

JOSHUA TREE journal

Spring 1994

Activities Information Regulations

Free

Welcome

to Joshua Tree National Monument, a unit of the National Park Service and home to many unique and interesting arid-land plants and animals. The beauty and diversity of this Southern California desert region prompted President Roosevelt, in 1936, to proclaim this area a national monument. Today the magnificence of this desert environment attracts over a million visitors each year.

When you visit Joshua Tree, I encourage you to get out of your vehicle and take the opportunity to look, listen, smell, and explore. Rangers are available to assist you with any questions or concerns about the many activities and attractions of this desert environment. An excellent place to start your visit is the Oasis Visitor Center located in Twentynine Palms.

Whatever your reason for coming, we hope your visit is pleasant and rewarding. If you feel inclined to write about your experience or offer ideas for improving visitor services at your monument, please send me a note.

Superintendent

Joshua Tree National Monument
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Twentynine Palms, CA 92277
(619) 367-7511
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Ernie Quintana, Superintendent

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For Our International Visitors

Park information in Dutch (**Nederlands**), French (**français**), German (**Deutsch**), Japanese (日本語), and Spanish (**español**) is available at visitor centers and entrance stations.

Wildflowers—When and Where

Bill Truesdell
Chief of Interpretation

The extent and timing of the spring wildflower blooms in the California deserts may vary greatly from one year to the next. Fall/winter precipitation and spring temperatures are key environmental factors affecting the spring blooming period.

Normally, desert annuals germinate between September and mid-January. Many need a good, soaking rain to get started. What blooms in spring depends on when precipitation falls. September and October rains favor certain species, while later rainfall favors others.

If normal rainfall has occurred, spring flowering begins as temperatures rise—at lower elevations in February and at higher elevations in March and April. On mountain tops above 5,000 feet (1,524 meters) blooms appear as late as June. How long the blooming period lasts is dependent on heat. As daytime temperatures increase the flowers wither.

Between October 1993 and January 1994 only .68 inches (1.7 cm) of rain fell in the Twentynine Palms area. This precipitation came from several light and widely scattered showers. February and the beginning of March, however,

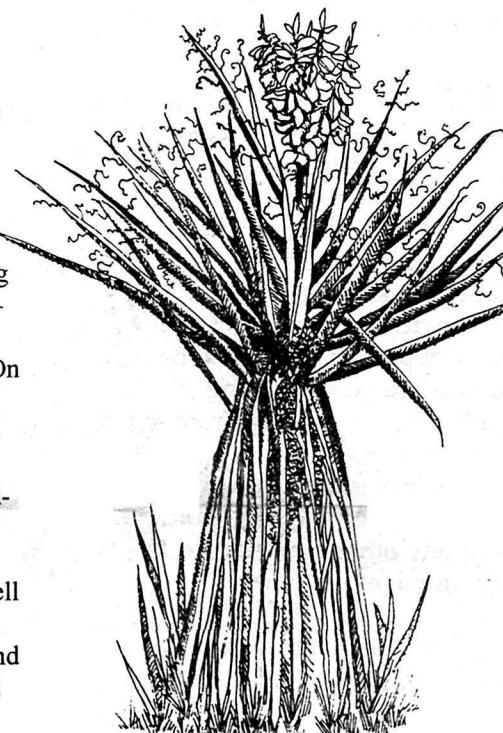
brought almost an inch (2.5 cm) of rainfall, which hopefully will trigger the germination of more wildflower seeds.

Some indication that spring wildflowers will be coming up was the carpeting of green leaf rosettes in several monument locations. Leaf rosettes have been

above ground since early February, waiting for the warming temperatures that will trigger the growth of flower stalks. By early March scattered desert dandelions, chia, forget-me-nots, and a few other wildflowers were being observed. Notable shrubs in flower include bladderpod, chuparosa (near Cottonwood entrance), and brittlebush. A spring visit to the desert this year could be rewarding for wildflower seekers.

If you miss the spring blooming season, remember the desert can often be in flower at other times of the year. A more highly specialized group of summer annuals often covers the ground in the high desert. They have developed a water-saving mechanism allowing them to use the sun for photosynthesis, the conversion of solar energy into plant nutrients, without losing moisture through evaporation. This adaptive mechanism allows plants such as the yellow-flowered chinchweed, the purple-stalked amaranth, and the pink- to red-flowered windmills to bloom during intense summer heat.

The listing below provides additional information about flowering seasons in the California deserts.



Keep the Wildlife Wild

Art Kidwell
Park Ranger

National parks are the protected homes of many species of mammals, reptiles, and birds. These animal populations are wild, diverse, and healthy because they are attuned to natural foods and to the environment in which they live.

Left alone, their instincts guide them to find, eat, and store those foods best able to keep them alive and healthy. By feeding them human food, you can damage their health by keeping them from eating more nutritious natural foods. Obtaining food from easy sources robs them of the inclination to forage for themselves. These actions can shorten their lives.

While it may seem fun to feed the coyotes, ground squirrels, birds, and kangaroo rats you encounter when you visit the monument, you are really doing them harm by turning them into campground beggars.

Some animals, like the coyote, lose their natural fear of man, become more assertive, and have been known to bite.

If the animals who live here become a danger to you, the visitor, they will have to be destroyed. Aggressive wildlife cannot simply be moved to more remote areas. Most areas already have established wildlife populations, and the addition of relocated animals would upset the natural balance. The newcomers would most likely return to where they were trapped or die trying.

All animals are protected within the monument. Feeding, touching, teasing, frightening, or intentionally disturbing them is a violation of law and punishable by fine.

The solution is simple. Enjoy the animals in their natural setting, but don't contribute to their death by feeding them.

