



In Big Bend National Park, roads end at the Rio Grande, the boundary between the United States and Mexico. But far more than two nations meet here. Three states touch the river: Texas in the United States and Coahuila and Chihuahua in Mexico. Many of the park’s vast, famous views mix scenery from both countries. One of the park’s best-known features, Santa Elena Canyon, spans the border. Its south canyon wall towers above Mexico.

Big Bend National Park is also the meeting point for many plants and animals at the extreme limit of their ranges. Some species like the Mexican long-nosed bat are at their northern limit. Others typically seen in the east or west overlap here. Some species from the tropics of Latin America come to this area in summer. Others that nest in the north migrate to the park in winter. Big Bend’s location along a bird migration route between South, Central, and North America creates excellent birding opportunities. The

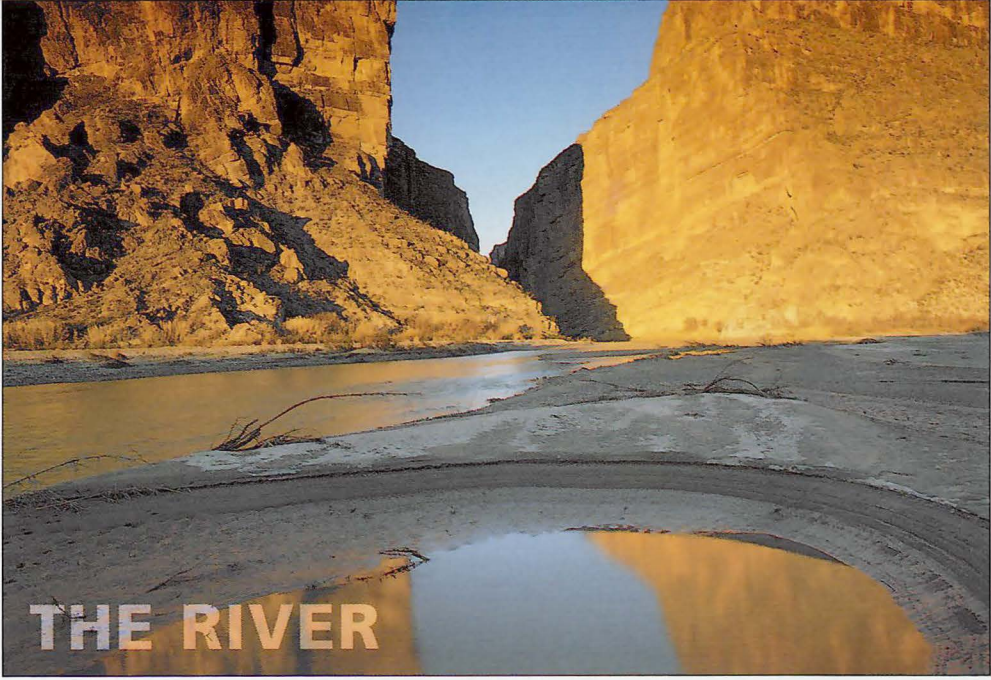
Rio Grande corridor is also a migration highway for many species that pass through the desert.

Contrasts in elevation, from 1,715 feet along the river to 7,825 feet at the summit of Emory Peak, result in varied microclimates and natural boundaries that further increase biodiversity. Wildlife watchers know that the highest numbers of species are often found in the transition area, or ecotone, between nearby habitats.

