

Joshua Tree Guide



Pine Spring, one of the few natural sources of water in the park, is reserved for wildlife.

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JOSHUA TREE NATIONAL PARK
74485 NATIONAL PARK DRIVE
TWENTYNINE PALMS, CA 92277

Important information

accessibility

The nature trails at Bajada, Cap Rock, and the Oasis of Mara are accessible. An assistive listening system is available for use during ranger programs with prior notice.

all terrain vehicles

ATVs may not be used in the park.

bicycling

Bicycling is permitted on public roads, both paved and dirt and on designated bike trails. There are no bicycle paths along roads. Bikes are prohibited on backcountry and nature trails.

bus tours

Several companies offer tours of the park by bus or van. Contact a travel agent for additional information.

campfires

Campfires are permitted in campgrounds and in picnic areas where fire grates are provided. Campfires are not allowed in the backcountry. Collecting vegetation, living or dead, is prohibited, so bring firewood.

climate

Days are typically clear with less than 25 percent humidity. Temperatures are most comfortable in the spring and fall, with an average high/low of 85° and 50°F respectively. Winter brings cooler days, around 60°F, and freezing nights. It occasionally snows at higher elevations. Summers are hot, over—sometimes well over—100°F during the day and not cooling much below 75°F until the early hours of the morning.

commercial filming

When filming or photography involves advertising a product or service, the use of models, sets, props, or the use of a restricted site, a film permit is required.

day-use and restricted areas

Some areas within the park are privately owned; others protect wildlife or historical sites. Entering these areas is prohibited. Day-use areas are set aside to protect sensitive populations of wildlife. They are closed from dusk to dawn.

dehydration

It is easy to become dehydrated in arid desert environments. Even if you only plan to drive through the park, you should have some water with you. If you are going to camp, we recommend one gallon of water per person per day. If you are going to be hiking or biking, you will want to take along two gallons per person. Drink the water and do not economize. When the water is half gone, it is time to turn back.

emergency phones

In an emergency call San Bernardino Dispatch at 909-383-5651. Call collect. Pay phones are located at the Oasis of Mara

in Twentynine Palms and at Black Rock Campground. You can find pay phones in the town of Joshua Tree and at Chiriaco Summit (12 miles southeast of Cottonwood), and an emergency phone ½ mile east of Indian Cove Road on HWY 62.

environment

Two deserts, two large ecosystems whose characteristics are determined primarily by elevation, come together at Joshua Tree National Park. Below 3,000 feet, the Colorado Desert encompasses the eastern part of the park and features natural gardens of creosote bush, ocotillo, and cholla cactus. The higher, moister, and slightly cooler Mojave Desert is the special habitat of the Joshua tree. Joshua tree forests occur in the western half of the park, which also includes some of the most interesting geologic displays found in California's deserts. In addition, five fan palm oases dot the park, indicating those few areas where water occurs naturally and where wildlife abounds.

entrance fees

Admission to the park is \$10 per vehicle and is good for seven consecutive days. A Joshua Tree Pass may be purchased for \$25 and a National Parks Pass, which is good for all NPS sites, costs \$50. Both are good for 12 months. A Golden Age Pass may be purchased by any U.S. citizen 62 or older for \$10, and it is good for life.

firearms and weapons

Firearms, including fireworks, traps, bows, BB guns, paint-ball guns, and slingshots, are not allowed in Joshua Tree.

food, lodging, services

There are no concessions within the park. However, surrounding communities can fulfill most visitor needs. Contact local chambers of commerce for information.

getting to the park

The park is located about 140 miles east of Los Angeles via I-10. The west and north entrances to the park are off CA HWY 62 (Twentynine Palms Highway), at the towns of Joshua Tree and Twentynine Palms. The south entrance is at Cottonwood Spring, about 25 miles east of Indio off I-10.

horses

Horseback riding is a popular way to experience the park. Because of the special requirements for stock in desert environments, you will want to request the site bulletin on horse use before you come.

international visitors

Information is available at visitor centers and entrance stations in Dutch, French, German, Italian, Japanese, and Spanish.

keep wildlife wild

Feeding coyotes, squirrels, and other animals weans them from their natural food supplies, causes overpopulation, and turns them into dangerous creatures as they lose their fear of humans.

leave no trace

During your visit, pick up trash around campgrounds and trails. Your actions will inspire other park visitors.

lost & found

Report lost, and turn-in found, items at any visitor center or ranger station. Lost articles will be returned if found.

motorcycles

Motorcycle operators must carry a valid state driver's license and vehicles must display valid state license plates. No off-road or trail travel is allowed.

off-road driving

Vehicles, including bicycles, are prohibited off established roads. The desert ecosystem is fragile. Off-road driving and riding creates ruts, upsetting delicate drainage patterns, compacting the soil, and leaving visual scars for years. Plants are crushed and uprooted. Wildlife shelters are destroyed, and food and water supplies are altered or obliterated.

parking

Park roads, even the paved, main roads, are narrow, winding, and have soft, sandy shoulders. Accidents occur when visitors stop along the road to admire a view or make a picture. There are many pullouts and parking lots along the main roads, so wait until you get to one before stopping.

pets

While pets are allowed in the park, their activities are restricted. They must be on a leash at all times, they must never be left unattended—not even in a vehicle, and they are prohibited on trails.

potable water

Water is available at the Visitor Center in Twentynine Palms, at Black Rock and Cottonwood campgrounds, at West Entrance, and at Indian Cove Ranger Station. Water sources within the park are not potable and are reserved for wildlife.

rock climbing

Motorized drilling is prohibited within park boundaries, and bolting is not allowed in designated wilderness. All fixed protection found in place should be considered potentially unsafe. Pick up a climbing brochure at an entrance station or visitor center.

stay out and stay alive

Mining was an important activity in this area and numerous mining sites can be found within the park. If you choose to visit them, use extreme caution in the

vicinity of old mine workings. Mine shafts are unstable and are often filled with harmful gases.

take only pictures

Over 1.25 million people visit Joshua Tree National Park each year. If each visitor took only one rock or one branch from a bush, the park, our national heritage, would soon be gone. Removal, disturbance, destruction, or disfigurement of anything in the park is unlawful.

trash

Our dry desert climate cannot quickly decompose such things as orange peels, apple cores, egg shells, and other picnic remains. Loose paper blows into bushes and creates an unsightly mess and plastic six-pack rings strangle birds. Dispose of your trash in a responsible manner and recycle whatever you can.

vehicle laws

Park roads are narrow and winding. Some areas are congested. Speed limits are there for your safety and well-being. State and federal vehicle laws apply within the park.

visitor activities

Ranger-led programs are offered on the weekends from mid-October through mid-December and from mid-February through May. Check at visitor centers, at entrance stations, and on campground bulletin boards for a current schedule.

visitor centers

The park's main visitor center is located at the Oasis of Mara in Twentynine Palms. It is open 8 a.m. to 5 p.m. The Cottonwood Visitor Center is open from 8 a.m. to 4 p.m. Books, videos, maps, and other park related items are available, as well as cultural and natural history exhibits, and park rangers to answer your questions.

wildflowers

Spring blooming periods vary with the elevation, the temperature, and the amount of moisture in the soil. You can get up-to-date information by calling a wildflower hot line: Anza-Borrego 760-767-4684; Living Desert 760-346-5694.

world wide web

If you are "connected," check out the National Park Service publications on the web (<http://www.nps.gov>). We are adding more information all the time. For information about other desert attractions in California, surf over to www.californiadesert.gov.

you are responsible

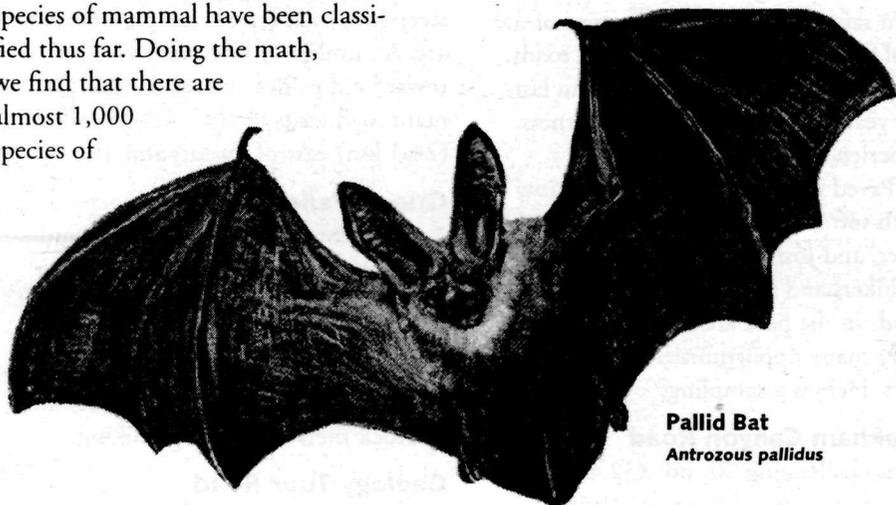
You are responsible for knowing and obeying park rules. Check at visitor centers, at entrance stations, and on bulletin boards to find out what they are. When in doubt, ask a ranger.

