer Wilson (Blue Creek) Ranch, and the Castolon Historic Compound. Castolon has a visitor center, camp store, and nearby is the Cottonwood Campground.

Continue the drive to the magnificent Santa Elena Canyon, where limestone cliffs rise 1,500' above the Rio Grande. A short trail leads into the canyon.

Return by the same route, or take the gravel Old Maverick Road to the western entrance of the park. This road is usually passable for most vehicles, but may be impassable after heavy rains. Check at a visitor center for current conditions.



# Popular Day Hikes

## The Chisos Mountains *Smoking is prohibited on all trails in the Chisos Mountains.*

Trail	Trailhead Location	Round Trip (mi/km)	Avg Time	Elevation (ft/m)	Description
<b>Basin Loop</b>	Chisos Basin Trailhead (near the Basin Store)	1.8/2.6	1 hour	350/107	<b>Moderate</b> Connects the Laguna Meadow and Pinnacles Trails. Nice views of the Basin area.
<b>Emory Peak</b>	Chisos Basin Trailhead (near the Basin Store)	10.5/17	7 hours	2400/789	<b>Strenuous</b> Trail leads to the highest peak in the park, with excellent views. The end of the trail involves some moderate rock climbing.
<b>Lost Mine</b> 	Basin Road, mile 5 (at the pass)	4.8/7.7	3 hours	1100/335	<b>Moderate</b> Excellent mountain and desert views. For a shorter hike, 1 mile up is a great view to the southeast.
<b>South Rim</b>	Chisos Basin Trailhead (near the Basin Store)	12/19.4 15/24	8 hours 10 hours	2000/656 2000/656	<b>Strenuous</b> Trail leads to the 2000' cliff with incredible views of the desert below. Hike either the southwest rim, or add the northeast and southeast rim trails when open.
<b>Window</b> 	Chisos Basin Trailhead or Basin Campground	5.6/9.0 4.4/7.0	4 hours 3 hours	980/299 500/152	<b>Moderate</b> Descends to the top of the Window pour-off. Great scenery and wildlife viewing. For a shorter hike, start from the Basin Campground (near campsite 51)
<b>Window View</b> 	Chisos Basin Trailhead (near the Basin Store)	0.3/0.5	1/4 hour	0/0	<b>Easy</b> Level, paved, accessible. Great mountain views. Best place in the Basin to catch a sunset through the Window.

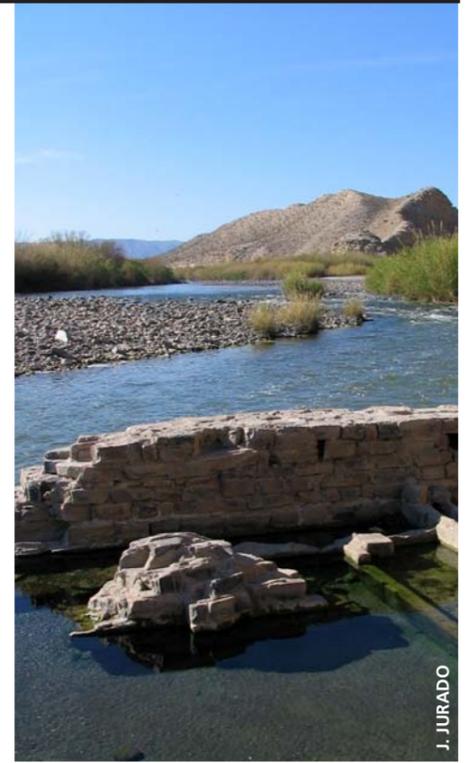


Window View Trail Sunset

C. BALLOU

## Eastside — Panther Junction and Rio Grande Village

Trail	Trailhead Location	Round Trip (mi/km)	Avg Time	Elevation (ft/m)	Description
<b>Grapevine Hills</b> Balanced Rock	6.4 miles down the Grapevine Hills Road	2.2/3.5	1 hour	240/73	<b>Easy</b> Follows a sandy wash through a boulder field. A short but steep climb near the end takes you to a large balanced rock. No shade.
<b>Chihuahuan Desert Nature Trail</b>	Dugout Wells	0.5/0.8	1/2 hour	10/3	<b>Easy</b> Loop trail with interpretive signs on desert ecology. Look for javelina tracks and resident birds.
<b>Hot Springs</b> 	End of Hot Springs Road (unpaved narrow road)	0.75/1.2	1/2 hour	0/0	<b>Easy</b> Walk past historic buildings to the riverside hot spring. Enjoy a soak in 105°F water. <i>Hot Spring is subject to flooding during rising river levels.</i>
<b>Boquillas Canyon</b>	End of Boquillas Canyon Road	1.4/2.3	1 hour	40/12	<b>Easy</b> Begins with a short climb, then descends via a sandy path to the river. Ends near a huge sand dune "slide."
<b>Daniels Ranch to Hot Springs Trail</b>	Daniels Ranch parking area, west of Rio Grande Village	6/10	3 hours	100/31	<b>Moderate</b> Trail from Daniels Ranch to the Hot Springs. Cliff drop-offs prevent access to the river along most of the route. No shade.
<b>Rio Grande Village Nature Trail</b> 	Rio Grande Village, across from campsite 18	0.75/1.2	1 hour	130/40	<b>Easy</b> First 300' leads to a wildlife viewing platform on a pond. Trail then climbs the hillside with views of the river and mountains. Great for birding and sunsets.