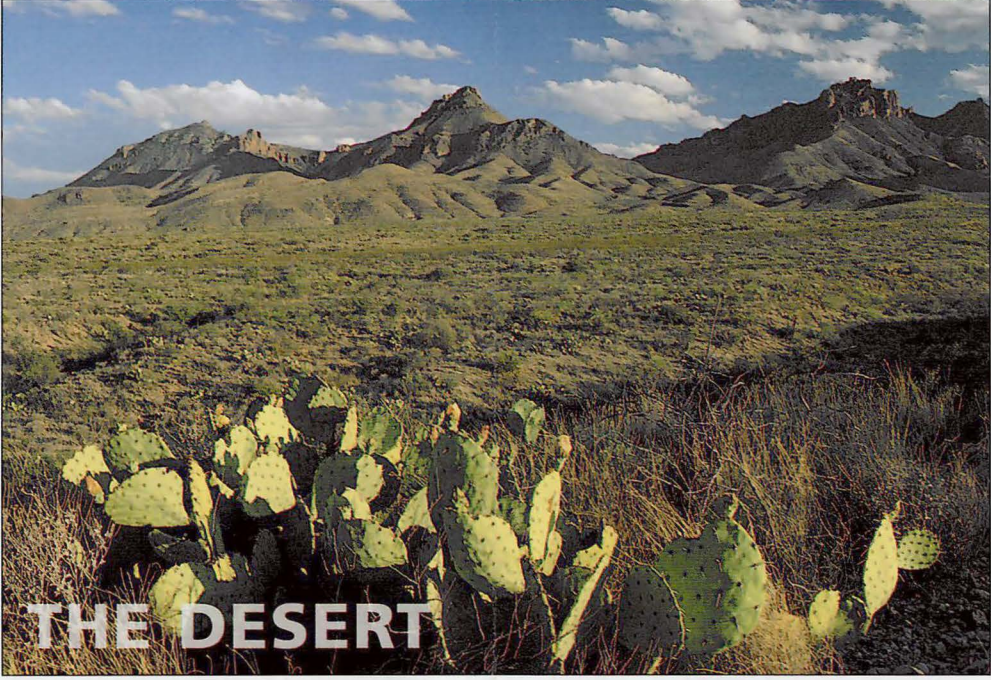
This natural diversity has drawn humans for thousands of years. Some passed through, hunting animals or searching for travel routes and riches. Others settled here, taking advantage of fertile land and abundant plants and animals.

Today the experiences offered in Big Bend National Park are as diverse as its natural and cultural history. You’ll find limitless opportunities to appreciate and explore the park along the river, in the desert, and up in the mountains.

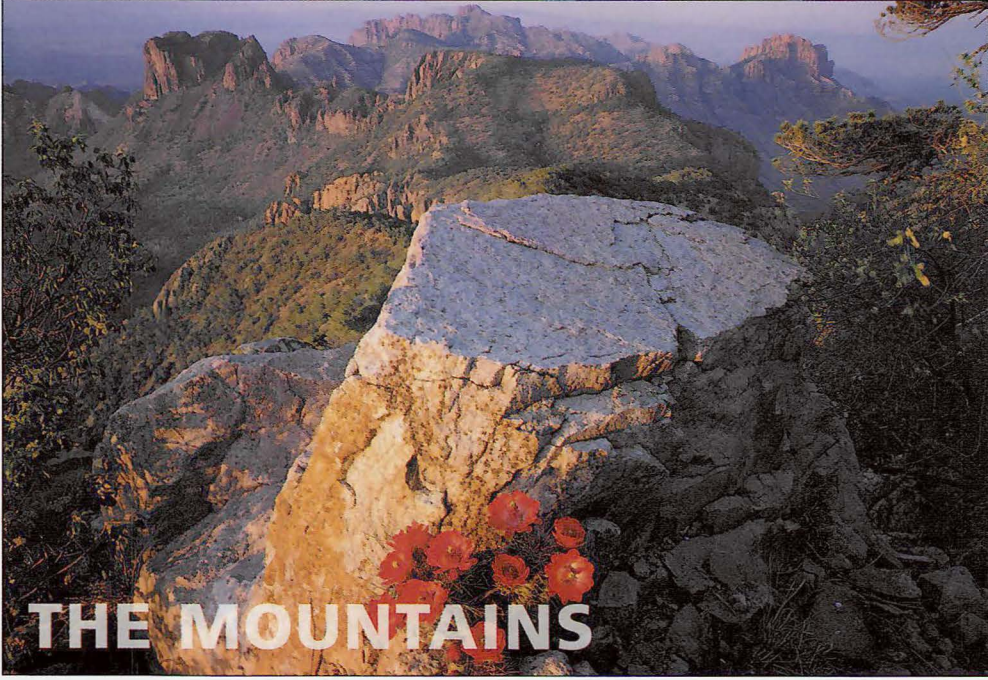
Above: Boquillas Canyon
NPS / CATRY HOYT



THE RIVER



THE DESERT



THE MOUNTAINS

Big Bend refers to the great U-turn the Rio Grande makes here through southwest Texas, defining the park boundary for 118 miles. The river corridor is an oasis, a ribbon of green that cuts across dry desert and carves deep canyons. The headwaters are in Colorado, far from the Chihuahuan Desert. Irrigation, dams, agriculture, manufacturing, exotic plants, and evaporation extract most of the Rio Grande’s water before it gets to the park. The river water you see inside the park mostly comes from Mexico’s Rio Conchos.

or willow trees may surprise you, but beavers live along the banks here. Colorful birds also frequent the floodplain. Summer tanagers, painted buntings, vermilion flycatchers, and cardinals accent the green foliage. The Rio Grande’s thin floodplain looks like a greenbelt running through the surrounding desert.