Spring blooming periods

Lower elevations: 1,000–3,000 feet

Yuccas—March and April
Annuals—February, March, and April
Cacti—March, April, and May

Higher elevations: 3,000–5,000 feet

Joshua trees and yuccas—March and April
Annuals—March, April, and May
Cacti—April, May, and June

Wildflower Hot Lines

Anza-Borrego (619) 767-4684
Living Desert (619) 340-0435
Native Plant Society (702) 648-2177
Payne Foundation (818) 768-3533

What to See and Do

For the first-time visitor the desert may appear bleak and drab. On closer examination the desert is actually full of fascinating and unique living systems interwoven together. A rich cultural history and surreal geologic features add allure to the desert. The monument offers the visitor endless opportunities for exploration and discovery. Depending on the number of hours you want to spend and your interest, here are some ideas to help you plan your visit.

IF YOU HAVE FOUR HOURS OR LESS, begin your visit at a park visitor center. The Oasis Visitor Center in Twentynine Palms is open 8:00 a.m. to 4:30 p.m. daily except Christmas. The Black Rock Canyon and Cottonwood visitor centers are open daily 8:00 a.m. to 3:30 p.m. except for Christmas and occasional closures due to staff shortages. Park brochures and newspapers, cultural and natural history exhibits, and specific information are available at the visitor centers.

With limited time you may want to confine your sightseeing to the main park roads. Many pullouts with wayside exhibits dot the park roads. Another article on page 4 lists nature trails and short walks located throughout the monument. Consider experiencing at least one of these walks during a short park visit.

IF YOUR PLAN TO SPEND AN ENTIRE DAY, be sure to include several nature trails in your schedule. If you are in the park mid-October to mid-December or mid-February through May, plan to participate in ranger-led programs Fridays through Sundays. Check at the visitor centers and the bulletin boards in the campgrounds for program listings. These presentations will add enjoyment and understanding to your visit.

If solitude is what you are after, plan an all-day hike. Obtain hiking maps and trail information from the visitor centers. The desert, fascinating as it is, can be life-threatening for those unfamiliar with its potential dangers. Be sure to review "Desert Safety Check List" on page 6 before you go hiking. Remember, dogs are not allowed more than 100 yards (90 meters) from any road, campground, or picnic area.

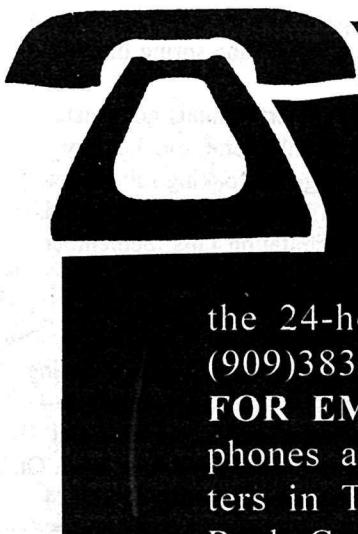
Some visitors like to experience the desert from the seat of a mountain bike. Bicycles are considered vehicles and are not allowed anywhere off roads. They are not allowed on trails, service roads, or any other roads closed to vehicle traffic. Refer to mountain biking article on page 8 for more information.

Joshua Tree National Monument has gained international attention as a superb rock-climbing area. Many visitors flock to the park to climb or to watch the rock climbers in action.

WITH MORE THAN ONE DAY IN THE PARK, more options are available. There are nine campgrounds and backcountry camping is permitted. You will find information concerning camping and backcountry use on page 3 and 5 respectively.

Books and topographic maps available at park sales areas give information needed for longer hikes. For "peak baggers," the monument has ten mountains over 5,000 feet (1,524 meters) 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 monument's cultural history.

Whatever your choice of activity, your time at Joshua Tree will be well spent. The desert holds much more than what is readily apparent to the casual observer.



IN CASE OF EMERGENCY,

contact any park ranger; dial 911, or call collect to

the 24-hour Dispatch Center—
(909)383-5651.

These numbers are FOR EMERGENCY ONLY.

Pay phones are located at the visitor centers in Twentynine Palms and Black Rock Canyon. You can also find pay phones in the town of Joshua Tree, at the Indian Cove Market, and at Chiriaco Summit (12 miles southeast of Cottonwood Spring).

Some Park Regulations and Why

National parks and monuments are protected.

Plants and animals removed from their unique environments soon perish. Removal, disturbance, destruction, and disfigurement of anything is prohibited. This will permit those who come in the future to enjoy this park as you have.

Feeding of wildlife is prohibited.

Feeding coyotes, ground squirrels, and other animals weans them from their natural food supplies, causes over-population problems, and turns them into dangerous creatures as they lose their fear of humans. Keep the wildlife wild.

State and federal vehicle laws apply in the monument.

Park roads are narrow and winding. Some areas are congested. The vehicle laws and speed limits are there for your own safety and well being.

Pets must be on a leash at all times. They are prohibited on trails and beyond 100 yards (90 meters) from any road, campground, and picnic area.

The sight of your pet, the noises it makes, and the scents and waste products it leaves behind can disrupt the natural wildlife community and reduce the survival of some of its inhabitants. Some pets are considered delicacies by local predators. Your pet may also be an annoyance to other visitors.

Prospecting, including the use of metal detectors, is prohibited.

These practices remove formations other visitors would enjoy seeing, disturb plants and animals, and scar the landscape.

Dispose of all your trash properly.

The dry desert climate cannot quickly decompose paper, aluminum, glass, and other litter.

All vehicles, including bicycles, are prohibited off established roads.

The desert ecosystem is fragile. Vehicle tires destroy vegetation. Off-road driving or riding creates ruts, upsetting the delicate drainage patterns, compacting the soil, and leaving visual scars for years. Plants are crushed and uprooted. Wildlife homes and shelters are destroyed, and their food and water supplies are altered or obliterated.

Collecting any vegetation, living or dead, is prohibited. Fires are limited to campground and picnic area fireplaces.

