



Find Your Adventure On the Guadalupe Ridge Trail



NPS Photo/Michael Haynie

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Desert Medicine



The spiny vegetation characteristic of the desert often has medicinal properties or can be used as food. American Indians have harvested these plants for thousands of years. New Mexico agave, also called century plant and mesal, is in the foreground. Prickly pear cactus is behind it and on its sides. NPS Photo/M.Haynie

By Destiny Gardea

LONG, LONG AGO IN A PLACE FAR, FAR AWAY from anything else stood a towering range of mountains which looked over the vast and expansive Chihuahuan desert. Other than some sparse and desiccated shrubbery, the only shadows that graced this land were the shadows thrown by the mountains themselves, or by the occasional cloud that ambled through to more inviting places. Despite this, some figures long ago looked at the desolate landscape and at the stark silhouettes against the sky and dreamt of survival through perseverance and luck despite the odds... and they succeeded.

Ancient people found ways to survive in this harsh terrain and inhospitable grounds through ingenious uses for the limited and seemingly unusable vegetation in the area. Who knows what drew them to take a closer

look at the agaves and cacti of the area, but upon closer inspection they discovered innovative uses for these deceptively off-putting flora.

The Prickly Pear cactus (*Opuntia engelmannii*) proved to be more than a minor food source to early users who enjoyed eating the cactus pads and its reddish fruit, once ripe and cleaned of its hair-like thorns. A resourceful ancestor may have noticed that the gel in the pads cooled their burns and sores and passed that knowledge to their friends and family. Today, studies have identified polyphenols and antioxidants in the pads which contain anti-inflammatory agents that relieve pain, reduce swelling and bruising, and speed the healing of tissue. The mucopolysaccharide gel in the pad can draw toxins and fluid buildup from the wounds into the pad; the pads themselves could be split and applied to open wounds on both humans and stock.

Ancient travelers also came across another hidden gem in the desert beneath the mountains- the spiny agave plants. Most agave plants don't look edible, but whether it was by some stroke of curiosity or mere luck, early people stumbled upon the heart of the New Mexican agave (*Agave neomexicana*) which they learned could be roasted and eaten. It proved to be a great source of starchy carbohydrates that could be easily converted with fire into sugar. Many agaves also shoot up great flowering stalks, rich in salt and minerals, which can be cooked over fire and eaten. Perhaps ancient people were clearing away brush with fire and accidentally discovered this amazing hidden food source, or some desperate wanderer was willing to attempt anything in a desperate bid for survival- either way, this amazing food source was and is still eaten today. The roots of this plant are high in saponins which create a soapy foam used for bathing purposes. They also discovered that if they cut and dried a tiny portion of the root or leaf and added it to a tea, which would alleviate constipation and indigestion.

As prehistoric figures climbed these formidable mountains, they came across an island in the sky, thick with dense trees such as the ponderosa pine. They found that the sap could be used as a sweetener in teas with bark added to reduce coughs and fevers. The resin was also used as an ointment for sores and aches.

With mountains that measure time in millennia, success in a landscape such as this depends on survival. As evident from the ancient fire rings and pre-historic rock paintings, their resourceful use of the surrounding flora ensured the desert survival of the early visitors, then and for generations to come.

Greetings

WELCOME TO GUADALUPE MOUNTAINS National Park. Guadalupe Mountains National Park protects one of the world's best examples of a fossil reef, diverse ecosystems, and a cultural heritage that spans thousands of years.

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. 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 wish you a rewarding experience in every way.

Sincerely,

Eric Brunemann
Superintendent



The National Park Service was created in the Organic Act of 1916. The new agency's mission as managers of national parks and monuments was clearly stated.

"...to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

To support that mission, the collecting of natural and historic objects is prohibited.

Telephone and Web Directory

Guadalupe Mountains National Park
400 Pine Canyon Drive
Salt Flat, TX 79847
915-828-3251 ext. 2124
www.nps.gov/gumo
www.facebook.com/Guadalupe.Moun-
tains
Check us out on Twitter:
@GuadalupeMtnsNP

Food, Lodging, and Camping
Carlsbad Chamber of Commerce
575-887-6516
www.carlsbadchamber.com

Van Horn Texas Visitors Bureau
432-283-2682

Weather Conditions

Road Conditions

New Mexico: 800-432-4269
www.nmroads.com
Texas: 800-452-9292
drivetexas.org

Emergency: Call 911

Guadalupe Mountains NP Visitor Center (Nature Trail)

Coordinate System: Lat/Long
Datum: WGS 1984
Latitude: 31.89370° N
Longitude: 104.82214° W

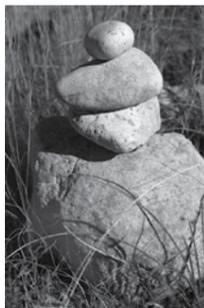
Western National Parks Association

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.