The park lies in the northern part of the Chihuahuan Desert, one of North America’s four major deserts. Mountains border this desert and block rain on three sides. The other side sits next to vast, semi-arid plains.

The Chihuahuan Desert as we see it now is young, about 8,000 years old. It is defined by a rainy monsoon season from July through October. The rain and clouds can mean occasional cool summer days, though the park is usually hot and dry. The high temperature along the river in June and July is often over 105°F. Higher elevations can dip below freezing in winter as northern storms sweep through. On a winter day you might see snow in the Chisos and temperatures in the 80s on the desert floor.

Jackrabbit

Big ears are the jackrabbit’s distant early warning system against its predators. The ears also work as radiators to transfer excess body heat to the environment as needed.



Living fossils, like garfish and some turtles, hint at the lush savannah and swamp of 50 million years ago. Their ancestors swam with crocodiles and hippopotamus-like creatures. If you wonder how the river cut such colossal canyons, just listen to the scraping hiss of a canoe as it glides through the water. The river is full of abrasive sand, which has carved the rocks for eons.

The river creates a corridor for species not typically adapted to desert life, adding to the park’s biological diversity. The marks of beaver teeth on riverside cottonwood

Desert life has adapted to survive these extremes by saving its energy and holding on to water. Many animals beat the heat by being active mainly at night. Most snakes do this—hot summer days on the desert floor could kill them in minutes. Some animals climb above the heat. Summer travelers cross the desert quickly, headed for the higher, cooler Chisos Mountains. Some insects fly straight up a short distance to cool off. One walking beetle seems to rise up on stilts to escape the deadly heat.

Roadrunner

Running at speeds up to 20 mph, the roadrunner pursues lizards and small rattlesnakes. It pecks them to death with stunning blows of its beak. The roadrunner gets much of its required moisture from the body fluids of its prey.



If the Rio Grande is the Big Bend country’s low oasis, then the Chisos Mountains are its green island in the massive desert sea. The cooler climate attracts creatures that are otherwise rare in a desert.

The isolation of these mountains began thousands of years ago as the last ice age ended. As colder, moister climates moved northward, leaving lower elevations dry and hot, many plants and animals were stranded in the Chisos Mountains. Carmen Mountain white-tailed deer, for example, live exclusively in the Chisos and other nearby mountains. White-tailed deer are not well adapted to deserts but probably ranged widely here in the last ice age. As

the climate warmed, they were forced to stay in the mountains. Isolated mountains like the Chisos that hold on to older, cooler habitats are often known as sky islands. These areas are also home to larger residents like black bears and mountain lions.

Average rainfall in the Chisos Basin is over twice that at Rio Grande Village along the river. Driving up into the mountains on Basin Road, you first pass grasslands punctuated by century plants and sotol. These give way to green, leafy shrubs. Higher up, the bushes get taller, with evergreen sumac, mountain mahogany, Texas madrone, and common beebrush. Junipers, small oaks, and pinyon pines live along drainages. At 4,500 feet, tall trees appear.

Arizona pine, Douglas fir, Arizona cypress, quaking aspen, and bigtooth maple are the last remnants of ancient ice-age forests. They are some of the many species here that grow at the extreme southern end of their US ranges. The Chisos Mountains are the only US habitat for several plant species that otherwise thrive in Mexico, like the Chisos oak and the weeping juniper.

Black Bear

Once common, black bears were rarely seen here from the 1940s to the 1980s. In a remarkable success story, they returned from Mexico on their own as residents in the late 1980s and today are observed regularly in the mountains.



but friendly relations before turning to hostility, fighting, and enslavement of many Indigenous people.

