



Underground Splendor



NPS Photo/Dan Leifheit

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 employees 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', 2667m).

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. It's easy to 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.

Sincerely,



Douglas S. Neighbor
Douglas S. Neighbor
Superintendent
Carlsbad Caverns
National Park



Eric Brunnemann
Eric Brunnemann
Superintendent
Guadalupe Mountains
National Park

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NPS Photo/Peter Jones



NPS Photo /Dave Bieri

Think Outside the Bottle

The National Parks' Progressive Step to Keeping Your Wild Areas "Green"

By Cinimin Kofford

SURROUNDING THE GUADALUPE MOUNTAIN range lies the arid Chihuahuan Desert, and what is more precious in a desert terrain than water? Hikers, plants, animals, and even geology, depend on water in some form or another. If water is so important, why are national parks choosing not to sell single-use disposable bottles? Rangers at Guadalupe Mountains and Carlsbad Caverns agree that it's important to stay hydrated and to bring water with you when you visit, however it's also a goal of the National Park Service (NPS) to practice the three R's of sustainability (Reduce, Reuse, and Recycle), to help minimize the footprint that we leave on the environment.

The National Park Service's motto is, "protect and preserve;" rangers aim to preserve natural, cultural, scenic, and scientific resources, which also means limiting the amount of visitor created waste. If parks are kept pristine for future generations to enjoy, these resources should not be single-use and your bottle shouldn't be either! The National Park Service is committed to improving our natural environments and has made it a goal to educate visitors about sustainable practices. In order to cut back on greenhouse emissions, reduce litter on trails, and decrease the parks waste stream, the bookstores at Carlsbad Caverns and Guadalupe Mountains National Park have limited the sale of water in individual disposable containers.

Think about this: Americans throw away 35 billion plastic bottles every year!! That's enough to circle the Earth four times!!

The Guadalupe Mountain range, riddled with caves and drastic formations, took hundreds of millions of years to form. Just as the mountains and caverns of the Guadalupe's have gone through a process of immense time, so will your plastic water bottles. Plastic can take thousands of years to break-down but will never really decompose. Instead plastics will fragment into microscopic pieces which build up in terrestrial and aquatic environments, causing major ecological damage. Plastics can often be blown across a landscape and end up in waterways, clogging streams and poisoning wildlife. Please reflect on the impact you have on our public areas, and consider the influence you have on those around you—one reusable drink container can eliminate the need for 100 disposable bottles per year.

The best solution to this problem is stopping the use of single-use plastics all together. Instead, invest in reusable bottles, totes, and containers. For this reason you will find refillable bottles available for purchase in the Guadalupe Mountains' bookstore which may be filled using refilling stations found throughout the parks.

Carlsbad Caverns has installed three refilling stations, two located at the visitor center near the outside restrooms and one inside the restaurant, while Guadalupe Mountains has installed two refilling stations at the Pine Springs Visitor Center. Water fountains and spigots can be found around the park.

If you choose to bring bottled water with you, please discard them in the recycling receptacles provided.

Please reduce, reuse, and refill!

Americans throw away 35 billion plastic bottles every year. That's enough to circle the Earth four times.



REDUCE
Recycle
REUSE

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)

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

and on Instagram:

guadalupe-mountains-nps

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

Western National Parks Association

As a nonprofit education partner of the National Park Service, WNPA supports 71 national park partners across the West, developing products, services, and programs that enrich the visitor experience.

In partnership with the National Park Service since 1938, WNPA advances education, interpretation, research, and community engagement to ensure national parks are increasingly valued by all.

What time is it?



Both parks
are in the
Mountain Time Zone

Because Guadalupe Mountains National Park is close to the Central Time Zone, your phone will display the wrong time unless you set it to Mountain Time.



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 restrained at all times.

The Lincoln National Forest (Guadalupe District) is between Carlsbad Caverns and Guadalupe Mountains National Parks. Dogs are allowed in developed areas while on a leash.

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, 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 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 patch. 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. The Night Explorer Activity Book is also available at Carlsbad Caverns. 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.

