

Desert life is varied yet vulnerable because the desert is hot and dry. Sudden torrents of rain shape life and landscape, yet rain is sparse and sporadic. Streambeds are dry. Water holes are few. In a desert's mosaic of living systems each piece has its slightly different function but may depend on the entire mosaic for survival. Lessons abound here for human desert dwellers worldwide, as the United Nations recognized by naming Joshua Tree National Park as part of the Mojave and Colorado Deserts Biosphere Reserve.

Two large desert ecosystems mostly determined by elevation come together at Joshua Tree National Park. Below 3,000 feet, the Colorado Desert occupies the park's eastern half. It is dominated by abundant creosote bushes but accented by stands of spidery ocotillo and jumping cholla cactus. Higher, more moist, slightly cooler, the Mojave Desert hosts its signature plant—and ecological cornerstone—the Joshua tree. Extensive stands characterize the park's western half.

Like islands in a sultry sea, oases contrast sharply with their arid surroundings. Five fan palm oases dot the park, marking those few spots where water occurs naturally at or near the surface. Oases that once served earlier human desert denizens and visitors abound now in wildlife.

That this park preserves globally significant desert ecosystems today is thanks to Minerva Hoyt. Hoyt, a community activist and passionate gardener, developed a love for California's desert vegetation. Alarmed at the rapid destruction of desert plant life, Hoyt pressured President Franklin D. Roosevelt to proclaim an 825,000-acre Joshua Tree National Monument in 1936. In 1976 Congress designated 429,000 acres of the monument as wilderness. In 1994 Congress renamed the area Joshua Tree National Park in the California Desert Protection Act, expanding the wilderness by some 131,000 acres to nearly 558,000 acres.

The park encompasses some of the most interesting geologic displays in all California deserts. Exposed granite monoliths and rugged, twisted-rock mountains testify to powerful Earth forces. Washes, playas, alluvial fans, badlands, pediments, desert varnish, plutons, and active faults create complex landscapes of immense beauty.

Human use of this area stretches back more than 7,500 years. One of the Southwest's earliest cultures, the Pinto people, hunted and gathered here as the ice ages ended—along a slow-moving river in today's dry Pinto Basin. Later American Indians harvested pinyon nuts, acorns, mesquite beans, and cactus fruit. Rock paintings and pottery record their presence. In the late 1800s explorers, cattlemen, miners, and homesteaders came to the desert with different values, bringing greater challenges. They built dams to store water and dug and tunneled for gold. They too are gone now. Left behind are their remnants: the Lost Horse and the Desert Queen mines and Keys Ranch. Today many people come to the park's open space

looking for tranquility and for the quiet and special beauty that deserts offer.

The life force is patient here. Desert plants, looking all but dead, lie dormant in wait for rainfall to trigger their growth. At the edges of daylight and under night stars desert animals come to life. Waiting out daytime heat, they run, hop, crawl, and burrow to the slow rhythm of the desert. Under bright sun and blue sky, the night creatures seek shelter, leaving bighorn sheep and golden eagles to add an air of unfettered majesty to this land.

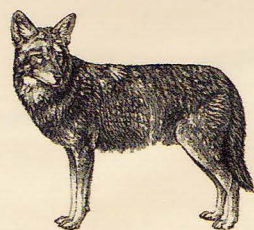
Take your time here, too, and let the desert take hold of you. Joshua Tree National Park provides a haven from everyday routines, space for self-discovery, a refuge for the human spirit, and a sense of place in the greater scheme of things.

COVER PHOTO: NPS/BOB MURPHY

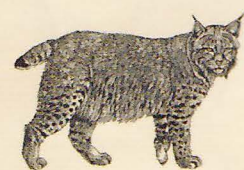
Faces and Forms of Desert Life



Jackrabbit
Muted fur colors provide a passive defense from the searching eyes of many predators: coyote, bobcat, and eagle. Strong eyes and keen hearing send powerful legs into motion. Young are born well-furred.



Coyote
Only ravens rival coyotes as opportunistic feeders. Hunting skill and an appetite for most anything it can swallow ensure this carnivore's survival. Its diet may include insects, lizards, snakes, birds, rodents, rabbits, carrion, fruit, nuts, grass, tennis shoes, or young tortoises. Coyotes are renowned for howling, but they also bark playfully.



Bobcat
Short and powerful, the bobcat's body is adapted to pounce from ambush—on birds, rodents, and rabbits. Keen senses, patience, and stealth aid this shy, mostly nocturnal cat that may be active on cool days, too.



Roadrunner
Although able to fly, this member of the cuckoo family uses its strong legs and feet to run swiftly from place to place. It gets moisture from its prey: reptiles, insects, rodents, and young birds. A strong bill, quick reflexes, and fearless disposition make the roadrunner an efficient predator of rattlesnakes.

Yucca night lizard
This narrow lizard may live its entire life under the protective bark of a decaying Joshua tree (lower right of color art). It fits in small crevices, where it feeds on ants and termites attracted by the host tree's shelter from predators and climate.