Pushed south by conflict with the Comanches, the Apaches moved to this area in the 1700s. The Apaches resisted Spanish colonists, who began losing their tenuous hold on the area in the 1700s. In the 1800s advances by European American homesteaders forced the Comanches southward into Apache territory. Mexican settlers also lived in the Big Bend, farming and raising cattle along the Rio Grande, and their isolation made them targets of Comanche raids. Gold strikes in California and destruction of bison herds hastened the Comanches’ decline. The US Army built military forts to secure the routes to the California gold fields.

Survey parties mapped the area and scouted for safe travel routes. In 1852 US Army Major William H. Emory did a boundary survey, and his party floated Mariscal Canyon. Texas rangers later led a party through Santa Elena Canyon. A United States Geological Survey expedition explored Boquillas Canyon in 1899.

European American settlers began farming the riverbanks in the late 1800s. Cotton and food crops were grown around Castolon and today’s Rio Grande Village even after the park was created.

The interactions of these diverse people with the rich plant and animal life of this border area created the special landscape known today as Big Bend.

Colima Warbler

A Big Bend specialty, found nowhere else in the United States, the Colima warbler is at the northern limit of its range. It is found in the Chisos Mountains from mid-April to mid-September, when it returns to its wintering grounds in Mexico.



Like the wildlife, diverse human cultures have found ways to survive and thrive in this desert for thousands of years. Ancient peoples lived here some 10,000 years ago but left little evidence. The Archaic or Desert Culture began about 8,000 years ago. These people used hundreds of desert plants as food and medicine, including sotol, lechuguilla, yucca, prickly pear, mesquite, and acacia. Baskets and sandals could be woven from lechuguilla fiber and yucca leaves. They hunted deer, rabbits, and other animals with atlatl (throwing sticks) and stone-tipped darts. Desert springs provided drinking water. Home sites often still have remnants of rock shelters, fire rings, and grinding stones.

In late Archaic times, trade with other cultures introduced the people of this area to the idea of cultivating their own food. They began to grow corn, beans, and squash. By 1200 the La Junta people farmed floodplain areas west of today’s park.

With the arrival of Spanish colonizers in the 1500s, many more people had to compete for precious resources. A new culture and system of laws initially led to cautious



Desert marigold



Claret cup cactus



Prickly pear cactus



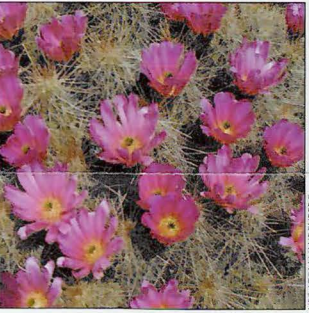
Desert willow



Ocotillo



Rock nettle



Pitaya cactus



Torrey yucca



Lechuguilla stalk

Amazing Adaptations

Although they may appear barren, deserts are full of plants and animals well suited to their location. They have adaptations that enable them to survive variable and unforgiving conditions. Cacti blossom and bulge as they collect water. Plants that looked dead leaf out again. Carpets of wildflowers bloom after a rainy period.

Cacti hoard water and can survive long droughts. Waxy coatings on their thick, fleshy stems reduce water loss and protect them from the sun. Their shallow, widely spread roots capture rainwater as soon as it enters the ground. They are equipped with spines rather than leaves, which also protect against being trampled or eaten.

The tall, spiky ocotillo is not a cactus but part of a family of its own. With rainfall the ocotillo develops leaves but drops them when dry conditions return. This may happen several times a year.

Annuals, plants that complete their life cycle in one growing season, have another adaptation in the desert: dormancy. While all annuals need water to germinate, here they can wait for rain in their seed stage. If rains don’t come, the seed can stay dormant for years. Some seeds are coated with chemicals that prevent germination. Unless enough rain falls to wash off the chemical, the seed won’t germinate. This adaptation ensures that a developing plant gets enough water to complete its

