



New Program Shares Scientific Discoveries



Dr. Nickolay Hristov scanning Carlsbad Cavern, 2014. Photo by Isaac Banks



New technology captures images of bats flying from the cave, and rangers with iPads are now able to share these images with visitors. NPS Photo.

By Martha Merson

WOODEN SKEWERS AND WHITE FOAM SPHERES are essential for cave research, at least the way that Nick Hristov and Louise Allen practice it. Twice in 2014 park rangers halted visitors' progress through the Main Corridor of Carlsbad Cavern (which connects the natural entrance on the surface to the Big Room 750' below) in the name of mapping the cave. In June, five park rangers, three research assistants, two videographers, and I accompanied Hristov and Allen on a mission to scan the cavern from Devil's Den to the underground lunchroom. Among us we carried two hefty garbage bags with a total of 72 foam spheres, two tripods, and two laser scanners along with video cameras to document the work.

Scanning the cave will give researchers a more detailed map, a reproduction of the space which will have such accuracy, formations, bumps, and contours will be distinct and measurable. This is a project Hristov and Allen started a couple years ago. The beauty of this equipment is that the LIDAR scanner emits laser beams that bounce off the walls, ceiling, and floor, collecting more than a million data points during a scan that lasts a mere two minutes. Teams like this one, interested in mapping caves, no longer need tape measures. They don't need to get into uncomfortable positions or to estimate. They don't need to touch any sensitive formations and they won't leave prints on the walls. To create a map, however, the researchers do need at least three points of reference to appear in each scan. These triangular relationships will enable the person

who processes the data to piece together the files in a sequence that matches the topography of the cave. Allen had already instructed us, her team, on how to create markers for the scanner. "It's high-tech," she warned. "Poke three wooden skewers into each foam sphere to form a tripod." We did, before several of us took armfuls of skewer tripods to set up along the path. We taped some to the railing and precariously positioned others on uneven walls. Later, team members will use those triangles to connect the scan files, which can then be animated and displayed as a 3D map of the cave.

Once the spheres were in place and the scanners were set up, two rangers took positions on the path above and below the scanners. Every time the call came to start scanning, rangers had to hold up the procession of people through the cave. The scanner operators leapfrogged each other, moving 10 or 20 or 30 feet down the path. Corners and narrow, twisting passages need more scans. An LED light on the body of the scanner switches from blue to red when in use. Inside, a mirror spins, systematically reflecting the laser beam. All was well until one of the scanners balked. In the dim light of the cave, it was impossible to get it to resume operating. Frustrated, Hristov growled, "We are now operating at 50% capacity."

While waiting for an "all clear" signal, the park rangers explained the project and showed visitors on an iPad an animated, virtual 3D model of the cave, based on previous laser scans. A ranger who stopped visitors during a scanning session in early 2014 re-

ported, "One couple I spoke to, it made their day if not their vacation. They said, 'This is so special. We came on the right day.'"

Looking down a dark passage from the Main Corridor path toward the roost where hundreds of thousands of Brazilian Free-tailed bats make their home in the warmer months of the year, it is impossible to see or hear the bats. Few people have traveled the third of a mile to the bat roost. On the iPad, rangers can play an animation that gives visitors a sense of traveling through the passage head-first in mid-air, the way a bat might experience the journey. After experiencing the fly-through view of the cavern from the Natural Entrance near the bat cave sign, back to the bat cave, visitors often comment, "Wow" and "Cool." One blinked his disbelief, "It's amazing, the detail."

Tablets in rangers' hands are adding a new dimension to visitors' and park rangers' conversations about the cave and its popular residents, the Brazilian Free-tailed bats. Several rangers now carry iPads so they can illustrate their answers to visitors' impromptu questions. The iPads are just one aspect of a project funded by the National Science Foundation. Interpreters and Scientists Working on Our Parks (iSWOOP) brings park rangers, scientists, and out-of-school educators together to design ways to highlight the process and results of active science research happening on national parklands.