Help Protect the Park and Leave Rocks Unstacked

Is this stack of stones an important hiking tool or a long-lasting disturbance of the environment?



What Time is It?

GUADALUPE MOUNTAINS NATIONAL PARK IS IN THE Mountain Time Zone. Because of cell phone towers located in the nearby Central Time Zone, cell phones often display the incorrect time. Be sure to adjust the settings of your phone accordingly. Some cell phone users will turn the automatic time zone update option off, while others will create a new clock based on a city known to be in the Mountain Time Zone.



Traveling with a Pet?

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

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



Volunteerism Makes a Difference

WE WOULD LIKE TO EXTEND OUR SINCERE GRATITUDE TO THE DEDICATED effort and talent that volunteers have brought to Guadalupe Mountains National Park. 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 trails, to trail maintenance, research, and more.

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

Guadalupe Mountains National Park
Brian Schwieger, Volunteer-In-Park Coordinator
915-828-3251 ext. 2311

Urban Kids Get Wild!

By Elizabeth Jackson

FOR THE 2018 SCHOOL YEAR, 4TH GRADE students in the Ysleta school district of El Paso, Texas had exciting opportunities for new discoveries at Guadalupe Mountains National Park. The park received a National Park Foundation sponsored Every Kid in the Park (EKIP) transportation grant of \$5000 to assist schools with transportation funds to help students discover and explore national parks near their city. In addition to funds to assist schools with busing, 4th grade students received the EKIP pass which provides students and their families' free entry to all federal public lands.

More than 531 El Paso students participated in the EKIP program with the park. All students participated in pre-site visits at the school, but schools such as Pebble Hills and Hacienda Heights made the 114 mile journey from El Paso by bus to experience wilder-

ness and explore the trails with a ranger. Over 134 students came with their families for a visit after receiving their 4th grade pass which Guadalupe Mountains park rangers distributed to classes during pre-park visits.

In 2019, the park will receive another EKIP grant. This will be the third consecutive year that the park has been awarded this grant and we look forward to another school year sharing the wilds of West Texas with local students. Ranger Destiny Gardea said it best. "I grew up in El Paso. Students from the Ysleta District don't have many opportunities to venture outside city limits. This is a great way to get city kids out hiking and help them experience the beauty of these mountains and wild spaces."

Visit www.everykidinapark.gov to learn more information about this program and how to use the 4th Grade pass and help plan your next trip to federal public lands.

Hikers wanting to mark their personal passage by building their own cairns, adding to an existing rock cairn, or marking alternative paths are aiding in the destruction of our wild lands. By adding to cairns or building new ones, well-meaning hikers are altering the landscape, and possibly leading people astray.

Please help keep your National Parks wild and naturally beautiful by leaving the stones where they lie.

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.

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

Senior Ranger programs are a new development, currently available at limited locations, aimed at an audience who enjoys a challenge and wants to use an activity book to learn about the park and help plan their visit. Senior Ranger books are available at the Pine Springs Visitor Center, and Dog Canyon Contact Station 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.



Hiking the Guadalupe Ridge Trail

ON MAY 17, 2018, THE GUADALUPE RIDGE TRAIL became part of the National Recreation Trail System. The trail stretches over 100 miles, from the peaks and canyons of Guadalupe Mountains National Park, the Lincoln National Forest (Guadalupe District), to Carlsbad Caverns National Park, and Bureau of Land Management land. It can be explored either for a day, a weekend, or a week. Permits are required to hike and backpack in the national parks, and water-caching will be necessary for portions in the national forest. Portions of the trail in the national forest allow the use of stock or ATVs.

This issue of the visitor guide features 19 miles of the Guadalupe Ridge Trail, that can be traversed on foot on the well-defined, but strenuous Tejas and McKittrick Canyon Trails, which are subsections of the larger trail. It is necessary to carry water and to obtain a backcountry permit at the visitor center. Users will need to arrange an auto-shuttle or have vehicles at both the Pine Springs and the McKittrick Canyon Trailheads. National Park Service policy does not allow employees to give rides.

This trip can be done in one night, two days, but two nights makes it more leisurely (not to say that it will be easy!), and gives more time to make side trips to The Bowl, Blue Ridge, and Lost Peak. Discuss with a ranger what trip would be best for you and your group, and be sure to read below and make sure you are carrying the Ten Essentials.

THE TEN ESSENTIALS

Make a fun adventure a safe adventure! Having the Ten Essentials with you can help you be prepared for minor injuries, sudden weather changes, or unexpected delays.

The Ten Essentials are a collection of first aid and emergency items organized into ten categories, or systems. This system was developed by **The Mountaineers**, and additional details can be found in the book **Mountaineering: The Freedom of the Hills**, 8th Edition, 2010. Each of these systems is explained in greater detail below.