Gathering native vegetation or building fires outside designated fireplaces creates fire hazards and radically alters the appearance and life cycle of the desert. Desert vegetation grows slowly and depends on recycling decomposed organic material for survival. Ashes remaining from a fire take

years to disappear, meanwhile spoiling the sight other visitors may have traveled a thousand miles to enjoy.

Archeological sites and remains may not be disturbed in any way.

Certain areas within the monument are designated as restricted or day use only.

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

Firearms, fireworks, traps, bows and arrows, BB guns, and slingshots are not allowed.

Campgrounds



	Elevation	Number of Sites Individual/Family	Number of Sites Group	Fee/night Per group site/g Per individual/family site/i	Water	Chemical Toilets'	Flush Toilets	Tables	Fireplaces	Dump Station	Horses Permitted	Remarks
Belle	3,800' 1,158 m	17			•	•	•					
Black Rock Canyon	4,000' 1,219 m	100		\$10/i	•	•	•	•	•	•	•	Campsites No.61 is wheelchair accessible
Cottonwood	3,000' 914 m	62	3	\$8/i \$15/g	•	•	•	•	•			Group site No.2 is wheelchair accessible
Hidden Valley	4,200' 1,280 m	39			•	•	•	•				
Indian Cove	3,200' 975 m	107	13	See remarks	•	•	•	•				Group sites 1,2 \$30/night Group sites 3-13 \$15/night
Jumbo Rocks	4,400' 1,341 m	125			•	•	•	•				Campsites No.11 is wheelchair accessible
Ryan	4,300' 1,310 m	29			•	•	•	•		•		
Sheep Pass	4,500' 1,371 m		6	\$10/g	•	•	•	•				
White Tank	3,800' 1,158 m	15			•	•	•					

- Showers are not available. There are no hookups for recreational vehicles.
- Bring your own water. If you run out of water, it is available at the Oasis Visitor Center in Twentynine Palms, Indian Cove Ranger Station, and Black Rock Canyon and Cottonwood campgrounds.
- Bring your own firewood and kindling. All vegetation in the monument is protected.
- Campfires are allowed in designated firepits only.
- Two cars and up to six people are allowed at each individual/family campsite. Group site capacity ranges from ten to seventy people.
- Quiet hours are from 8 p.m. to 7 a.m. This includes generators and motors.
- Obtain reservations for individual/family sites at Black Rock Canyon and all group sites by calling 1-800-365-2267. All other campgrounds are first come, first served—it is wise to arrive as early as possible.
- There is a 14-day camping limit from September through May and a 30-day limit from June through August.
- Belle and Ryan campgrounds are usually closed during the summer when the park is less crowded.
- When in doubt, ask a ranger.

Be an inspiration to the others. Leave your campsite as clean or cleaner than when you found it.

HIKING TRAILS IN JOSHUA TREE NATIONAL MONUMENT

FOR INFORMATION ON OTHER HIKES IN THE PARK PLEASE REFER TO PUBLICATIONS AVAILABLE AT PARK SALES AREAS

Trail	Round-trip Mileage	Time	Starting Point	Trail Description/Rating
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 article on page 5 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 Highway 62.	Several stands of fan palms, evidence of past fires, and pools of water are found at the oasis. 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, 5278 feet (1,583 meters). Moderately strenuous .
Lost Palms Oasis	7.5 miles (11.2 km)	4-6 hours	Cottonwood Springs Oasis or Campground.	A canyon with numerous palm stands. A side trip to Victory Palms and Munson Canyon involves boulder scrambling. Moderate to oasis overlook, then strenuous .
Mastodon Peak	3 miles (4.8 km)	2 hours	Cottonwood Springs Oasis or Campground.	Excellent views of the Eagle Mountains and Salton Sea. Summit elevation, 3,371 feet (1,011 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, 5461 feet (1,638 meters). Strenuous .

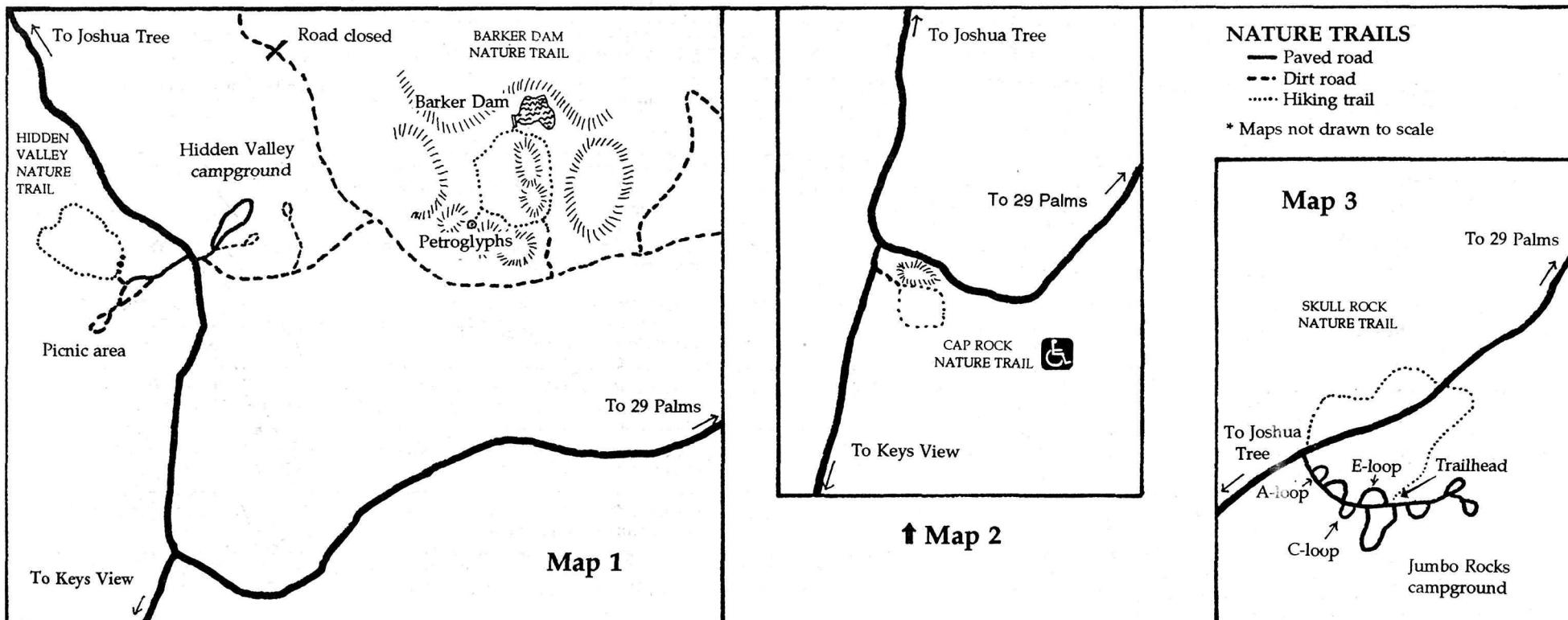
Thirty-five miles of the California Riding and Hiking Trail pass through the monument. Access to the trail is at its junction with Covington Flats, Keys View, and Squaw Tank (Geology Tour) roads; at Ryan Campground; south of Belle Campground; and near the north entrance to the monument. This allows for 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.