EARTH'S ONLY FLYING MAMMAL

Here in the California deserts there are more than a dozen species of bat—Earth's only flying mammal. This oft-misunderstood animal has existed for approximately 55 million years, an estimate derived from the discovery of *Icaronycteris*, a fossil bat. Over that unimaginable period of time, bats have evolved a stunning array of adaptations that continue to dazzle the biologists who study them and the naturalists who observe them.

What about flying squirrels? you might be asking yourself right now. Aren't they mammals? Aren't they also able to fly? The answer is yes, squirrels certainly are mammals, and some species are able to soar. But no, those that glide are not equipped with wings that allow them to ascend—so it cannot be said that they are truly capable of flight.

Bats comprise almost one quarter of all mammals. This is significant when one considers that approximately 4,000 species of mammal have been classified thus far. Doing the math, we find that there are almost 1,000 species of



Pallid Bat
Antrozous pallidus

bat on Earth! The diversity of these species is equally impressive: bats range from the palm-sized bumblebee bat weighing less than a penny, to the flying foxes of Asia, which boast an average three-foot wingspan. Biologists divide bats into two main groups: megabats (the larger, primarily fruit-eating bats) and microbats (generally smaller and insect-eating). Bats demonstrate surprising diversity in their diets. Most of our desert bats are insectivorous, gobbling up thousands of moths, mosquitoes and beetles during their nightly forages. Tropical bats, however, might subsist on a diet of fruit, nectar, pollen, or even frogs!

The pallid bat of the southwestern deserts favors an odd delicacy: scorpions. Apparently, pallid bats are immune to scorpion venom, so their culinary preferences help to keep that arachnid's

populations in check without harming the bats. Bats whose diet consists of animal prey use echolocation to hunt, navigate and avoid collision with other bats. Scientists are only beginning to decipher the banks of acoustic signatures, or bat calls they have collected, and it is often difficult to distinguish one bat's sounds from another, or one type of communication from another. The same species of bat, for example, might echolocate at different frequencies depending on whether it is looking for prey, engaged in a feeding frenzy, looking for a mate, or warning others of danger.

Vampire bats, whose saliva is being studied by pharmacologists for its superior anticoagulant properties, live in Latin America, from Mexico to northern Chile and Argentina. Of the three vampire species, two prey on birds, and the third tends to favor mammalian spe-

cies. In no case is the host animal seriously affected by the feeding process, although a vampire bat might infect its host animal with any of a number of diseases.

When we think of bats, we may picture millions of them emerging from a cave at sunset. Most of our local bats, however, do not occur in such large numbers—nor do they inhabit caves. In general, bats choose dark, quiet, undisturbed places as their homes: caves, rock crevices, trees, abandoned buildings, abandoned mines, bridges and tunnels. Those that live here in the desert usually squeeze themselves inside a rock crevice, or perhaps roost in an abandoned mine. If they are disturbed while hibernating, bats may burn up their stored energy supplies and perish before the weather permits them to go out hunting again, so it is important to

leave bats alone. Do not forget that they are wild animals, capable of transmitting diseases such as rabies—although it must be said that fewer than a tenth of one percent of our local bats have been found to be rabid.

Most bats hang upside down when they roost, using their sharp curved claws to cling to roosting surfaces. How then, do they manage to nurse their young—or, for that matter, eliminate waste—without spilling, soiling themselves, or getting a headache? Several strategies help them stay dry and clear-headed: a system of valves controls the flow of blood; nursing is conducted through a kind of gravity-feed system; and a quick arch of the back at the appropriate moment keeps the bat's fur clean and silky. Bat biologists believe that their unique roosting posture and the ability to squeeze into narrow spaces have given bats an advantage by allowing them to avoid competing with other animals for more conventional types of habitat.

Although bats have sometimes been mistaken for flying mice (in French, the word for bat is "chauve-souris," or "bald mouse," and in German it is "Fledermaus," or "flying mouse"), there are few similarities between the two animals. A bat mother will usually give birth to one pup a year; twins are uncommon, and triplets even more so. Many bats do not have tails, and some have such large ears that they resemble rabbits or dogs more than mice. Dentition, or the size and shape of teeth, is another good indication of the vast difference between bats and mice. Bat teeth are designed for eating insects (which involves biting off the prey's head and wings, discarding them, and dining on the body), whereas mouse teeth are adapted to a diet of seeds, grass and grains.

Mother bats have a remarkably well-tuned reproductive system: they are able to re-absorb their embryo if the upcoming season looks unpromising due to a lack of sufficient food and water for their young. In addition, the development of the fetus can be delayed or sped up depending upon the maternity roost's temperature. Once they are born, the juveniles must develop enough fat in their first year to survive hibernation or migration, and they must learn to fly! No wonder nature has provided so many options in the bat's reproductive process!

As a family, bats are impressively diverse animals. They are found on every

Welcome to Joshua Tree National Park, an increasingly popular destination for people from throughout the United States and the world. Some come seeking solitude, others recreation; some come to learn about the natural and cultural wonders of this desert region, still others to be reassured that there are still areas offering a glimpse of the natural world as it once existed.

During your visit, I encourage you to get out of your vehicle and look, listen, smell, and explore. Rangers are available to assist you with questions about the many attractions and activities in this desert environment.

The future of the national park service is as strong as the support and commitment of the people we serve. With your assistance Joshua Tree will survive intact for the enjoyment of generations to follow. Rest assured that the staff and volunteers at Joshua Tree National Park are committed to doing our part to defend and protect this special place.

Should you have recommendations for improving your national park, please write me at 74485 National Park Drive, Twentynine Palms, CA 92277-3597 or email: ernie_quintana@nps.gov.

Ernest Quintana

Ernest Quintana, Superintendent

continent except Antarctica. They range in size from a few inches across to a wingspan of more than three feet; they may eat insects, frogs, scorpions or fish, or feed on nectar, fruit or blood. There are almost 1,000 species on Earth that are busily controlling pests, dispersing seeds and pollinating flowers. Sadly, bats are often misunderstood, and their numbers are dwindling due to loss of habitat and misguided "pest control" programs. If you see a bat, please leave it alone. If it is lying on the ground, do not touch it: that is not normal behavior for a bat, and it may be ill. Here at Joshua Tree National Park all bat species are protected. Look for them at dawn or dusk in desert washes, which make up 80 to 90 percent of their foraging territory. Enjoy them, but respect them—they remain, in spite of their timid nature, wild animals.

Author: Park Ranger Caryn Davidson
Illustration from a painting by Andrea Peyton

Campgrounds

Campgrounds	Elevation	Sites	Fee	Group Sites	Group Fee	Horse Camp	Water	Flush Toilets	Chemical Toilets	Tables	Fire Grates	Dump Station	Camping Regulations
Belle	3800'	18						*	*	*			<p>There is a 30-day camping limit each year. However, only 14 nights total may occur from October through May.</p> <p>Campsites are limited to six people, three tents, and two cars. Group sites accommodate ten to seventy people.</p> <p>Obtain reservations for sites at Black Rock, Indian Cove, and all group sites by calling 1-800-365-2267. Other campgrounds are first-come, first-served. It is wise to arrive as early as possible.</p> <p>There are no hookups for recreational vehicles.</p> <p>Water is available at Oasis Visitor Center, Indian Cove Ranger Station, West Entrance, and Black Rock and Cottonwood campgrounds. Showers are not available.</p> <p>All vegetation in the park is protected. If you want to make a campfire, bring your own firewood.</p> <p>Quiet hours are from 10 p.m. to 6 a.m. Generator use is limited to six hours a day: 7 to 9 a.m., noon to 2 p.m., and 5 to 7 p.m.</p>
Black Rock	4000'	100	\$10			\$10	*	*	*	*	*	*	
Cottonwood	3000'	62	\$10	3	\$25		*	*	*	*	*	*	
Hidden Valley	4200'	39						*	*	*			
Indian Cove	3200'	101	\$10	13	\$20/35			*	*	*			
Jumbo Rocks	4400'	125						*	*	*			
Ryan	4300'	31				*		*	*	*			
Sheep Pass	4500'			6	\$20/35			*	*	*			
White Tank	3800'	15						*	*	*			

Be an inspiration to others; leave your campsite cleaner than you found it.

What to See and Do

For a first-time visitor the desert may appear bleak and drab. Viewed from the road, the desert only hints at its vitality. Closer examination reveals a fascinating variety of plants and animals. A rich cultural history and surreal geologic features add to the attraction of this place. Joshua Tree National Park offers visitors endless opportunities for exploration and discovery. Depending on the number of hours you have to spend, your interests and energy, here are some ideas to consider:

IF YOU HAVE FOUR HOURS OR LESS, begin your tour at a park visitor center. Park staff will be happy to provide you with current information about conditions in the park as well as answers to your questions.