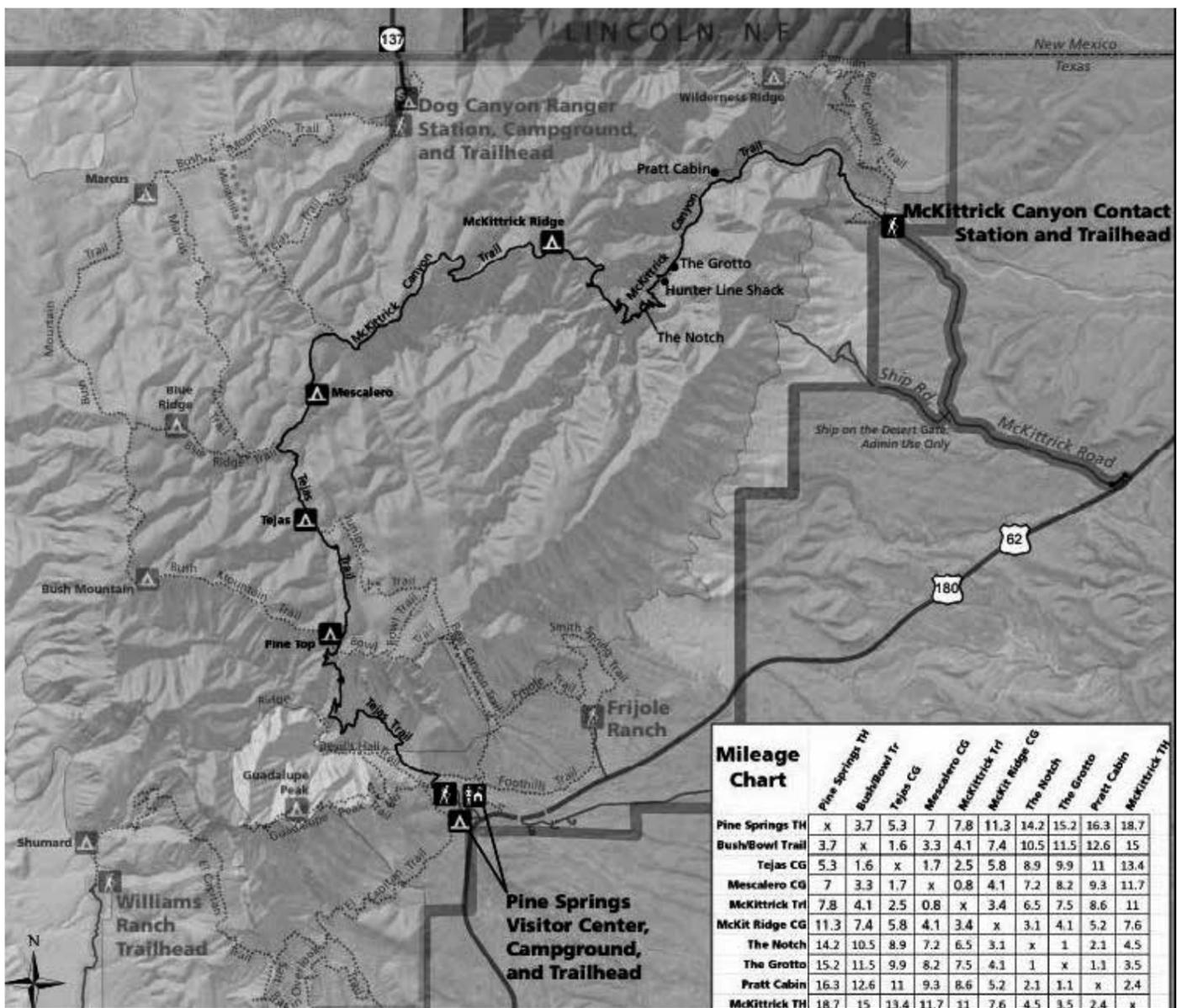
Please note that health and safety items are not limited to the ones on this list. Be sure to research any other items that you may need specific to your trip and your activity at the park. Be informed and prepared by researching the park and your activity before you head out. Make your fun adventure a safe adventure!