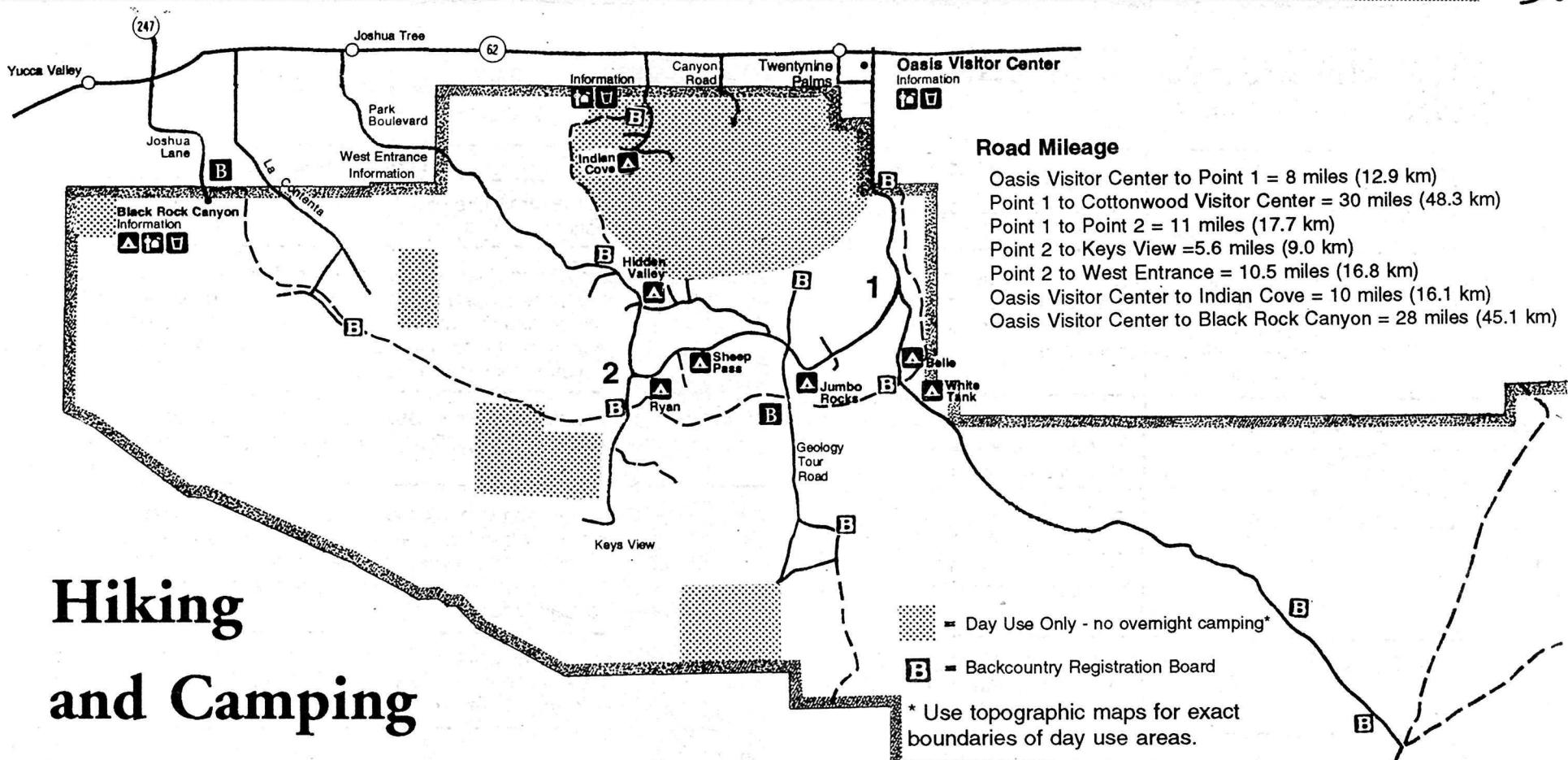


NATURE TRAILS

Short walks, most with informational signing
Watch for sign shown at left

Trail	Mileage (0.5-km) loop	Starting Point	Trail Highlights
Arch Rock	0.3-mile (0.5-km) loop	White Tank Campground, opposite site 9	Signs along the trail interpret the geology of the area and the natural creation of an arch.
Barker Dam (See map 1 below)	1.1-mile (1.8-km) loop Caution: Some rock scrambling near dam	Enter the Hidden Valley Campground and follow the dirt road that goes off to the right. Follow the signs to the parking area.	The loop trail brings you to Barker Dam, built to collect water for the cattle of early ranchers. The trail back to the parking lot takes you past Native American petroglyphs. These authentic carvings were unfortunately painted over by a film crew in an attempt to make them more visible.
Cap Rock (See map 2 below)	0.4-mile (0.6-km) loop	Cap Rock parking area, southeast of Hidden Valley Campground at the junction with Keys View Road.	The paved trail leads you past fascinating rock formations, with signs interpreting the geology and plants of the Mojave Desert.
Cholla Cactus Garden	.25-mile (0.4-km) loop	Point of interest 9 on the park brochure map. On the main park road, 20 miles (32.0 km) north of the Cottonwood Visitor Center.	The trail travels through an unusually dense concentration of Bigelow cholla. A brochure, available at the start of the trail, helps you pick out the well-camouflaged homes of pack rats inhabiting the garden, as well as other wildlife and vegetation characterizing the Colorado Desert.
Cottonwood Springs	1-mile (1.6-km)	Cottonwood Campground, sites 13A and 13B (north end) or Oasis parking lot (south end).	Signs interpret the plants and animals of the Colorado Desert as the trail travels through rolling hills on its way to the Cottonwood Springs Oasis.
Hidden Valley (See map 1 below)	1-mile (1.6-km) loop	Hidden Valley picnic area, point of interest 3 on the park brochure map.	The trail, which involves some easy boulder scrambling, takes you into a rock-enclosed valley rumored to have been used as a hideout for cattle and horse rustlers in the late 1800's.
High View	1.3-mile (2.1-km) loop	South Park parking area, to the northwest of Black Rock Canyon Campground.	The view from the top, near Summit Peak (elevation 4,500 feet or 1,372 meters), makes this hike well worth its moderately steep, 300-foot (90-meter) elevation gain. A brochure, describing the flora and scenery along the trail, is available at the Black Rock Canyon Visitor Center.
Indian Cove	0.6-mile (1.0-km) loop	West end of Indian Cove Campground.	This easy trail follows a wash for most of the walk. Watch for desert tortoises, as Indian Cove is a favorite habitat area. If you do spot one, please observe it quietly from a distance. Tortoises are protected by state and federal law.
Keys View	0.25-mile (0.4-km) loop	Keys View, point of interest 6 on park brochure map.	This outstanding scenic point gives a superb sweeping view of the valley, mountains, and desert from its elevation of 5195 feet (1,558 meters).