Rules for the Cave: What and Why

By Lacey Thomas

THE IDEA BEHIND NATIONAL PARKS IS BEAUTIFUL: it is the job of people here and now to preserve and protect what's important to us so people of the future may benefit from these places and ideas as well. In order for the National Park Service (NPS) to successfully accomplish that mission, we have established rules and depend on your cooperation in carrying them out.

The cave is a delicate balance of rocks, water, animals, and air movement. In order to keep it in balance as much as possible, we ask for your help. First, please don't touch the cave. We all have oil on our skin (sunscreen, lotion, or other products) that will stain the cave. When dust settles on the oil, the stains grow even darker. Skin oils also waterproof the formations so they cease growing. It's a classic example of oil and water not mixing.

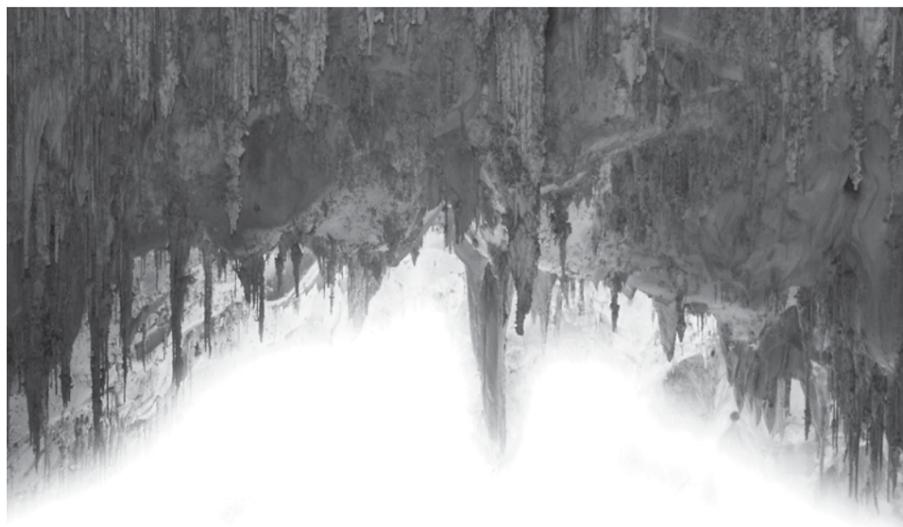
Second, we ask no food or flavored beverages be brought into the cave. If anything is spilled, it can be difficult to clean out of the rough surface of the cave and trail. Any missed particles will grow mold which wouldn't naturally occur in the cave. Throwing objects in the pits and pools also grows substances that wouldn't be in the cave without people. Scents linger in the cave, and the food smells have attracted sur-

face animals into the cave in the past. There is a limited selection of cold, prepared foods for purchase in the rest area. They must be consumed there so we can contain the smells and take out the garbage every day.

Family groups should stay together at all times. Anyone under the age of sixteen must stay within arm's reach of an adult at all times. Multiple times this year we have had more than 5000 people walk the cave in a single day. Separated family members experience great anxiety on such days. It can also be difficult to find people and reunite them when they've become separated. Save yourself the headache and stay together!

Our last rule involves the cave, you, and everyone else in the cave. We need you to whisper when you're enjoying the underground splendors. Caves are naturally quiet places. We must have your cooperation to keep them that way. A normal speaking volume can carry one quarter-of-a-mile in the cave. Just as you don't want to listen to the conversations of the people along the trail, they don't want to listen to you. Please be considerate of others and help the rangers keep the cave as close to its naturally quiet state as possible.

It might seem like a lot to remember, but your actions in the cave make a difference. It all comes down to common courtesy and respect for your fellow visitors and the cave. With your help the cave will still be in show-case condition for your grandchildren's grandchildren. Thank you for your help and for caring for this spectacular place.



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 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)

Alien Life in Martian Caves?

By Mark Kaufman

MARS IS A NOTORIOUSLY RUTHLESS PLACE. Its daily temperatures fluctuate wildly; even during its warmest summer month, the average high is 36 degrees Fahrenheit, but when a tepid summer's day turns to night, it plummets to -105 degrees. Unlike Earth, which sees transient yet localized storm systems, Mars can experience months-long dust storms that spread over the entire planet.

