



ON AUGUST 25, 1916, PRESIDENT WOODROW Wilson signed the act creating the National Park Service, a new federal bureau in the Department of the Interior responsible for protecting the 35 national parks and monuments then managed by the department and those yet to be established. This "Organic Act" established the mission of the National Park Service (NPS). The NPS is proud to...

"...to conserve the scenery and the natural and historic objects and the wild life therein 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."

The National Park System of the United States now comprises more than 400 areas covering more than 84 million acres in 50 states, the District of Columbia, American Samoa, Guam, Puerto Rico, Saipan, and the Virgin Islands.

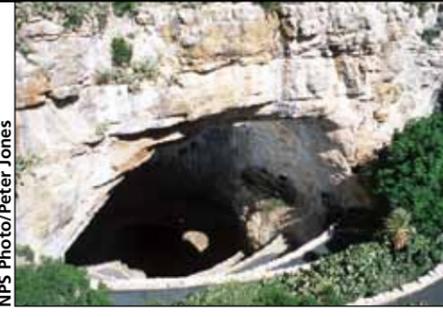
Today more than 20,000 National Park Service employees care for America's 400+ national parks and work with communities across the nation to help preserve local history and create close-to-home recreational opportunities.



NPS Photo /Michael Haynie

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NPS Photo/Peter Jones



NPS Photo /Dave Bieri

Greetings

WELCOME TO CARLSBAD CAVERNS AND GUADALUPE MOUNTAINS National Parks. Carlsbad Caverns National Park, a World Heritage Site since 1995, features a spectacular cave system of highly decorated chambers. Guadalupe Mountains National Park protects one of the world's best examples of a fossil reef. Both parks are located within the Chihuahuan Desert, a fascinating place to explore desert life.

Our park staff are here to help make your visit a truly memorable event and will be happy to help you plan your visit to areas within and without the designated wilderness. Guided tours at Carlsbad Caverns can enrich your park experience. These tours offer a variety of caving experiences, from easy lantern tours to challenging trips involving crawling and squeezing through tight passages.

Guadalupe Mountains National Park has over 80 miles of hiking trails to explore, ranging from wheelchair accessible paths to strenu-

ous mountain hikes, including an 8.4 mile roundtrip hike to Texas' highest mountain, Guadalupe Peak (8,751').

As you travel and spend time in the area please remember to keep safety in mind. Deer and other wildlife are plentiful—enjoy watching wildlife, but remember they often move across roads, especially in the evenings; be vigilant while driving during twilight hours. Hikers should be prepared for rapidly changing weather conditions. Hikers can become dehydrated in our dry climate, so carry plenty of water (one gallon per person per day is recommended). Always check with a ranger before venturing into the backcountry.

We are wholeheartedly committed to our mission of preserving and providing for the enjoyment of our nation's most outstanding treasures. We wish you a rewarding experience in every way.

To:

EXPERIENCE YOUR AMERICA™



Sincerely, Eric Brunnemann Superintendent Guadalupe Mountains National Park

Douglas S. Neighbor Superintendent Carlsbad Caverns National Park



Guadalupe Mountains National Park 400 Pine Canyon Dr. Salt Flat, TX 79847



Telephone and Web Directory

Official National Park Service sites include .gov in their web address.

Carlsbad Caverns National Park

3225 National Parks Highway
Carlsbad, NM 88220

Visitor Center

727 Carlsbad Caverns Highway
Carlsbad, NM 88220

575-785-2232

www.nps.gov/cave

[www.facebook.com/Carlsbad Caverns National Park](https://www.facebook.com/CarlsbadCavernsNationalPark)

Check us out on Twitter:

@CavernsNPS

Guadalupe Mountains National Park

400 Pine Canyon Drive
Salt Flat, TX 79847

915-828-3251 ext. 2124

www.nps.gov/gumo

[www.facebook.com/Guadalupe.Moun-tains](https://www.facebook.com/GuadalupeMountains)

Check us out on Twitter:

@GuadalupeMtnsNP

www.meetup.com/Guadalupe-Moun-tains-National-Park-Meetup-Group/

Food, Lodging, and Camping Carlsbad Chamber of Commerce

575-887-6516

www.carlsbadchamber.com

Van Horn Texas Visitors Bureau

432-283-2682

Weather Conditions

Carlsbad Weather Watch

575-885-1848

www.weather.gov

Road Conditions

New Mexico: 800-432-4269

www.nmroads.com

Texas: 800-452-9292

drivetexas.org

Emergency: Call 911

GPS Coordinates

Carlsbad Caverns National Park

Visitor Center (Nature Trail)

Coordinate System: Lat/Long

Datum: WGS 1984

Latitude: 32.174212° N

Longitude: 104.445855° W

Guadalupe Mountains NP

Visitor Center (Nature Trail)

Coordinate System: Lat/Long

Datum: WGS 1984

Latitude: 31.89370° N

Longitude: 104.82214° W



Guadalupe Mountains National Park Welcomes New Superintendent

ERIC BRUNNEMANN FIRST BECAME A PARK SUPERINTENDENT in 2001 at War in the Pacific National Historical Park in the U.S. territory of Guam, and at American Memorial Park on the Island of Saipan in the Northern Mariana Islands. While in Guam, he also served as NPS cultural representative to the Guam Historic Resources Division, State Historic Preservation Office, with special representation to the government of Guam.

In 1999, Brunnemann returned stateside to become cultural resources manager for the NPS Southeast Utah Group (Canyonlands and Arches National Parks and Natural Bridges and Hovenweep National Monuments). He later served as acting superintendent of Hovenweep and Natural Bridges.

Brunnemann's other NPS assignments include stints at Pinnacles National Monument (now national park) in California and Petroglyph National Monument in New Mexico. He began his NPS career as a seasonal museum aide at Fort Davis National Historic Site in Texas.

Brunnemann is a Southwest archeologist by training. He holds master's degrees in anthropology from the University of Texas (UT) at Austin and American studies from the University of New Mexico in Albuquerque. He also received an associate degree in advertising and computer programming from San Antonio College and a bachelor's degree in archeology from UT Austin.

"I knew when I began my National Park Service career at Fort Davis that someday I would return to west Texas," Brunnemann said. "I was very interested back then in the Butterfield Trail, which passed through Fort Davis. Now I am returning to the place where that same historic route comes through the Guadalupe Mountains. I am so excited to be back and I look forward to working with the park staff, park partners, and all who love Guadalupe Mountains."

Traveling with a Pet?

On a warm day the temperature inside a car can kill a pet. Do not leave your pets unattended.

AT CARLSBAD CAVERNS NATIONAL PARK, PETS ARE ALLOWED on all paved roads, pullouts, and parking areas, along Walnut Canyon Desert Drive (Loop Road), on the paved Nature trail, and at Rattlesnake Springs picnic area. Pets must be kept on a leash at all times. Pets are not permitted in the cave or at the bat flight programs. However, service animals are allowed. During the day, your pet may be cared for at the concessions kennel for a \$10 fee. Call 575-785-2281 for details. A citation will be issued if animals are left in vehicles when ambient air temperatures will reach 70° Fahrenheit (21° Celcius) or higher.

At Guadalupe Mountains National Park, pets are allowed only on the Pinery Trail, while on leash, but are not allowed on other trails, in the backcountry, in buildings, or at evening programs. Service animals are allowed. Both pets and service animals are permitted in the Pine Springs and Dog Canyon campgrounds. In any national park, your pet must be physically restrained at all times.

Volunteerism Makes a Difference

WE WOULD LIKE TO EXTEND OUR SINCERE GRATITUDE TO the dedicated effort and talent that volunteers have brought to Carlsbad Caverns and Guadalupe Mountains National Parks. Volunteers play a vital role in fulfilling our mission of preserving our natural and cultural heritage and sharing that heritage with the visiting public. Volunteers do everything from staffing the information desk, roving interpretation, patrolling surface and cave trails, to trail maintenance, research, cave restoration, and more.

To become a Volunteer-In-Park (VIP) visit www.volunteer.gov or contact:

Carlsbad Caverns National Park

Maggi Daly, Volunteer-In-Park Coordinator

575-785-3132

Guadalupe Mountains National Park

Fermin Salas, Volunteer-In-Park Coordinator

915-828-3251 ext. 2311

Junior and Senior Ranger Programs



MANY NATIONAL PARKS ACROSS AMERICA OFFER A JUNIOR Ranger program for children to encourage interest in their national parks and to promote a sense of stewardship and ownership for these special places that they come to visit. This self-paced educational program allows children to earn a patch and/or badge and/or certificate upon completion of required activities that teach them about park resources. Age appropriate activities are included in the Junior Ranger booklet, typically for pre-kindergarten through upper elementary-aged children.

At Carlsbad Caverns, the Junior Ranger program offers activities that teach children about the resources both above ground and below the surface (including plant and animal life of the desert, cave features, and history of the park). Younger children have opportunities to color and draw, find objects on a visual scavenger hunt, use their senses to experience their surroundings, and complete games. Older children will sequence events, complete word searches, and write stories and poems. Each activity in the booklet is an optional activity depending on interest and age-level. The Junior Ranger booklet is available at the visitor center information desk. Children of all ages may participate and earn a badge or patch—it's their choice. The program is free.



At Guadalupe Mountains, children work through a separate activity booklet and visit points of interest within the park. The booklet accommodates families of varying travel plans. Many of the activities can be completed at the Pine Springs Visitor Center or Dog Canyon Contact Station. Children who complete four activities earn a badge and certificate, while those who do six, earn a patch, in addition to the badge and certificate. There is no charge for participation in the program. Junior Paleontologist, Wilderness Explorer, and Night Sky Explorer Activity Books are also available. Participants will earn a badge (Jr. Paleontologist) or patch (Wilderness Explorer, Night Sky Explorer) upon completion.

Senior Ranger programs are a new development, currently available at limited locations, aimed at an audience who enjoys a challenge and wants to use an activity book to learn about the park and help plan their visit. Senior Ranger books are available at the Pine Springs Visitor Center, Dog Canyon Contact Station, and the Carlsbad Caverns Visitor Center for anyone 13 years and older. Activities include visiting sites, learning about the park's history, geology, flora, and fauna. Upon completion, participants earn a patch and certificate.

The National Park Service also offers an online WebRanger program for those who are unable to visit a national park, featuring activities about sites found across the nation. The activities illustrate principles in natural science and American history in new ways. To learn more, visit www.nps.gov/webangers.