At Carlsbad Caverns the research questions and applications of new technologies
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Capturing the Poetry of the Moment

Art in the Parks

By Katie Yates

I ALWAYS FOUND IT A LITTLE TACKY TO BEGIN an article with a quote, but oftentimes an amusing or inspirational quote is the spark that ignites the flame. When considering the works of Clark Cox, which now hang in the theater of the Pine Springs Visitor Center, the quote by Plutarch, "painting is silent poetry and poetry is a painting that speaks," applies nicely, and in the words of Horace, "Ut pictura poesis," or "as is painting, so is poetry." No doubt, the two forms are harmonious. Considering Clark Cox's collection of paintings and poetry inspired by the Guadalupe Mountains, he must have been savvy to this wisdom.

Each of his nearly pointillist paintings, wherein Cox masterfully merges the drama of expressionism and the sanity of realism, is paired with a clever poem. Paintings, for many artists, have that feeling of being somewhat like an iceberg. The part above the ocean, the painting itself, is what everyone sees. But the viewer of the painting and the iceberg may not know that in the depths, there is a whole other piece. The poetry of a poem is often that invisible root of an iceberg. In the case of Cox's paintings, both pieces are revealed, a painting and poem together, each inspired by the sensational scenes found at the park.

Almost 90 years after they were painted, the work of Clark Cox continues to inspire and intrigue guests and employees at the Pine Springs Visitor Center. A **Brush with Passion**, for sale at the visitor center, discusses



Painting by Katie Yates

briefly the life of the painter and includes pictures of the original paintings on display there. Slightly eccentric and enthralled with nature, Cox, according to **A Brush with Passion**, dedicated a great deal of time and thought to the landscapes of West Texas. In his words, "Solitude awakens latent moods and creates the greatest urge for their expression and many a gem of thought lies forgotten tired up in packets and laid away in some old cedar chest like lost jewels."

The words of Clark Cox, as well as his meditative approach to painting and poetry, remind me of another introspective student of the outdoors, Henry David Thoreau. While Cox chose poetry and painting as vehicles for his romanticism, Thoreau wrote such classics as **Walden** and **The Maine Woods**. Thoreau, an inspiration to modern naturalists, writers, and environmentalists, isolated himself and devoted his time to reveling in natural splendors.

While today there are still those willing to sequester themselves in order to gulp wholly from Mother Nature's ample urn, the majority of people have a only few weeks a year to dedicate to their personal interests. Those who visit national parks may feel discon-

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NPS Photo/Peter Jones

Hiking Info.....Page 6



NPS Photo/Dave Bierl

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/Carlsbad-Caverns-National-Park)

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.Mountains

Check us out on Twitter:

@GuadalupeMtnsNP

www.meetup.com/Guadalupe-Mountains-National-Park-Meetup-Group/

Carlsbad Caverns-

Guadalupe Mountains Association

Operates both parks' bookstores. Books may also be purchased by mail or

online. P.O. Box 1417

Carlsbad, NM 88221

575-785-2484

575-785-2318 FAX

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 NP

Visitor Center

Coordinate System: Lat/Long

Datum: WGS 1984

Latitude: 32.174212° N

Longitude: 104.445855° W

Guadalupe Mountains NP

Visitor Center

Coordinate System: Lat/Long

Datum: WGS 1984

Latitude: 31.89370° N

Longitude: 104.82214° W

Park Partner CCGMA

THE CARLSBAD CAVERNS-GUADALUPE Mountains Association (CCGMA) is a private, nonprofit organization whose main objectives are to provide interpretation for the park visitor and to support the purposes and mission of the National Park Service at Carlsbad Caverns & Guadalupe Mountains National Parks. CCGMA has donated over \$2.7 million dollars to both parks and operates bookstores that carry a selection of books and items regarding the cultural and natural history of the Southwest.

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 strenuous 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.

Douglas S. Neighbor
Superintendent
Carlsbad Caverns NP

Dennis A. Vásquez
Superintendent
Guadalupe Mountains NP

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.

Many of the activities can be completed at the Pine Springs Visitor Center or Dog Canyon Contact Station. Children who complete three 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.

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.

Senior Ranger programs are a new development, currently available at limited locations, aimed at an audience that 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.

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.

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/webrangers.

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 \$10.00 fee. Call 575-785-2281 for details. A citation will be issued if animals are left in vehicles when ambient air temperatures are 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.

Carlsbad Caverns and the Antiquities Act

By Ben Hoppe

HAVE YOU HEARD OF THE ANTIQUITIES ACT OF 1906? Even if you haven't, there is a good chance that it is impacting your visits to national parks. If you're visiting Carlsbad Caverns, then you're enjoying one of the parks set aside by this legislation. In fact, a massive number of national parks, national monuments, and national historic parks that exist today are the result of the Antiquities Act.