It is no surprise then, that NASA's curious robotic explorers have not stumbled upon any Martian life. In fact, it seems likely that the most sensible place to look is not on the surface at all, but beneath it—in caves.

In 1992, astrobiologist Penny Boston proposed a speculative idea—that the subsurface was "the last best place" to look for potential life on Mars. At the time, there was little convincing evidence to support this notion. Then, NASA began to look closer.

Over the last 20 years a series of orbiting satellites have unveiled at least 300 clearly identifiable subsurface features on Mars, notably lava tubes and pit craters. These places are isolated from the severe temperature fluctuations, solar radiation, and suffocating dust storms present on the Martian surface. In short, the subsurface is dramatically more stable—a consistency not unlike the climate inside Carlsbad Caverns, which stays around 56 degrees Fahrenheit year round.

Dr. Boston asserts that if cave life can thrive on Earth, it may also do so on Mars. In the mid 1980s, a labyrinth in the cave system was discovered in Carlsbad Caverns National Park, Lechuguilla Cave. Long ago, its entrance was sealed off by boulders and debris, isolating Lechuguilla from the surface world. Although still on Earth, any life

here would have to adapt to a highly unusual environment—a place that is always without sunlight and has negligible contact, if any, with the land above.

As it turns out, life in this subsurface world flourishes. Dr. Boston found that the microorganisms there live in thick mats upon the cave walls, but each patch contains species that are considerably different than the next. "The biodiversity down there is extreme—it's super biodiverse—one patch of bacteria in Lechuguilla might have just a 20 percent overlap with the patch next to it," says Dr. Boston.

The amount of life here may be immeasurable, but what is equally compelling is how these creatures stay alive. Unlike life upon Earth's surface, these organisms have little or no organic material to eat—so some eat the rock.

This might sound incredible, but Dr. Boston has proved it in a laboratory setting. Given nothing to consume but manganese and iron compounds, Lechuguilla microorganisms chemically transform this material, and in doing so, reap the energy rewards from the reactions. Below the red, inhospitable Martian bedrock, microbial life may be doing the same thing right now—consuming the inorganic in the dark, and staying alive in places we cannot so easily see.

In the past decade, the potential of alien life in extra-planetary caves has been overshadowed by the excitement of icy worlds in our solar system, notably the moons Europa and Enceladus. Each are believed to contain massive oceans beneath their icy shells, and as we know on Earth, oceans harbor an abundance of life, and many suspect that life first arose in this great stew of organic material.

Dr. Boston, however, is skeptical. She says, "It's difficult to imagine that life on Earth began in the ocean. Anything on the surface of early Earth would have experienced extremely inhospitable conditions."

Our moon demonstrates this well—its barren surface is covered in impact craters, one of which is 1,600 miles across. These telltale scars give us insight into the violent conditions present in our developing solar system. The Earth was certainly not immune, its surface constantly met with dramatic collisions and catastrophic upheaval. In such circumstances, only the subsurface could provide a hospitable place for life to be kindled and then sheltered from the chaos above.

Perhaps, though, alien life exists both in Martian caves and swims in Europa's oceans. Dr. Boston proposes that these ocean-encompassing moons should instead be thought of as planetary scale water-filled caves, whose bedrock is composed of thick sheets of impenetrable ice. If so, Europa might better fit the cave paradigm. It is an enclosed system, not an open ocean, which could provide enough hospitality to invite life. This is not too dissimilar from Lechuguilla Cave in Carlsbad Caverns National Park.

Or caves on Mars.

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 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.



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 thirty 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

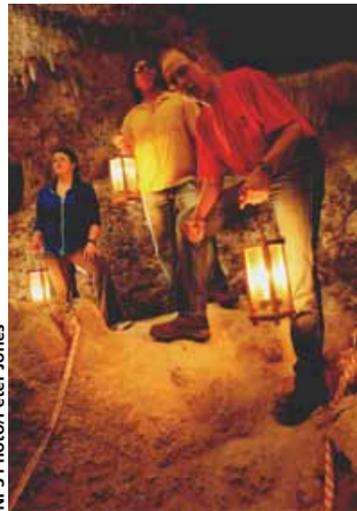
- Never touch cave formations. They are fragile and the oil from our skin can also stain them.
- Never take gum, tobacco, food, or drinks other than water into the cave.
- Never throw coins or other objects into pools or pits.