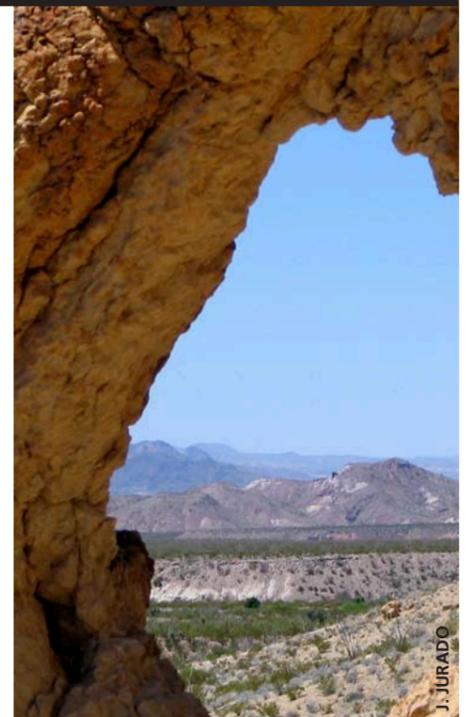


Hot Springs

J. JURADO

## Westside — Ross Maxwell Scenic Drive

Trail	Trailhead Location	Round Trip (mi/km)	Avg Time	Elevation (ft/m)	Description
<b>Sam Nail Ranch</b>	Ross Maxwell Scenic Drive, mile 3	0.5/0.8	1/2 hour	10/3	<b>Easy</b> Well-maintained trail leads through the old ranch site. The combination of water and shade makes this an excellent birding location.
<b>Lower Burro Mesa Pour-off</b>	Burro Mesa Spur Road	1.0/1.6	1/2 hour	60/18	<b>Easy</b> Trail enters a dry wash and ends at the bottom of the dramatic Burro Mesa pour-off. A great walk for viewing geological features.
<b>Chimneys</b>	Ross Maxwell Scenic Drive, mile 13	4.8/7.7	2 hours	400/122	<b>Moderate</b> Flat and scenic desert trail to rock formations of an eroded dike. Look for Native American rock art and shelters. No shade.
<b>Mule Ears Spring</b>	Ross Maxwell Scenic Drive, mile 15	3.8/6.1	3 hours	20/6	<b>Moderate</b> Beautiful desert hike to a small spring. Spectacular geology with mountain and desert views.
<b>Tuff Canyon</b>	Ross Maxwell Scenic Drive, mile 17	0.75/1.2	1/2 hour	100/31	<b>Moderate</b> Two trails from the parking lot both provide outstanding balcony overlooks; one of the trails descends to the floor of the canyon.
<b>Santa Elena Canyon</b>	Ross Maxwell Scenic Drive, 8 miles west of Castolon	1.6/2.6	1 hour	80/26	<b>Easy</b> Sandy path crosses Terlingua Creek. Trail switchbacks up to overlook the river before gradually dropping to the river bank. Trail has some steep steps and can be very hot midday.



View from Chimneys Arch

J. JURADO

# Birds and Bird Watching



## Finding Passion

Park Ranger Kym Flippo

People come to Big Bend to discover many things. Some come for solitude. Others seek challenge. Some, like me, come to find a man.

It was spring when I asked him to go birding. His eyes lit up, but not for reasons I wanted. He loved birds and assumed I was a birder too. I took a chance and I told him I was, but I'd been known to stretch the truth to win a man's heart.

We met on the Ross Maxwell Scenic Drive. I pulled up in my Mazda Miata convertible wearing a sundress and sporting a pair of \$10 day-glow, yellow binoculars. He drove a truck, wore a long sleeved shirt, field pants, and hat; professional-looking binoculars hung from a shoulder harness. Maybe I should have Googled 'bird attire'...

"Let's go birding!" he said as he jumped into my car. I cranked up the music and yelled, "Where to?" "Cottonwood Campground" he yelled back. As I drove he said the park protects an impressive diversity of plant communities and wildlife populations. In

addition, its location on major migratory paths and its proximity to Mexico make Big Bend a year-round birders' paradise.

We arrived at Cottonwood Campground and birds were dripping from the trees. As I'm wondering what I've gotten myself into, he said, "Isn't it incredible?"