By Christian Caparelli

COOL AIR, HEAVY WITH MOISTURE. A scent inexplicably both musty and fresh. Drips resonating through the thick silence. Inky blackness, darker than dark. This is what a true cave is to most of us without the assistance of light. Above ground, we depend on light for comprehension, for nourishment, to squelch our fears, and help us fully participate in our world. Light is so essential that we tend to take it for granted, and the complete absence of light is both daunting and humbling. Our ability to harness light, whether projected from a modified coffee can lantern or a sophisticated and durable LED light fixture, has encouraged us to move beyond our limitations and ponder the shadows, to maneuver through the deepest known cave passages, or to simply stroll casually along the public trails in Carlsbad Cavern.

Part of adapting the cave environment to adventurous visitors of all abilities, electric lighting was one of the first types of infrastructure installed after Carlsbad Caverns became a federal site. By 1932, all cave routes were illuminated by mostly trailside floodlights, displaying a bland, flat view of immense surrounding chambers. Although visitors to the new national park enjoyed a more relaxed journey, the cave soon began showing the consequences of introduced light. Older lights produced heat, contributing to a drier cave and jeopardizing moisture-dependent invertebrates. Algae and other non-native photosynthetic organisms flourished near the artificial lighting, damaging formations and the balance of the cave ecosystem. In the late 1960s, the park replaced the electrical system in the cave and moved to update the lighting, seeking a design that would be efficient, easy to maintain, lower temperature, and less likely to grow algae while remaining true to the grandeur and natural colors of the cave. In 1974, the park chose an architectural lighting designer and artist named Ray Grenald to take on the job.

Engaging his understanding of lighting theory and the human experience, Grenald moved beyond the boundaries of the trail, using warm and cool white fluores-



LEDs operate at cooler temperatures, are incredibly energy efficient, and last years of continuous usage, longer if dimmed. NPS Photo.

cent, mercury vapor, and incandescent lights to accentuate depth and distance. He accommodated the sensitivity of the human eye to low light by concealing light sources and planned intentional dark spots to soothe, to generate anticipation, and to stimulate the imagination. The redesign reduced maintenance hours, heat, and energy usage. However, despite the success and progress of Grenald's design, it proved difficult to maintain from the start and has been largely lost,

leading to an inconsistent vision of Carlsbad Cavern. Algae continue to grow, and the most effective method of treatment, diluted bleach, harms natural cave fauna, leaves behind residue, and does not fully eliminate exterminated algae. Forty years later, an efficient and reliable cave lighting system that operates at a low temperature and deters algae growth remains the priority of Carlsbad Caverns National Park.

In the fall of 2013, visitors began noticing new cables, panels, and transformers, the realization of an electrical renovation years in the making. Electricians have since been carefully navigating off trail, installing innovative LED light fixtures designed specifically for Carlsbad Cavern. LEDs operate at cooler temperatures, are incredibly energy efficient, and last years of continuous usage, longer if dimmed. Carlsbad Cavern's new lights have the potential to mix three different color temperatures, visually ranging from bold amber to warm white to cool white, mostly yellowish color temperatures proven to inhibit algae growth. Cave Specialist Rod Horrocks has been using his experience gained lighting thirteen other cave tour routes and his passion for and knowledge of the subterranean world, along with responses from both employees and visitors, to sculpt a new lighting design that is both less impactful and appropriate for the largest underground limestone chamber in the United States. Accompanied by Ellen Trautner, an accomplished park guide intimately familiar with Carlsbad Cavern, he has directed the placement and focusing of over 1100 LED lights, and, using sophisticated software, he blends colors and works with intensity to enhance delicate hues and textures of cave formations and walls. Using this same software, park employees will know quickly when specific issues arise, leading to less off-trail travel and a more stable appearance. As Horrocks paints with light, he emphasizes celebrated features and exploits ambient glow to reach previously unseen cave formations, all while tempting visitors with patches of evocative darkness.

Though more work will remain, such as minimizing glare, removing old infrastructure, and concealing the new, followed by months of fine adjustments, LED lights will brighten the trails of Carlsbad Cavern by early 2016. Every time new lights are installed in Carlsbad Cavern, new splendor is revealed. This breath-taking beauty has been present all along, hidden from us by darkness, and, on the eve of the centennial of the National Park Service, there is no more fitting reminder of why we protect these natural wonders.

Deadly Disease Continues to Kill Bats

by Dale Pate

BATS ARE IMPORTANT FOR ECOSYSTEMS ACROSS the country and the world. They are excellent pollinators and eat millions of tons of insects nightly. Some of these insects are pests of food crops. A study completed in the 1990's on the Brazilian (Mexican) Free-tailed bats from Carlsbad Cavern shows that 40 percent of the insects devoured by these bats are crop pests taken along the farmlands of the nearby Pecos River. Bats are important.

Unfortunately, beginning in the winter of 2006-2007 in caves near Albany, New York, a new and very deadly disease began to decimate bats that hibernate. Bat deaths were immediately associated with a white fungus growing around noses, ears, and on wing membranes. This condition was later named "White-nose Syndrome" (WNS). Since 2006, over five million bats have been killed by this disease and as of this summer, WNS has been detected in nine species of bats that hibernate. Death rates

of various colonies have been from 90 percent to 100 percent of all bats in that particular colony. An additional concern is that WNS is spreading rapidly. It is now found in caves and mines in 14 states. The most recent occurrence of WNS was found in a cave in western Oklahoma.

There are lots of unknowns concerning WNS. At this time, it does not appear to be affecting summer bat colonies such as Brazilian Free-tailed bats for which Carlsbad Cavern is famous. We must all be vigilant.

While it is known that transmission of the fungus is mostly from bat-to-bat, it may also be possible for humans to transport fungus spores on clothing, gear, shoes, or skin.

In an effort to slow down the spread of fungus and give bat scientists more time to look for a solution to this serious problem, Carlsbad Caverns National Park is asking visitors to caves in the park or the area to be aware of this problem and to help minimize the potential spread of this deadly disease.

Everyone can help in the following ways:

If you have been in a cave or mine that is known to harbor WNS, or if you have been in a cave or mine within a state known to have WNS, please do not bring any of the potentially contaminated items (clothing, gear, shoes) used during that visit into Carlsbad Cavern or other caves.

States known to have WNS include: AL, AR, CT, DE, GA, IL, IN, KY, ME, MA, MD, MO, NE, NH, NJ, NY, NC, OH, PA, TN, VA, VT, and WV. Provinces in Canada known to have WNS include New Brunswick, Nova Scotia, Ontario, Prince Edward Island, and Quebec.

If you are taking one of the ranger-guided off-trail trips offered by Carlsbad Caverns National Park, please use the gear furnished by the park on those tours. Also, clean your shoes and other clothing before entering the cave.

Carlsbad Caverns National Park will be increasing efforts to inform the public about this devastating disease. Check when arriving at the park for any updates on WNS and what you can do to help prevent its continued spread to other areas and other bat species.

Carlsbad Caverns Cave Tours

Visit www.nps.gov/cave for dates and times of tours, or call 575-785-2232.

Entrance Fees

Adults—age 16 and older.....\$10.00
 Children—15 and younger.....free
 plus Audio Guide.....\$5.00

There is no entrance fee for those who own any of the following passes (up to three individuals plus the cardholder): The Annual Pass, Annual Pass (Military), Senior Pass, Access Pass (all three are part of the America the Beautiful—National Parks & Federal Recreational Lands Pass), Golden Age Passport and Golden Access Passport all cover the basic entrance fee. Pass holders must still obtain entry tickets.

Entrance fee applies to self-guided tours. Guided tours require an additional fee.

All fees and tours are subject to change.

Reservations

We recommend that you make reservations for guided tours at least six weeks in advance. Some tours fill quickly. Reservations are not necessary for self-guided tours. To make reservations call the National Park Reservation System at: 877-444-6777 or visit www.Recreation.gov

Reserved tickets must be picked up no later than ten minutes prior to the posted tour starting time. Tickets will not be issued if within ten minutes of the start of any tour. No refunds for late arrivals.

Have a Safe Tour

Cave temperature is 56° F (13° C) year-round. A light jacket or sweater and good walking shoes are recommended. Do not wear sandals. For your safety:

- Stay on the paved trail.
- Supervise children closely; children under 16 must remain with an adult at all times.
- Ask park rangers for help.
- Take prescribed medications with you.
- High humidity in the cave can affect respiratory problems; bring your inhaler just in case.
- If you are **diabetic**, be sure you have eaten enough calories.
- If you have an infant with you, child-carrying backpacks are recommended. **Strollers are not allowed.**
- Leave your pet at the kennel, not in your car.

Protect the Cave

- Never touch, tap or handle the cave formations; the oils on your skin damage the formations.
- Never take gum, tobacco, food, or drinks into the cave.
- Never throw coins or other objects into the pools.

Photography

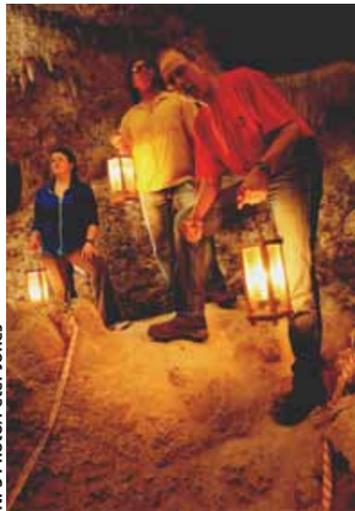
Photography is permitted on most tours; however, please use proper etiquette. Warn those around you before you flash, and do not use the rocks as your personal tripod. **For safety reasons, tripods are not allowed on any guided tours.** Tripods are allowed in the Big Room, Main Corridor, or Natural Entrance. Video cameras are permitted on the Big Room, Natural Entrance, and King's Palace tours. Please use caution and do not use the ultra-bright lights available on some cameras. Photography is **not** allowed at the Bat Flight Program offered from mid-May to mid-October.



NPS Photo/Kristi Haynie

NATURAL ENTRANCE SELF-GUIDED ROUTE

Length: 1.25 miles, 1 hour
 Fee: Entrance Fee
 This hike is similar to walking into a steep canyon (a descent of about 800 feet in one mile). It is recommended only for those physically fit and healthy; sturdy footwear required. Highlights include the Natural Entrance, Devil's Spring, Whale's Mouth, and Iceberg Rock.



NPS Photo/Peter Jones

LEFT-HAND TUNNEL

Fee: Entrance Fee and \$7.00 Tour Ticket (Half price for children, Senior Pass, and Access Pass cardholders)
 Moderately strenuous. This is a historic candle-lit lantern tour through an undeveloped section of the cave on unpaved trails. The dirt trail winds over uneven surfaces with some steep, slippery slopes. Careful footing is required to navigate on steep, slippery slopes, around cavern pools and fragile formations. Not recommended for anyone who has difficulty seeing in dim-lit or candle-lit conditions. Lanterns are provided. Sturdy closed-toed shoes or hiking boots required. No backpacks. Tour departs from the visitor center.