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)
 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.

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 for personal use only. Commercial filming requires a permit.

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.

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	Visit www.nps.gov/cave for dates and times of tours, or call 575-785-2232.	Adults \$8 Children (4-15), Senior Pass, and Access Pass cardholders \$4	4	1.5 hours	55
Left Hand Tunnel	Uneven dirt trail and slippery slopes	Meet at the Underground Rest Area	\$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.	Meet at the visitor center	\$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.	Meet at the visitor center	\$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	Meet at the visitor center	\$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	Meet at the visitor center	\$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.



All electronic devices, including phones, cameras, iPads, and iPods must be completely powered off during the bat flight. Observations have shown that light and noise can disturb the bats and change their behavior. 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

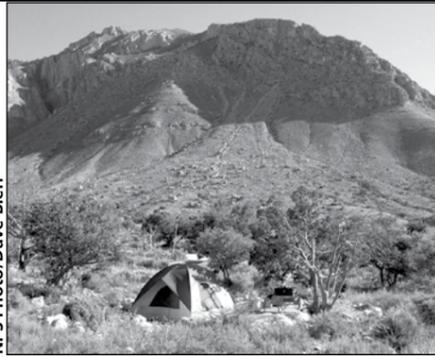
NPS Photo/Michael Haynie



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.

Wildland Caving Opportunities on the Lincoln National Forest

By Brad Bolton

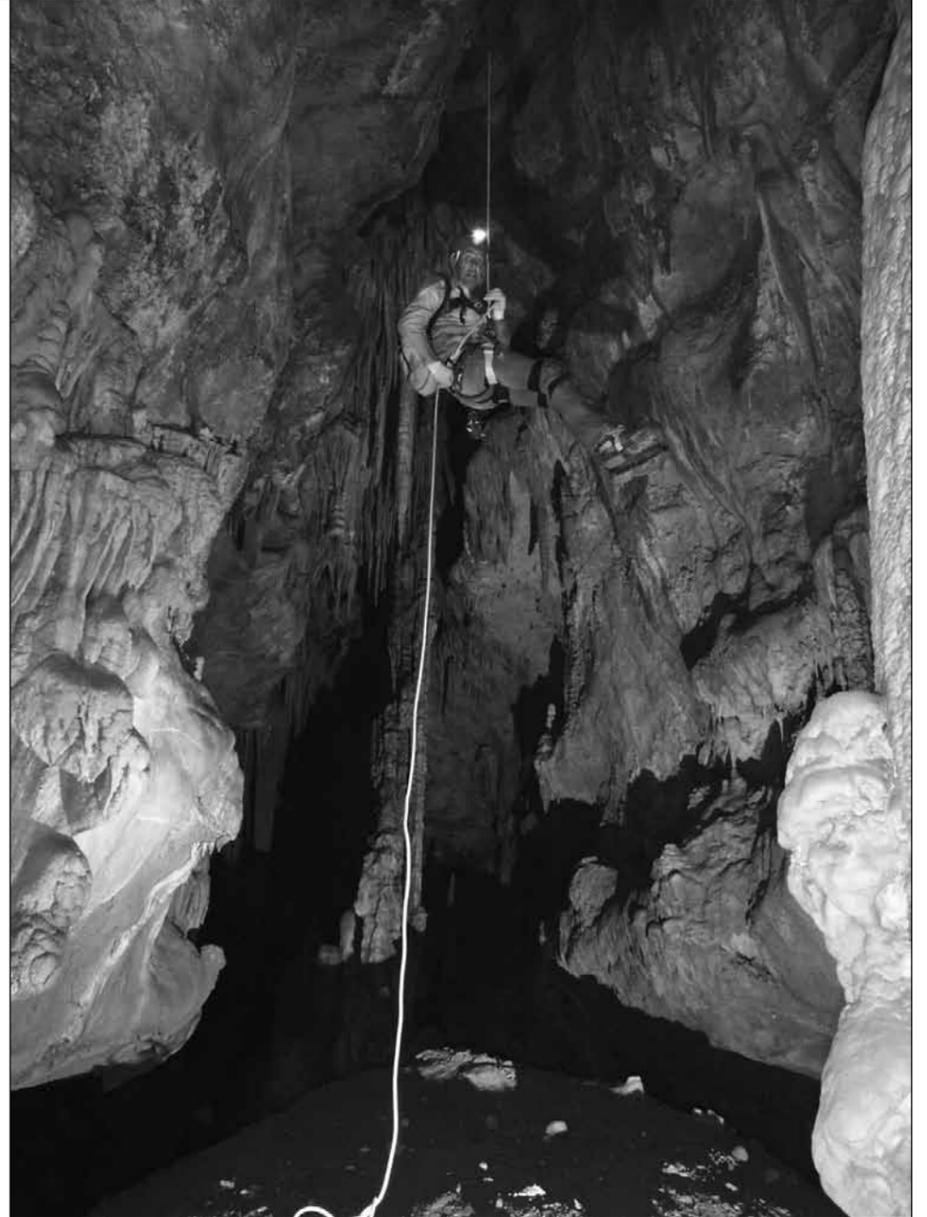
DOES THE 'HALL OF THE WHITE GIANT Tour' or the 'Spider Cave Tour' sound really exciting to you? Signing up for one of these tours is a great way to experience 'wild caving' where you rely on your own wits and physical strength to climb and negotiate through cave passages. For folks that really enjoy 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 1930s 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 you 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.