In the late 1800s and early 1900s, concerns were growing about the protection of prehistoric Indian ruins and artifacts (antiquities) on federal lands. It's not altogether surprising; think of when you stop at a national park today—you might see a unique rock, a beautiful flower, or if you're really lucky you'll find an arrowhead or a fossil! Kids want to take something home to show their friends. Even at the turn of the 20th century, people wanted to have a piece of history to take home. The resources needed protection.

On June 8, 1906, President Theodore Roosevelt signed the Antiquities Act into law. Not only did the law prohibit the taking of artifacts from federal lands, it also gave the President of the United States a new power. By executive order, the President may proclaim "historic landmarks, historic and prehistoric structures and other objects of historic or scientific interest" as national monuments. The area set aside has to be confined to the smallest area compatible with proper care and management of the objects to be protected.

The first national monument was established under the Antiquities Act by President Roosevelt on September 24, 1906. Perhaps you've visited it—Devil's Tower National Monument. By the time Teddy left office in 1909, he had signed proclamations establishing eighteen national monuments.

So why is this executive power a big deal? If the President saw something that is worthy of protecting, he could protect it without needing to go through Congress. A national park must go through approval from Congress before it can be officially designated. A national monument is much faster, much easier, and can later be redesignated as a national park.

For example, then-Senator (and former president) Benjamin Harrison unsuccessfully attempted to establish the Grand Canyon as a National Park in 1882, 1883, and 1886. Thanks to the Antiquities Act, President Roosevelt established Grand Canyon National Monument in 1908. Senate bills to redesignate it as a national park failed again in 1910 and 1911. Finally in 1919, the Grand Canyon National Park Act was signed by President Woodrow Wilson to make the final change from Grand Canyon National Monument to Grand Canyon National Park.

The ability for a President to establish a national monument helps to assure that proper management, care, and attention is given to our nation's treasures without having to jump through hoops, sacrificing precious time waiting for Congress to act.

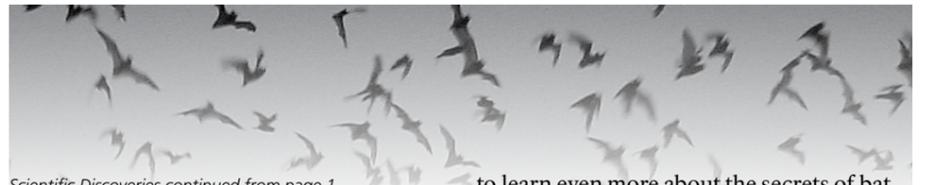
Carlsbad Caverns was starting to get an increasing amount of visitors as the United States headed into the Roaring Twenties. One of those visitors, Robert A. Holley, saw the need to protect it. Holley was a mineral examiner for the General Lands Office. In April of 1923, he told his boss that he wanted the land to be protected to prevent "further filings by blood suckers."

Did You Know?

Since the Antiquities Act was enacted in 1906, only three Presidents have not used the executive authority it granted—Richard Nixon, Ronald Reagan, and George H. W. Bush.

President Theodore Roosevelt proclaimed Devil's Tower National Monument on September 24, 1906. President Barack Obama proclaimed Organ Mountains-Desert Peak National Monument (located in southern New Mexico) on May 21, 2014, and expanded the Pacific Remote Islands National Monument (proclaimed by President George W. Bush on January 9, 2009) from 83,000 square miles to 490,000 square miles on September 25, 2014.

So on October 25, 1923, President Calvin Coolidge set aside 719 acres for Carlsbad Cave National Monument—officially putting it under the protection of the United States Government. Under seven years later, the 71st Congress redesignated the monument as Carlsbad Caverns National Park. The Antiquities Act was able to protect the cave quickly, without having to wait for a bill to be passed through Congress. It doesn't take much time to damage the cave, and the time saved could have very well been crucial to protect precious resources.



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are usually invisible to visitors. Prior to iSWOOP, few visitors thought much about the challenges bat researchers confront. Now, thanks to the collaboration of TERC (a non-profit based in Cambridge that leads science, technology, and math teaching and learning projects), the Center for Design Innovation, Winston-Salem State University, and the National Park Service, visitors can attend a ranger talk or engage in an informal interaction about research challenges, see data from the research, and visualizations that have helped Hristov and Allen make sense of data related to the size of the bat colony.