Golden eagle
Rabbits and squirrels that evade night hunters must search daytime skies for the silhouette of the golden eagle. Its keen eyes scan the landscape for the slightest motion as it soars from the mountain heights over the valleys and desert floor. Its golden nape is visible only at close range. Its soft voice is rarely heard.

Sidewinder
This small rattlesnake moves by looping sideways in J-shaped curves—an efficient way to travel across the sand dunes and washes that it inhabits. It waits in ambush for small rodents that it detects by sight or their body temperature.

Tarantula
This largest desert spider is not poisonous to humans, but it will bite if provoked. It feeds on insects but may fall victim to the large, colorful tarantula hawk—a wasp. A tarantula may inhabit a burrow for many years.



Stinkbug
Stilting across the sand, this large black beetle freezes in its handstand pose at any disturbance. It emits a pungent odor that repels predators. The pose alone stops predators who are familiar with this scavenger.



Desert Ecosystems and the Park's Two Deserts



Ocotillo
Deserts host plants and animals living in what strikes many humans as oppressive environments. Solar energy that green plants convert into food fuels life here. Although in most ecosystems plants compete for sunlight, here most plants are adapted to minimize the effects of too much solar exposure.

Annuals compress their life cycles and go dormant as conditions grow unfavorable. Sudden carpets of wildflowers mark their waking from dormancy, as seeds, like time travelers, quickly germinate, flower, and renew their species before seasonal moisture dries up once again.

Patient perennials ply an alternate strategy: Joshua trees (left) flourish in moist periods, then bide their time in long dry periods.

Many animals get their energy by eating plants, but desert plants give up the fruit of their production very reluctantly. Sharp spines and chemical-laden leaves discourage plant-eaters. The kangaroo rat avoids these obstacles by



A Colorado Desert scene in the park.

eating seeds that, while safe to eat, can be hard to find. Many are small and look like sand grains. With sensitive front paws a kangaroo rat sifts sand to find seeds by touch, eats them, and transforms them into animal tissue. The plant's solar energy flows through the ecosystem as kangaroo rats, and other plant-eaters like jackrabbits, fall prey to meat-eaters like owls, coyotes, bobcats, or snakes.

A large, productive plant like the Joshua tree is the focal point for a complex community of wildlife. Some birds nest in the living tree. Others feed on resident insects. Discarded limbs or the tree's toppled body provide homes for the yucca night lizard and termites. Even in death, the Joshua tree's stored solar energy is converted by termites into animal tissue. Yucca night lizards may then eat the termites but themselves fall prey to an owl or a snake. As the Joshua tree continues to decompose, stinkbugs may nibble on the fiber, helping termites consume their home! And so the Sun's energy keeps moving

through the fascinating life of the desert.

There are two types of desert within Joshua Tree National Park: the Mojave and the Colorado. In fact, some ecologists say the park is a transition zone between the two. As you go from Twenty-nine Palms to the South Entrance, you begin to see Joshua trees at the 3,000-foot elevation level. Joshua trees indicate the Mojave Desert.

In the Pinto Basin, plants of the Colorado Desert appear: Bigelow (jumping) cholla and ocotillo (above). South of the Cottonwood Visitor Center even more distinctive Colorado Desert plants include palo verde, chuparosa, and ironwood.

Nearly three quarters of these parklands has been designated by Congress for permanent protection as wilderness. The park's highest value lies in these landscapes—vast stretches of arid landforms, vistas, and desert habitat that offer open space, refuge, and recreation for southern California's teeming population.