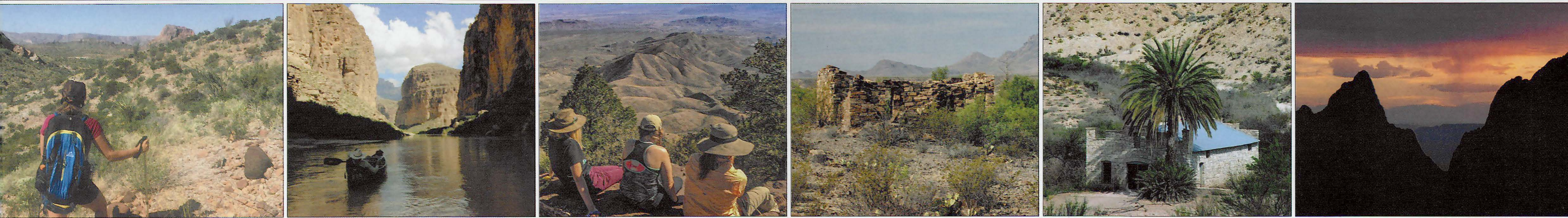
life cycle and set new seeds before the next dry spell. Desert annuals can develop, flower, and fruit far more rapidly than annuals in other areas.

Creosote bushes use yet another strategy. They are so regularly spaced that they often look planted. Their leaves produce a toxin that discourages other plants from intruding into their growing space. The small leaves are coated with resin and lose very little moisture to the air. These strategies allow creosote to flourish in the desert, making it the park’s most prevalent shrub. Creosote bushes along roads drink runoff water from pavement, often growing twice as tall as the creosote bushes just one row behind them. The earthy smell after rain comes from creosote.

Succulents like yucca and lechuguilla have thick, fleshy stems or leaves to retain water. In the rainy season the candlelilla fills up with a thick sap that coats the stem. This seals in moisture to protect the plant from drought. Some succulents here have practical or commercial uses. Wax extracted from candlelilla plants is used to make candles, gum, lotions, and other products, while the tough fibers of sotol and lechuguilla can be used for items like cords and ropes.

Desert plants flower most freely February through April and in the fall, but this can be difficult to predict. One glimpse of this burst of floral treasure may change your image of the desert forever.

Exploring Big Bend



Desert hiking

Exploring the Rio Grande

NPS/G. ROSSLER

South Rim View, Chisos Mountains

Historic ruins

Hot Springs Post Office

The Window

ALL IMAGES—NPS UNLESS OTHERWISE CREDITED

Visiting the Park

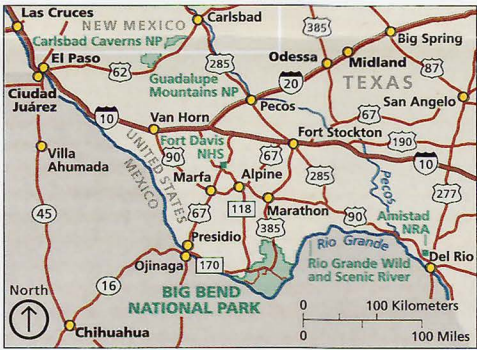
Big Bend National Park is in a remote part of southwestern Texas (see map at right). Check supplies before leaving Alpine or Marathon. Gas stations and water sources are few and far between. Cell phone service is unreliable. Some park roads may require four-wheel drive.

Chisos Mountains Lodge offers motel-style lodging and cottage rentals in the park (www.chisomountainlodge.com). Chisos Basin, Rio Grande Village, and Cottonwood Campgrounds, operated by the National Park Service, have access to restrooms, potable water, and recreational opportunities but no hookups. Make reservations at www.recreation.gov. Full hookups are available at the concession-operated Rio Grande Village RV Park (877-386-4383).

Backcountry camping includes backpacking and designated sites along primitive roads; permits are required (fee). Make reservations at www.recreation.gov. Some first-come, first-served sites are available; get permits in person at Panther Junction Visitor Center.

Park concession facilities are open year-round. Find groceries and camping supplies at Chisos Basin, Rio Grande Village, Castolon, and Panther Junction. Gas is sold only at Panther Junction and Rio Grande Village. Limited vehicle repairs are available in Terlingua, but it's best to come prepared. Help is far away.

Emergencies call 911



Border Crossings Crossing is only allowed at the official port of entry. For information about legal US-Mexico border crossings, ask a ranger or check the park newspaper or website.

Accessibility We strive to make our facilities, services, and programs accessible to all. For information go to a visitor center, ask a ranger, call, or check the park website.

More Information
Big Bend National Park
PO Box 129
Big Bend National Park, TX 79834
432-477-2251; TTY 432-477-2370
www.nps.gov/bibe

Big Bend National Park is one of over 400 parks in the National Park System. Learn about national parks at www.nps.gov.