NPS Photo/David Harris

HALL OF THE WHITE GIANT

Fee: Entrance Fee and \$20.00 Tour Ticket (Half price for children, Senior Pass, and Access Pass cardholders)
 Extremely strenuous. Participants navigate ladders, ropes, and slippery surfaces, belly-crawl for extended periods of time, and free climb rock chimneys. **Not recommended for anyone with a fear of enclosed spaces, heights, or darkness.** Bring three new AA alkaline batteries. Sturdy, closed-toed shoes or hiking boots required. Helmets and headlamps provided. Backpacks not allowed. Tours departs from visitor center.



NPS Photo/Peter Jones

BIG ROOM SELF-GUIDED ROUTE

Length: 1.25 miles, 1.5 hours
 Fee: Entrance Fee
 Descend by elevator to start the tour in the Underground Rest Area. The non-skid trail is paved and mostly level, although there are a couple of short, steep hills. All visitors to Carlsbad Cavern should experience this tour. Highlights include the Lion's Tail, Hall of Giants, Bottomless Pit, and Rock of Ages. Some of this trail can be navigated by wheelchairs, with assistance. The park does not provide wheelchairs. This trail can also be accessed after hiking the 1.25-mile Natural Entrance Self-Guided Route.



NPS Photo/Peter Jones

LOWER CAVE

Fee: Entrance Fee and \$20.00 Tour Ticket (Half price for children, Senior Pass, and Access Pass cardholders)
 Strenuous. Initial descent is 10' down a flowstone slope by knotted rope, then a 50' descent down three sets of ladders. Bring three new AA alkaline batteries. Sturdy, closed-toed shoes or hiking boots required. Helmets and headlamps provided. Backpacks not allowed. Not recommended for anyone with a fear of enclosed spaces, heights, or darkness. Tours depart from the visitor center.



NPS Photo/Peter Jones

SPIDER CAVE

Fee: \$20.00 Tour Ticket (Half price for children, Senior Pass, and Access Pass cardholders)
 Extremely strenuous. Participants navigate slippery surfaces, bellycrawl for extended periods of time, and free climb rock chimneys. **Not recommended for anyone with a fear of enclosed spaces, heights, or darkness.** Bring three new AA alkaline batteries. Sturdy, closed-toed shoes or hiking boots required. Helmets and headlamps provided. Backpacks not allowed. Tour departs from visitor center. Participants drive their vehicles to the trailhead and hike a steep, rocky, and uneven trail for 1/2 mile to the cave entrance. Bring a hat and water.



NPS Photo/Peter Jones

KING'S PALACE GUIDED TOUR

Length: 1 mile, 1.5 hours
 Fee: Entrance Fee and \$8.00 Tour Ticket (Half price for children, Senior Pass, and Access Pass cardholders)
 Moderately strenuous. There is a steep 80' hill you must go down initially and then back up at the end of the tour. Walk through four naturally-decorated chambers with a variety of cave formations by descending to the deepest portion of the cavern open to the public. Rangers briefly turn off all lights to reveal the natural darkness of the cave. The trail is paved. Sturdy walking shoes required. Light jacket recommended. **Tours depart from the Underground Rest Area.**



NPS Photo/Dale Pate

SLAUGHTER CANYON CAVE

Fee: \$15.00 Tour Ticket (Half price for children, Senior Pass, and Access Pass cardholders)
Tour postponed until Spring 2015
 Strenuous. Tour meets at the visitor center. Participants will then caravan to the cave site. **Participants must hike a steep, rocky, and uneven 1/2 mile trail with 500' elevation gain to the cave entrance.** Bring water and sunscreen for the hike. The tour is slippery, muddy, and requires an ascent of a 15' slope using a knotted rope. Must wear sturdy, closed-toed hiking boots or shoes. **Participants must bring three AA batteries. Helmets and headlamps are provided.** Carry water—weather may be very hot in summer and very cold in winter. Stay on the trail and wear sturdy hiking shoes.

AUDIO GUIDES

Enhance your visit with an audio guide rental. As you tour the cavern, you will learn about the natural and cultural history of Carlsbad Caverns National Park.

Audio guide rentals are administered by Carlsbad Caverns-Guadalupe Mountains Association (CCGMA), a non-profit organization. The cost is \$5.00.

For Reservations call 877-444-6777 or TDD 1-877-833-6777

Tour	Trail Surface	Tour Dates and Times	Adult Fee	Age Limit	Tour Length	Group Size
King's Palace	Paved Trail; 80' hill must be climbed on return trip	Due to repairs to the elevators that are underway at the time of printing, visit www.nps.gov/cave for dates and times for all tours, or call 575-785-2232. <i>Meet at the Underground Rest Area</i>	Adults \$8 Children (4-15), Senior Pass, and Access Pass cardholders \$4 A General Admission Ticket is also required.	4	1.5 hours	55
Left Hand Tunnel	Uneven dirt trail and slippery slopes	<i>Meet at the visitor center</i>	\$7.00 and General Admission Ticket (\$3.50 ages 6-15, Senior Pass, and Access Pass holders)	6	2 hours	15
Lower Cave	Must negotiate fifty feet of ladders, low light, and slippery, dirt trails. Might get dirty.	<i>Meet at the visitor center</i>	\$20.00 and General Admission Ticket (\$10.00 ages 12-15, Senior Pass, and Access Pass holders)	12	3 hours	12
Slaughter Canyon Cave	Strenuous climb required to reach cave entrance. Trail in cave is slippery, uneven and rocky.	<i>Meet at the visitor center</i>	\$15.00 (\$7.50 ages 8-15, Senior Pass, and Access Pass holders)	8	5.5 hours	20
Wild Caving—caving gear provided						
Hall of the White Giant	Climbing and crawling, tight squeezes, drop-offs, will get dirty	<i>Meet at the visitor center</i>	\$20.00 and General Admission Ticket (\$10.00 ages 12-15, Senior Pass, and Access Pass holders)	12	4 hours	8
Spider Cave	Climbing and crawling, tight squeezes, drop-offs, will get dirty	<i>Meet at the visitor center</i>	\$20.00 (\$10.00 ages 12-15, Senior Pass, and Access Pass holders)	12	4 hours	8

Surface Activities

SERVICES

Facilities include a visitor center, exhibits, bookstore, restaurant, gift shop and kennel service. Ranger programs are offered daily. Other activities include:

NATURE TRAIL

This one-mile paved, partially wheelchair accessible trail begins near the visitor center and highlights desert plants.

SCENIC DRIVE

A one-hour drive through the Chihuahuan Desert, this 9.5-mile gravel road is suitable for high clearance vehicles. Brochures are available for 50 cents. The scenic drive is open 8:00 a.m. to 6:30 p.m. mid-May to mid-October. It is open 8:00 a.m. to 4:30 p.m. mid-October to mid-May. These hours are subject to change.

RATTLESNAKE SPRINGS

This historic oasis includes a picnic area, shade trees, restrooms and excellent bird watching. Located 5.5 miles south of White's City on Highway 62/180, then 2.5 miles west on County Road 418. Day use only.

HIKING & CAMPING

The park's wilderness offers day hikes and backcountry camping (permit required). Rangers at the visitor center can provide free permits, trail and weather information, and backcountry camping tips. The bookstore sells topographic maps, which are considered essential for desert hiking.

BAT FLIGHT PROGRAMS (MAY-OCTOBER)

A few hundred thousand bats fly from Carlsbad Cavern each evening from mid-May until the bats migrate to Mexico sometime in mid-October. The ranger program generally begins each evening 30 to 60 minutes before sunset at the park amphitheater, though weather and lightning can cause cancellation of the program. Check at the visitor center for the exact time the program starts or call 575-785-3012.



Cameras are not allowed. The lights and high frequency sounds made by the cameras disturb the bats. This rule is strictly enforced.

America the Beautiful: The National Parks & Federal Recreational Lands Pass



ANNUAL PASS

The annual pass sells for \$80.00 and is good for one year from date of purchase. The pass covers entrance fees at National Park Service and U.S. Fish & Wildlife sites and standard amenity fees at Bureau of Land Management, Bureau of Reclamation and U. S. Forest Service sites. The pass can be purchased at federal recreation sites that charge entrance or standard amenity fees.



ANNUAL PASS—MILITARY

The Military annual pass is free to U.S. Military members with a current CAC card, and their dependents with ID card Form 1173. The card is good for one year from the date it is obtained. The pass covers entrance fees at National Park Service and U.S. Fish & Wildlife sites and standard amenity fees at Bureau of Land Management, Bureau of Reclamation and U. S. Forest Service sites. The pass can be obtained at federal recreation sites that charge entrance or standard amenity fees.



SENIOR PASS

The Senior Pass sells for \$10.00 and is good for life. Any U.S. citizen or permanent resident of the United States 62 years or older may purchase the Senior Pass.

It covers the entrance fees to National Park Service and U.S. Fish & Wildlife sites and standard amenity fees at Bureau of Land Management, Bureau of Reclamation, and U. S. Forest Service Sites. Some camping and guided tour fees are discounted 50% for cardholders. The pass can be purchased at federal recreation sites that charge entrance or standard amenity fees.



ACCESS PASS

The Access Pass is available for free to any U.S. citizen or permanent resident of any age that has been medically determined to have a permanent disability.

The Access Pass covers the entrance fees to National Park Service and U.S. Fish & Wildlife sites and standard amenity fees at Bureau of Land Management, Bureau of Reclamation, and U.S. Forest Service Sites. Some camping and guided tour fees are discounted 50% for cardholders. The free pass can be obtained upon signing a medical affidavit at federal recreation sites that charge entrance or standard amenity fees.

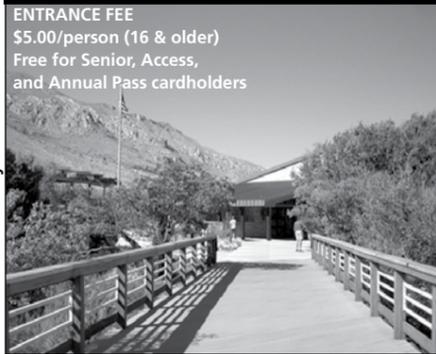


GUADALUPE MOUNTAINS NP ANNUAL PASS

Guadalupe Mountains National Park offers an annual pass for \$20.00 for visitors who plan on visiting the park more than once a year, but may not visit other federal fee areas.