With limited time you may want to confine your sightseeing to the main park roads. Many pullouts with wayside exhibits dot these roads. A list of nature trails and short walks appears in this publication. Consider experiencing at least one of these walks during a short park visit.

On clear days the vista from Keys View extends beyond Salton Sea to Mexico and is well worth the additional 20-minute drive.

IF YOU PLAN TO SPEND AN ENTIRE DAY, there will be time to walk several nature trails. A ranger-led program will add enjoyment and understanding to your visit. Check at visitor centers and on campground bulletin boards for listings.

If solitude is what you are after, plan an all-day hike. A list of hikes is included in this publication and trail information can be obtained from visitor centers or call ahead and reserve a spot on the popular Desert Queen Ranch guided walking tour.

Some visitors like to experience the desert from the seat of a mountain bike. The park offers an extensive network of dirt roads that make for less crowded and safer cycling than the paved main roads. A selection of road trips is included in the article titled Backcountry Roads in this publication.

Joshua Tree has gained international attention as a superb rock-climbing area. Many visitors enjoy just watching the rock climbers in action.

WITH MORE THAN ONE DAY IN THE PARK, your options increase. There are nine campgrounds and backcountry camping is permitted. You will find information concerning camping and backcountry use elsewhere in this publication.

Books and topographic maps, available at park sales areas, give information needed for longer hikes. For "peak baggers," the park has ten mountains over 5,000 feet (1,524 m) in elevation. Or make it your goal to hike to all the park oases. Other trails lead you to remnants of the gold mining era, a colorful part of the park's cultural history.

Whatever you choose, your time will be rewarding. The desert holds much more than what is readily apparent to the casual observer. **A note of caution:** The desert, fascinating as it is, can be life-threatening for those unfamiliar with its potential dangers. It is essential that you carry water with you—even if you are only driving through. Cars break down; keys get locked inside; accidents happen.

Backcountry Roads for mountain bikes and 4-wheel-drive vehicles

Mountain bikes and 4-wheel-drive vehicles are welcome in the park. For your own safety and for the protection of natural features, stay on established roads. Tire tracks on the open desert can last for years and will spoil the wilderness experience of future hikers.

Paved roads in the park are narrow with soft shoulders. Curves, boulder piles, and Joshua trees restrict the vision of bikers and motorists. The unpaved roads in the park are safer for bikes and offer many opportunities to explore the area. Here is a sampling:

Pinkham Canyon Road

This challenging 20-mile (32.4-km) road begins at Cottonwood Visitor Center, travels along Smoke Tree Wash, and then cuts down Pinkham Canyon. Sections of the road run through soft sand and rocky flood plains. The road connects to a service road next to I10.

Black Eagle Mine Road

Beginning 6.5 miles (10.5 km) north of Cottonwood Visitor Center, this dead-end dirt road runs along the edge of Pinto Basin, crosses several dry washes, and winds through canyons in the Eagle Mountains. The first nine miles (14.5 km) are within the park boundary. Beyond that point is Bureau of Land Management land and a number of side roads. Several old mines are located near these roads but may be too dangerous to approach.

Old Dale Road

This 23-mile (37.3-km) road starts at the same point as Black Eagle Mine Road. The first 11 miles (17.8 km), cross

Pinto Basin, a flat, sandy dry lake bed. Leaving the basin, the road climbs a steep hill, then crosses the park boundary. A number of side roads veer off toward old mines and residences. The main road leads to HWY 62, 15 miles (24.3 km) east of Twentynine Palms.

Queen Valley Roads

A network of roads, totaling 13.4 miles (21.7 km), cross this valley of boulder piles and Joshua trees. A bike trip can begin at Hidden Valley or the dirt road opposite Geology Tour Road. Bike racks have been placed in this area so visitors can lock their bikes and go hiking.

Geology Tour Road

The road turns south from the paved road two miles (3.2 km) west of Jumbo Rocks Campground. The distance from the junction to Squaw Tank is 5.4 miles (8.8 km). This section is mostly downhill but bumpy and sandy. Starting at Squaw Tank, a 6-mile (9.7-km) circular route explores Pleasant Valley. A printed guide is available at the beginning of the road.

Covington Flats

The dirt roads in Covington Flats offer access to some of the park's largest Joshua trees, junipers, and pinyon pines in the high desert. From Covington Flats picnic area to Eureka Peak is 3.8 miles (6.2 km) one way. The dirt road is steep near the end, but the top offers views of Palm Springs, the surrounding mountains, and the Morongo Basin. Your trip will be 6.5 miles (10.5 km) longer if you ride or drive over to the backcountry board, a starting point for excellent hiking.

BACKCOUNTRY CAMPING *and* HIKING

Joshua Tree National Park is a back-packer's dream with its mild winter climate and interesting rock formations, plants, and wildlife. It embraces 794,000 acres of which 630,800 acres have been designated wilderness. By observing the guidelines below, your venture into the backcountry should be safe and enjoyable. If you have questions, ask a ranger. It is your responsibility to know and abide by park regulations.

Registering

If you will be out overnight, register at a backcountry board. The map in this publication indicates the location of the twelve backcountry boards. An unregistered vehicle or a vehicle left overnight somewhere other than at a backcountry board is a cause for concern about the safety of the vehicle's occupants. It is also subject to citation and towing.

Locating your camp

Your wilderness camp must be located one mile from the road and 500 feet from any trail.

Make yourself aware of any day-use only areas in the vicinity (they are indicated on the topo maps at the backcountry boards) and make certain to camp outside.

Washes may seem inviting places to sleep because they are relatively level, but it is important to realize that they got that way because flash floods bulldozed

the rocks and vegetation out of the way.

Domestic issues

Water sources in the park are not potable and are reserved for wildlife, so you will have to carry in an adequate supply for drinking, cooking, and hygiene. You will want to give some thought to the trade-off between the water required to hydrate dried foods and the heftier weight of canned and fresh foods. If you want to heat something you will need to pack in a stove and fuel as open fires are prohibited in the backcountry.

Bring plastic bags to hold your garbage and pack it out. Buried trash gets dug up by animals and scattered by the wind; it is not a pretty sight. Do bury human waste in "cat" holes six inches deep. Don't bury your toilet paper; put it in plastic (zip-locks work nicely) and pack it out. Leave no trace, as they say.

Hiking

It is easy to get disoriented in the desert: washes and animal trails crisscross the terrain obscuring trails, boulder piles are confusingly similar, and there are not many prominent features by which to guide yourself. Do get yourself a topographic map and compass and learn how to use them before you head out.

Know your limitations. You should not attempt to climb cliffs or steep terrain without adequate equipment, conditioning, and training. Accidents

can be fatal.

Carry a minimum of one gallon of water per person per day just for drinking, two gallons in hot weather or if you are planning a strenuous trip. You will need additional water for cooking and hygiene.

And don't forget the other essentials: rain protection, a flashlight, a mirror and whistle, a first-aid kit, pencil and paper, a pocket knife, and extra food.

Coping with the weather

That old desert sun can damage eyes as well as skin. Wear a hat and sunglasses and use sunblocking lotion liberally.

Temperature changes of 40 degrees within 24 hours are common. Bring a variety of clothes that you can layer on and off as conditions change.

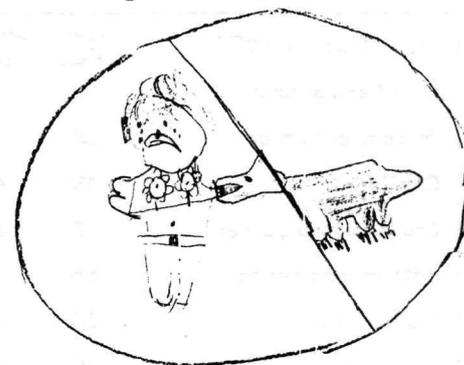
Although rain is relatively rare in the desert, when it does come it can really pour down. Even when it isn't raining where you are, rain in the mountains can run off so fast as to cause flash floods. Stay alert.

Stock animals

To minimize vegetation damage and soil erosion, stock animals are restricted to designated horse trails and washes.

Plan to pack along sufficient water and feed (pellet form only), as your animals are not allowed to drink from any of the water sources in the park or graze the vegetation.

Keep Wildlife Wild



Don't feed coyotes! People food is not healthy for them. It makes them into beggars, and they might bite you. Also, it is against the law, and a ranger will give you a ticket, and you will have to pay a big fine!

EXPECT TRAVEL DELAYS THIS FALL

The park is about to begin an extensive road construction project and visitors may experience delays of up to 15 minutes when traveling between Quail Springs and Cap Rock on Park Boulevard (see the inset map on page 6).

Nearly five miles of main park road will be reconstructed during the first phase of the project. The intersection of Park Boulevard with the entrance to the Hidden Valley day-use area will be realigned to make it safer. Hidden Valley Campground will get a new entrance, and visitors traveling to the Desert Queen Ranch, Barker Dam Nature Trail, or to climbing areas around the Wonderland of Rocks will no longer have to travel through the campground. The road from the newly aligned Park Boulevard to Barker Dam will be paved.