After a few abortive attempts with my cheap binoculars, I figured out which end to look through and start watching. Flashes of red, yellow, blue. Big birds, small birds, birds! I'm lost in my charade, but he starts pointing and naming birds and even giving locations like 2 o'clock!

Not only was the morning full of birds but also birding hotspots to explore. From Cottonwood, to Santa Elena Canyon, to Terlingua Abajo, a year-round water source and a great place for birds. On our way to Sam Nail Ranch, he pointed out Blue Creek Trail, a reliable area in spring to look for gray and black-capped vireos and Lucifer hummingbirds.

Sam Nail Ranch is a delightful desert oasis, with a short trail to a windmill that pushes water to the surface. Birds are everywhere.

Yellow-breasted chats calling Chat! Chat! Chat! Varied buntings, black at first glance, but then revealing purple, red and blue. What's happening to me? I'm looking at the birds more than the man? I'm having fun!

We opt to bypass the full day hike in the Chisos, an opportunity to see band-tailed pigeons, acorn woodpeckers, black-crested titmice, and Mexican jays, and the Colima warbler, Big Bend's specialty bird. We'll save that for our next date, I say with a wink.

More doable is Rio Grande Village. Though it's late in the day and warmer, we still arrive to a chorus of birds. I have a better grasp on my binoculars, and more patience, and I'm seeing birds in a way I never imagined. I'm now asking questions without hiding my intent. I want to know more! What is that bird and what is it doing? And I wonder; have we switched places? Now he's after me and all I want to do is bird?

I married that man a few years later and now we plan our vacations around birds. My cheap, \$10 day-glow yellow binoculars sit on a bookshelf, a reminder of the time I came to Big Bend to find a man and, unexpectedly, found my passion in more ways than one.

## Birding Hot Spots

### Panther Junction to Rio Grande Village

- Dugout Wells—shady cottonwood trees and a windmill at this desert oasis.
- Rio Grande Village Nature Trail—a boardwalk over the pond is an excellent area for water fowl.
- Daniels Ranch Picnic Area—the cottonwood trees provide excellent shade to both resident and migrant species.

### Ross Maxwell Scenic Drive

- Sam Nail Ranch—windmills and large trees attract birds to this historic ruin.
- Blue Creek Trail—a half mile from the Homer Wilson Ranch are the Red Rocks, an area known for hummingbirds.
- Cottonwood Campground—large trees here provide a haven for birds.

### Chisos Mountains

- Basin area—many mountain birds can be found around the campground and basin developed areas.
- Boot Canyon—the nesting area of the Colima Warbler and other species.
- South Rim—this 2000' cliff is known for falcons and swifts.

# Night Skies



## Of Darkness and Solitude

Park Ranger Bob Smith

One of the foundational concepts of the national parks, and the National Park Service, which was created in 1916 to care for the parks, was the idea that solitude and wildness is a necessary component of a healthy society. We now know that artificial light that was and still is being installed at a great rate, detracts heavily from the natural environment and contributes to the degradation of ecosystems wherever artificial light exists. As the Park Service grew in the early 20th century, most parks and monuments that were being added to the system were in the western United States, and for the most part wild and dark, unfettered by artificial light. There were many writers, commentators and thinkers at the time that believed that preserving nature, to be used by man as a place of refreshment

and rejuvenation, a link to days past, was necessary for a balanced civilization. These thoughts and ideas gave rise to the National Park Service.

As man has continued to "light the night" with ever increasing vigor, places like Big Bend, and other wild parks become even more important as *Oases of Darkness*, which can give those that desire to escape the bounds of the city or civilization, a place to revert to a time when nature was part of the human existence. Parks like Big Bend preserve not only darkness for the benefit of people, more importantly, they allow flora and fauna to thrive in environments that each and every species evolved to exist in—cycles of light and dark, varying in length only by the seasons, for millions of years.

Resource scientists, through extensive research, have found that both plants and animals are having increasing difficulty adapting to artificial light. In some species,

migration and reproductive cycles are disturbed by this light. Predator and prey relationships are altered as nocturnal adaptations are interrupted or made difficult by this same human caused element. Yet the amount of artificial light continues to expand. Every day. Seemingly without end. What will be the ramifications for the future?

Big Bend National Park is one of the darkest places in the lower 48 states. As such, is a place that nature exists on terms nature decided many eons ago. It is also a place of solitude, where people can recapture a part of themselves that in many cases has been suppressed by careers, distance, time, or anything that keeps them from being in nature. Solitude and darkness as a component of wildness, wildness as a space for reflection. Solitude and darkness can be a fearful place, but when met with a mindset of potential, can be a place to sooth the soul, and the very reason the national parks were created.