The pass covers entrance fees and is good for 3 individuals plus the cardholder (persons 15 years and younger are free with or without the Guadalupe Mountains NP Annual Pass). The pass is available for purchase at the park at the Pine Springs Visitor Center.

Guadalupe Mountains National Park



ENTRANCE FEE
\$5.00/person (16 & older)
Free for Senior, Access,
and Annual Pass cardholders

NPS Photo/Michael Haynie



NPS Photo/Dave Bieri



NPS Photo/Dave Bieri



NPS Photo

SERVICES

Facilities and services within and near Guadalupe Mountains National Park are extremely limited. The nearest gas stations are 43 miles west (Dell City, TX), 35 miles east (White's City, NM), or 65 miles south (Van Horn, TX). There is no campstore; bring everything you need with you.

INFORMATION & EXHIBITS

Pine Springs Visitor Center

Elevation 5,730'. On Highway 62/180, 55 miles southwest of Carlsbad, 110 miles east of El Paso, and 65 miles north of Van Horn on Highway 54 and Highway 62/180. Open every day except December 25. Open daily 8:00 a.m. to 4:30 p.m. (Mountain Time Zone). Information, natural history exhibits, introductory slide program.

Frijole Ranch History Museum

The ranch house features exhibits describing historic and current use of the Guadalupe. Grounds include a picnic area near a spring shaded by large oak trees. Open intermittently.

McKittrick Canyon

Highway entrance gate is open 8:00 a.m. to 4:30 p.m. Mountain Standard Time. During Daylight Savings Time, hours are expanded 8:00 a.m. to 6:00 p.m. Restrooms, outdoor exhibits, slide program, picnic tables.

Hike Safely...

- There is no water available along park trails, so be sure to bring plenty with you. One gallon per person per day is recommended.
- Trails are rocky—wear sturdy shoes. Trekking poles are recommended.
- Carry a trail map.
- Pack warm clothing and rain gear; sudden weather changes are common.

Protect the Park...

- Stay on trails; don't cut across switchbacks or create new trails.
- Carry out all trash, including cigarette butts.
- Report any trail hazards to the Pine Springs Visitor Center or any park staff member.
- Collecting of natural, historic or prehistoric objects is prohibited.

Weather

	Average Temperature (° F)		Average Rainfall
	High	Low	Inches
Jan	56	34	0.67
Feb	59	36	0.90
Mar	65	41	0.58
Apr	73	48	0.60
May	82	56	0.91
June	88	62	2.18
July	88	64	2.37
Aug	86	63	3.29
Sep	81	58	2.54
Oct	73	50	1.34
Nov	63	41	0.97
Dec	56	33	1.05
Average annual precipitation for Pine Springs (1980-2003)			17.4

HIKING

Pinery Trail

Distance: .67 mile
Difficulty: Easy, wheelchair accessible, slight incline on return trip.

Discover the desert as you walk to the ruins of the Pinery, a stagecoach station on the Butterfield Overland Mail Route in 1858. Trailside exhibits. This is the only trail pets on leash are allowed.

McKittrick Canyon Trail

Distance: to Pratt Cabin 4.8 miles roundtrip, to the Grotto, 6.8 miles roundtrip
Difficulty: Moderate, level but rocky trail, 200' elevation gain to Grotto.

Follow an intermittent stream through the desert and canyon woodlands to the historic Pratt Cabin. A guidebook is available at the trailhead. The Grotto Picnic Area and Hunter Line Cabin are one mile beyond the Pratt Cabin. Please do not drink the water or wade in the creek. To protect this fragile environment, you are required to stay on the trail.

Guadalupe Peak Trail

Distance: 8.4 miles
Difficulty: Strenuous. Approximately 3,000' elevation gain, steep, rocky path.

Hike to the "Top of Texas" at 8,751' for spectacular views. Avoid the peak during high winds and thunderstorms. During warm temperatures, carry a gallon of water per person.

CAMPING

Water and restrooms are available, but there are no showers, RV hookups, or dump stations. The fee is \$8.00 per night, per site, \$4.00 with a Senior Pass (or existing Golden Age Passport) or Access Pass (or existing Golden Access Passport). No wood or charcoal fires are permitted; camp stoves are allowed.

Pine Springs Campground

Located near the Pine Springs Visitor Center, there are twenty tent and nineteen RV campsites (including a wheelchair accessible tent site) available on a first-come, first-served basis. Two group campsites are available for groups of 10-20 people. Reservations (for group sites only) can be made by phoning 915-828-3251 x2124 up to two months in advance. Campers planning on day hiking in McKittrick Canyon, to Guadalupe Peak or the Bowl will want to stay here.

Dog Canyon Campground

Located at the end of New Mexico Highway 137, 70 miles from Carlsbad and 110 miles from Park Headquarters, at an elevation of 6,290' in a secluded, forested canyon on the north side of the park. The campground has nine tent and four RV campsites (including a wheelchair accessible tent site). There is one group site for groups of 10-20 people. Reservations for the group site only can be made up to two months in advance by calling 915-828-3251 x2124.

BACKPACKING

Eighty-five miles of trails lead through forests, canyons, and desert to ten backcountry campgrounds. A free permit is required if you plan to spend a night in the backcountry. Permits are issued at the Pine Springs Visitor Center and the Dog Canyon Ranger Station. For those coming through Carlsbad, Dog Canyon is a great place to begin a backpacking trip because it requires less elevation gain to get into the backcountry.

Wood and charcoal fires are prohibited. Camp stoves are allowed. Pack out all your trash. Pets are not allowed on park trails.

Preparation is the key to an enjoyable backpacking trip. Be prepared for changing weather conditions. Carry plenty of water—there are no water sources in the backcountry. Topographic maps, hikers' guides, and information can be found at the Pine Springs Visitor Center and the Dog Canyon Ranger Station.

HORSEBACK RIDING

Sixty percent of the park's trails are open to stock use. A backcountry permit is required for all stock use. These free permits are issued at the Pine Springs Visitor Center and Dog Canyon Ranger Station. Stock riding is limited to day trips only.

Stock corrals are available at Dog Canyon and near Frijole Ranch. Each has four pens and will accommodate a maximum of 10 animals. Reservations may be made two months in advance by calling 915-828-3251 ext. 2124.

OTHER POPULAR HIKES...

Trailhead	Trail	Distance Roundtrip	Description
Pine Springs	Devil's Hall Trail	4.2 miles	Moderate to Strenuous. Hike in Pine Spring Canyon to the Hikers' Staircase and Devil's Hall. After the first mile, the trail drops into the wash and becomes very rocky and uneven. Turn left and follow the canyon bottom to the Hiker's Staircase and a beyond to the Devil's Hall. Area beyond Devil's Hall closed March - August due to sensitive species.
	The Bowl	8.5 miles	Strenuous. The Bowl shelters a highcountry conifer forest. Recommended route: Tejas Trail, Bowl Trail, Hunter Peak, Bear Canyon Trail, Frijole Trail, Tejas Trail (.1 mile) back to campground. Trail climbs 2,500'. Bear Canyon Trail is very rocky and extremely steep.
	El Capitán Trail	11.3 miles	Moderate to Strenuous. Desert lovers will appreciate the rocky arroyos and open vistas while skirting along the base of El Capitán. Recommended route: El Capitán Trail, Salt Basin Overlook, and return to Pine Springs on the El Capitán Trail.
Frijole Ranch	Manzanita Spring	.4 miles	Easy. Path is paved and wheelchair accessible. Hike to a small pond that serves as a desert oasis. Dragonflies, butterflies, and birds are active here in the warmer months. During winter, bluebirds frequent the area. Opportunities for chancing upon other wildlife are higher here as well.
	Smith Spring Trail (entire loop)	2.3 miles	Moderate. Look for birds, deer and elk as you pass Manzanita Spring on the way to the shady oasis of Smith Spring. Trees around Smith Spring include madrones, maples, oaks, chokecherry, ponderosa pines and others.
McKittrick Canyon	McKittrick Nature Loop	0.9 miles	Moderate. Climb the foothills and learn about the natural history of the Chihuahuan Desert. Trailside exhibits.
	Permian Reef Trail	8.4 miles	Strenuous. For serious geology buffs, this trail has stop markers that can be used with a geology guidebook sold at the Visitor Center. There are excellent views into McKittrick Canyon from the ridgetop. Trail climbs 2,000'.
Dog Canyon	Indian Meadow Nature Loop	0.6 miles	Easy. Enjoy a stroll around a meadow frequented by a variety of birds and other wildlife. Along the way you will see evidence of recent fires and regrowth.
	Marcus Overlook	4.6 miles	Moderate. Follow the Bush Mountain Trail to the ridgetop for a view into West Dog Canyon. Trail climbs 800'.
	Lost Peak	6.4 miles	Strenuous. Climb out of Dog Canyon on the Tejas Trail to visit the conifer forest above. Outstanding views from Lost Peak. Lost Peak is a short distance off trail to the right, before the horse hitches. Trail climbs 1,500'.
Salt Basin Dunes	Salt Basin Dunes (Day Use Only)	3-4 miles	Moderate. Follow the old roadbed from the parking area, for a little over a mile, to the north end of the dune field. There is one high dune to ascend that some may find difficult. No shade. Enjoy the contrast of the pure white dunes with the sheer cliffs of the the Guadalupe as a backdrop. Great for sunrise or sunset hikes all year, and daytime hikes during the winter.

Hiker Safety for Different Weather Conditions



Lightning may be the most awesome hazard faced by hikers. In our area, storms are common from May through September, and usually occur in the late afternoon or early evening. You can estimate the distance of a lightning strike in miles by counting the time in seconds between flash and sound and dividing by five.

The effects of being close to a lightning strike may be minor, such as confusion, amnesia, numbness, tingling, muscle pain, temporary loss of hearing or sight, and loss of consciousness. Severe injuries include burns, paralysis, coma, and cardiac arrest. Since injuries may not be obvious initially—burns and cardiac injury may not appear until 24 hours after the lightning strike—medical observation is recommended for all lightning victims.

Decrease your risk of injury from lightning:

- Get an early start so that you can finish your hike before storms erupt.
- Be aware of current and predicted weather. Watch the sky for development of anvil-shaped cumulus clouds. If a storm is building, descend to lower elevations.
- If a storm occurs, seek shelter. A car or large building offers good protection. Tents offer no protection.
- Turn off cell phones and other electronic equipment.
- If totally in the open, avoid single trees. Stay off exposed ridges.
- When caught in heavy lightning, the best stance is to crouch with feet close together, minimizing the opportunity for ground currents to find a path through the body. Crouch on a dry sleeping pad, if available.
- Stay out of shallow caves or overhangs. Large dry caves which are deeper than their width offer some protection; but do not lean against walls. Adopt the feet-together crouch.
- Valleys and ditches offer some protection. Avoid a depression with a stream.
- In forests, seek low spots under thick growth or smaller trees.
- Avoid standing water, fences, power lines, and pipelines. Discard metal hiking sticks.
- Groups should not huddle together. Scatter so if one person is injured, the others can help—stay at least 30 feet apart.