So far visitors are impressed. One visitor said, "No pun intended, but it was very eye-opening to see the caves that way. I liked all the black and white images he used to show us what we would see if we were bats." A couple reflected, "We come from an education background. He was a science teacher and I was a kindergarten teacher, so we appreciate the importance of having children and adults exposed to actual research."

Because rangers worked directly with laser scanners, learned about high-speed videography, and found out how Hristov and colleagues are using 3D motion capture, and because Hristov and Allen have been incredibly generous, making still images, video clips, and their visualizations available to the park, it is possible nowadays for visitors

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connected from the burdens of fast-paced modernity for a short time, but likely will never be fully off the grid. But, really, no one has to steep themselves in solitude (as Thoreau and Cox) in order to find those "many a gem of thought."

Through visual art, creative writing, and journaling, even the casual outdoorsman can find new appreciation for the world around them. In order to gain a new perspective, one might hike a familiar trail with a plant identification book or an interpretive guide discussing historical information. The same can be said for attacking the experience from an artistic angle. The most accessible and possibly the most popular is photography. But while photography instantly captures an exact copy of a subject, a painting may take several hours and will not always be accurate. A painting says as much

to learn even more about the secrets of bat flight and bat behavior.

This year is a pilot project starting at Carlsbad Caverns with two biologists, but almost every park hosts researchers with active permits investigating the diversity parks offer: geologic formations, historic events, wildlife, the microbial world, or plants. During your visit to the Caverns, look for the rangers with iPads and ask about iSWOOP programs. Pepper these interpreters with questions about scientists' images, take a moment to speculate with them about the implications, tell them if you value the opportunity to examine recently acquired data from site-based research, and share your comments about the relevance of the research being conducted on-site.

This project is made possible with support from the National Science Foundation DRL-1323030. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

The author, Martha Merson, is the project director and is a long-time STEM educator based at TERC in Cambridge, MA.

More information about iSWOOP is available at iswoopcave.com. Select Locations>Carlsbad for images and an interview with Dr. Hristov. Send comments to [@myswoop](https://twitter.com/myswoop).

about the painter as it does about what they are painting. Henry David Thoreau wrote, "It's not what you look at that matters, it's what you see."

Painting is an excellent excuse and opportunity to further explore the natural world. If someone is new to painting, it can feel awkward or frustrating. But with the right attitude, the experience can be so novel, refreshing, and entrenching; it is its own kind of meditation. Enraptured by the beauty of the canyons and peaks in what is now Guadalupe Mountains National Park, Clark Cox endeavored to catalog the poetry of the moment with words and paint. I challenge all of our park visitors to do the same. They might find that the well-worn trails have new life after the experience. They may also find a piece of themselves yet undiscovered in the solitude of the moment.

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, ME, MA, MD, MO, NH, NJ, NY, NC, OH, OK, 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

Spring, Fall & Winter Hours

Natural Entrance 8:30 - 2:00
 Big Room 8:30 - 4:30
 Visitor Center 8:00 - 5:00
Hours subject to change. Call 575-785-2232 for more information.

Summer Hours

May 24 - August 9, 2015

Natural Entrance 8:30 - 3:30
 Big Room 8:30 - 6:30
 Visitor Center 8:00 - 7:00
Hours subject to change. Call 575-785-2232 for more information.

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

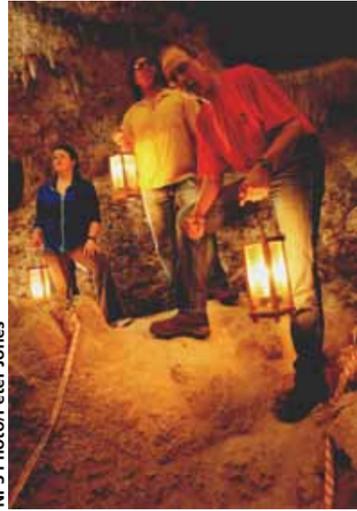
Photography is permitted on most tours; however, please use proper etiquette. Warn those around you before you flash, and do not use the rocks as your personal tripod. **For safety reasons, tripods are not allowed on any guided tours.** Tripods are allowed into the Big Room, Main Corridor, or Natural 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 Hines

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 and proceeds are donated to the park.