The parking area for the Barker Dam Nature Trail, currently located in a wash, will be removed, the area replanted, and a new parking area constructed in a more environmentally sound location. The existing parking areas at the Quail Springs picnic area, the Boy Scout trailhead, the Hidden Valley trailhead, and the Lost Horse Ranger Station access road, will be reconstructed and expanded, and new parking areas will be constructed at the Hemingway Buttress rock formation and the Wonderland of Rocks backcountry staging area.

Black Rock Canyon Offers Good Hiking and More

Located in the northwest corner of the park, the road to Black Rock Canyon deadends at the campground. Campsites are located on a hillside at the mouth of the canyon surrounded by Joshua trees, junipers, cholla cacti, and a variety of desert shrubs. Spring blooms usually begin with the Joshua trees in late February followed by shrubs and annuals through May.

This quiet, family campground is a good introduction for first-time campers. Each campsite has a picnic table and fire ring with restrooms and water nearby. If you forget to bring your firewood, shopping facilities are only five miles away in the town of Yucca Valley. Campsites vary in size and can accommodate both tents and RVs. A day-use picnic area and dump station are also available. For horse owners, a separate area is provided for overnight camping or staging a ride.

Campers register and pay camping fees at the Black Rock Nature Center located in the middle of the campground. The staff at this small visitor center can help plan your hikes and sightseeing. Maps, books, nature guides, and children's activity books may be purchased.

The hills behind the campground offer a variety of hiking trails including the Hi-View Nature Trail. The interpretive guide for this trail, available at the nature center, identifies the vegetation along this scenic 1.3-mile walk. For those looking for longer trails, Eureka Peak, Panorama Loop, and Warren Peak take hikers to ridgelines overlooking the often snowy peaks of San Jacinto and San Geronio. The trailhead for a 35-mile section of the California Riding and Hiking Trail is located at Black Rock. Backpackers can register at the backcountry board here for overnight

wilderness trips.

But you don't have to hike to enjoy Black Rock! Wildlife sightings are frequent in the campground. Visitors often encounter ground squirrels, jackrabbits, and cottontails and frequent bird sightings include cactus wrens, Gambel's quail, great-horned owls, jays, and road-runners. A serious birder might be rewarded with a glimpse of a Scott's Oriole or LeConte's thrasher. More elusive species such as bobcat, bighorn sheep, mountain lions, desert tortoises, mule deer, and even a black bear have been seen in the area.

As the sun sets, listen for the "singing" of coyotes living on the outskirts of the campground. Do not feed wild animals in Joshua Tree National Park. People food is unhealthy for them and they can become aggressive and harm you.

How Far Is It?	Oasis of Mara	Cottonwood Spring	West Entrance
Belle Campground	9	28	28
Black Rock Canyon	28	73	17
Cap Rock	19	40	16
Cholla Cactus Garden	18	20	36
Cottonwood Spring	38	0	51
Hidden Valley	20	42	14
Indian Cove	10	48	13
Interstate 10	45	7	35
Jumbo Rocks Campground	11	33	23
Keys View	24	45	21
Oasis of Mara	0	38	34
Ryan Campground	18	39	16
Sheep Pass Campground	16	37	19
West Entrance	34	51	0
White Tank Campground	11	27	29

Area Information

For information about accommodations and attractions in surrounding communities, you may contact the following chambers of commerce:

Indio
82503 Hwy 111
Indio, CA 92201
(760) 347-0676
indiochmbr@aol.com
http://www.indiochamber.org

Joshua Tree
P.O. Box 600
Joshua Tree, CA 92252
(760) 366-3723

Palm Springs
190 W. Amado Rd.
Palm Springs, CA 92262
(760) 325-1577
PSChamber@worldnet.att.net
http://www.pschamber.org

Twentynine Palms
6455 Mesquite Ave. Unit A
Twentynine Palms, CA 92277
(760) 367-3445
http://www.29chamber.com

Yucca Valley
56300 29 Palms Hwy.
Yucca Valley, CA 92284
(760) 365-6323
chamber@yuccavalley.org
http://www.yuccavalley.org



FALL RANGER PROGRAMS

Desert Queen Ranch Tours by reservation
Call 760-367-5555

Saturday Evening Campfire Programs

Sunday Morning Orientation Coffees

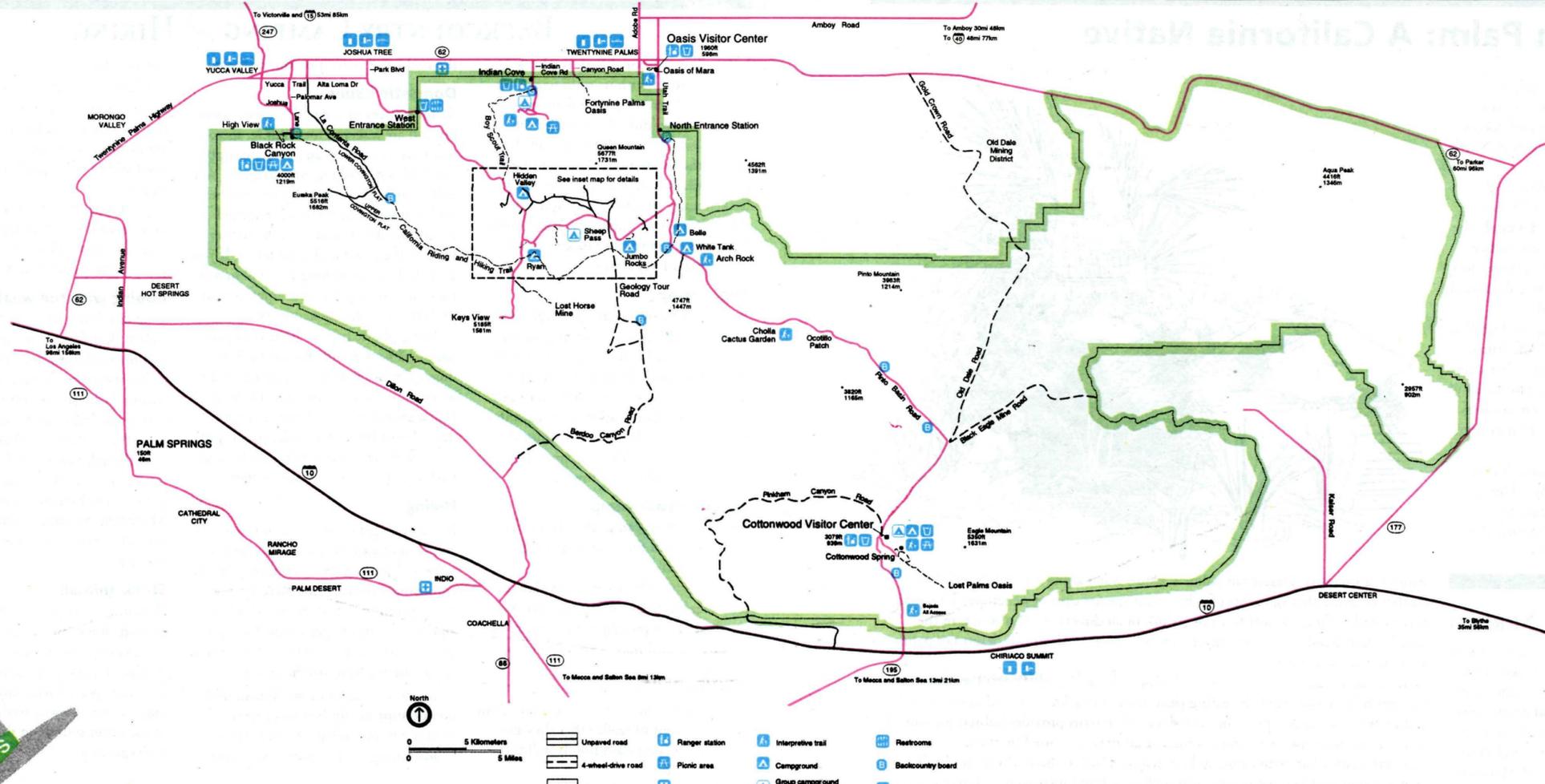
Morning and afternoon discovery walks

Weekend geology hikes and nature walks

Activities especially for kids

And much more

Pick up a current schedule at a visitor center or look on campground bulletin boards. We also publish program schedules on our website: www.nps.gov/jotr.