## 2016 Celestial Events

- Jan 3–4 Quadrantids Meteor Shower
- Mar 20 Vernal Equinox
- April 22–23 Lyrids Meteor Shower
- May 6–7 Eta Aquarids Meteor Shower
- June 20 Summer Solstice
- July 28–29 Delta Aquarids Meteor Shower
- August 12–13 Perseids Meteor Shower
- August 27 Conjunction of Jupiter and Venus
- September 22 Autumnal Equinox
- October 7–9 Draconids Meteor Shower
- October 21–22 Orionids Meteor Shower
- November 4–5 Taurids Meteor Shower
- November 17–18 Leonids Meteor Shower
- December 13–14 Geminids Meteor Shower
- December 21 Winter Solstice
- December 21–22 Ursids Meteor Shower

# Keeping Wildlife Wild



M. GONZALES

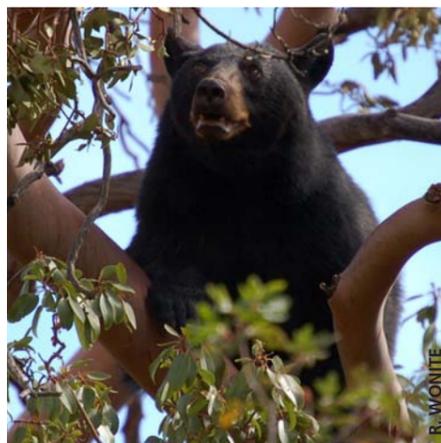
## Black Bears

The return of black bears to Big Bend is a success story for both bears and the park. Native to the Chisos Mountains, they disappeared from this area by the 1940s. Nearly fifty years later, they began returning from Mexico. Today, wildlife biologists estimate a black bear population of around 15–20 black bears.

A black bear's normal diet consists largely of nuts, fruits, sotol and yucca hearts, but

also includes small mammals, reptiles, and carrion. Bears normally avoid humans, but can become aggressive if they learn to take food from human sources.

The Chisos Basin Campground, High Chisos backpacking sites, and some primitive roadside campsites have bear proof storage lockers for caching edibles. Hard-sided vehicles are also suitable for storing edible items. Dumpsters throughout the park are bear proof as well. A free brochure about black bears is available at all visitor centers.



R. WONITE

## Mountain Lions

Solitary and secretive, the mountain lion is Big Bend's top predator, and is vital in maintaining the park's biological diversity. Mountain lions live throughout the park from mountain to desert, and biologists estimate a stable population of about two dozen lions.

Everywhere in Big Bend, you are in the territory of at least one lion. Within their territories, lions help balance herbivores and vegetation. Research shows these large

predators help keep both deer and javelina within the limits of their food resources.

Each year visitors report around 130 lion sightings in Big Bend National Park. Over half are seen along roadways, but encounters also occur along trails. Your best plan of action is to be aware of your surroundings and avoid hiking alone or at dusk and dawn. Also, watch your children closely; never let them run ahead of you. A free brochure about mountain lions is available on the park website.



R. WONITE

## Javelinas

For many visitors, seeing a javelina (pronounced hav-uh-LEE-nuh) is a new experience. Also known as collared peccaries, these animals are only found in the U.S. in Texas, New Mexico, and Arizona.

They are covered with black, bristly hairs and weigh between 40–60 lbs. They usually travel in groups called bands that consist of 10–25 individuals. Peccaries have a highly developed sense of smell, but poor vision.

Physically, they resemble pigs, but are not closely related. A javelina's diet includes prickly pear cactus, grasses, mesquite beans, piñon nuts, fruits, berries, and seeds.

Every year reports document campsites raided by javelinas. Although not normally aggressive, they can be when food is involved. Protect yourselves and the javelina by storing all food inside a vehicle or in the food storage lockers provided in the campgrounds. Do not leave coolers or food boxes unattended at any time.



J. JURADO

## Coyotes

Nothing in Big Bend speaks of wilderness more than the song of a coyote. Their various vocalizations from yips to howls let you know you are in the presence of an iconic figure. Their narrow-set, yellow eyes and long snout may seem intimidating, but in general, coyotes do not bother human beings.

Coyotes range over the entire United States. These highly adapted members of the

canine family are omnivores, dining on small mammals, reptiles, and insects. Coyotes will also eat berries and other vegetation when meat is unavailable. Carrion is an important food source in winter.

Coyotes are typically solitary, but will hunt in small groups when individuals converge in areas where food is plentiful. They will work cooperatively, either chasing an animal in relays to tire it, or waiting in ambush. However, unlike wolves, they do not form lasting packs.



M. YARBROUGH

## Rattlesnakes

Four species of rattlesnake live in Big Bend National Park—the Western Diamondback, Black-tailed, Mojave, and Rock rattlesnakes.

This often-feared reptile is beneficial to the environment, eating mice, rats, and other small animals—many of which are pests or spread disease.