Coyote Fire

THE COYOTE FIRE WAS DISCOVERED on May 7, 2016. Lightning-caused, the fire grew to 14,472 acres. Initial response efforts were made to secure the northern perimeter to protect private and state lands in New Mexico. High winds made aviation support impossible for a number of days. To protect firefighters, firefighters disengaged and were removed from the mountains. They returned when conditions improved. Trails and minor handline were dug and specific planned ignitions were employed to restrict the potential of the fire to spread to the west and south. Because the fire was lightning-caused and burning in wilderness and considering firefighter safety in rugged terrain, it was allowed to work its way through areas of the park that had not seen fire in nearly one hundred years. Ponderosa pine forests typically experience frequent, low-intensity fires. Scientific studies conducted at Guadalupe Mountains National Park indicate a similar fire frequency before ranching intensified in 1922. Allowing fire to return to this ecosystem and play its natural role while protecting public and firefighter safety, private property, and critical resources is part of the park's management philosophy.

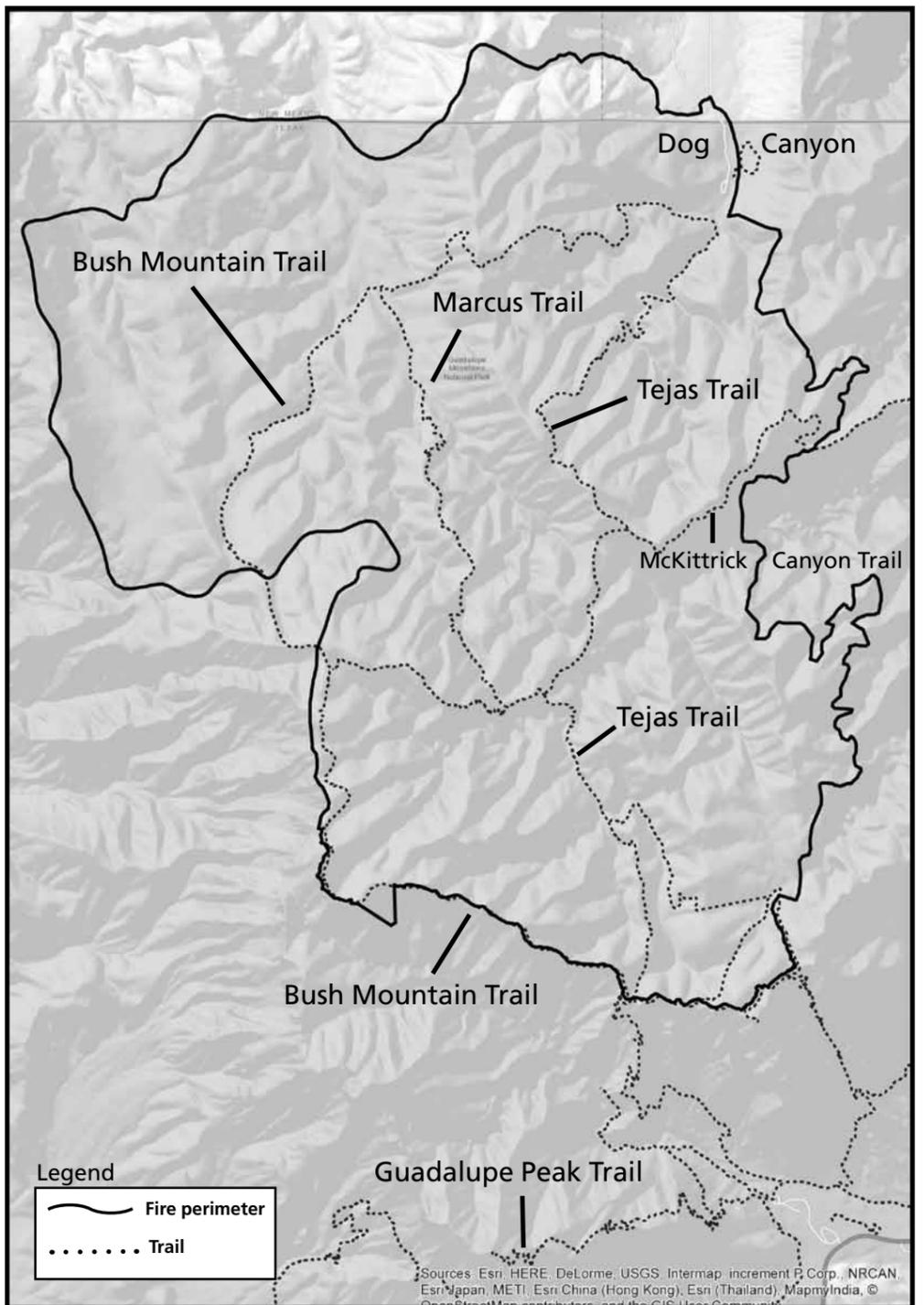
Fire is one way nature maintains a landscape. Without the culling, recycling, and regenerative contributions of fire, a dynamic ecosystem becomes stagnant, resulting in less plant and animal diversity. The Coyote Fire created a mosaic of habitats by burning intensely in some areas and less so in others. The Coyote Fire burned intensely in about 10% of the area, mostly through brush and grasses, and

consumed some dead logs. Low-intensity fire burned in a mosaic pattern throughout the understory of the forest and cliff bands acted as natural fire breaks. If the Coyote Fire was not managed with ecological strategies in play, a future wild-fire could potentially have caused more severe damage in a drought stricken year.