NATURE TRAILS

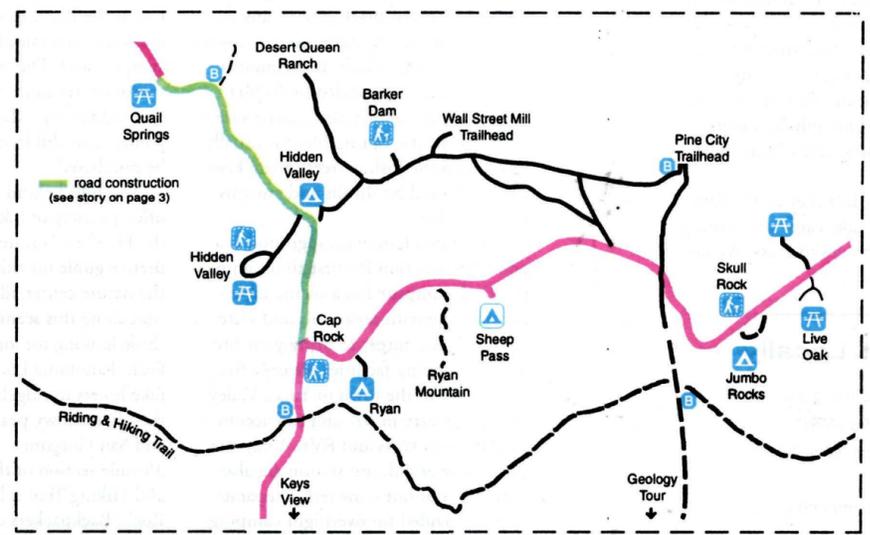
Trail	Mileage	Starting Point
Arch Rock	3-mile loop (1.5-km)	White Tank Campground, opposite site 9
Bajada All Access	2.5-mile loop (4-km)	south of Cottonwood, one-half mile from the southern entrance to the park
Barker Dam	1.1-mile loop (1.8-km)	Barker Dam parking area
Cap Rock	4-mile loop (6-km)	Cap Rock parking area, at the junction of Park Blvd. and Keys View Road
Cholla Cactus Garden	2.5-mile loop (4-km)	20 miles north of Cottonwood Visitor Center
Cottonwood Spring	1-mile (1.6-km)	Cottonwood Spring parking area
Hidden Valley	1-mile loop (1.6-km)	Hidden Valley picnic area
High View	1.3-mile loop (2.1-km)	Northwest of Black Rock Campground
Indian Cove	6-mile loop (1-km)	West end of Indian Cove Campground
Keys View	2.5-mile loop (4-km)	Keys View
Oasis of Mara	5-mile loop (8-km)	Oasis Visitor Center, Twentynine Palms
Skull Rock	2.5-mile (4-km)	Jumbo Rocks Campground, just beyond loop E

Joshua Tree Guide
Produced by the employees and the volunteers of Joshua Tree National Park and Joshua Tree National Park Association.
Published by Joshua Tree National Park Association.
Printed by Reed Printing on recycled paper.

HIKING TRAILS

Trail	Roundtrip Mileage	Time	Starting Point	Trail Description
Boy Scout	16 miles (25.8 km)	1-2 days	Indian Cove backcountry board or Keys West backcountry board 0.5 mile (0.8 km) east of Quail Springs picnic area	Scenic trail through the westernmost edge of the Wonderland of Rocks. See backcountry board for information on overnight use. Moderate.
49 Palms Oasis	3 miles (4.8 km)	2-3 hours	Parking area at end of Canyon Road, 4 miles (6.4 km) west of Twentynine Palms off Hwy 62	Several stands of fan palms, evidence of past fires, and pools of water are found at the oasis. The plants in this area are especially fragile, so walk lightly. Moderately strenuous.
Lost Horse Mine/Mountain	4 miles (6.4 km)	3-4 hours	Parking area 1.2 miles (1.9 km) east of Keys View Road	Site of ten-stamp mill and foundations. Summit elevation: 5,278 feet (1,609 meters). Moderately strenuous.
Lost Palms Oasis	7.5 miles (11.2 km)	4-6 hours	Cottonwood Spring or Cottonwood Campground	A canyon with numerous palm stands. A side trip to Victory Palms and Munsen Canyon involves boulder scrambling. Moderate to oasis overlook, then strenuous.
Mastodon Peak	3 miles (4.8 km)	2-3 hours	Cottonwood Spring or Cottonwood Campground	Excellent views of the Eagle Mountains and Salton Sea. Summit elevation: 3,371 feet (1,027 meters). Moderate.
Ryan Mountain	3 miles (4.8 km)	2-3 hours	Ryan Mountain parking area or Sheep Pass Campground	Excellent views of Lost Horse, Queen, and Pleasant Valleys. Summit elevation: 5,461 feet (1,664 meters). Moderately strenuous.

Thirty-five miles of the California Riding and Hiking Trail pass through the park. Access to the trail is at its junction with Covington Flats, Keys View, and Squaw Tank (Geology Tour) Roads; at Ryan Campground; south of Belle Campground; and near the north entrance to the park. This allows for shorter hikes of 4, 6, 7, or 11 miles (6.4, 10.7, or 17.6 km). Two to three days are required to hike the entire length of the trail.



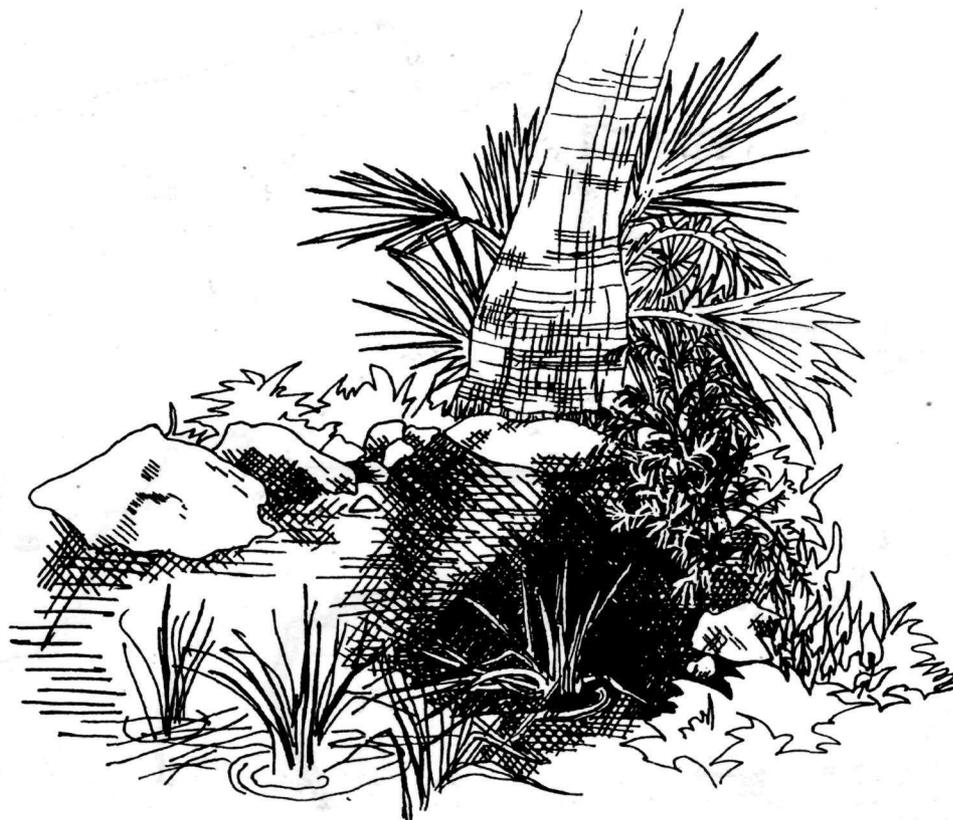
The Desert Fan Palm: A California Native

In an otherwise hot and sparse environment, palm oases are a luxuriant gift of shade and solace. The verdant display requires a constant supply of water so oases often occur along fault lines, where uplifted layers of hard impermeable rock forces underground water to the surface. There are only 158 desert fan palm oases in North America. Five are located in Joshua Tree National Park.

The desert fan palm, *Washingtonia filifera*, is native to the low hot deserts of Southern California where it can live for 80 to 90 years. Towering up to 75 feet, the desert fan palm is among the tallest of North American palms. It is definitely the heaviest; a mature desert fan palm can weigh as much as three tons. Its distinctive leaves are shaped like a fan and folded like an accordion. They measure up to six feet in length and are nearly as wide. Looking much like "petticoats," the fan palm's dead leaves remain attached to its trunk until removed by fire, wind, or flood.

Fire is beneficial for palms and rarely kills an adult. In palms the vascular bundles, those tubes that transport water and nutrients, are scattered throughout the trunk. This arrangement provides insulation from the heat of a fire. In contrast, other trees such as oaks have all their vascular tissue in a ring just beneath the bark. Fire does kill young palms, but it also removes competitors and opens up space for palm seeds to germinate. In fact, desert fan palms increase seed production immediately after fires. A healthy palm can produce as many as 350,000 seeds.

People have been attracted to palm oases since prehistoric times. Native Americans ate the palm fruit and used the fronds to build waterproof dwellings. The Cahuillas (pronounced: Ka-wee-yahs) periodically set fire to oases in order to increase fruit production and to remove the sharp-edged palm fronds littering the oasis floor. The Cahuillas also planted palm seeds in promising locations.