Oasis of Mara	0.5-mile (0.8-km) loop	Oasis Visitor Center, Twentynine Palms.	The Oasis was once a popular gathering place for several tribes of Native Americans, including the Serrano, Cahuilla and Chemehuevi. This easy, paved trail is a good introduction to the monument.
Skull Rock (See map 3 below)	1.7-mile (2.7-km) loop	Jumbo Rocks Campground, beyond Loop E entrance.	Interpretive signs guide you through boulder piles, desert washes, and a rocky alleyway. The trail crosses the road and loops back to the campground entrance.





Hiking and Camping in the Backcountry

Joshua Tree National Monument is a backpacker's dream with its mild fall-winter climate and interesting life and earth forms. It embraces 558,000 acres (223,200 hectares) of land of which 467,000 (186,800) have been designated wilderness. By observing the guidelines below, your venture into the backcountry should be safe and enjoyable. It is your responsibility to know and abide by the park regulations. If you have any questions, ask a ranger.

All overnight users must register at a backcountry board before entering the backcountry.

The map on this page indicates the location of the twelve backcountry boards. Follow the instructions for self-registration. Unregistered vehicles or vehicles left overnight anywhere other than at a backcountry board are subject to citation and/or towing.

All wilderness camping must be at least one mile (1.6 km) from any road and 500 feet (150 meters) from trails. Camping is prohibited in day-use areas and at any natural or man-made water source, including springs, seeps, dams, and tanks.

Campsites must be 1/4 mile (400 meters) from water sources.

The same map shows the general location of each day-use area. It is your responsibility to know the exact day-use area boundaries. Contact a ranger if in doubt. Camping in washes is not recommended because of potential flash flood dangers.

All pets are prohibited on trails and in backcountry.

All bicycles are prohibited on trails and roads closed to motor vehicle traffic.

All open fires are prohibited. Camp stoves only.

All weapons, traps, and nets are prohibited. This includes possessing, using, discharging, or carrying.

Pack out all garbage.

Buried trash will be dug up by animals and scattered by the wind creating an unappetizing sight. Bury human waste in holes at least six inches (15 cm) deep and pack out toilet papers in a zip-lock bag.

Carry a minimum of one gallon (3.8 liters) of water per person per day

Carry two gallons (7.6 liters) per person in hot weather or if planning a strenuous trip. Carry additional water for cooking and personal hygiene.

Carry a topographic map and compass. Know how to use them.

Include in your gear plastic garbage bags or raincoat, flashlight, mirror, whistle, first-aid kit, pencil and paper, pocket knife, and extra food. Do not use freeze-dried food unless you plan to carry extra water to use for cooking.

Dress for the weather.

Temperature drops of 40°F (22°C) in a 24-hour period are common in the desert. Wear a hat, sunglasses, and sturdy boots. Use sunblocking lotion liberally.

Bring warm clothes, including a wool sweater, that can be layered for best protection against sudden changes in weather condition.

Pay close attention to the weather.

Flash floods do occur. Be prepared for rain and/or snowstorms in winter.