What at first may look like devastation soon becomes a new panorama of life. Fire turns dead plant material into soil nutrients. Nitrogen from ash fertilizes the soil, encouraging new seeds to sprout. Large animals and birds are able to leave the immediate area. Burrowing animals seek shelter underground. New growth can occur quickly, and the animals will return to take advantage of it.

By forces seemingly antagonistic and destructive Nature accomplishes her beneficent designs now a flood of fire, now a flood of ice, now a flood of water; and again in the fullness of time an outburst of organic life.

—John Muir



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.





Weaving Connections

How the Arts Can Bring People Together

This article originally appeared in RANGER, the journal of the Association of National Park Rangers (ANPR). To learn more, visit www.anpr.org.

Above: The Land Loom, a project by Tierra Firme, allowed artists and park visitors to view the landscape of the Guadalupe Mountains from a different perspective and recreate the scene in a newly woven tapestry. Photos of the completed tapestry are at Tierra Firme's website (www.tierrafirmeproject.org) Below: Sarita Westrup and Analise Minjarez (Tierra Firme) weave recycled materials into the beginning of the tapestry. NPS Photos/M.Haynie

By Michael Haynie

Generations of travelers have used El Capitan, the formation at the southern-most end of the Guadalupe Mountains, to guide them through rugged and arid terrain, figuratively creating a rich tapestry of cultural interactions involving threads of conflict and cooperation, as well as continuing traditions and accepting change. Guadalupe Mountains National Park recently hosted two fiber artists whose work celebrates the border experience, and whose proposal to invite the public to help them create a new tangible weaving which would portray the park's landscape, seemed to park staff to be a unique way to honor the Centennial Anniversary of the National Park Service (NPS). The desire to do something different in honor of the Centennial and to benefit from the innovation and talent of two emerging artists, who proposed to create a "Land Loom," led to a partnership that exemplifies how the arts and conservation work synergistically. Working together, they create something greater than either can do alone.