NAVIGATION

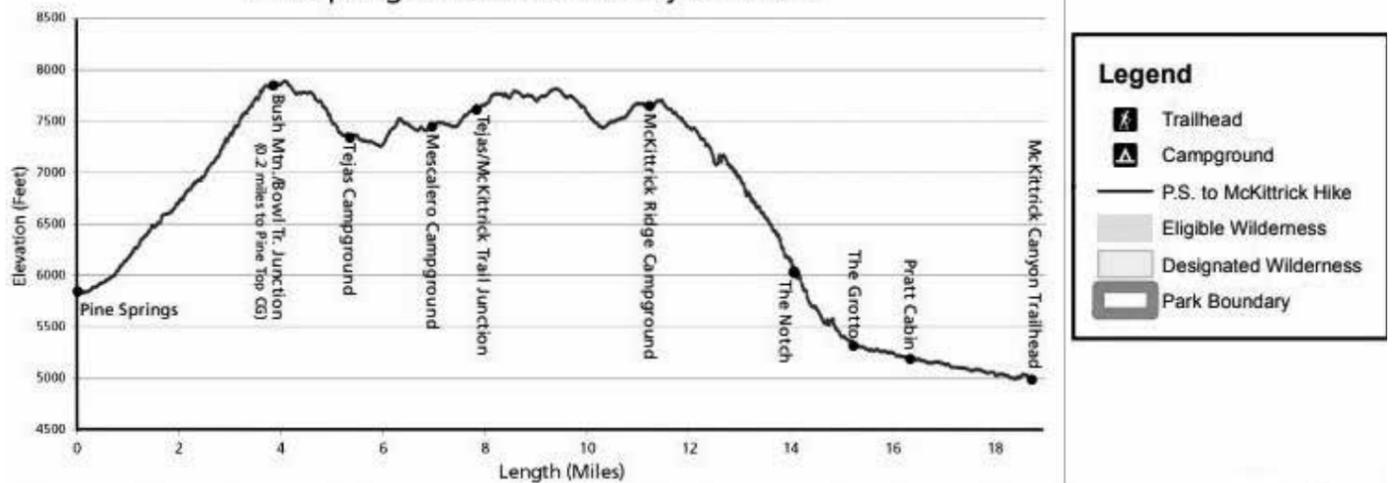
Map, compass, and GPS system
Navigation systems are used when planning your route before your trip, and when you need help orienting yourself in your surroundings during your activity. Know how to use a topographical or relief map as well as your compass or GPS unit before going out.

SUN PROTECTION

Sunglasses, sunscreen, and hat
Sun protection is necessary to protect your skin and eyes against harsh UV rays that are responsible for sunburns and skin cancer. Consider using sunglasses, sunscreen, and



Pine Springs to McKittrick Canyon Profile



hats. Sun-protection clothing such as pants and long sleeve shirts can also help minimize your exposure to the sun.

INSULATION

Jacket, hat, gloves, rain shell, and thermal underwear
Nature is unpredictable. Be prepared for sudden changes in weather conditions. Pack an extra layer of clothing that reflects the most extreme conditions you could encounter.

ILLUMINATION

Flashlight, lanterns, and headlamp
Lighting is indispensable in the outdoors where no conventional light sources can be found. Items include flashlights, lanterns, and headlamps. Headlamps are the preferred light source because they are hands-free. Be sure to pack extra batteries.

FIRST AID AND SUPPLIES

First Aid Kit
Be prepared for emergencies by packing first-aid supplies with you. Start with a pre-made kit and modify it to fit your trip and your medical needs. Add tweezers (for spine and thorn removal) to the kit, if they are not included. Check the expiration date on all items and replace them as needed. Consider including an emergency guide in case you are faced with an unfamiliar medical emergency.

FIRE

Matches, lighter and fire starters
At Guadalupe Mountains National Park, you may cook with a gas stove only. Pack matches (preferably waterproof) and fire starters - items that catch fire quickly and sustain a flame (e.g. lighter).

REPAIR KIT AND TOOLS

Duct tape, knife, screwdriver, and scissors
Carry a basic repair kit with you to help repair equipment. The kit should include items such as duct tape, a knife, and scissors. Consider packing a multi-tool, a compact version of many tools that can include a knife, screwdriver, can opener, etc. Be sure to bring any tools specific to your trip and your activity.

NUTRITION

Food
You should always be prepared for the possibility of changes to your trip plans. Pack an extra day's supply of food, preferably no-cook items that have good nutritional value in order to keep your energy high. Salty and easy to digest snacks (e.g. trail mix, nuts, and granola bars) work well for outdoor activities.

HYDRATION

Water and water treatment supplies
Staying hydrated on your trip is of utmost importance! Physical activity increases your risk of dehydration (loss of water and salts from the body), which can lead to negative health consequences. If you're active outdoors (hiking, biking, running, swimming, etc.), especially in hot weather, you should drink water often and before you feel thirsty. Prepare your water before you need it and do not allow yourself to become dehydrated. Before heading out on your trip, be sure to identify if there are any bodies of water at your destination that you could collect water from and treat using your water treatment supplies. Learn more about purifying water.