The body balances heat loss against heat gain to keep the core body temperature within narrow limits. With strenuous exercise in hot climates, heat gain can exceed loss. Core temperatures may rise, sometimes to dangerous levels. Dehydration exacerbates heat illness.

Heat Exhaustion develops over hours due to water and electrolyte loss from sweating; it causes collapse or gradual exhaustion with an inability to continue to exercise. Symptoms include headache, dizziness, fatigue, nausea, vomiting, muscle cramps, rapid pulse, thirst and profuse sweating, gooseflesh, chills, and pale skin, and low blood pressure—the victim may faint.

Heatstroke occurs in people who undertake heavy exertion in hot climates, and results in sudden collapse with extreme elevation of body temperature, decreased mental status, and shock. It is a medical emergency that can kill; begin treatment immediately. Symptoms include headache, drowsiness, irritability, unsteadiness, confusion, convulsions, coma, a rapid pulse and low blood pressure, and either dry or sweat-moistened hot skin.

Prevention

Drink plenty of water when exercising in hot weather, before feeling thirsty and after feeling satisfied. Drink enough to produce clear urine regularly during the day. Eat high carbohydrate foods for energy. Avoid heavy exercise in high temperatures and high humidity. Wear light-colored clothes that fit loosely and cover all sun-exposed skin surface. Avoid alcohol and caffeine; both increase loss of fluid.

Treatment

- Have the victim rest in the shade.
- Remove excess clothing.
- Wet the victim to increase evaporation.
- Have the victim drink fluids; if available, add 1/4 teaspoon salt and 6 teaspoons sugar to 1 quart of water.
- In serious cases, begin immediate, rapid cooling by one of these methods:
 - a) Increase evaporation by sprinkling water on the skin and fanning vigorously.
 - b) Immerse the victim's body in cool water.
 - c) Place cold packs on the neck, abdomen, armpits, and groin.
- Stop cooling when mental status improves. Continue to monitor the victim.
- Contact a park ranger for assistance.

Cold



Hypothermia is a cooling of the body core when more heat is lost than is produced, and can be life threatening. Wetness and wind are a lethal combination that chill a person more rapidly than dry cold. Hypothermia can occur in any season of the year: the hiker exposed to a sudden summer hailstorm while wearing only a T-shirt and shorts is more likely to become hypothermic than a well-dressed winter hiker. Windchill adds to the problem, but affects only the exposed parts of the body. Wearing windproof clothing reduces the effects of windchill.

Signs of mild hypothermia include progressively worsening shivering, uncharacteristic behavior, grumbling about feeling cold, inappropriate excitement or lethargy, poor judgement, confusion, and hallucinations. The victim may experience stiff muscles and cramps, uncoordinated movements, and stumbling. Skin will be cold, pale and blue-gray due to constricted blood vessels.

As hypothermia becomes severe, shivering ceases. The victim's behavior changes from erratic to apathetic to unresponsive. The pulse becomes weak, slow, and irregular. Breathing slows, pupils become dilated. Eventually the victim will slip into a coma.

Prevention

Know the weather forecast; carry appropriate extra clothing, such as a water/wind repellent shell, jacket, hat and mittens, and a space blanket or tarp for shelter. Evaporation of sweat is a major source of heat loss

during exercise; try to avoid sweating by wearing ventilated clothing. Watch for early signs of hypothermia, and act promptly to avert it. Gauge the day's activity to the party's weakest member; children are more prone to hypothermia than adults. Being exhausted, hungry, dehydrated, or demoralized prevents a proper response to cold and hastens the onset of hypothermia.

Treatment

- Do not delay.
- Find shelter out of the wind.
- Remove wet clothes and replace with dry; add layers and a wool cap to increase insulation.
- Give food and warm, sweet drinks.
- If the victim is shivering strongly, place victim inside a sleeping bag well-insulated from the ground.
- If the victim responds to rest and warmth, he may be able to continue hiking.
- For severe hypothermia, provide heat to the victim's trunk after rescue by whatever means are available—body-to-body contact, hot water bottles, chemical heating pads, hot rocks wrapped in clothing. Place the heat sources in the groin and armpits and alongside the neck. Always have clothing between a heat source and the skin to prevent burns.
- Never leave a hypothermic victim alone.
- Contact a park ranger for assistance.

Hiker Safety & Wildlife

Mountain Lions

With their large size and very long tails, mountain lions are unmistakable. Adult males may be more than 8 feet in length and weigh an average of 150 pounds. Adult females may be up to 7 feet long and weigh an average of 90 pounds. Their tracks show 4 toes with 3 distinct lobes present at the base of the pad, which is generally greater than 1.5 inches wide. Claw marks are usually not visible since their claws are retractable.

Mountain lions take their prey, usually deer, by ambush. After spotting prey, a lion stalks using available cover, then attacks with a rush, often from behind. They usually kill with a powerful bite below the base of the skull, breaking the neck, then drag the carcass to a sheltered spot beneath a tree or overhang to feed on it. Often they cover the carcass with dirt or leaves and may return to feed on it over the course of a few days.

Although no one has had a physical encounter with a mountain lion at Guadalupe Mountains National Park, sightings have become more frequent in the last few years. Lions have increasingly shown more curiosity about people and less fear. Even with this increased lion activity, your chance of seeing one of these elusive creatures is extremely low. A few simple precautions may reduce the risk of a dangerous encounter.

If a lion is sighted, there are several things to remember:

- Do not approach a lion, especially one that is feeding or with kittens. Most mountain lions will try to avoid confrontation. Give them a way to escape.
- Stay calm; speak calmly yet firmly. Move slowly. Avoid prolonged direct eye contact.
- Face the lion and stand upright. Do all you can to appear larger. Raise your arms, or open your jacket.
- Protect small children by picking them up so they won't panic and run.
- Back away slowly, if you can do it safely. Do not run! Running may stimulate a lion's instinct to chase and attack.
- If the lion behaves aggressively, throw stones, branches or whatever you can get your hands on without crouching down or turning your back. Wave your arms slowly and speak firmly. What you want to do is convince the lion that you are not prey and that you may in fact be a danger to the lion.
- Fight back if a lion attacks you. People have fought back successfully with rocks, sticks, jackets, and their bare hands. Protect your head and neck with your arms. Remain standing or try to get back up.
- Please report all mountain lion sightings to a park ranger.

When you hike in mountain lion country:

Travel in groups. Lions may key in on easy prey, like small children. Make sure children are close to you and within your sight at all times—do not let children run ahead of adults! Talk with children about lions and teach them what to do if they meet one.



Rattlesnakes



Rattlesnakes are protected in National Parks; it is illegal to harm them.

Rattlesnakes are the only venomous snakes found in the Guadalupe Mountains. They are recognized by the triangular, flat head, wider than the neck; vertical, elliptical pupils, and a heat-sensitive "pit" located between the eye and the nostril. Rattles are generally present, but may be broken off.

To avoid rattlesnake bites, stay on trails where you are more easily able to see a snake. Watch where you put your hands and feet; look around before sitting down. If you see a rattlesnake, leave it alone. Alert other members of your party. Do not attempt to move it; simply walk around it and continue your hike.

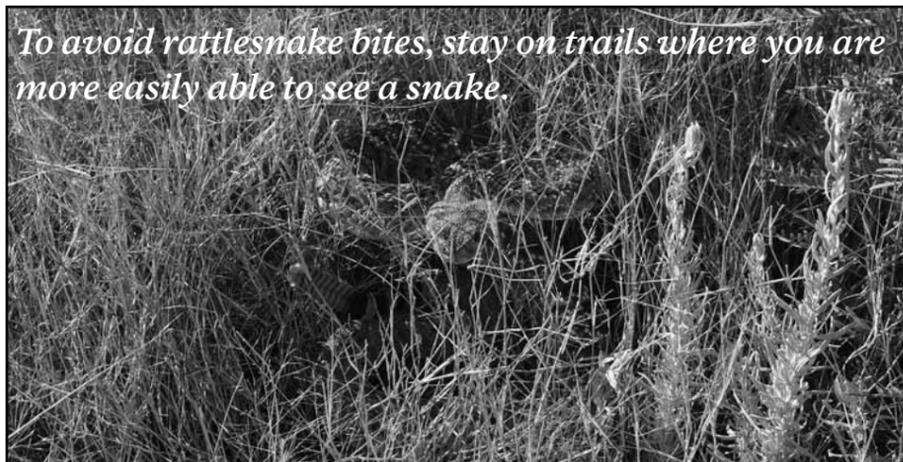
Do not use these methods to treat a snakebite:

- a **tourniquet**, which causes severe damage if wound too tightly.
- cold or ice**; it does not inactivate the venom and poses a frostbite hazard.
- the "**cut-and-suck**" method; it can damage blood vessels and nerves.
- mouth suction**; your mouth is filled with bacteria, and you may infect the wound.
- electric shock**; no medical studies support this method.
- alcoholic beverages**, which dilate vessels and compound shock.
- aspirin**, which increases bleeding.

First aid for a snakebite:

- Get the victim away from the snake. Rattlesnakes strike across a distance equal to half their body length and can bite more than once. Do not attempt to capture or kill the snake.
- Remove constrictive jewelry such as rings and watches.
- Suction with a venom extractor is only minimally effective and must be started within two to three minutes. Do not attempt oral suction or incising the skin.
- Use a sling or a splint to immobilize the limb loosely; keep it below the level of the heart.
- Look for signs of envenomation: severe burning pain at the bite site; swelling starting within 5 minutes and progressing up the limb (swelling may continue to advance for several hours); discoloration and blood-filled blisters developing in 6 to 48 hours; and in severe cases, nausea, vomiting, sweating, weakness, bleeding, coma, and death. In 25% of rattlesnake bites, no venom is injected.
- If there are immediate, severe symptoms, keep the victim quiet; activity increases venom absorption. Have someone contact a ranger as soon as possible to begin evacuation.
- If there is no immediate reaction, you may choose to walk slowly with the victim to the trailhead. Begin evacuation as quickly as possible; contact a ranger for assistance. If evacuation is prolonged and there are no symptoms after six to eight hours, there has probably been no envenomation. However, all bites can cause infection and should be treated by a physician.
- Transport the victim to a medical facility where antivenin is available. The closest facility to the park is Carlsbad Medical Center, at the north end of Carlsbad, New Mexico on US 285 (2430 West Pierce); driving time is 1½ hours from Pine Springs.