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	January 1 - February 28 Daily, 10:30 a.m. March 1 - May 23 Daily, 10:30 a.m., 1:30 p.m. May 24 - August 9 Daily, 10:30 a.m., 12 noon, 3 p.m. Additional 1:30 p.m. tour on Sun/Tues/Thu/Sat.	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	January 1 - February 28 Sun/Wed, 1:30 p.m. May 24 - August 9 M/W/F, 1:30 p.m.	\$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.	January 1 - May 23 Tue/Thu/Sat, 10:30 a.m. May 24 - August 9 Sun/Tue/Thu/Sat 8:30 a.m.	\$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.	May 24 - August 9 Friday, 9 a.m.	\$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	January 1 - May 23 Monday, 10:30 a.m. May 24 - August 9 Monday, 8:30 a.m.	\$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	January 1 - May 23 Friday, 10:30 a.m. May 24 - August 9 Wednesday, 8:30 a.m.	\$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	Strenuous. Rocky hike in Pine Spring Canyon to the Hikers' Staircase and Devil's Hall. After the first mile, the trail drops into the wash. Turn left and follow the canyon bottom to Devil's Hall, where a sign marks the end of the trail.
	The Bowl	8.5 miles	Strenuous. The Bowl shelters a highcountry conifer forest. Recommended route: Tejas Trail to Pine Top, Bowl Trail to Hunter Peak, Bear Canyon Trail, Frijole Trail back to campground. Trail climbs 2,500'. Bear Canyon Trail is very rocky and extremely steep.
	El Capitan Trail	11.3 miles	Moderate. Desert lovers will appreciate the rocky arroyos and open vistas while skirting along the base of El Capitan. Recommended route: El Capitan Trail, Salt Basin Overlook, and return to Pine Springs on the El Capitan 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.

The Great El Paso Salt War



By Angela Rooker

AUTUMN—THAT GLORIOUS BREATH OF COOLNESS following the heat of summer. The time when we finally get to enjoy all of the produce that has been ripening in the fields. There is much to do—preparing for the return to school, for the winter season, for the holidays. In the past, autumn was one of the busiest times of the year. In a time when most people did not get their food from grocery stores, hard work and careful preparation ensured full bellies over the coming winter. Vegetables and fruits were canned or dried. Meat was acquired (either slaughtered or hunted) and then salted or smoked. The salt needed for this task was not always readily available, so it was a valuable resource. These preparations could literally mean the difference between life and death for the settlers.

Today, the average American does not have to worry about getting enough salt, but for most of human history, humans have been more likely to be salt deficient. Salt is necessary for human survival. Not only is salt necessary for curing meat, but it is crucial for human physiology. Salt is integral in the transmission of nerve impulses, the transportation and absorption of glucose across the cell membranes, and for muscle contractions, for example. Over human history, salt has been highly valued. In fact, wars have even been fought over salt. One of these wars occurred just west of Guadalupe Mountains National Park.

The year was 1848. The area was changing rapidly. An area that had once been part of New Spain, then the country of Mexico, and then part of disputed terri-

tory of the Republic of Texas, was changing hands yet again, this time to become part of the United States. The Treaty of Guadalupe-Hidalgo promised that Mexican citizens remaining in the territory would become US citizens and they would retain their property. This was supposed to ensure that the former Mexican citizens and the United States citizens would be treated equally in both the political and economic life of the community. Unfortunately, this was not to be the case. Frustration over such inequalities violently exploded in an incident referred to as “the El Paso (or San Elizario—a community just outside of El Paso) Salt War.

In 1870, a group of investors from Franklin, Texas were unsuccessful gaining sole possession of the title to a tract of land containing the Guadalupe Peak salt beds. A feud over land ownership began. William Wallace Mills supported the idea of individual land ownership; Louis Cardis favored the Mexican-American tradition of common ownership of natural resources; Albert Jennings Fountain championed county ownership, but with community access. Fountain, a radical Republican, was elected to the Texas State Senate where he began to work towards county ownership of the salt flats. This election cooled relations between Mills, a Republican, and Fountain. The rivalry turned violent with the assassination of Judge Gaylord Judd Clarke on December 7, 1870. Charles H. Howard, a lawyer from Missouri, arrived in 1872. He was determined to establish a strong Democratic Party in El Paso. Cardis, a leader in the Mexican-American community, offered his, and their, support.