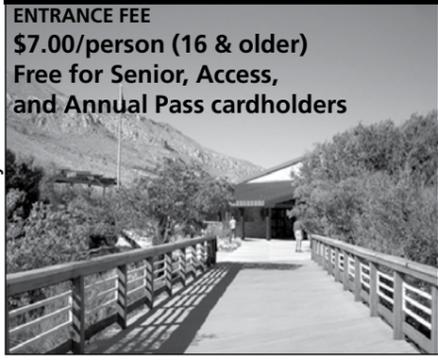
EMERGENCY SHELTER

Tent, space blanket, tarp, and bivy
Shelter is one of the most important elements during an emergency survival situation. It can protect you from severe weather conditions and exposure to the elements. A tent, tarp, bivy sack, or emergency space blanket are all light weight options for emergency shelter.

Guadalupe Mountains National Park

ENTRANCE FEE
\$7.00/person (16 & older)
Free for Senior, Access,
and Annual Pass cardholders

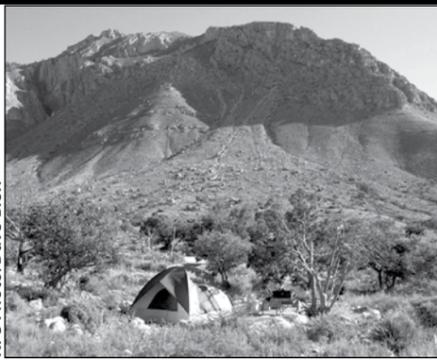
NPS Photo/Michael Haynie



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 \$15.00 per night, per site, \$7.50 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 beyond to the Devil's Hall. Area beyond Devil's Hall closed March - August due to sensitive species.
	The Bowl	8.5 miles	Strenuous. The Bowl shelters a highcountry conifer forest. Recommended route: Tejas Trail, Bowl Trail, Hunter Peak, Bear Canyon Trail, Frijole Trail, Tejas Trail (.1 mile) back to campground. Trail climbs 2,500'. Bear Canyon Trail is very rocky and extremely steep.
	El Capitán Trail	11.3 miles	Moderate to Strenuous. Desert lovers will appreciate the rocky arroyos and open vistas while skirting along the base of El Capitán. Recommended route: El Capitán Trail, Salt Basin Overlook, and return to Pine Springs on the El Capitán Trail.
Frijole Ranch	Manzanita Spring	.4 miles	Easy. Path is paved and wheelchair accessible. Hike to a small pond that serves as a desert oasis. Dragonflies, butterflies, and birds are active here in the warmer months. During winter, bluebirds frequent the area. Opportunities for chancing upon other wildlife are higher here as well.
	Smith Spring Trail (entire loop)	2.3 miles	Moderate. Look for birds, deer and elk as you pass Manzanita Spring on the way to the shady oasis of Smith Spring. Trees around Smith Spring include madrones, maples, oaks, chokecherry, ponderosa pines and others.
McKittrick Canyon	McKittrick Nature Loop	0.9 miles	Moderate. Climb the foothills and learn about the natural history of the Chihuahuan Desert. Trailside exhibits.
	Permian Reef Trail	8.4 miles	Strenuous. For serious geology buffs, this trail has stop markers that can be used with a geology guidebook sold at the Visitor Center. There are excellent views into McKittrick Canyon from the ridgetop. Trail climbs 2,000'.
Dog Canyon	Indian Meadow Nature Loop	0.6 miles	Easy. Enjoy a stroll around a meadow frequented by a variety of birds and other wildlife. Along the way you will see evidence of recent fires and regrowth.
	Marcus Overlook	4.6 miles	Moderate. Follow the Bush Mountain Trail to the ridgetop for a view into West Dog Canyon. Trail climbs 800'.
	Lost Peak	6.4 miles	Strenuous. Climb out of Dog Canyon on the Tejas Trail to visit the conifer forest above. Outstanding views from Lost Peak. Lost Peak is a short distance off trail to the right, before the horse hitches. Trail climbs 1,500'.
Salt Basin Dunes	Salt Basin Dunes (Day Use Only)	3-4 miles	Moderate. Follow the old roadbed from the parking area, for a little over a mile, to the north end of the dune field. There is one high dune to ascend that some may find difficult. No shade. Enjoy the contrast of the pure white dunes with the sheer cliffs of the the Guadalupe as a backdrop. Great for sunrise or sunset hikes all year, and daytime hikes during the winter.