To avoid rattlesnake bites, stay on trails where you are more easily able to see a snake.



Now, Then, There: Here in the Guadalupe

By Holly Haworth

I CAME TO THE GUADALUPE MOUNTAINS in the summer, as the park's artist-in-residence. Because these mountains are made of a reef that thrived and grew for millions of years under the ocean during the Permian Period, some 260 million years ago, I traveled here to write about deep time—how recently humans evolved on an ancient earth, and everything that happened before we arrived.

Where you are standing now, for example—on solid ground in the Chihuahuan Desert at about 5700 feet or so elevation, in West Texas—would have been at the bottom of an inland sea that spread over the West coast of the supercontinent Pangaea, during the Permian. The inland sea eventually dried up, and the reef was buried in salt and minerals. Later, there was a mass extinction, when 90 percent of life on the planet disappeared. Then later, much later, the reef was uplifted into towering mountains, and canyons were carved through them. And this was all before humans arrived to hunt big game with spears in the Guadalupe around 12,000 years ago.

Though I was enthralled by the ancient earth that I could see and touch and imagine here, it was difficult for me to focus solely on fossils and sedimentary rocks. When I arrived in July, the monsoon season was in full swing, and storms gathered and rolled over the mountains and down across the basin each afternoon in sheets of blue, punctuated by bolts of pink lightning. The cholla were in bloom, red flowers brilliant as roses on the cacti's spiny, spindly arms. My eyes were frantic with color. Everywhere I looked, there was a blossom unfolding.

I saw the papery white flowers of the prickly poppy, its jagged blue-gray stems and leaves (Its species name *squarrosa* means "rough"). I learned the violet flowers of the silverleaf



nightshade, its leaves covered with little hairs and sharp spines (another rough desert plant). I watched the large white trumpet-shaped flowers of the datura emerge from their velvety cases at dusk. Mexican hats swayed, festive and orange, in the soft breeze that swept through each evening.

While I knew I had come to write about ancient earth history—the Then and There, a different earth, really, than the one we stand on today—I could not pull myself from the wonder of the Here and Now. Every scurry, every buzz, every flower, every bolt of lightning needed for my attention.

At Frijole Spring, as I sat trying to contemplate deep time, damselflies floated and alighted, folded their wings to reveal their stick-like bodies, striped blue of the deep sea. I did not think about the Permian Era as I watched rabbits leap across my path, black tails and tall ears darting away.

Birds singing, flies and grasshoppers buzzing, crickets whirring in the dark, thunder, wind blowing through the canyon—nothing was ever still in all my moments here. And yet a stillness came over me. An ancientness seeped into me.

I did, in the end, write about the deep time that is present here in the fossils and rocks, and realized, too, that the spiral of the galaxy at the moment the earth was born, and the spiral coiled within the calcite shell of the ammonoids that are fossilized in the rocks

of the Permian, are the same shape of the rattlesnake that I found coiled under a juniper bush one evening near sundown, just as the desert rocks began to give off the heat of the day.

When the snake felt my vibrations it uncoiled and slid across the trail away from me, pausing to flick its tongue into the air. I held my breath and admired its beautiful markings, knowing that it had descended from the first snake that evolved during the Jurassic some 150 million years ago. I felt lucky that we had journeyed, that snake and me, from our respective Theres and Thens to arrive at the Here and Now together.

If you are visiting the park now, in winter, it will be different than when I was here in the summer, with its thunderous storms and the incessant buzzing of grasshoppers, summer when the monsoons brought large and tiny blossoms everywhere and a spectrum of greens grew among the lime-white stones. There will be other sounds, other weather, other colors—it will be a different Now, and Here will be a different Here.

Perhaps you will look up to see that a dusting of snow has covered the mountains, perhaps you will find ice in the crevices of rocks, when you are peering at the fossils of gastropods. I hope that in such moments you will feel, also, the vast stretch of long-gone time behind you, and that it will make those moments all the more miraculous.

Scientific Monitoring Continues

By Edna Flores

HOW WOULD YOU LIKE TO HAVE "Nomadic Scientist" as a job title? Although it is not a technical title, that is exactly what the members of the Chihuahuan Desert Network (CHDN) are. This network is only one of thirty two National Park Service (NPS) inventory and monitoring networks throughout the country, and it is made up of a group of scientists that travel all over the Chihuahuan Desert. The CHDN crew monitors a total of seven different NPS sites throughout west Texas and Southeastern New Mexico. The sites include Amistad National Recreation Area, Big Bend National Park, Carlsbad Caverns National Park, Fort Davis National Historical Site, White Sands National Monument, the Rio Grande Wild and Scenic River, and of course, Guadalupe Mountains National Park.

The monitoring efforts at Guadalupe Mountains include air quality, climate, invasive plants, land birds, landscape dynamics, spring ecosystems, and uplands vegetation and soils. Vegetation and soils monitoring supports a comprehensive understanding of terrestrial ecosystems and integrates six "vital signs": vegetation community dynamics, vegetation lifeform abundance, exotic plant species-status and trends, biological soil crusts, soil aggregate stability, and soil cover.

For the last five years the CHDN crew has been visiting the park installing plots in different areas of the park. Each specific plot locations are recorded and catalogued as a site where scientists monitor natural and physical resources so that park managers can make important decisions using sound scientific data. The CHDN believes that monitoring can tell us how resources are changing over time, if management action is needed or if it is working, and what the consequences of environmental changes are. A typical five to seven day trip for the CHDN crew in the Guadalupe Mountains means hiking on rugged, steep terrain to set up their plot layouts. Plot location elevations can also vary greatly starting around 3,000 feet and rising to 8,000+ feet. The sampling plots require setting up an area that is 20x50 meters and then divided into six transects where the crew samples vegetation, soil and biological soil crust cover, soil stability, the presence of perennial vegetation, and the number of annual non-native plants.

Monitoring is tough work. Aside from carrying their personal backpacking gear, each person is responsible for carrying their water, food, and scientific equipment. Any person who has hiked into the backcountry of the Guadalupe knows that there are no water sources available and that long hikes require a lot of preparation and often multiple re-watering trips that mean hiking down and back up the mountains. These scientists are human machines carrying large amounts of weight on their back to accomplish their work.

As the fall of 2016 rolls around, the CHDN crew will return to Guadalupe Mountains to begin collecting data from the first plots installed back in 2010. After five years of monitoring, the data collected will be analyzed and interpreted in comprehensive status and trend reports that will then be published in the National Park Service Natural Resources Technical Report Series. All of their hard work is then kept and used during park management planning. To learn more about the National Park Service's scientific efforts and how you can explore nature around you, visit www.nature.nps.gov.



KODAT 1822-1

Dear >>----->>>>>

Here where all but the light treads lightly, I am a shadow. Not to speak of the rust-red wings of dragonflies, hovering. It is easy to fall into silence. But I will tell you I am ghostly among the stones. I do not think of time so much as sediment & dust. When a word like metamorphosis is on my tongue the evening wind picks up. There are these moments of transformation.

I do not think, I watch how the light changes.

I am writing to tell you that there is not a future so much as an infinite unfolding of rock, & that I can hear my heart beating here. Traveler, when you are ready I will meet you in the long hall of translucence, where the juniper grows. I won't say there isn't distance in the sedimentary world. But in my recent visions even the faraway is very near.

*many levitations,
h.*

"Shadow" by Artist in Residence Holly Haworth

Mule Deer: Graceful Survivors

By Doug Buehler

Think about all the wild animals you enjoy seeing in a national park area. Through the years one of the main animals people consistently see are mule deer. Seeing a deer in its natural habitat creates sense of wonderment. Mule deer have some amazing characteristics that enable them to survive in the rugged landscape of Guadalupe Mountains National Park.

When you see a mule deer, one of the first things you may notice is the large size of their ears. They received their common name due to their ears resembling those of a mule. These large ears swivel to detect danger from any direction and relatively long distances away. The ability to hear well is a big advantage in terrain that varies with many ups and downs.

The soft, large brown eyes of the mule deer seem to stare right through you. They have excellent eyesight. Many times when I am around a deer and they see me out in the open there is a less chance of spooking them, than if you try and sneak up on them. I find this especially true if I play like I could care less if the deer is there or not; a tip for potential deer watchers.

When rapidly moving, the deer not only runs, but also does something that looks peculiar. They seem to bounce in a stiff fashion on all four legs. This movement is called slotting. This method of movement has some real advantages. A deer can jump over obstacles that a predator has to go around. Quick changes in direction are possible with slotting which makes it harder for enemies to catch them. Also they can bound up very vertical terrain with ease and leave behind an exhausted pursuer. I am not sure how the deer evade all the cactus and other sharp pointed plants when

bounding away, but they do a great job of landing in the right spot.

The major predators of the deer are mountain lions, coyotes, and eagles. Mule deer are most vulnerable when first born. The spots of a young fawn make an excellent camouflage. Fawns have very little scent. A predator can come very near and not see or smell a young fawn. Deer mature at a rapid rate and are able to do their special trick of slotting relatively quickly after birth.

One of the most noticeable things about a mule deer at certain times of the year are antlers found on the buck deer. Antlers are different than horns, since they are shed each year while horns continually grow for the life of an animal. They start growing in the spring and are fully developed by fall. It is amazing how fast the antlers grow. It is interesting there are seldom major injuries between bucks fighting to establish dominance. Usually the animal with larger size and antlers wins a contest of strength. When fighting off predators, antlers come in handy. Even the shed antlers on the ground are good for something. They provide a food source and chewing surface for rodents such as mice and pack rats.

Mule deer are very adaptive in what they eat. They can eat a wide variety of plants including many that other types of mammals cannot easily eat. Deer are browsers as opposed to be grazers. As a result they can feed on woody shrubs and other types of vegetation other than grasses. Their digestive system can process plants that are somewhat toxic and hard to digest.

So between hearing and eyesight, a particular method of running, special adaptations when



Mule deer, named after the appearance of their large ears, roam throughout the park.

young, the growth of antlers, and flexible eating habits the mule deer is a real survivor. The next time you see one think about some of these interesting characteristics. Their calm demeanor helps make them fairly easy to see

and will add to your enjoyment of the park. One of the great things about a national park is the fact animals are protected in their natural habitat for all to enjoy now and in the future.

Ringtail What?