Perhaps surprising, rattlesnakes are not a top predator, sometimes becoming the meal

of roadrunners, skunks, coyotes, and even other snakes, such as the western coachwhip.

The buzz of a rattlesnake is an unmistakable sound that will stop you in your tracks. And this is a good thing, as rattlesnakes use this sound as a warning when they perceive a threat; continue toward them, and you risk provoking a self-defensive bite. A few bites have occurred in Big Bend. If bitten, contact a ranger promptly, as permanent damage can occur within 12 hours of a bite.



J. JURADO

## Wild Animal Encounters

For many people, the chance to see a bear or mountain lion in the natural environment is an amazing opportunity. However, one must always remember that we are entering their home, their territory. As such, we need to respect wildlife, and know what to do if we encounter a wild predator:

- Do not run, but back away to get out of range of the perceived threat.
- If you feel threatened, try to look large, wave your arms, throw rocks or sticks.
- If attacked, fight back.
- Watch children closely and never let them run ahead or lag behind.
- Report bear or mountain lion sightings or encounters to a park ranger as soon as possible.

To help preserve healthy environments for both visitors and predators, please remember:

- Never leave food or trash unattended, as bears and other wildlife readily habituate.
- Never feed wildlife, as no park animal is tame, and feeding leads to aggressive future behavior.
- Keep a healthy distance between you and park animals (at least 50 yards).

## Please Help

### At the Lodge

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

### In Developed Campgrounds

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

### In the Backcountry

- Never leave packs or food unattended. Carry everything with you or store in a bear-proof locker.
- Avoid carrying odorous food and toiletries.
- Carry out all trash, including orange peels, cigarette butts, and left-over food and cooking grease.

### Cyclists

- Use food storage lockers when provided.

# Campgrounds



## Chisos Basin

The Chisos Basin Campground is surrounded by tall, rocky cliffs and conveniently located near some of the park's most spectacular and popular trails.

**Elevation:** 5,401 ft.

**Open:** Year-round

**Details:** 60 campsites (no hook-ups). \$14 per night (\$7 per night with applicable pass). Flush toilets, running water, grills, picnic tables, and dump station. Trailers over 20' and RV's over 24' are not recommended due to narrow, winding road to the Basin and small campsites in this campground.

**Reservable Campsites:** 26 sites are reservable from November 15–April 15. Contact [www.recreation.gov](http://www.recreation.gov), or call 1-877-444-6777.

**Group Camping:** 7 group campsites are available by advance reservation only. To reserve a group campsite, contact [www.recreation.gov](http://www.recreation.gov) or call 1-877-444-6777.

## Cottonwood

Cottonwood Campground is a quiet, shady desert oasis located between the Castolon Historic District and the scenic Santa Elena Canyon.

**Elevation:** 2,169 ft.

**Open:** Year-round

**Details:** 24 campsites (no hook-ups). \$14 per night (\$7 per night with applicable pass). Pit toilets, running water, grills, picnic tables, no dump station, no generators allowed. A small picnic area is available across from campsite #23.

**Reservable Campsites:** There are no reservable campsites in the Cottonwood Campground. All individual campsites are on a first come, first-served basis.

**Group Camping:** One group campsite is available by advance reservation only. Group campsite is walk-in tent camping only. To reserve the group campsite, contact [www.recreation.gov](http://www.recreation.gov) or call 1-877-444-6777.

## Rio Grande Village

Set in a large grove of cottonwoods, the campground is adjacent to the Rio Grande. The RGV camp store and showers are within walking distance.

**Elevation:** 1,850 ft.

**Open:** Year-round

**Details:** 100 campsites (no hook-ups). \$14 per night (\$7 per night with applicable pass). Flush toilets, running water, picnic tables, grills, and some overhead shelters. Dump station nearby.

**Reservable Campsites:** 43 sites are reservable November 15–April 15. Contact [www.recreation.gov](http://www.recreation.gov) or call 1-877-444-6777.

**Group Camping:** 4 group campsites are available by advance reservation only. Group campsites are walk-in tent camping only. Vehicle parking is restricted to an adjacent parking area. To reserve a group campsite, contact [www.recreation.gov](http://www.recreation.gov) or call 1-877-444-6777.

## Rio Grande Village RV

Open, paved lot with grassy, tree-lined edges. Adjacent to the camp store. This campground, operated by Forever Resorts, LLC, has the only full hook-ups in the park.

**Elevation:** 1,850 ft.

**Open:** Year-round

**Details:** 25 campsites. Concession-operated RV park with full hook-ups—water, electrical, and 3-inch sewer connection. \$33, double occupancy, with a \$3 additional per person charge. Periodically, a few sites may not be available for a 40' or longer RVs due to the size of the parking lot and orientation of the spaces.

**Reservable Campsites:** 20 sites are available by reservation, 5 are held for first come, first-served campers. Register at the Rio Grande Village store/service station, or call 1-877-386-4383, or 432-477-2293.