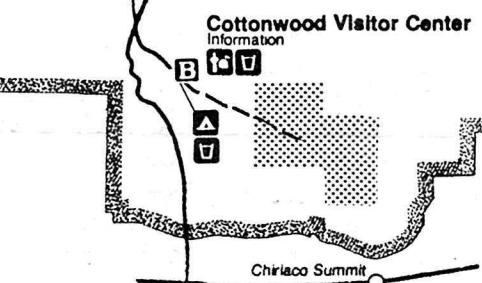
Do not attempt to climb cliffs or any steep terrain without adequate equipment and training. Accidents can be fatal.

The following is prohibited: Possessing, destroying, disturbing, injuring, defacing, removing, and digging from its natural state

- Living or dead wildlife.
- Plant or plant parts, both living and dead.
- Non-fossilized or fossilized specimens.
- Mineral resources such as stones, sand, rock formations, and mineral elements.
- Any archaeological or historic site or structure, including mines and mining areas.

All stock animals are subject to the following restrictions for resource preservation and the enjoyment of others:

- No overnight backcountry camping without special permit.
- No grazing permitted.
- No stock animals within 1/4 mile (400 meters) of any natural or man-made water sources, including springs, seeps, dams, or tanks.



- All stock animals must stay on marked trails and washes to minimize vegetation damage, and soil erosion, compacting, and rutting.
- Only Ryan and Black Rock campgrounds are equipped with facilities for overnight camping with stock animals.
- All stock animals are restricted to pellet form of feed in the backcountry.
- No horses on the Hidden Valley, Barker Dam, or Ryan Mountain trails.
- No riding in the open desert, except in washes.



Elders of the Desert

Chris Collins
Biological Technician

As spring approaches and annual plants begin to rise—along with the temperature—desert tortoises, *Gopherus agassizii*, become restless within their burrows and emerge to feed, bask in the sun, and mate.

Tortoise populations have been declining for decades because of collecting, vandalism, loss of habitat, and disease. In 1990 the U.S. Fish and Wildlife Service listed the species as threatened. To better understand this species, land managers have been conducting intensive research for several years now. Joshua Tree National Monument plays a key role in such research. Suitable habitat here is extensive and, unlike other areas, has remained relatively pristine due to the protection given to it and the limited impact by man. Knowledge of conditions within undisturbed tortoise populations is helpful in determining the effect of disturbances elsewhere.

Occupying a variety of habitats in the monument, tortoises live in both the Mojave and Colorado desert ecosystems and are generally found below 4,000 feet in tree yucca (Joshua tree and Mohave yucca) communities, creosote bush and saltbush scrub habitats, and in some ocotillo-creosote habitats. Tortoises need places with suitable soils for constructing a burrow and with food plants available.

What do tortoises eat in the wild? Like many desert animals the tortoises' food preferences depend on locality and availability of food items. They feed on herbaceous perennial and annual wildflowers, such as lotus, spurge, blazing stars, lupines, forget-me-nots, desert dandelions, gilias, phacelias, and coreopsis. Several species of grasses are also eaten, as well as the occasional fresh cactus pad or bud.

Water requirements for the tortoise are met largely by the moisture content of their food. When it rains tortoises will drink free water where it collects in pools near rocks or in depressions. An important survival feature that tortoises use to withstand dry periods is to store water in their bladders where it can be reabsorbed.

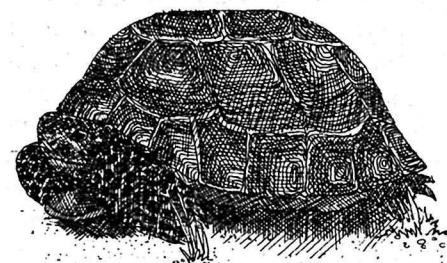
Tortoises spend most of their lives in burrows, which vary in length from two to 15 feet. During the warmer months they may occupy temporary burrows or pallets which barely cover their shells. But they use their larger burrows for escape from the elements, hibernation in winter, and a refuge from predators such as coyotes, ravens, kit foxes, golden eagles, and greater roadrunners.

Females lay one or more clutches of one to 12 eggs from mid-April to mid-July. The eggs, which are the shape and size of ping-pong balls, are concealed within the burrow by the female who will push with her hind legs to cover them with dirt. Hatching takes place in 70 to 120 days. If you are in the park between mid-July and mid-October keep an eye out for the sand-dollar sized babies.

If you find a tortoise during your visit to the park remember: tortoises are a threatened species and are protected by federal law. Please do not touch the animal or disturb it in any way. You should remain some distance away and observe it quietly. You do not want to frighten the tortoise since it may empty its bladder as a defense mechanism. This results in a critical loss of stored water for the animal, which then may not survive a dry period.

An exception to the "don't touch" rule is when you see one crossing a road and in danger of being hit by oncoming traffic. In that case approach the tortoise slowly and note which direction it is heading. Pick it up carefully, don't tip it from side to side or upside down, and take it 150 feet or so off the road in the direction it was going.

Desert tortoises are having a hard time in Southern California. That's why they've been listed as threatened. Joshua Tree National Monument is a sanctuary for tortoises, where they can roam free from the threats of off-road driving, urban sprawl, and livestock grazing. Enjoy them on your visit here. Living more than a hundred years, the tortoise you see today will hopefully greet your grandchildren's children in 2094.



Answers to Quiz

1. a
2. a
3. b
4. c
5. d
6. a
7. a
8. b
9. c
10. c

Spring's Heavenly Events

April 21 Meteor shower Begins after midnight—the moon will be bright in the early evening. Expect about ten meteors per hour.

May 4 Meteor shower Begins after midnight. The sky will be dark for good viewing and you can expect about fifteen meteors per hour.

May 24 Lunar eclipse Begins about 7:30 PM and peaks about 8:30 PM. There are no harmful effects from direct viewing.

Jupiter, the brightest object in the southeast, is clearly visible about 9:00 or 10:00 PM beginning in early May. Other planets are too close to the sun to be visible.