Tierra Firme, a collaborative project created by artists Analise Minjarez and Sarita Westrup, explores the interactions of cultures with the

landscape of the Texas/Mexico border. They met at the University of North Texas and found that their backgrounds of growing up along the border and their interest in the arts nourished a friendship and sparked the idea of working together. They offer workshops on natural dyes using materials from everyday life (black beans, onion, hibiscus, and native plants), and weaving lessons for all experience levels including youth, who they reach by visiting local schools. Their proposal to create a land loom intrigued me when I first read about it in their application to our artist in residence program. The idea was to erect an 8' x 8' x 8' cube-shaped loom, which would allow each side to frame a different part of the landscape. Public participants would help the two artists weave the scene as each saw it, using recycled materials from the local communities of El Paso, TX, and Carlsbad, NM. Even old NPS uniforms were added to the mix.

I met with them one day to participate and see how the project was going. They taught me some basic twining and plain weave techniques and I got started. With some practice, the movements became easy. *Over and under, over and under, over and under* . . . The rhythm of repeating these steps became meditative. Dur-

ing the activity participants enjoyed conversation and laughter, and during silent spells, cool breezes through the piñon embellished the calls of jays, ravens, and the light chirps of sparrows. The instant calm that this natural setting provided made people more open to sharing their experiences and perspectives.

I asked them about which of their experiences with visitors resonated with them. Sarita remembered, "There was a Mexican-American family from Van Horn that we met that was playing guitar and singing in the picnic area of Frijole Ranch. They came over to weave with us and they shared stories about their experience of living in Van Horn and living the West Texas small town lifestyle. We found out their cousin was a friend of mine. They were kind, giving, and loved their West Texas home."

Analise relayed, "Pia and her family were on vacation, visiting from Germany. Pia was so interested in the land loom activity, she stayed behind to weave as her family went on a hike. I thought about what a great way this was for her to experience the park, allowing her to form a distinct and personalized memory of the Texas landscape for her to take home with her." Tierra Firme's month-long stay flew by. Reflecting on their experience of staying in the park, working for an extended period of time with a fellow artist and park employees, Analise stressed how creating or viewing art can foster the public's appreciation of nature and help form a deeper connection. She said, "There is a long history of the artist's eye and hand trying to capture the beauty of nature. Nature has always played a deep and important visual connection for Tierra Firme as we continue to create a social understanding and awareness of the border region. I think what makes the Land Loom project unique is that it fosters both a personal and group experience with nature through mindful plein aire weaving."

During their stay in the park, there was an exchange of ideas and the bonds of new friend-

ships formed. What began as the brainchild of two artists, reached fruition as a finished tapestry celebrating nature and the border experience, and succeeded in weaving the arts and conservation into a partnership with a hopeful future.