## Developed Campgrounds at a Glance

	Elevation (ft/meters)	Sites	Nightly Fee	Facilities	Registration	Comments
<b>Chisos Basin</b>	5,401/1,646	60	\$14.00*	Flush toilets, dump station	Self-pay station	Surrounded by rocky cliffs; many hiking trails nearby.
<b>Cottonwood</b>	2,169/661	24	\$14.00*	Pit toilets, no generator use allowed	Self-pay station	In a cottonwood grove along the river. Grassy sites.
<b>Rio Grande Village</b>	1,850/564	100	\$14.00*	Flush toilets, dump station	Self-pay station	Largest campground; shady sites. Laundry and showers nearby.
<b>Rio Grande Village RV</b>	1,850/564	25	\$33.00 and up	Full hook-ups	RGV Camp Store	Concession-operated; register at the RGV store.
			* \$7.00 with an eligible Federal Recreation Pass	Observe posted campground quiet hours.		

# Dirt Road Adventures

## Dagger Flat Auto Trail

This seven-mile road (14 miles round-trip) winds eastward to a small valley where there is a forest of giant dagger yuccas.

A self-guiding brochure is available, and provides a useful key to the plants and geology along this road.

Typically open to all vehicles, and excellent for bicycling. However, road may require high clearance as sandy areas or muddy conditions may seasonally exist. Check with a ranger for current road conditions.

Allow two hours for the drive. The speed limit on this narrow, winding road is 25 mph.



View Along Dagger Flat Auto Trail

## Old Ore Road

This backcountry road follows the historic route used in the early 1900s to transport ore from Mexican mines to the railroad station at Marathon.

This road has excellent vistas of the Chisos Mountains and Tornillo Creek. It passes through the foothills of the Deadhorse Mountains, including the cliffs of Alto Relex.

Ernst Tinaja, five miles from the southern end of the road, is a popular hiking destination.

Allow at least 3 hours to drive this 26 mile-long road. A high clearance vehicle and good tires are necessary.



Limestone Layers at Ernst Tinaja

## River Road

The River Road traverses the southern portion of Big Bend, providing a great opportunity to see the remote backcountry of this park.

Midway are the ruins of Mariscal Mine. This former mercury mine is a marvel to explore, as numerous structures are still standing.

Allow a full day (5–7 hours) to explore this 51 mile-long road. Backcountry campsites along the drive (permit required for camping) allow for extended exploration.

This road is for high clearance vehicles only, and may become impassable following rain.



Historic Buildings at Mariscal Mine

## Backcountry Roads



Road Name	Road Condition
Dagger Flat	Suggested high clearance past Old Ore Road Junction
Glenn Springs	Narrow road; no RVs, trailers, or wide vehicles
North Rosillos	Deep ruts and sand
Juniper Canyon	High clearance vehicles only; rough, rocky, and slow
Old Maverick	Wash boarded sections; impassable after rains
Old Ore	High clearance vehicles only, 4WD recommended
Pine Canyon	High clearance vehicles only; rough, rocky, and slow
River Road East	High clearance vehicles only
River Road West	High clearance vehicles only, 4WD recommended
Black Gap	4WD required; infrequently maintained

# Backcountry



R. WONITE



M. HENCH

## Primitive Roadside Campsites

For those who wish to camp in the backcountry without having to backpack, Big Bend offers a number of primitive campsites along roads, both in the desert and along the Rio Grande. A permit is required.

All roadside sites are along unpaved roads. While some centrally-located sites are accessible to most vehicles, a high clearance and/or 4-wheel drive vehicle is necessary to reach those along the primitive dirt roads.

Sites offer excellent views, privacy, an opportunity for solitude, and a cleared gravel

location to park your vehicle and set up a tent.

There are no amenities at any backcountry campsite; please plan to bring everything you need, including water, shade, chairs, and a trowel to bury human waste.

Please remember, campfires (all wood fires or ground fires) are strictly prohibited. Use cook stoves with caution.

Generators are not allowed in backcountry areas, and pets must be kept on a leash within the boundaries of the camp site.



C. BALLOU

## Backpacking

Big Bend National Park has over 200 miles of trails in the Chisos Mountains and desert terrain, with options for backpacking within these beautiful habitats.

### Chisos Mountains

There are 41 campsites along Chisos Mountains trails, ranging from one to eight miles from the trailhead. These sites are designated to help reduce impact and damage to this delicate environment.

Sites include a cleared area for a tent as well as a bear-proof storage box, which must be used to store all scented items. A permit

for a specific site must be obtained prior to camping.

### Zone Camping

Open zone camping permits are available for backpackers 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.

Camps must be set up at least 0.5 mile from roads, out of sight of roads, and at least 100 yards away from trails, historic structures, archaeological sites, dry creek beds, springs, or cliff edge.