A solar eclipse on May 10 will not be visible here. The shadow of the moon passes over Brazil about 11:00 AM Pacific daylight savings time.

The Andromeda Society will host several star parties this spring. Check the current program schedule for times and locations.

SAFETY ✓ LIST

- ✓ Tell someone where you are going and when you expect to return. This is especially important if you travel or hike alone. However, hiking or traveling alone is not recommended.
- ✓ Carry plenty of water, at least 1 gallon (3.8 liters) per person per day; 2 gallons (7.6 liters) when it is hot or you are performing strenuous activity. Drink the water and do not economize. When the water is half gone, it is time to turn back.
- ✓ Wear sturdy shoes, sunglasses, and a wide-brimmed hat. Apply sun screen. Wear layered clothing. Desert temperatures can reach over 90°F (32°C) and drop below 50°F (10°C) in one day, depending on the weather and where you are going.
- ✓ Learn how to use a topographic map and a compass before you hike cross-country or on trails that are not well defined. It is easy to become disoriented in the desert where many landmarks and rock formations look similar.
- ✓ DO NOT ENTER mine shafts or associated buildings. They are extremely hazardous.
- ✓ Keep your vehicle well-maintained. Carry extra water and non-protein food, shovel, tools, flares, and blankets. Check road conditions and beware of flash floods.
- ✓ If you are stranded, stay with your vehicle. It is much easier to spot a vehicle than a wandering person.

Coyote Quiz

Rick McIntyre
Park Ranger

1. An average coyote weighs ...
 - a 20 lbs.
 - b 35 lbs.
 - c 50 lbs.
2. Their average territory is ...
 - a 1 square mile
 - b 10 square miles
 - c 100 square miles
3. Who runs fastest ...
 - a coyote
 - b jackrabbit
 - c roadrunner
4. Who is the slow poke ...
 - a coyote
 - b jackrabbit
 - c roadrunner
5. The word for coyote in the Cahuilla peoples language is "easil." It also means ...
 - a a lazy person
 - b one who doesn't learn from his mistakes
 - c an anthropologist
 - d all of the above
6. In the last century, coyote range in North America has ...
 - a increased
 - b decreased
 - c stayed the same
7. Coyotes can interbreed with dogs and wolves.
 - a true
 - b false
8. If a coyote ate only jackrabbits, how many jackrabbits would a coyote eat in a year?
 - a 50
 - b 75
 - c 150
9. Do coyotes form packs?
 - a yes
 - b no
 - c sometimes
10. In roadrunner cartoons, coyote's first name is ...
 - a Cary
 - b Carlos
 - c Wiley



Spring Birding at Joshua Tree

Brian Prescott
Volunteer

the park staff continues to update these records. If you see any birds that are not on the checklist, please report them.

By the time spring arrives several birds have nests under way or have raised young already. In some areas Anna's **hummingbirds** may nest in January and then again in early spring. Good places to see these hummingbirds are near the visitor center at Twentynine Palms and around Cottonwood Spring near the south entrance to the park.

The other resident hummingbird is the Costa's. They nest a little later in the season than the Anna's. **Costa's hummingbirds** are found throughout the monument, especially near washes with flowering bushes and trees. Several other species, such as the **rufous** and **black-chinned hummingbirds**, are seen in the area during migration.

Most birds of prey nest early in the season and have young in the nest by March. **Red-tailed hawks** and **American kestrels** are the most common of this group. Less common, but resident in the area, are **prairie falcons**, **golden eagles**, and **Cooper's hawks**. Hawks hunt during the day and owls search for their dinner at night. **Barn owls**, **screech owls**, and **great-horned owls** are frequently seen in the monument. Since birds of prey require a large area for hunting, they are widely scattered throughout the park.

As spring progresses and plants blossom, more birds begin to nest.

Washes are good places to look for birds. These water courses contain the most plants. Look for **ash-throated flycatchers**, **Say's phoebes**, **verdins**, **cactus wrens**, and **rock wrens**. You may also find **northern mockingbirds**, **LeConte's thrashers**, **black-tailed gnatcatchers**, **phainopeplas**, and **loggerhead shrikes**.

Easily accessible washes include those on either side of Indian Cove Campground, in the area below the oasis at Cottonwood Spring, and around the Pinto Basin. Black Rock Canyon Campground in Yucca Valley is another good spot. In Twentynine Palms, check the trail around the oasis behind the visitor center.

Since many birds have specific relationships with certain plants, you need to be in the right habitat for the species of bird you're interested in finding. Some plants fit the needs of more than one species. For example, Joshua trees provide nesting sites for **red-tailed hawks**, **Scott's orioles**, **ladder-backed woodpeckers**, and **northern flickers**. **Hooded orioles** prefer California fan palms, sowing their nests under the fronds. **Northern orioles** weave their nests high in cottonwood trees. **California thrashers**, **scrub jays**, **rufous-sided towhees**, and **pinyon jays**, find food and shelter in junipers and pinyon pines.

Other birds that breed in the monument are not bound by a particular habitat, although they do need to be close

to food and especially water. **House finches** stay within a mile or two of water but nest almost anywhere. **Mourning doves** also need water daily but will fly five or more miles to reach it.

On the other hand, this arid country we call desert has evolved some species of birds that need little or no water. **Black-throated sparrows**, **verdins**, and **LeConte's thrashers** can get the moisture they need from their food.

But humans need water on a regular basis. If you are out hiking, take your canteen along. Also wear proper shoes, a hat, and some sunscreen. Be aware there are snakes out during this season. Watch where you put your hands and feet. Use common sense. Go out and enjoy all the treasures of our parks and monuments.

May 14, 1994, is the second annual International Migratory Bird Day. This event draws attention to the plight of migratory birds and their decline. Brian Prescott will be leading a National Audubon Society birding program in the monument this May 14. You may call (619) 367-7511 or check the current program schedule for further information.