WHERE IN THE PARK IS COTTONWOOD SPRING

Cottonwood Spring Oasis, one of the best kept secrets in Joshua Tree National Park, is just seven miles from the southern entrance to the park. The spring, the result of earthquake activity, was used for centuries by the Cahuilla Indians, who left bedrock mortars and clay pots, or ollas, in the area.

Cottonwood Spring was an important water stop for prospectors, miners, and teamsters traveling from Mecca to mines in the north. Water was necessary for gold processing, so a number of gold mills were located here. The remains of an arrastra, a primitive type of gold mill, can be found near the spring, and concrete ruins mark the sites of two later gold mills in the area.

The cottonwoods that give their name to the spring are not native to this area. They were planted around the turn of the century by some early resident, and the palms were planted in the 1920s.

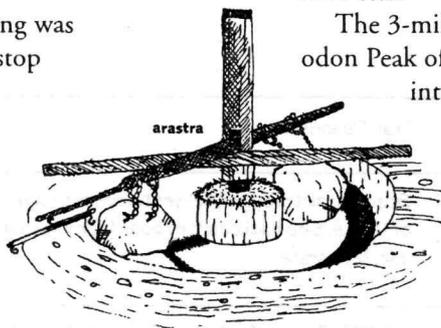
A number of hikes begin at Cottonwood Spring. A short, easy walk down Cottonwood Wash leads past a second oasis to a dry falls. In wet years, the falls

can become a scene of rushing water and red-spotted toads. Bighorn sheep often come up the wash for water in the early hours. An old teamster road drops down past the falls to the lower wash. A short hike leads through palo verde and desert willow trees to the remains of Moorten's Mill Site.

The 3-mile loop trail to Mastodon Peak offers spectacular views, interesting geology, the Mastodon Mine, and the Winona Mill Site. And, for those looking for a longer hike—eight miles round trip—and the largest stand of fan palms in the park, the Lost Palms Oasis trail is a sure winner.

But you don't have to hike to enjoy Cottonwood Spring. This is one of the best birding spots in the park; so bring your binoculars and sit a spell.

The campground, which has water and restrooms, is located one-half mile from Cottonwood Spring via a signed nature trail; there are also shaded picnic tables in the campground. To learn more about the plants, animals, and history of this fascinating place, join a ranger-led hike, walk, or campfire program, offered most weekends.

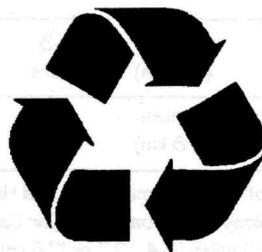


Water is a necessity. Desert fan palms suck up water using a mass of pencil-wide rootlets so dense that the roots of other plant species cannot penetrate. This mass may extend as far as 20 feet from the trunk in all directions. But water, in the form of flash floods, is also the most common cause of death for desert fan palms living in narrow canyons.

Water also draws animals to oases: bighorn sheep, Gambel's quail, coyotes. Coyotes help spread palms by eating palm fruit at one location and depositing the undigested seeds at another. The cool shade of an oasis provides habitat for animals that live nowhere else. After dark, a rush of air may be caused by the passing of a western yellow bat, who roosts only in palms. During the day, a flash of yellow-orange might be a hooded oriole, who prefers to build its woven sack-like nest under the large green leaves of the desert fan palm. The dime-sized holes seen in the trunks of palms are exit holes of the two-inch, blue-black, giant palm-boring beetle, *Dinapate wrightii*, who lives exclusively in palm oases.

The larvae of the Dinapate beetle spends about five years chewing tunnels within the trunk of a desert fan palm. The chewing is so loud that flickers use the noise to locate the larvae. Successful larvae pupate within the trunk then chew their way out. Because their rear end is wider than their front end, they exit going backwards to avoid getting stuck. Emerging in June, males and females mate and then die within a few weeks. Eventually these beetles can kill a palm, but they only inhabit older trees. Giant palm boring beetles keep the palm population young and vibrant. The presence of these beetles is actually a sign of a healthy oasis.

Palms stand straight and tall, looking proud and invincible. But they aren't. Any place can be over loved. As you explore these oases of wonder, take care. Use existing paths. Watch out for young palms—seedlings look like thick blades of grass. We do not want the presence of people to be a sign of a declining oasis.



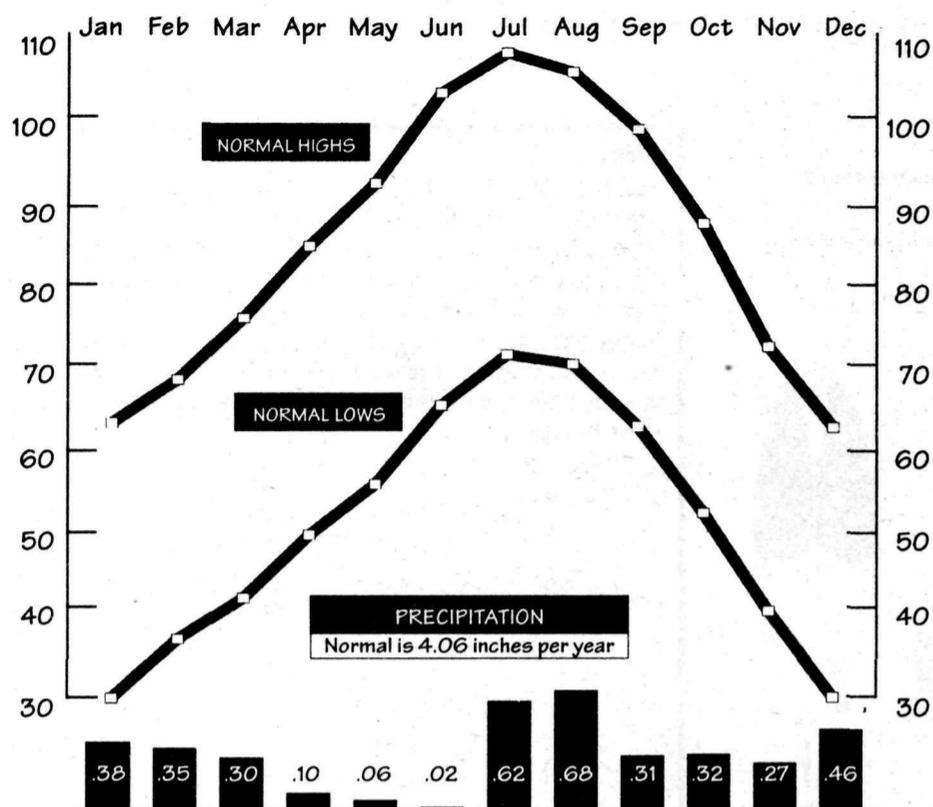
Think Globally, Act Locally

Bring your aluminum and metal cans, glass, and plastic to a campground recycling center.

Share or recycle this Joshua Tree Guide when you have finished reading it.

Participate in recycling in your community.

The Weather



Measurements were taken at 1,960 feet. You can expect seven to 12 degrees cooler temperatures and 3.5 inches more precipitation at higher elevations.

Rockpiles

The geologic landscape of Joshua Tree has long fascinated visitors to this desert. How did the rocks take on such fantastic shapes? What forces sculpted them?

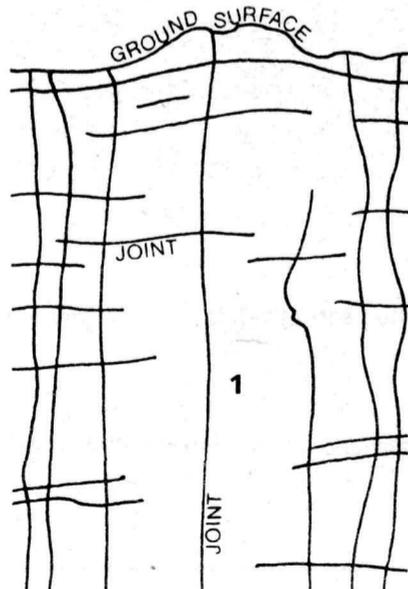
Geologists believe the face of our modern landscape was born more than 100 million years ago. Molten liquid, heated by the continuous movement of Earth's crust, oozed upward and cooled while still below the surface. These plutonic intrusions are a granitic rock called monzogranite.

The monzogranite developed a system of rectangular joints. One set, oriented roughly horizontally, resulted from the removal, by erosion, of the miles of overlying rock, called gneiss (pronounced "nice"). Another set of joints is oriented vertically, roughly paralleling the contact of the monzogranite with its surrounding rocks. The third set is also vertical, but cuts the second set at high angles. The resulting system of joints tended to develop rectangular blocks. (figure 1) Good examples of the joint system may be seen at Jumbo Rocks, Wonderland of Rocks, and Split Rock.