By Doug Buehler

One night while camping, I heard a noise outside of my tent. I stuck my head out of the tent flap and caught a glimpse of a cat-like animal with a long bushy ringed tail scampering up a tree. At first I thought it was a raccoon, but the face was unlike any raccoon I have ever seen. It was a ringtail cat; a somewhat mixed up animal that seems to be part fox and part raccoon. It is a part of the raccoon family, and not a cat at all. It is seldom seen because of its living habits; however it is a fascinating survivor in the park.

Even though ringtail cats are fairly common one does not see them often since their primary time of activity is at night. Think about being out at night in the desert. Being active at night can have some real benefits. It is cooler at night and more comfortable in the desert. It is harder for predators to see you at night. A host of potential prey is more active at night, especially rodents. In fact, the ringtail can eat quite a variety of food including berries, mice, pack rats, small birds, lizards, snakes, and insects. Many times a visitor will ask what is the reddish-looking scat in the trails of the park. Most of the time it is from ringtails with the red color coming from the berries and fruit it has eaten. The smorgasbord of food the ringtail can eat enables it to survive in a harsh environment. The more flexible one is about sources of food the greater the chance of survival. What would

you be willing to eat in a survival situations? Maybe the same things as a ringtail cat.

The ringtail is truly a champion gymnast in the animal world. The raccoon-like tail is actually longer than its body. The tail helps the ringtail keep its balance more readily as it races across uneven surfaces and scurries up trees. It can also fluff the tail up and curl it above its body to appear larger and scary when facing predators such as bobcats and mountain lions. Curling up with their tail adds warmth on cold winter days. Its claws are partly retractable and aid in gripping surfaces. The ringtail is so acrobatic they can “chimney” up vertical cracks by ricocheting from wall to wall with their great leaping ability. To top off their athletic maneuvers, the ringtail’s hind feet can rotate 180 degrees permitting head first descents, increasing climbing agility, and giving them the ability to turn around in tight spots. They can actually do an up and over handstand against a surface and turn around quickly to get out of tight spots. The ringtail might dive head long into a small crevice and find a lizard hiding in a tight corner. No problem. The ringtail catches the lizard and does a handstand raising its hind feet to secure a grip. It then twists upward to go back out the crevice head first. This kind of maneuvering is certainly a great advantage in hunting different types of prey.

Exploring at night opens up a whole new level of experience. However the rewards might be hearing the hoot of an owl, see a bat swooping after insects or a glimpse of a ringtail cat chasing a mouse. The ringtail cat is just one example of the intriguing wildlife that has found

a way to survive in the Guadalupe Mountains. They need our help by preserving their habitat in places such as Carlsbad Caverns and Guadalupe Mountains National Park. Next time you are out at night in this area don’t be startled by sounds that include metallic chirps, squeals, whimpers, clucking, barks and various growls; it might just be a ringtail cat letting you know it is in the area.



FIND YOUR PARK

The National Park Service and the National Park Foundation are inviting people everywhere to discover their own personal connections to parks. So much more than vast landscapes, there are urban parks, cultural treasures, and historical places—all within the National Park System. A park can even be a feeling or state of mind. You may also find that a National Park Service program helped preserve a special place in your community. With more than 400 national parks and thousands of historic and recreational lands across the country, there are endless ways for you to find your unique connection.

If you found your park today, please share your story now using #findyourpark or by going to findyourpark.com. Enter your story for a chance to win some amazing prizes.

Wildland Caving Opportunities on the Lincoln National Forest

By Brad Bolton

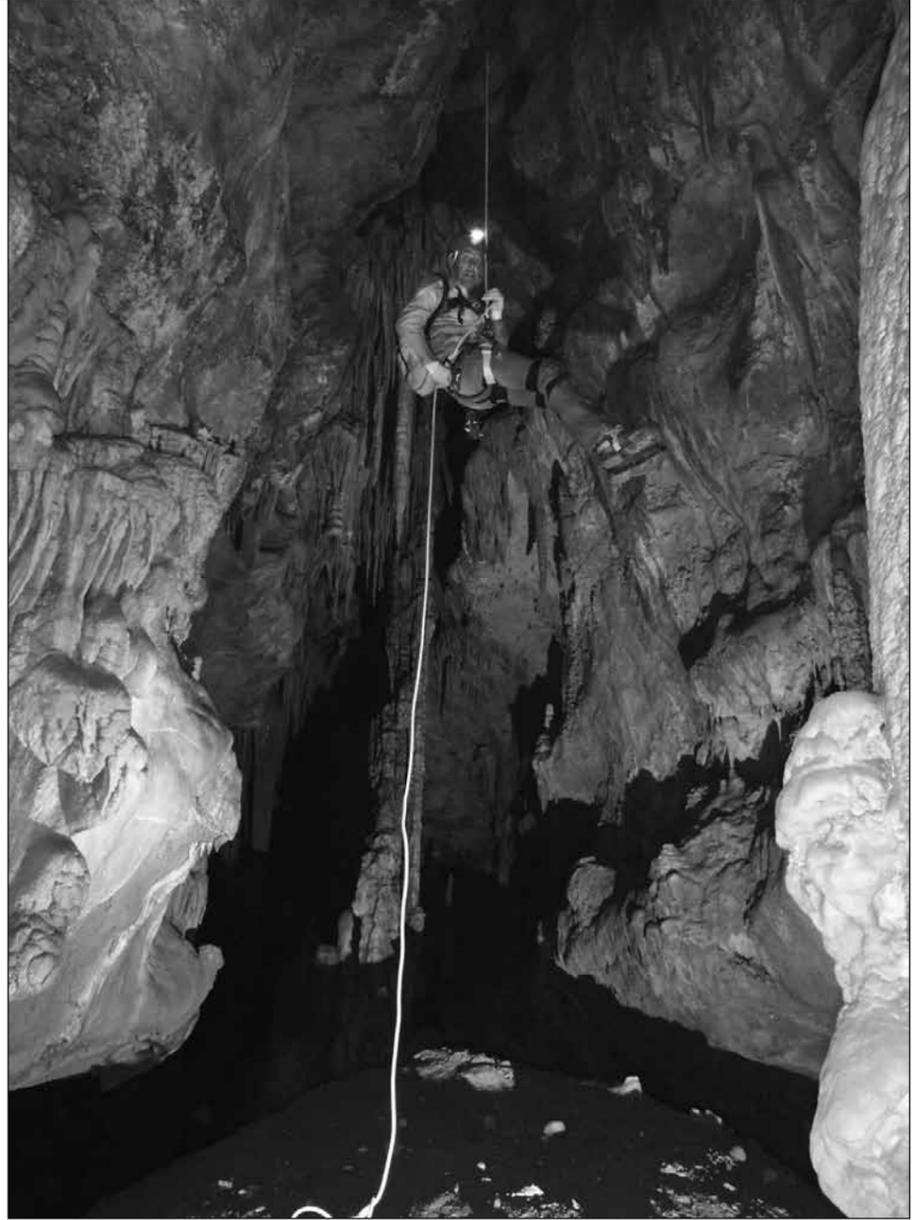
DOES THE 'HALL OF THE WHITE GIANT Tour' or the 'Spider Cave Tour' sound really exciting to you? Signing up for one of these tours is a great way to experience 'wild caving' where you rely on your own wits and physical strength to climb and negotiate through cave passages. For folks that really enjoy these types of trips there are more adventures to be found in nearby Lincoln National Forest.

The Lincoln National Forest manages numerous caves, many of which are in the same mountains shared with the two National Parks. While nothing can compare to Carlsbad Caverns, many Forest Service caves are spectacular, unique, and world renowned for exquisite formations. In addition, many caves have vertical entrances requiring rapeling and rope work to enter! New discoveries are made yearly as scientists come to the Lincoln to study the geology and biology of caves. The caves are in a completely natural setting nestled in the high mountains and deep canyons. Visiting caves on the Lincoln National Forest can be challenging and remote, requiring specialized equipment, weeks of planning, and extensive training.

Below ground, management of backcountry caves is very similar for the different agencies. That is because the same 1988 Cave Protection Act is the federal law that requires management of significant caves for all National Parks and National Forests. Lincoln National Forest promotes conservation by facilitating a backcountry cave permit system, and by coordinating volunteers from the National Speleological Society who monitor the caves for research, wildlife conservation, and preventing misuse.

Imagine starting out on a caving trip to Lincoln National Forest; things can be very different. Like many National Forests, primitive roads provide driving access into some very remote areas. These roads can be extremely rough and many folks opt to get out and hike along the beautiful ridgetops. Primitive camping is allowed almost everywhere and car camping is allowed within 300' of most roads. After finding the perfect campsite, high in the Guadalupe Mountains, the next task is actually finding the caves themselves. There are no established trails that take visitors to wild caves so finding the cave entrance can be an extensive search along the side of a steep canyon, with the added challenges of orienteering and following maps. To help groups find caves and promote conservation, Lincoln National Forest facilitates a public trip leader program. Members of the National Speleological Society (NSS) with extensive cave experience lead others to find new adventures.

If 'wild caving' sounds like fun, there is an easy way to get started and it starts right where you live. There are caving clubs called "Grottos" located across the country as part of the National Speleological Society or NSS. Finding and contacting one of these Grottos is a click away at www.caves.org. There you will find a U.S. map and contact information for caving enthusiasts from across the country. The National Speleological Society is a great partner organization and NSS Grottos provide the necessary training and education needed for visiting the backcountry caves of Lincoln National Forest.



Visiting caves on the Lincoln National Forest can be challenging and remote, requiring specialized equipment, weeks of planning, and extensive training.

Sitting Bull Falls (Lincoln National Forest)

By Jeremy Evans

THE GUADALUPE RANGER DISTRICT, the southern-most district on the Lincoln National Forest, has many spectacular recreation opportunities. Remote, quiet and mysterious, the District beckons the visitor to explore this unique desert landscape. The Guadalupe Ranger District shares its southern boundary with two National Parks; Guadalupe Mountains and Carlsbad Caverns. Hiking, camping, hunting, bird watching, and horseback riding are just some of the incredible activities that can be enjoyed on the district. One of the recreational highlights is Sitting Bull Falls Recreation Area. It sits at the end of a long remote canyon and has a series of water falls (fed from springs atop the canyon) that create a large pool of water at the base of the falls, which is 150 feet from top to bottom. The Sitting Bull Falls Recreation Area meets ADA guidelines for accessibility and some of the features include paved sidewalks, restrooms, picnic tables, rock cabanas, fresh water, trash containers, and a viewing deck of the waterfall.