J. JURADO

## River Trips

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.

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.

Canoes, kayaks, and rafts are allowed in river canyons. You may bring your own equipment, or you can hire a guide service.

Local outfitters (see page 12 for phone numbers) provide guide service, equipment rental, and up-to-date river information and conditions.

The deepest channel of the Rio Grande is the international border between the United States and Mexico. Passports are not currently required for river trips, but stepping onto the Mexican bank of the river, then returning to the U.S., constitutes an illegal border crossing. U.S. Border Patrol allows for exceptions to be made under emergency situations only, i.e.; scouting, portaging, or lining.



C. BALLOU

## Horseback Riding

Visitors are welcome to bring and use horses in the park. A stock-use permit is required (free for day-use), and copies of vaccination documents must be with you.

While horses are not allowed 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, where horse use is limited to the Laguna Meadow, Southwest Rim, and Blue Creek trails. Horses are not permitted in picnic areas or on interpretive trails.

Grazing within the park is not permitted; you must bring your own feed. Stock may be watered in the Rio Grande and at springs not used for domestic water supply. However, be prepared to haul water for you and your stock, as desert springs are unreliable. All horse manure and feed remnants must be removed from the park.

Horses are allowed at several of the park's primitive roadside campsites. Hannold Draw campsite, located 4.8 miles north of Panther Junction, has a corral large enough for 8 horses. If you plan to camp with horses in the park, you may reserve this campsite up to 10 weeks in advance. For reservations, call 432-477-1158.

## Backcountry Planning

### Backcountry Use Permit

A backcountry use permit is required for all backcountry camping, river use, and horse use.

- Permit must be obtained in person at a park visitor center during normal business hours.
- A permit may be obtained up to 24 hours in advance of the trip.
- Permit may be written for up to 14 consecutive nights in the backcountry.
- The permit fee is \$10 (\$5 with applicable pass) for overnight-use, free for day-use.

### Backcountry Water

Every gallon removed from backcountry water sources is one less for the wildlife which depends on them.

- Each hiker should carry and drink a minimum of one gallon of water per person per day. Spigots for drinking water are available at all visitor centers.
- Springs and tinajas (rock depressions where water collects) are rare and unreliable—don't risk your life by depending on desert springs. Water should be filtered if used. Caching water is recommended for extended hiking trips in the desert.

### Leave No Trace

Following the seven basic leave no trace principles helps protect our fragile desert environment:

- Plan ahead and prepare—a well-planned hike is more likely to be a safe hike, and without the need to rely on precious desert water.
- Travel and camp on durable surfaces—avoid walking on small plants or biological crusts.
- Dispose of waste properly—bury solid human waste at least six inches deep and 0.25 mile from springs. Pack out all waste paper and trash.
- Leave what you find—natural and culture resources are protected within National Parks. Collecting or disturbing features is prohibited.
- Minimize fire impacts—fires are only allowed on overnight river trips. A fire pan is required. Keep all heat sources away from combustible vegetation.
- Respect wildlife—all animals are wild, even if they appear to be tame. Never feed wildlife or leave scented items unattended.
- Be considerate of other visitors—keep noise levels to a minimum, as sounds can carry for long distances across the desert.

## 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

Panther Junction (Hdqtrs) 432-477-1158  
 Chisos Basin 432-477-2264  
 Castolon 432-477-2666  
 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  
 Reservations 877-386-4383

#### Gas Stations

Panther Junction 432-477-2294  
 Rio Grande Village 432-477-2293

#### Camper Stores

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

## Services Outside the Park

*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.*

#### Lodging

##### Lajitas

Lajitas Resort 877-525-4827

##### Marathon

Gage Hotel 432-386-4205  
 Marathon Motel 432-386-4241  
 Eve's Garden 432-386-4165

##### Study Butte/Terlingua area

Big Bend Casitas 800-839-7238  
 Big Bend Resorts 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  
 Terlingua House 325-473-4400

#### Camping

Big Bend Resorts 800-848-2363  
 Big Bend Ranch State Park 432-424-3327  
 Big Bend Travel Park 432-371-2250  
 B.J.'s RV Park 432-371-2259  
 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 Resorts 800-848-2363  
 Cottonwood General Store 432-371-3315  
 Stillwell Store & Station 432-376-2244

#### Medical Services

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

#### Banks

Quicksilver Bank/ATM 432-371-2211

#### Local Outfitters

Angell Expeditions 432-299-3713  
 Big Bend Overland Tours 800-848-2363  
 Big Bend River Tours 800-545-4240  
 Desert Sports 888-989-6900  
 Far Flung Outdoor Center 800-839-7238  
 Rio Aviation 432-557-9477

#### Horseback Riding

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

# Information and Services

## Accessibility

All visitor centers are accessible, as are the Chisos Mountain Lodge restaurant and some motel rooms and campsites. The Window View Trail is paved and fairly level.