As ground water percolated down through the monzogranite's joint fractures, it began to transform some hard mineral grains along its path into soft clay, while it loosened and freed grains resistant to solution. Rectangular stones

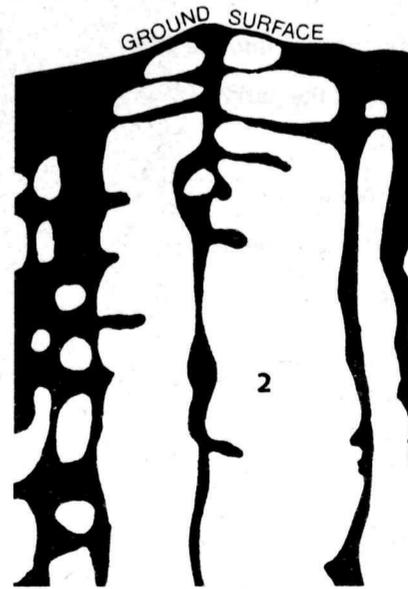
slowly weathered to spheres of hard rock surrounded by soft clay containing loose mineral grains. Imagine holding an ice cube under the faucet. The cube rounds away at the corners first, because that is the part most exposed to the force of the water. A similar thing happened here but over millions of years, on a grand scale, and during a much wetter climate. (figure 2)

After the arrival of the arid climate of recent times, flash floods began washing away the protective ground surface. As they were exposed, the huge eroded boulders settled one on top of another,



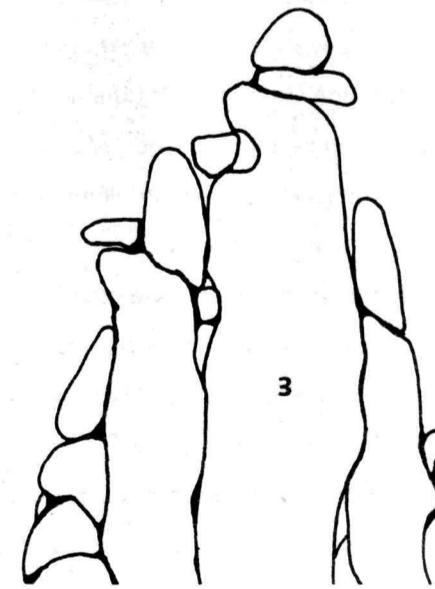
creating those impressive rock piles we see today. (figure 3)

Visitors also wonder about the "broken terrace walls" laced throughout the boulders. These are naturally occurring formations called dikes. Younger than the surrounding monzogranite, dikes were formed when molten rock was pushed into existing joint fractures. Light-colored dikes formed as a mixture of quartz and potassium minerals cooled in these tight spaces. Suggesting the work of a stonemason, they broke into uniform blocks when they were exposed to the surface.



Of the dynamic processes that erode rock material, water, even in arid environments, is the most important. Wind action is also important, but the long-range effects of wind are small compared to the action of water.

The erosional and weathering processes operating in the arid conditions of the present are only partially responsible for the sculpturing of the rocks. The present landscape is essentially a collection of relict features inherited from earlier times of higher rainfall and lower temperatures.



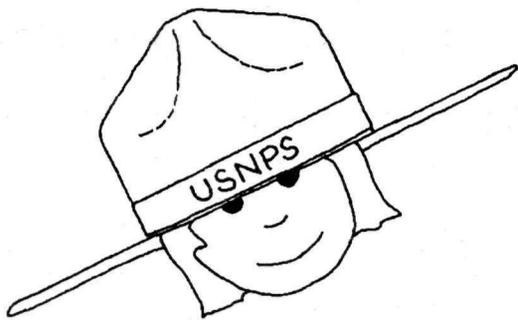
Understanding Desert Wildfire

Recent wildfires throughout the Southwest are causing federal land managers to take a careful look at prescribed fire programs. Prescribed fires attempt to remove dangerous accumulations of brush and restore fire as an accepted natural process in the wise stewardship of our public lands.

For the protection of life and private property adjacent to the park, Joshua Tree National Park will continue its current policy of complete fire suppression of all natural and human-caused fires. Following 1999's historic Juniper Fire Complex, managers and biologists reviewed the role fire plays in the Mojave Desert. During last year's lightning-caused fires, almost 14,000 acres of junipers, pinyon pines, scrub oaks, and Joshua trees burned, resulting in the largest wildfire in the park's history. Ecologists now theorize that the introduction of exotic grasses during the last century had major effects on the natural burn cycles in the park, resulting in much larger wildfires than had previously been observed.

The key to managing fire in Joshua Tree is in understanding how wildfires affect vegetation and wildlife in a desert environment where non-native grasses may have substantially altered the local ecology. Native bunch grasses once found throughout the higher elevations of the park have dramatically declined and are now replaced with exotic weeds and grasses. Ecologists are still attempting to discover what the long-term consequences of these newly arrived plants will be.

To help preserve and protect wildlife, scenery, and natural processes, each park develops its own Fire Management Plan. At Joshua Tree, the plan calls for additional study of the role of prescribed fire to help determine the proper use of fire as a management tool in desert environments. Research planned for the next several years will seek to clarify the effects of fire in desert landscapes. Past studies have shown that in some ecosystems, fire plays a beneficial and natural role. However, there remain many unanswered questions.



Hey there, Junior Ranger!

Complete at least five of the activities below and become a Junior Ranger at Joshua Tree National Park. When you have completed your work, take this page to the Oasis or Cottonwood Visitor Center or to a ranger-led evening program. A ranger will check your work and give you an official Junior Ranger badge. **Have fun!**

Terrific Tracks

Many animals live in Joshua Tree National Park. Read the clues below to help you unscramble a few of these animal names. Then draw a line between the animal names and the tracks they would make. HINT: You will have one extra track at the end. Do you know what animal makes it?

- ❶ It builds its nest of cholla cactus for protection and decorates it with shiny objects taken from campsites.

TAWODOR =

- ❷ This bird has a forward-curving topknot and would rather run than fly.

ULAQI =

- ❸ This large mammal has horns and is an excellent rock climber.

NRGOIBH EEHSP =

- ❹ Females of this animal produce 3–4 litters of 4–7 young each year.

IATOCTNTL =

- ❺ The park is home to many species of this reptile.

DAZILR =

- ❻ This feline has a stubby tail and can be active both day and night.

TBBAOC =

- ❼ This animal does not drink water because its body is able to unlock the water stored in the dry seeds it eats.

GAROKNAO ART =

- ❽ This solitary hunter has bigger ears than its cousin, the gray fox.

TIK XFO =



Rocks

Joshua Tree National Park is famous for its rock formations. The *Wonderland of Rocks* has many of these large boulder piles. The rocks on the surface today were molten 83 million years ago! People come from all over the world to see, study, and climb on these rocks. People who study rocks are called geologists. Many of the rock formations have names due to their interesting shapes. Sketch your favorite rock formation in the park. What would you call it?

Map Mania

Get to know Joshua Tree National Park by playing "Map Mania." Using the official map and guide to the park (available at park entrance stations and visitor centers), answer the questions below by yourself or rae friends and family members for the correct responses.

- ❶ How many campgrounds are in the park?
- ❷ Name the four mammals pictured on the back of the map.
- ❸ How many paved road entrances (red lines) are there into the park?
- ❹ What highway runs along the north boundary of the park?
- ❺ What can be seen at "Point of Interest #4?"
- ❻ Lost Palms Oasis is what "Point of Interest" number?
- ❼ What mountain range is in the far eastern portion of the park?
- ❽ What is the symbol on the map for a picnic area?
- ❾ Dirt roads are signified by what on the map?
- ❿ Is water available at the Cottonwood Visitor Center?
- ⓫ What is the transition zone?
- ⓬ Keys View lies in what mountain range?
- ⓭ What type of vehicle do you need on the Geology Tour Road?

Native Americans

Hike the Barker Dam trail with an adult and visit the rock art site. Sketch two of the designs you see on the rocks in this box. Remember not to do rubbings. Rock art is protected.

What sort of vandalism occurred at this site?

Why should we protect cultural sites?

Plant Sketching

Desert plants have many different adaptations to survive the summer heat. Some plants can store water. Some use little white hairs on their leaves or white spines to reflect back the sun's rays. Other plants have hairs, spines, or leaves that provide shade for their stems. Still others have a waxy coating on their stems and leaves to prevent water loss.

Draw plants that you find with these adaptations. You can use a plant guide or ask a ranger to help identify the plants you drew so you can label your sketches.

Remember not to pick any plants inside the park!