Sitting Bull Falls and the surrounding landscape are the remnants of an ancient reef, known as Capitan Reef. Approximately 260 million years ago the area was on the edge of a huge inland sea. The predominant geology of the area is limestone and is full of fissures and caves that were slowly eroded by acidic water over long periods of time. Also, deep and rough canyons have been carved by annual flooding and rains. Other geologic forces have created picturesque valleys teeming with wildlife and those forces, over time, helped create the underground water reservoirs and springs that feed into Sitting Bull Falls.

The Guadalupe Mountains sit on the northern edge of the Chihuahuan Desert and has a rich and diverse geologic and archaeological history. American Indians first came into the area around 10,000 years ago and the Mescalero Apache called the area their home for many, many years. Then Spanish explorers came to the area around the 1500s, bringing horses, which proved to be very valuable to the Apache. By the mid-1800s explorers, settlers, ranchers, businessmen, cattlemen, and outlaws had migrated into the area. Because of the rough and remote terrain, the Guadalupe Mountains were settled very slowly.

In the 1930's the Civilian Conservation Corps was assigned to the area and built impressive stone structures that still stand today as the picnic sites at Sitting Bull Falls. The 1970s ushered in a little more development, crews installed vault restrooms, added more cabanas and improved the trail to the falls. In the 1980s a route to the top of the falls was built by the Youth Conservation Corps. Then on Easter Sunday of 2011 the Last Chance Fire burned through the area, severely damaging the picnic cabanas and destroying the trees and vegetation. Sitting Bull Falls was closed for a year while repairs were made and then reopened only to be damaged again by a flood event in September of 2013. Again in 2014, another flood delayed reconstruction efforts. Finally, by May of 2015, all reconstruction and repairs were completed. A new walkway was built to the falls which leads to a viewing deck with a bird's-eye view of the falls! The entrance road to the well-known site was also reconstructed and literally "re-paved" the way to a whole new experience!



Come and enjoy Sitting Bull falls and the surrounding area. Take a hike on the many trails or relax and have a picnic with your family. Whatever you decide to do, your adventure to the Guadalupe Ranger District will be memorable. Don't forget to come prepared. Bring plenty of water and pay attention! Deer, javelina, mountain lions, snakes, tarantulas, rabbits, and many other animal species call the area home. If you decide to go out and explore the backcountry, please go prepared, the weather in this area can be unpredictable and so can the wildlife! Please be safe out there as enjoy YOUR National Forest.

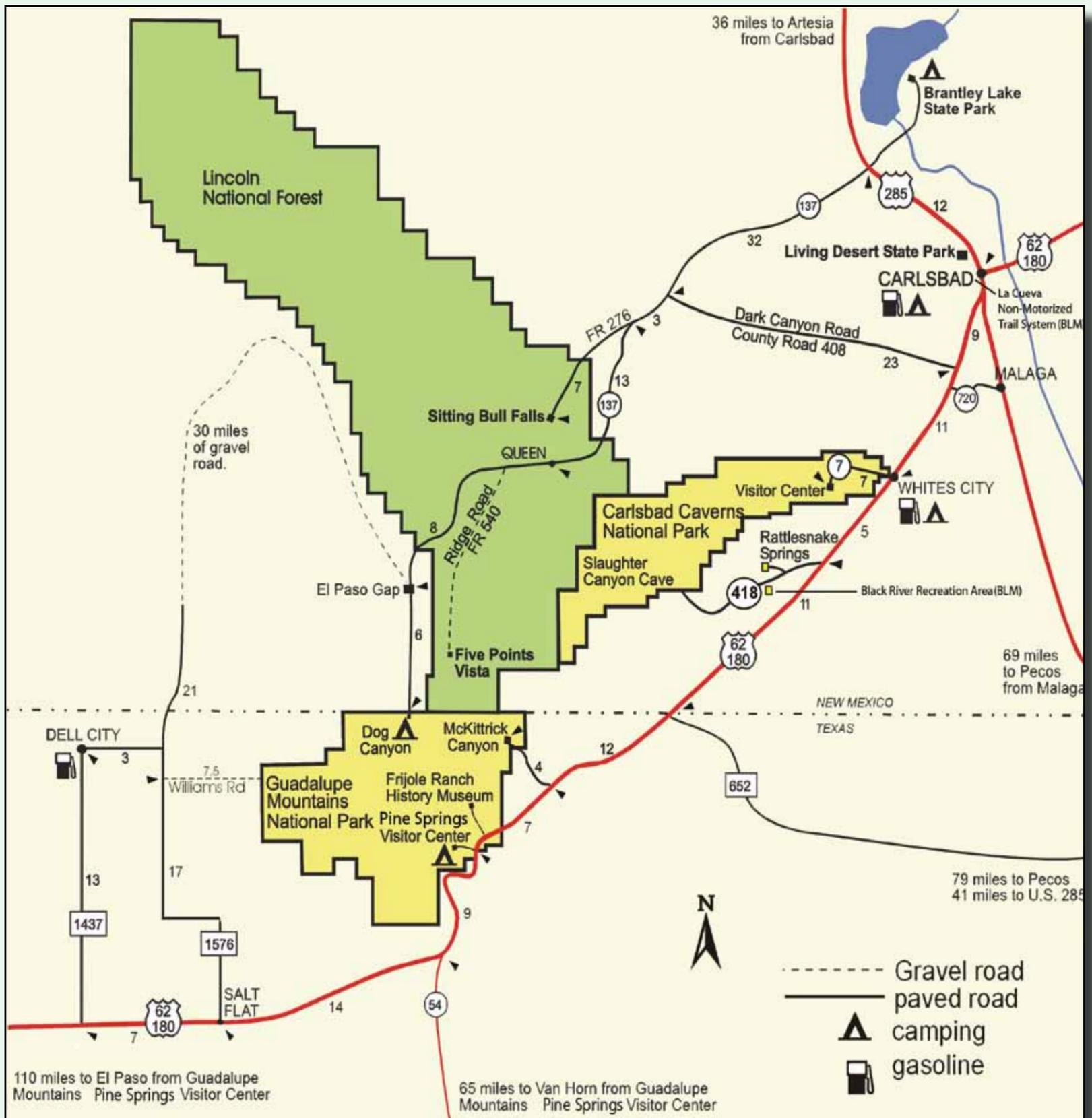
It is a day-use area and is open from 9 - 5 daily from October to March and 8:30 - 6 from April to September; the standard amenity fee is a bargain at \$5 per vehicle. Visitors can wade in the water below the falls, hike, or picnic. The picnic sites have tables and grills, but you'll need to bring your own charcoal and also be aware of any fire danger warnings. Many of the picnic sites provide overhead shelter from the sun's rays that bear down on the area most of the day. Fresh water and restroom facilities are available. There is a paved, ADA accessible, path to the falls viewing area. Camping is not allowed in the falls day use

area, but is allowed almost anywhere else on the Guadalupe Ranger District.

If you have questions, please visit the Guadalupe Ranger District office located at 5203 Buena Vista Drive in Carlsbad, or call 575-885-4181.

Sitting Bull Falls is approximately 42 miles west of Carlsbad, New Mexico and can be reached by car via Highway 285 to Highway 137, and then on to Forest Road 276 / County Road 409. Pets on leashes are allowed.

Nearby Attractions



BRANTLEY LAKE STATE PARK

575-457-2384
www.emnrd.state.nm.us/SPD/brantley-lakestatepark.html

Located 12 miles north of Carlsbad on U.S. Highway 285, the campground has 51 RV sites with water and RV electric hook-ups (a few with sewer), a dump station, playground, restroom with hot showers, shelters, tables and grills. Other facilities include picnic areas with sheltered tables and grills, playground, a fishing dock, boat ramps with docks, and a visitor center.

Open all year—24 hours/day.
 Wheelchair accessible.

Fees
 Day Use Only—\$5.00 per vehicle
 Camping—\$14.00 per night (\$10.00 for each additional vehicle driven into the same site)
 Primitive Camping Area—\$8.00 per vehicle per night.

BUREAU OF LAND MANAGEMENT (BLM)

575-234-5972
www.blm.gov/nm/st/en/fo/Carlsbad_Field_Office

Black River Recreation Area

The 1,200-acre Black River Recreation Area is managed to provide low-impact recreation and environmental education opportunities while maintaining a healthy river system and riparian habitat. This oasis in the Chihuahuan Desert is home to rare species of plants, fish, and reptiles in and around the river. The most frequently visited site is the Cottonwood Day Use Area, which includes a wildlife viewing platform, picnic tables, and a toilet. Turn west onto CR418, travel two miles, and then turn left at the fork.

La Cueva Non-Motorized Trail System
 The trail system covers approximately 2,200 acres and contains more than 15 miles of maintained trails. The non-motorized trails are used by mountain bikers, hikers, and equestrians. The trails wind through the rolling limestone foothills of the Guadalupe Mountains and the rugged Chihuahuan Desert environment.

The area is located partially within the city limits of Carlsbad, NM. From Lea Street, go west to Standpipe Rd. Turn south and travel 3 miles to the gravel access road. Turn right and travel approximately 0.3 miles to the trailhead and parking area. There are no facilities other than the parking area and trail signs.

LINCOLN NATIONAL FOREST (GUADALUPE DISTRICT)

575-885-4181
www.fs.usda.gov/lincoln/home

The forest encompasses 1,103,441 acres for hiking, caving, camping, picnicking, horseback riding, hunting and sightseeing. Maps are available at the Guadalupe Ranger District Office located at 5203 Buena Vista Drive Carlsbad, NM 88220.

Five Points & Indian Vistas
 Eleven miles south of State Highway 137 on Forest Route 540, an improved gravel road. A panoramic view of the desert from the top of the Guadalupe Mountains. Interpretive signs explain natural features.

LIVING DESERT ZOO & GARDENS STATE PARK

575-887-5516
www.emnrd.state.nm.us/SPD/livingdesert-statepark.html

Come face to face with a mountain lion at this unique zoo and botanical garden offering an opportunity to experience the Chihuahuan Desert first-hand. See a large collection of live animals, including the rare Mexican gray wolf, and the roadrunner, the state bird of New Mexico. There is also an unusual collection of cacti and other succulents from around the world.

The park is located high atop the Ocotillo Hills overlooking the northwest edge of Carlsbad, just off U.S. Highway 285, and features exhibits, an art gallery, gift shop, and refreshments.

Open daily except December 25.
 Wheelchair accessible.

Summer Hours
 (Memorial Day to Labor Day)
 8:00 a.m. to 5:00 p.m.
 Last tour entry—3:30 p.m.

Winter Hours (after Labor Day)
 9:00 a.m. to 5:00 p.m.
 Last tour entry—3:30 p.m.

Fees

Ages 13 and up	\$5.00
Children 7 - 12	\$3.00
Children 6 and under	free
Group (20+) discount available.	