The year was 1874. Through some political manipulation Howard was appointed to serve as a district judge. He no longer enjoyed the support of Cardis and thus, the Mexican-American community.

In September, 1877, Judge Howard filed a claim for the Guadalupe Peak salt flats under his father-in-law’s name. He closed the roads leading to the salt flats (roads built by the Mexican-American community) and began charging for salt collection. People had gathered salt in front of Guadalupe Peak from time immemorial. This tax would unfairly affect the Mexican-American community (again!). A riot began when Howard arrested two men attempting to collect salt without paying his fee. The angry mob captured Howard, holding him for three days. He was released on the condition that he would give up his claim to the salt flats and leave the area. He was also fined \$12,000. Howard retreated to New Mexico, fuming at Cardis, whom he believed to have started the riot.

In October of 1877, Howard returned to Texas with the sole intent of killing Cardis. He shot Cardis in a store in El Paso. The Mexican-American community was outraged by this killing and demanded that Howard be brought to justice. He was quickly released on bail and fled back to New Mexico.

In December, 1877, Howard returned to San Elizario, Texas with some Texas rangers to prosecute some salt gatherers as trespassers. Instead, he and his party were besieged by a mob. After five days and two deaths (on

Howard’s side), Howard gave himself up. On the understanding that he was going to be taken to jail, the rangers surrendered as well. The rangers were allowed to leave, sans weapons. Howard and two companions, however, found themselves in front of a firing squad of Mexican citizens. The death of Howard did not, however, staunch the violence. Order was finally restored by another detachment of troops (justified by the fact that some members of the mob were Mexican citizens) and a posse of American citizens. San Elizario was looted; there were at least 20 deaths and any number of assaults and rapes. Many Mexican-American families living in the area fled to Mexico to escape the violence.

A war over salt may seem like much ado about nothing. Even though historically salt was a valuable resource, the El Paso Salt War was not only about salt. It symbolizes something greater—the conflict between the rich and poor and between Anglo and Mexican/Mexican-American; political corruption, and social justice. A lot has changed since 1877, and as we work for a more just society for all, we have an expansive salt flat in the shadow of the Guadalupe to remind us of the complex causes of conflict and the opportunity to learn from the past.

HIKING IN MOUNTAIN LION COUNTRY

WITH THEIR LARGE SIZE AND VERY LONG TAILS, mountain lions are unmistakable. Adult males may be more than eight feet in length and weigh an average of 150 pounds. Adult females may be up to seven feet long and weigh an average of 90 pounds. Their tracks show four toes with three 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.

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.

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 eye contact.

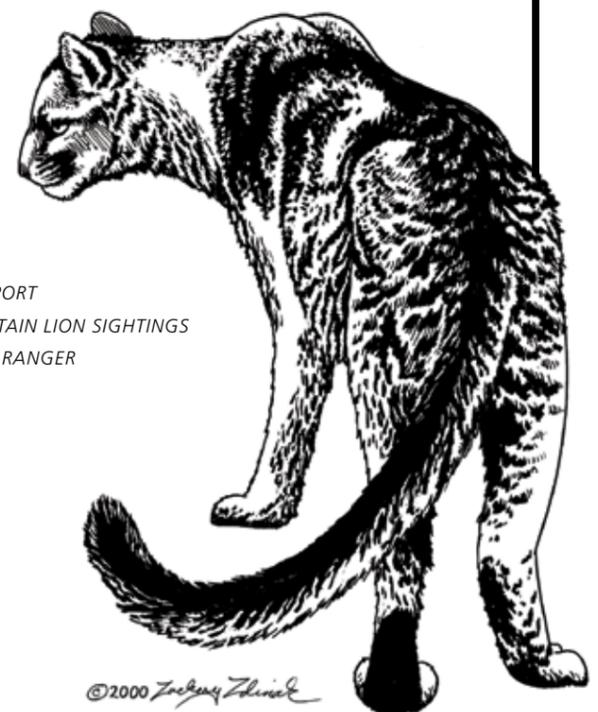
Face the lion and stay upright. Do all you can to appear larger. Raise your arms, or open your jacket.