Hiker Safety for Different Weather Conditions



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

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

Decrease your risk of injury from lightning:

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

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

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

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

Prevention

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

Treatment

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

Cold



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

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

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

Prevention

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

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

Treatment

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

Hiker Safety & Wildlife

Mountain Lions

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

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

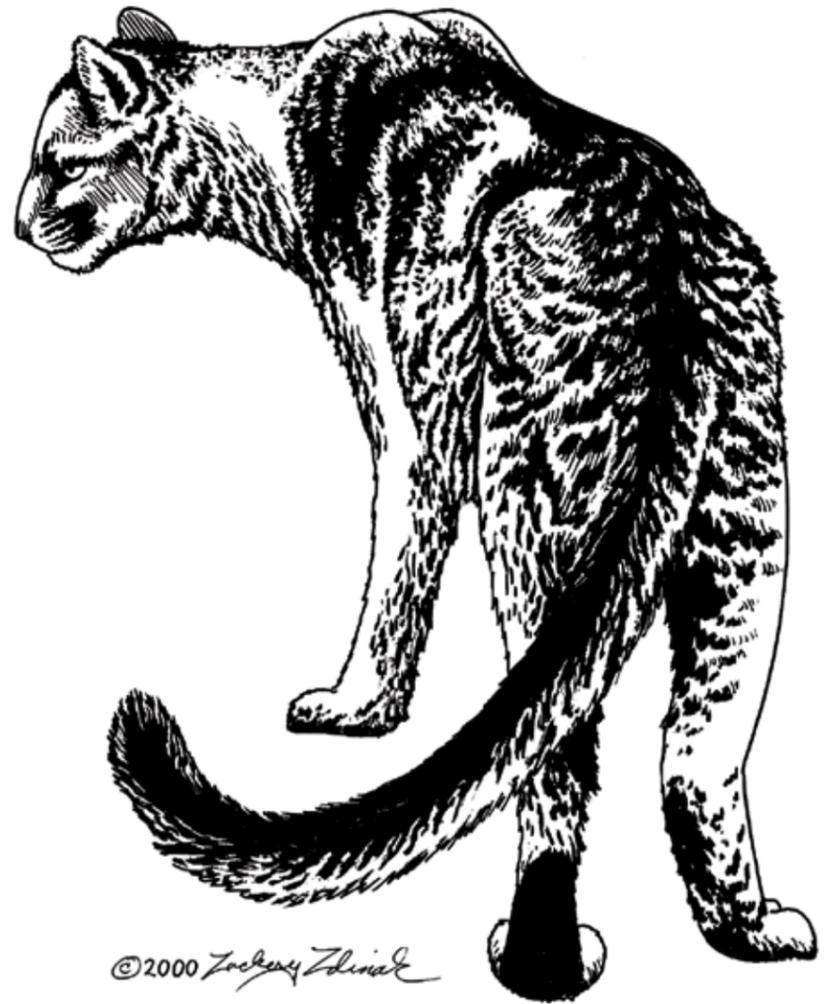
Although no one has had a physical encounter with a mountain lion at Guadalupe Mountains National Park, sightings have become more frequent in the last few years. Lions have increasingly shown more curiosity about people and less fear. Even with this increased lion activity, your chance of seeing one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

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

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

When you hike in mountain lion country:

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



Rattlesnakes



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

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

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

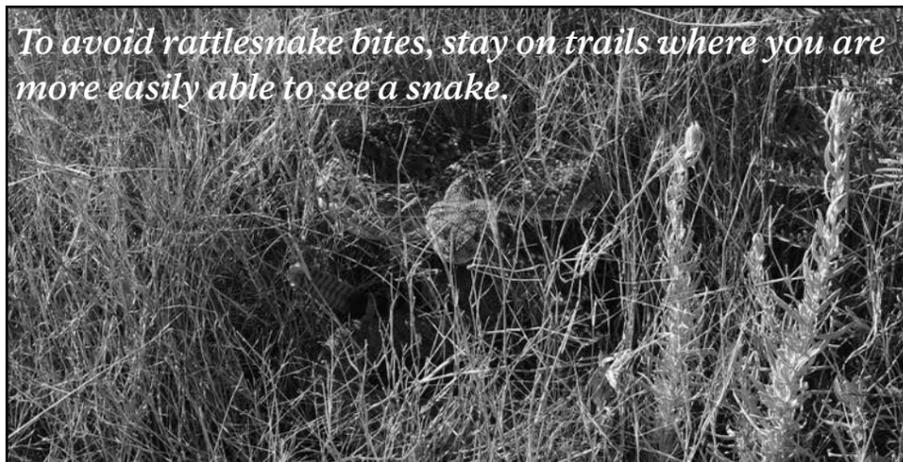
Do not use these methods to treat a snakebite:

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

First aid for a snakebite:

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

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



Wildland Caving Opportunities on the Lincoln National Forest

By Brad Bolton

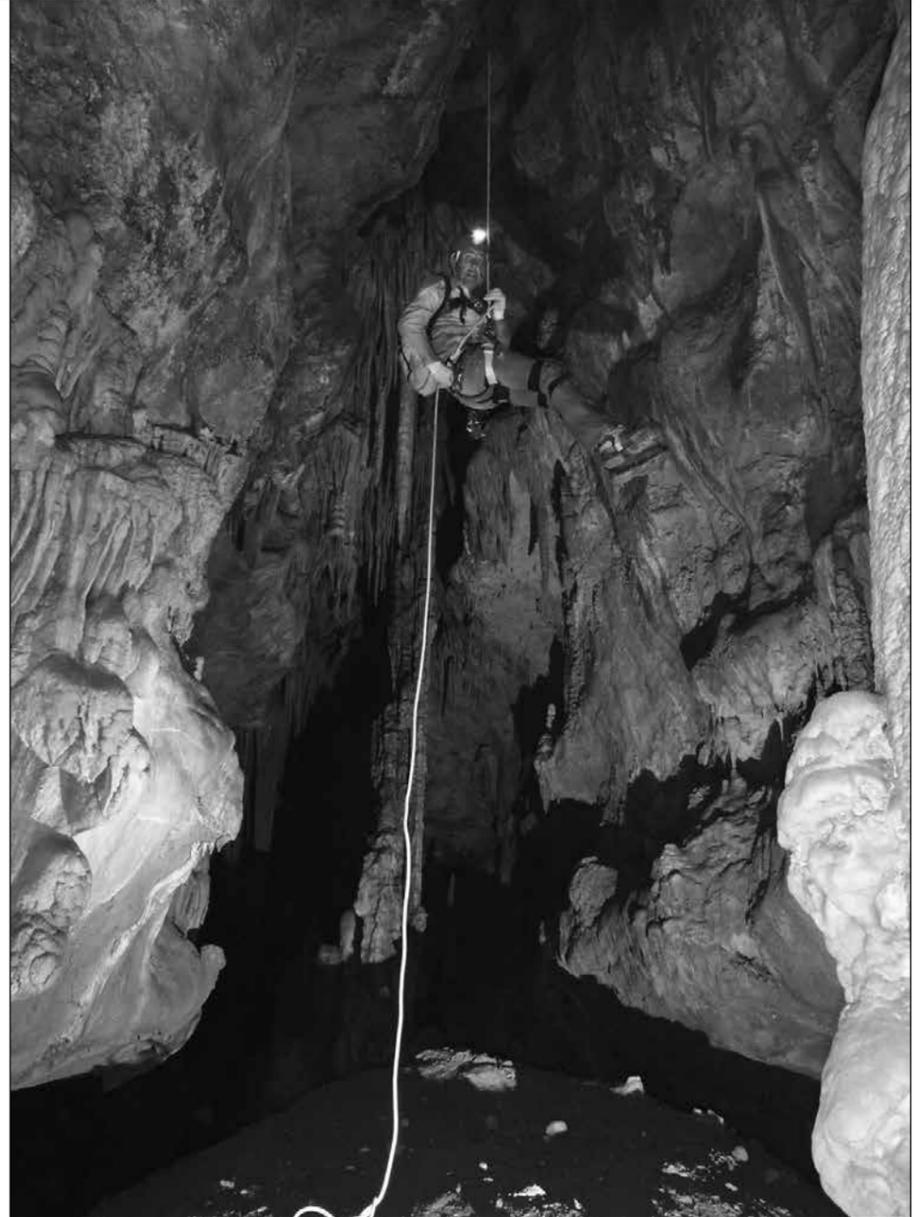
DO YOU LIKE A CHALLENGE AND TO travel where you rely on your own wits and physical strength to climb and negotiate through cave passages? For folks who really enjoy 'wild caving'-type of trips, there are many adventures to be found in nearby Lincoln National Forest.

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 rappelling 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 in 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 (NSS) 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; 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 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 right where you live. There are caving clubs called "Grottos" located across the country as part of the National Speleological Society. 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 Jerermy Evans

THE GUADALUPE RANGER DISTRICT, the southern-most district of 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 waterfalls (fed from springs atop the canyon) that create a large pool of water at the base of the falls, 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. Deep and rough canyons were 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 have 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 this area their home for many, many years. Spanish explorers came to the area in the 1500s; the horses they brought proved to be very valuable to the Apache. By the mid-1800s explorers, settlers, ranchers, businessmen, cattlemen, and outlaws had migrated into the area. Because of the rough and remote terrain, the Guadalupe Mountains were settled very slowly.