## ATMs

The Chisos Mountains Basin Store, Rio Grande Village Store, and Panther Junction Service Station have ATMs. The nearest banking facility is located in Study Butte, 26 miles west of park headquarters.

## Camp Stores

Forever Resorts, LLC, operates stores at Castolon, Chisos Basin, and Rio Grande Village. Each has groceries, camping supplies, and souvenirs.

## Camping Limits

Visitors can stay in the park 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.

## Entrance Fees

- Single private non-commercial vehicle \$20—valid for 7 days
- Single person entry on foot, bicycle, motorcycle, commercial vehicle, etc. \$10 per person—valid for 7 days
- Big Bend Annual Pass \$40—valid for one year from month of purchase
- Interagency Annual Pass \$80—valid for one year from month of purchase

All other valid passes will be accepted until expired including: Senior Pass, Access Pass, Golden Age Passport, and Golden Access Passport. For commercial rates, please consult our website: [www.nps.gov/bibe](http://www.nps.gov/bibe). Additional permits may be required.

# Weather and Climate

The old adage "if you don't like the weather, just wait a minute," often holds true for Big Bend National Park. While Big Bend generally has blue skies and warm days, the weather can change quickly and dramatically.

## Throughout the Year

Relative humidity is generally low. Spring and fall are usually warm and pleasant. Summers are hot, although temperatures vary significantly between the desert floor and the Chisos Mountains. May and June are the hottest months. The rainy season extends from mid-June to October with locally heavy thunderstorms and some flash flooding. However, the water recedes rapidly and the rainy season can be a delightful time to visit the desert. Winters are generally mild, although periods of cold weather (including light snow) are possible; winter visitors must prepare for a variety of conditions.

## Fires

Ground fires and wood fires are strictly prohibited throughout the park. Only gas stoves and charcoal contained in a grill may be used. Use caution with any heat source.

## Food Storage

Do not store food or scented items in tents, and never leave coolers, cook stoves, dishes, trash, or food/water unattended.

## Gas Stations

Gasoline and diesel are available at Panther Junction and Rio Grande Village Service Stations. Panther Junction has propane exchange. Rio Grande Village offers propane refilling.

## Junior Ranger

Through activities, games, and puzzles, kids can have fun learning about the park and earn a badge or patch, bookmark, and certificate. A booklet is available at visitor centers.



## Kennels

- Alpine Veterinary Clinic 432-837-3888
- Alpine Small Animal Clinic 432-837-5416

## Lodging

The Chisos Mountain Lodge, located in the Chisos Basin, includes 72 rooms, gift shop, dining room and camp store. For more information call 432-477-2291 or 877-386-4383.

## Phones

Public pay phones are located outside the Chisos Mountains Lodge and Rio Grande Village Store.

## Post Office

A full-service post office is located at the Panther Junction Headquarters, open M–F, 8am–11:30am and 1pm–3:00pm. A mail drop is also available at the Chisos Basin Store.

## Ranger Programs

Join a ranger for a guided hike or evening presentation. These free programs are offered most days of the year. Schedules are posted at visitor centers and campgrounds.

## Recycling

Recycling cans are provided in campgrounds and near stores and visitor centers. Every bit of material recycled means one less piece buried in the park landfill. Please recycle!

## Showers and Laundry

Pay showers and laundry facilities are available at the Rio Grande Village Store, and have 24-hour access. Out-of-park facilities are available in Study Butte.

## Swimming

Big Bend is a desert park. Wading in the Rio Grande is not recommended. Soaking in the 105° Hot Springs is an option. Do not enter or contaminate backcountry springs.

Other swimming opportunities include Balmorea State Park, the world's largest spring-fed pool (a three-hour drive north).

## Visitor Centers

Panther Junction, Chisos Basin, and Persimmon Gap Visitor Centers are open year-round. Rio Grande Village and Castolon Visitor Centers are open November–April.

## Wifi/Internet

Free wireless internet is available at the Chisos Mountains Lodge and Rio Grande Village Store/RV hook-ups. There are no public computer terminals.



Frosted Sotols in the Chisos Mountains

## Panther Junction Averages (mountains temps 5-10° lower, low desert temps 5-10° warmer)

	January	February	March	April	May	June	July	August	September	October	November	December
<b>Max Temp</b> (°F)	60.9	66.2	77.4	80.7	88.0	94.2	92.9	91.1	86.4	78.8	68.5	62.2
<b>Min Temp</b> (°F)	35.0	37.8	45.3	52.3	59.3	65.5	68.3	66.4	61.9	52.7	42.3	36.4
<b>Precip</b> (inches)	.46	.34	.31	.70	1.50	1.93	2.09	2.35	2.12	2.27	.70	.57