Your Fee Dollars at Work

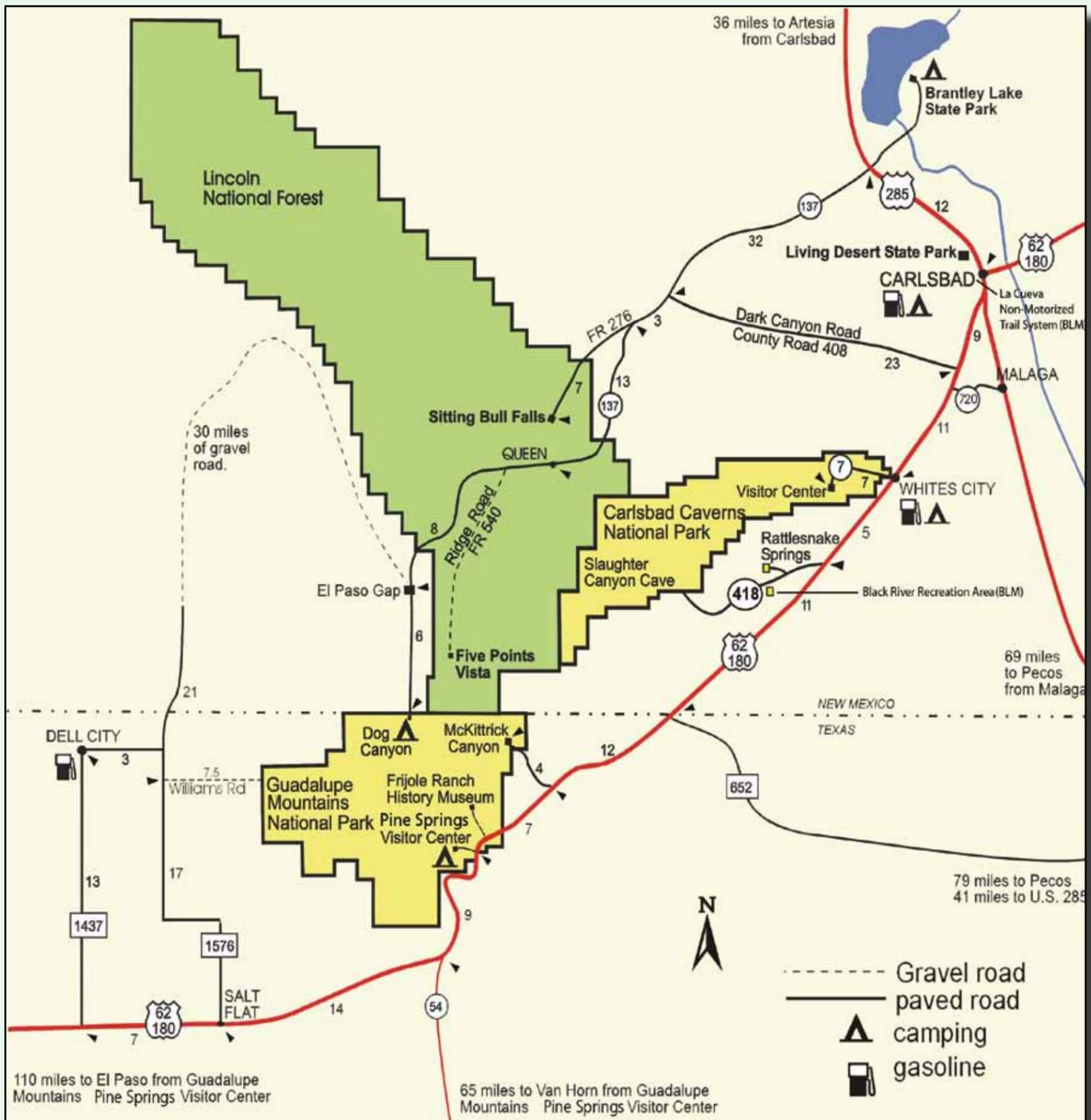
Your fee dollars help maintain park structures. Currently, we are working on a project that involves repairing deteriorated wood components in the windows and doors to the historic Smith family dwelling at Frijoles Ranch. This early 19th century homestead depicts ranching in the Guadalupe Mountains.

The structure was converted to the Frijoles Ranch History museum in 1992. The Western Center for Historic Preservation (WCHP) will be removing the latex paint that was applied during the 1980's to the ranch house and returning the exterior finish to a lime wash permeable coating. They were able to remove it from three of the outside walls, and will continue to remove the paint from the remaining wall once the structural integrity of the chimney is assessed.

Removing the latex paint and applying the lime wash will reduce trapped moisture in the stone walls. Trapped moisture causes deterioration of stone buildings. Various methods such as dry ice removal, steam removal, walnut shell, and corn cob blasting will be tested for removing the paint. These methods are effective for removing unwanted surface materials and each method will be tested to determine which is the most effective in removing the paint at the Frijole Ranch House. Restoration work will also include removing the doors and windows from the historic ranch house so they may be repaired and repainted with preservation quality paints that will protect the historic wood.



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.	