Things to See and Do

Big Bend offers superb walking, hiking, river running, stargazing, and birding. For a full list, get the park newspaper, *The Paisano*. Visitor centers have activity schedules; road, river, and hiking guides; and maps.

Hiking Walks and hikes range from short, self-guiding nature trails to challenging cross-park treks. Off-trail hiking requires proper gear and adequate supplies. Use a topographic map and know your route.

River Use The park administers 245 miles of the Rio Grande for recreational use. Get a river float permit (required for all boat use) and up-to-date river information at visitor centers. Be well equipped and informed before running the river. There are no equipment rentals in the park. Contact the park for a list of river outfitters and for river levels. Check river levels before starting a float trip. The Rio Grande is a designated Wild and Scenic River for 196 miles along part of the park boundary and downstream.

Birding The park is a birder's paradise—over 450 bird species have been seen here. The larger migration occurs in spring. Ask a ranger about the best birding spots.

National Park Foundation.
Join the park community.
www.nationalparks.org

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For Your Safety

Emergencies Call 911 in an emergency; response can be slow. The nearest hospital is in Alpine, 100 miles north of park headquarters.

Heat Can Kill Carry and drink at least a gallon of water per person per day. When hiking, start your return trip before your water is half gone. Treat spring water before drinking; do not drink river water. Wear a hat and sun protection. Springs are unreliable and often dry, despite what maps show. In summer, avoid hiking in midday. Instead, mimic wildlife by hiking in early morning or late evening. Tell someone where you are going and when you plan to return.

Driving Hazards Obey the park maximum speed limit (45 mph). Make sure your vehicle is in good mechanical condition and has a spare tire and tire-changing tools. When roads flood, wait out the high water; don't let your vehicle get swept away. Stay on established roads. You need a sturdy, high-clearance four-wheel-drive vehicle to explore the park's backcountry roads. Check conditions before driving unpaved routes; storm damage may close backcountry roads. Seat belts are required in moving vehicles. Drive carefully at night because many animals are on the roads.

Mountain lions and bears inhabit the park. Ask a park ranger about precautions you can take and how to react if you encounter one.

Encounters with Venomous Wildlife Four rattlesnake species and one copperhead species live here but are rarely seen by day. Stay on trails and use a flashlight at night. Snakes, scorpions, tarantulas, and most other wildlife generally will not harm you unless you harass them. Get prompt attention if injured.

Arroyos or washes can become raging rivers while you sleep. Do not camp in them or in other low spots. Watch for rapid changes in weather.

Swimming The Rio Grande's strong currents, muddy waters, submerged snags, and drop-offs are extremely dangerous. Do not swim in the river.

Border Awareness Big Bend shares 118 miles of international border with Mexico. Always be aware of your surroundings. Do not leave valuables in your car. Report unusual or suspicious activity.

Regulations

Firearms For firearms regulations check the park website.

Protecting the Park Federal law protects all natural and cultural features in the park. Do not remove, collect, deface, destroy, or disturb anything in the park, including rocks, wildflowers, tree limbs, soil, vegetation, wildlife, or artifacts.

Using remotely piloted aircraft like drones is prohibited.

Wood and ground fires are prohibited.

Camping is allowed in campgrounds and the backcountry. Camping is not allowed along roadsides or in parking lots. Backcountry overnight use requires a permit (fee). Some backcountry sites require portable toilet or waste disposal systems. In all other sites bury human waste six inches deep, well away from camp.

In addition to the high-country trails, there are rewarding hikes in lower desert areas; ask a ranger. Smoking is prohibited on park trails. Stay on trails to prevent erosion and other damage. Wear sturdy shoes and clothing. Carry tweezers; spines and thorns of cacti and other plants are hazardous. Carry out all trash, including toilet paper.

Store food and toiletries in an approved bear-proof container, vehicle, or food locker. Do not feed wildlife.

Pets are allowed only on roads, in developed campgrounds, and at primitive roadside campsites. They must be leashed at all times. Pets are prohibited on trails, in public buildings, and in the backcountry. Dispose of pet waste to limit the transfer of disease to wildlife.

Fishing in the park requires a free permit available at any ranger station. Fishing licenses are not required.