5.0 to 5.14, Joshua Tree Has It All

Debbie Brenchley
Park Ranger

By stretching to full extension, she could just reach the small flake. Calloused fingers were set gingerly on the minuscule edge as she delicately transferred her weight first from her right then from her left foot, smearing shoe rubber against the rock to maintain her balance. Tired fingers and pumped-up forearms desperately struggled to maintain the hold.

Then suddenly she was falling. Just as suddenly the rope attached to her body harness went tight, and she snapped to a halt. Her ears filled with the sound of her pounding heart as she dangled a few feet below her last piece of protection. Sighing, she started the sequence of moves that lead back up the same route.

To many people Joshua Tree National Monument means climbing. There are a multitude of climbs here, over 4,500 known routes. Climbers from all over the world flock to the monument, especially during the fall and spring. Sunshine and clear skies draw them here from areas like Yosemite, the Rocky Mountains, and Idyllwild, where colder, less predictable weather prevails during the winter.

On any day of the week, you can find climbers out on the rocks testing their skills. During busy weekends, climbers seem to outnumber lizards on the rocks. Many visitors like to watch as climbers overcome gravity to ascend the rocks—the best appearing to dance up the rockface.

Climbing was once explained to me in simple terms: "Reach up to the highest available handhold, then move your feet up. Repeat this until you reach the top." Of course, it never seems that easy or straight forward when you are the one climbing.

Another frequently asked question is, "Why do they climb?" For an answer you'll have to track down and ask a climber, since everyone seems to have a different reason.

If you talk with a climber for any length of time, you may hear some num-

bers thrown in to describe climbs. Most climbs are rated according to difficulty. The climbs at Joshua Tree are rated, under the Yosemite Decimal System, from 5.0 to 5.14.

Mountaineering: The Freedom Of The Hills, published by the Mountaineers, has a tongue-in-cheek description of the ratings, so that a beginner or non-climber can have a better understanding.

5.0 to 5.4 There are two handholds and two footholds for every move; the holds become progressively smaller as the number increases.

5.5 to 5.6 The two handholds and two footholds are there, obvious to the experienced, but not necessarily to the beginner.

5.7 The move is missing one hand- or foothold.

5.8 The move is missing two holds of the four, or missing only one but is very strenuous.

5.9 This move has only one reasonable hold which may be for either a foot or a hand.

5.10 No handholds or footholds. The choices are to pretend a hold is there, pray a lot, or go home.

5.11 After thorough inspection you conclude this move is obviously impossible; however, occasionally someone actually accomplishes it. Since there is nothing for a handhold, grab it with both hands.

5.12 The surface is as smooth as glass and vertical. No one has really ever made this move, although a few claim they have.

5.13 This climb is identical to 5.12 except it is located under overhanging rock.

Since this was written, 5.14 has been added to the scale. Good luck at figuring out how they climb something that hard!

Enough reading about climbing. It is time to get out and enjoy it, either as a participant or a spectator.

Backcountry Roads

for mountain bikes and four-wheel drives

Mountain bikes and four-wheel drive vehicles are welcome in Joshua Tree National Monument. For your own safety and for the protection of the natural features of the monument please keep the following in mind:

- Bikes and all other vehicles must 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 monument are narrow without paved shoulders. Curves, boulder piles, and Joshua trees often restrict the vision of bikers and motorists.
- Helmets are highly recommended.

The unpaved roads in the monument are safer for bikes and offer many opportunities to explore the area. The following dirt roads are open to mountain bikes and four-wheel drive vehicles:

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 ends at a service road next to Interstate 10.

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 then winds up through canyons in the Eagle Mountains. The first 6 miles (9.7 km) of the road are within the monument 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 dangerous to approach.

Old Dale Road—This 23-mile (37.3-km) road starts at the same point

as the Black Eagle Road. For the first 11 miles (17.8 km), the road runs across Pinto Basin, a flat, sandy dry lake bed. Shortly after leaving the basin, the road climbs up a steep hill, then crosses the monument boundary. Near that point a number of side roads veer off toward old mines and private residences. If you stay on the main road you will come out on Highway 62, 15 miles (24.3 km) east of Twentynine Palms.

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

Geology Tour Road—The road turns south from the paved road 2 miles (3.2 km) west of Jumbo Rocks. 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 can be taken that explores Pleasant Valley. A guide to the road is available at the beginning of the road.

Covington Flats—The dirt roads in Covington Flats offer access to some of the monument's largest Joshua trees, as well as to junipers, pinon pines, and some of the lushest vegetation in the high desert. A nice trip is from the Covington Flats picnic area to Eureka Peak, 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 round-trip if you ride or drive over to the backcountry board, where some excellent hiking is available.

Entrance Fees

General	\$5.00 per car for 7 days
Bus, Walk-in, Motorcycle	3.00 per person
Joshua Tree Pass	15.00 per calendar year
Golden Eagle (all NPS sites)	25.00 for 12 months
Golden Age (62 years of age and U.S. citizen)	10.00 one-time fee

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 the current schedule.

JOIN THE JOSHUA TREE NATURAL HISTORY ASSOCIATION

The Joshua Tree Natural History Association, a non-profit support group, was established in 1960 to provide much needed financial and volunteer support to Joshua Tree National Monument. The association assists the National Park Service in the area of visitor assistance, environmental education programs for children, and outdoor classes and tours. The membership fees and the proceeds from sales of maps and publications enable the association to purchase equipment and supplies for the park interpretive programs. As an association member you will receive:

- A membership card
- A 10% discount on all publications sold by the association
- Membership discount honored at participating associations

To join the association, fill out and mail this form with a check or money order for \$8.00 or a \$5.00 renewal fee to:

**JOSHUA TREE NATURAL HISTORY ASSOCIATION
74485 National Monument Drive
Twentynine Palms, CA 92277-3597**

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