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

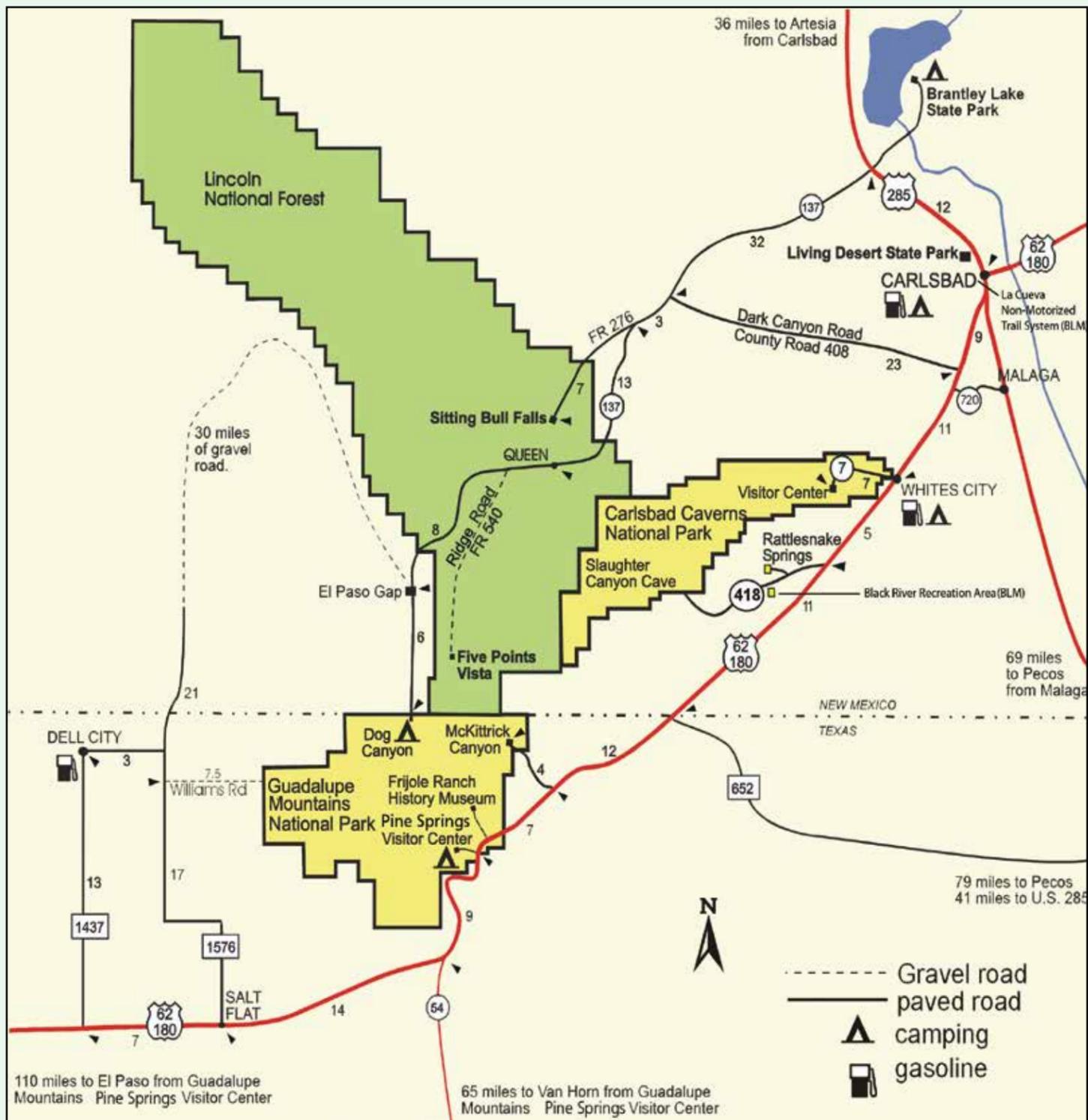
Please be safe and enjoy YOUR national forest.

It is a day-use area open from 9 - 5 daily (October to March) or 8:30 - 6 (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 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 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 Forest Road 276 / County Road 409. Pets on leashes are allowed.

Nearby Attractions



BRANTLEY LAKE STATE PARK

575-457-2384
www.emnrd.state.nm.us/SPD/brantley-lakestatepark.html
 Located 12 miles north of Carlsbad on U.S. Highway 285, the campground has 51 RV sites with water and RV electric hook-ups (a few with sewer), a dump station, playground, restroom with hot showers, shelters, tables and grills. Other facilities include picnic areas with sheltered tables and grills, playground, a fishing dock, boat ramps with docks, and a visitor center.

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

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

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.

BUREAU OF LAND MANAGEMENT (BLM)

575-234-5972
www.blm.gov/nm/st/en/fo/Carlsbad_Field_Office
Black River Recreation Area
 This 1,200 acre 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.

The trail system 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.

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.

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.	

CARLSBAD CAVERNS NATIONAL PARK

575-785-2232
www.nps.gov/cave
 Visitor Center
 727 Carlsbad Caverns Highway
 Carlsbad, NM 88220

Carlsbad Caverns National Park features a immense cave system of highly decorated chambers, and from mid-May to mid-October, a spectacular batflight each evening. Visit the website for the latest information on hours of operation.