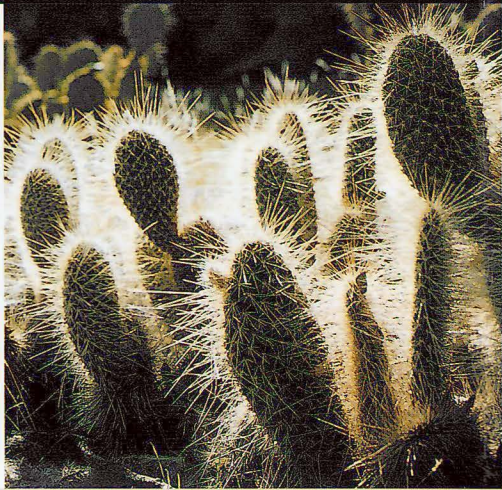
Exploring Joshua Tree



Lost Palms Oasis



Joshua tree forest at sunset



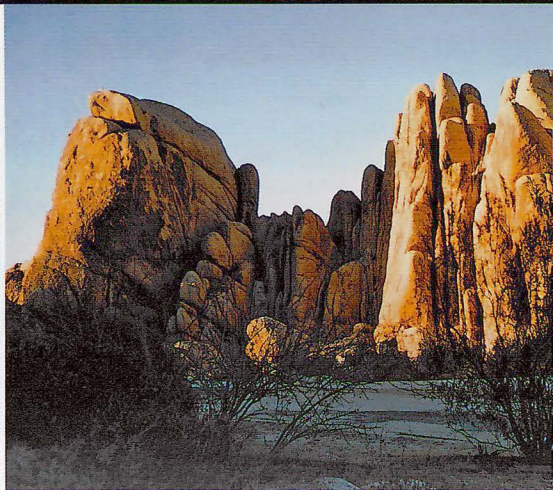
Grizzly bear cactus



Keys View overlook



Mojave mound cactus



Hidden Valley

CACTUS PHOTOS ©PENNY KNUCKLES
OTHERS NPS

Planning Your Visit

Hours, Facilities, Activities The park is always open. Joshua Tree and Oasis visitor centers are open daily, 8 a.m. to 5 p.m.; Cottonwood Visitor Center is open 8 a.m. to 4 p.m. Visitor centers have exhibits and information on what you can see and do here, as well as publications for sale by the Joshua Tree National Park Association. Ranger-led walks and talks that can add to your appreciation and understanding of the park are offered all year. The Desert Institute offers field classes in spring and fall. Nature and hiking trails and wayside exhibits are located throughout the park. Campgrounds and picnic areas

have tables, fire rings, and toilets. You must bring your own water and firewood. Backcountry camping requires registration. There are no concessions in the park. Motels, stores, restaurants, and vehicle services are available in nearby towns.

Getting to the Park Joshua Tree National Park is 140 miles east of Los Angeles. From I-10, take Calif. 62 to the park entrance stations via Joshua Tree village or the city of Twentynine Palms. You can also enter the park from the south directly off I-10 at Cottonwood Spring, which is 25 miles east of Indio.

Regulations To help us preserve and protect the park for you and for future generations, please follow these regulations. • Pets must be leashed at all times; pets are prohibited on trails and beyond 100 feet from any park road, campground, or picnic area. • Motorized vehicles and bicycles must stay on established roads. OFF-ROAD DRIVING IS PROHIBITED. • Camping is permitted only in designated areas or with backcountry registration. • Wildlife, plants, and natural, cultural, and archeological features are protected by federal law. • Viewing wildlife with artificial lights is prohibited. • Do not disturb,

mutilate, deface, or remove any natural or cultural objects. • Firearms and explosives are prohibited. • Obey posted speed limits.

For Your Safety There are abandoned mines and related structures in the park that are dangerous. Use great caution when driving or walking near any mine workings. Watch for open shafts and prospect holes. Supervise children closely and never enter abandoned mines. STAY OUT AND STAY ALIVE. • Always carry enough water—at least one gallon per person per day or two gallons if it is hot or you engage in

strenuous activity. • Because of the danger of flash floods, avoid drainage areas during and after thunderstorms or severe weather. • Before climbing, be sure you are properly trained and equipped. • Watch where you put your hands and feet, especially in spring and summer when snakes are active.

More Information

Joshua Tree National Park is one of more than 380 parks in the National Park System. The National Park Service cares for these special places saved by the American people so that all may

experience our heritage. To learn more about parks and National Park Service programs in America's communities visit www.nps.gov.

Joshua Tree National Park
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www.nps.gov/jotr

In emergencies: Contact a ranger or call 909-383-5651—or 911.

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Exploring the Park

- Numbers are keyed to sites on the map
- 1 Oasis Of Mara**
Inhabited first by American Indians and later by prospectors and then homesteaders, the oasis now provides a home for park headquarters and Oasis Visitor Center.
 - 2 Fortynine Palms Oasis**
This oasis, where water-loving plants thrive and thirsty animals come to drink, is accessible by a 1.5-mile trail (moderately strenuous).
 - 3 Keys Ranch**
The ranch is a National Historic Register Site. Admission to the ranch is restricted to guided walking tours. For tour information please call 760-367-5555.
 - 4 Barker Dam**
Built about the turn of the 20th century to hold water for cattle and mining use, the dam today forms a small rain-fed reservoir used by park wildlife.
 - 5 Hidden Valley**
A trail that winds between massive boulders leads you through this legendary cattle rustler's hideout.
 - 6 Keys View**
This outstanding scenic point overlooks an expanse of valley, mountain, and desert from its elevation of 5,185 feet.
 - 7 Ryan Mountain**
A 1.5-mile trail (moderately strenuous) to the 5,461-foot summit offers many lookout points with fine views of Queen, Lost Horse, and Pleasant valleys.
 - 8 Lost Horse Mine**
This historic site represents the park's gold prospecting and mining history. It is accessible by a two-mile trail.
 - 9 Geology Tour Road**
This 18-mile, self-guiding driving tour along a dirt road winds through some of the park's most fascinating rockscape. Only 4-wheel-drive vehicles are recommended.
 - 10 Cholla Cactus Garden**
Bigelow (jumping) cholla cactus concentrate to form this desert garden. A short, self-guiding nature trail featuring plants and animals of the Colorado Desert winds through the area.
 - 11 Cottonwood Spring**
Noted for its birdlife, this palm oasis is easily reached by the road. A small visitor center with exhibits is about a mile away.
 - 12 Lost Palms Oasis**
This oasis, representing the largest group of palms in the park, may be reached by a trail through the desert landscape (seven miles round-trip).