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.

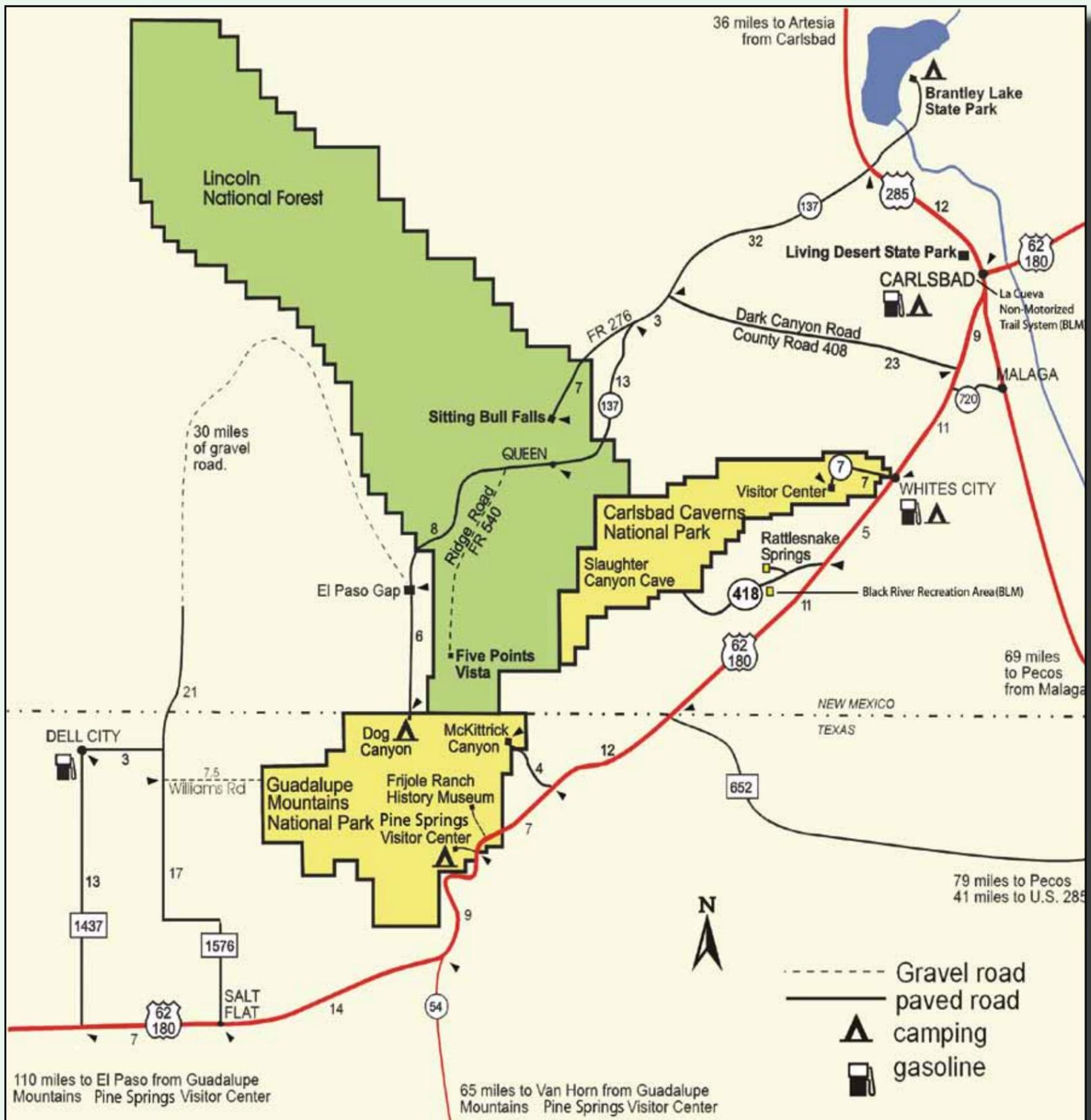
Fight back if a lion attacks you. People have fought back successfully with rocks, sticks, jackets, and their bare hands. Protect your head and neck with your arms. Remain standing or try to get back up.



PLEASE REPORT
ALL MOUNTAIN LION SIGHTINGS
TO A PARK RANGER

©2000 Zoology Zivich

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.	