This plant stores water.

plant name = _____

This plant has a waxy coating.

plant name = _____

This plant reflects sunlight.

plant name = _____

This plant provides its own shade.

plant name = _____

- Answers**
- TERRIFIC TRACKS:**
- 1) woodrat, e
 - 2) quail, c
 - 3) bighorn sheep, f
 - 4) cottontail, h
 - 5) lizard, g
 - 6) bobcat, d
 - 7) kangaroo rat, b
 - 8) kit fox, i
- MAP MANIA:**
- 1) nine
 - 2) bobcat, coyote, jackrabbit, kangaroo rat
 - 3) six
 - 4) Highway 62 or Twentynine Palms Highway
 - 5) Barker Dam
 - 6) !
 - 7) Coccomb Mountains
 - 8)
 - 9) gray lines
 - 10) yes
 - 11) where the Mojave and Colorado Deserts meet
 - 12) Little San Bernardino Mountains
 - 13) four-wheel drive
- WATER:**
- 1) five
 - 2) flash floods
 - 3) less than 5 inches
 - 4) No, it's too salty
 - 5) Loss of moisture from leaves/minimize loss of moisture
 - 6) Barker Dam/to hold water for cattle and mining/wildlife uses it today
 - 7) 1 gallon/2 gallons
 - 8) personal answers

Wordseek

Find these words: Bats, Bighorn, Bobcat, Cholla, Coyote, Creosote, Hawk, Joshua Tree, Quail, Rabbits, Snakes, Tortoise, Yucca.

C H L I A U Q B C J
 H R N E D H A W K O
 O F E R A B B I T S
 L S G O O H A I J H
 L E K B S H C T L U
 A K C M P O G N S A
 Q A R T Y S T I U T
 T N X O L V J E B R
 Z S T W Y U C C A E
 Y E T O R T O I S E

Clean up the Park

Help keep Joshua Tree National Park clean by picking up litter that you see. Show your bag of litter to a parent or a ranger and have them initial here to verify your hard work. _____

Attend a Park Program

Ask at the visitor centers or look on park bulletin boards for the schedule of ranger-led programs offered by the park. Choose one that interests you and your family. When it is finished, have the ranger initial here to verify that you attended. What did you learn from the program?

Water in the Desert

Water is essential for survival in the desert. A palm oasis, with its huge fan palm trees, is a place where water occurs naturally at or near the surface of the ground. Visit one of the oases found on your park map to help you find the answers to the questions below. Be creative in where you look for information!

- 1 How many fan palm oases are found within Joshua Tree National Park?
- 2 What water event must you be aware of in Rattlesnake Canyon?
- 3 On average, how many inches of rain does the Mojave Desert get per year?
- 4 Will the water inside a barrel cactus quench your thirst? Why?
- 5 What is transpiration? Why do desert plants have small leaves?
- 6 What man-made water source inside the park was built around 1900? Why was it built then? What purpose does it serve now?
- 7 How much water should a person carry on a day hike in mild conditions? In summer heat?

TAKING THE JUNIOR RANGER PLEDGE

"I, _____, promise to do my best to be a friend of nature. I promise that I will not intentionally pollute, destroy, frighten, or harm plants or animals, however big or small. I realize my actions will be an example to other people older and younger. I promise not to destroy nature while I enjoy nature."

AWARDING THE JUNIOR RANGER BADGE

I certify that _____ completed at least five of the activities to become a Joshua Tree National Park Junior Ranger.

signed by: Ranger _____

Publications to help you plan your visit to Joshua Tree National Park

The following publications have been selected for their value in planning your trip to Joshua Tree National Park. These items and many more may be ordered by mail, telephone, FAX, or on the web from Joshua Tree National Park Association.

Getting to know Joshua Tree National Park

Road Guide to Joshua Tree National Park, Decker. Guides visitors on a driving tour through the land where the Mojave and Colorado Deserts meet. 48 pages PB \$5.95

On Foot in Joshua Tree, Furbush. A comprehensive hiking guide featuring 90 park hikes, 40 photos and illustrations, and 26 maps and reference charts. 152 pages PB \$11.95

A Visitor's Guide to Joshua Tree, Cates. A delightful, informative guide blending human and natural history. Equally enjoyable by desert rats and first-time visitors. 100 pages PB \$6.95

Hiking California's Desert Parks, Cunningham. Presents 111 hikes and backcountry trips in Anza Borrego, Joshua Tree, Death Valley, and Mojave. 373 pages PB \$16.95

The Joshua Tree, Gossard. An easy-to-read book filled with fascinating facts and stories about the symbol of the Mojave Desert. 112 pages PB \$9.95

Joshua Tree Video. Excellent introduction to Joshua Tree National Park. 30 minutes VHS \$12.95; PAL \$15.95

Recreation Map of Joshua Tree, Harrison. Colorful map of Joshua Tree National Park highlighting points of interest, campgrounds, picnic areas, topographic features, and backcountry roads and trails. \$7.95

Trails Illustrated Topographic Map of Joshua Tree National Park. Includes elevations, backcountry camping, hikes, routes, and safety. Waterproof and tearproof. \$9.95

Joshua Tree, The Story Behind the Scenery, Vuncannon. Full of color photos and fascinating text, the perfect introduction to the park. 48 pages PB \$7.95; \$8.95 for French or German.

Wildflowers of Joshua Tree. Pocket guide to the common flowering plants of Joshua Tree National Park. Includes a map and over 50 color photographs to help with identification in the field. PB \$9.95

50 Best Short Hikes, Krist. Covers Joshua Tree, Death Valley and Mojave. Hikes range from easy nature trails to more challenging routes suitable for a full day of hiking. 204 pages PB \$12.95

On the Road in California

California Deserts, Schad. Color photographs of the California Desert Conservation Area, Mojave National Preserve, Joshua Tree National Park, Death Valley National Park, and Anza-Borrego Desert State Park. 103 pages PB \$14.95

California Historical Landmarks. Lists the location and significance of each of the 43 historical parks and 1,000 historical landmarks established by the State of California. 318 pages PB \$14.95

California Desert Byways, Huegel. Driving in California's desert area, includes Joshua Tree and Death Valley. 158 pages PB \$18.95

California Roadmap. Includes a list of public recreational areas and places of interest. \$2.95

The Living Desert, a musical journey exploring national parks and monuments through natural sounds. Excellent mood-setter for your driving tour of the Southwest's desert areas. Tape \$10.95, CD \$15.95.

Life in the Desert

Desert Survival Handbook, Lehman. Explains how to deal with emergencies that might arise in a desert environment. Filled with examples, narratives, and illustrations to aid understanding. 91 pages PB \$7.95

Indian Uses of Desert Plants, Cornett. An informative account of the ways early natives used a variety of desert plants for food, tools, building materials, and as an integral part of their daily lives. 38 pages PB \$7.95

Geology Underfoot in Southern California, Sharp and Glazner. An inside view of the southland's often active, sometimes enigmatic, and always interesting landscape. 224 pages PB \$14.00

Desert Solitaire, Abbey. The author's recollection of summers spent as a ranger in the canyon and rim country of southern Utah, including observations of the natural world. 269 pages PB \$13.00

The Joshua Tree, Cornett. Up-to-date information about this symbol of the Mojave desert and namesake of a national park. 32 pages PB \$6.95

Deserts, MacMahon. A National Audubon Society Nature Guide. A comprehensive field guide, illustrated with color photos, of the wildflowers, birds, reptiles, insects, and other natural wonders of North America's deserts. 478 pages PB \$19.95

Wildlife of North American Deserts, Cornett. A concise introduction to the most commonly encountered animals in the five North American Deserts. 211 pages PB \$8.95

Desert Palm Oasis, Cornett. An exploration of the lush, water-loving fan palms that are such a wonderful surprise in harsh desert environments. 47 pages PB \$9.95

Watchable Birds of the Southwest, Gray. A full-color guide to 68 of the Southwest's fun-to-watch species, big and small. Organized by habitat. 187 pages PB \$14.00

100 Desert Wildflowers, Bowers. Color photos and easy-to-read text highlight some of the most common wildflowers of the deserts in the southwest corner of America. 56 pages PB \$8.95

Shrubs and Trees of the Southwest Desert, Bowers. An easy-to-use guide full of descriptions and line drawings of over 100 desert shrubs and trees. 140 pages PB \$9.95

70 Common Cacti. Colorful photographs and easy-to-read descriptions demonstrate the unique beauty of the common cacti of the Southwest. 70 pages PB \$7.95

Mojave Desert Wildflowers, Stewart. Presents a condensed view of the nearly 2,000 species of plants known to occur throughout the Mojave Desert Region. 210 pages PB \$14.95

Poisonous Dwellers of the Desert, Dodge. This classic provides accurate, useful information and debunks the many superstitions about poisonous desert critters. 40 pages PB \$6.95

Education to enhance your visit to Joshua Tree National Park

THE DESERT INSTITUTE OF JOSHUA TREE NATIONAL PARK, the education program of the Joshua Tree National Park Association, sponsors one and two day field classes on weekends from September to July. Each class examines a natural or cultural feature of the Mojave Desert and is focused for teachers, volunteer interpreters, park visitors, and others interested in learning about the park and the Mojave Desert. College credit is available through University of California Riverside Extension.

MEMBERS OF THE JOSHUA TREE NATIONAL PARK ASSOCIATION are automatically enrolled in Partners in Nature Education (PINE), which qualifies them to receive a 20 percent discount on all Desert Institute classes, as well as, University of California Riverside Extension Outdoor Study courses. For information on becoming a Joshua Tree National Park Association member, call 760-367-5525.

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