



Mojave National Preserve

Issue 14 / Spring 2009

NPS COLLECTION

Sand verbena, brown-eyed primrose, and dune evening primrose soften the sand-blasted topography of the Devil's Playground in spring 2008.

Spring Wildflowers: A Riot of Color

SPRING IS COMING TO MOJAVE NATIONAL PRESERVE. WHILE many people might assume that the winter skips over the desert, nothing could be farther from the truth. This winter, multiple snow storms blanketed—even paralyzed—much of the Eastern Mojave. Even Kelso Depot and Kelso Dunes had snow on the ground a few times. Combined with a few rainy days in the fall and winter and the increasing warmth and sun of spring, the winter's precipitation should encourage a good wildflower season.

The seeds of many desert plants lie dormant near the ground surface until just the right conditions coax them into growth. Annual wildflowers, in particular, produce seeds that can wait for years, if necessary, until there is enough water available for a successful growing season. When the rains fall in abundance, the wildflowers follow in an equally bountiful riot of color.

That riot of color moves slowly through Mojave, starting at the lowest elevations and working its way higher as spring progresses. Some of the earliest blooms can be spotted along Zzyzx Road, near the western border of the preserve. Lupine, various species of phacelia, many members of the daisy family, and beautiful displays of beaver-tail cactus can be seen on the sides of the paved road leading to a desert oasis. For flower seekers with sharp eyes, lilac sunbonnets and desert five-spots lurk amid rocky surfaces.

Not long after Zzyzx, Kelbaker Road begins its own flower show. It is difficult to list the many plants that often bloom on or near Kelbaker between Baker, Calif. and the cinder cones and lava beds. Showy plants like hairy sand verbena, dune evening primrose, bladder pod, and the slightly later desert mallow are obvious even at 55 miles per hour. Park your car and walk a few feet off the road, though, and you'll find a wide range of flowers so small that several blooms can fit on a nickel. These miniatures include Fremont phacelia, purple mat, broad-flowered gilia, woolly daisies, and the Mojave gold poppy.

In good years, the Joshua tree forest blanketing Cima Dome puts on a show that is impossible to miss. Joshua trees, Mojave yuccas, and banana yuccas all produce massive, showy, and slightly alien-looking blooms late in the spring. Multiple types of cactus contribute bright colors along with tall stands of penstemon along Cima Road.

Penstemon makes an even more abundant appearance in the Mid Hills region. This area still shows significant scarring from a wildfire in 2005, but also has tremendous potential for wildflower displays. The northern portion of the Mid Hills to Hole-in-the-Wall Trail can be carpeted with penstemon, giant four-o'clocks, desert mallow, cactus, and a variety of smaller flowers at the end of spring.



NPS/MATTHEW JATOVSKY

Desert mariposa lily
Calochortus kennedyi



NPS/ANGELA GLORE

Mojave mound cactus
Echinocereus triglochidiatus

Where the Wildflowers Are

	February	March	April	May	June
Annuals		 	 		
Yuccas			 		
Cacti			 		
Joshua trees <i>Uncommon below 3,000 feet</i>					

= Elevations below 3,000 feet. = Elevations above 3,000 feet.

Mojave National Preserve's variation in elevation ensures a long, if spread out, flower-viewing season. From early to late spring, and even very early summer, flowers are blooming somewhere in the preserve. To get the most out of your trip, check the website and talk to a park ranger at any information center (see page 2 for more info.). Rangers can help you choose the best place—the best elevation—to see a wide range of beautiful spring wild flowers.

Angela Glore, Volunteer-in-Parks (VIP)

Welcome to Mojave!

With mild temperatures and longer days, spring is always a great time to visit the desert. Storms throughout the winter months have provided plenty of moisture—we expect a memorable wildflower season. By mid-late February, blooms begin at lower elevations, with the flower season continuing up to higher elevations through May.

As you are about to discover, the preserve encompasses a vast area of the Mojave Desert ecosystem, and offers landscapes unlike any you might see elsewhere, including sand dunes, Joshua tree forests, cactus gardens, lava beds, and cinder cones. Here you will find opportunities for quiet canyon hikes, backcountry road trips, and visits to old mines and military outposts. Stay at one of the developed campgrounds, or pick from hundreds of backcountry campsites, and you will experience the dark night sky and see an amazing number of stars. Most of us don't get to see this anymore, so enjoy it while you're here.

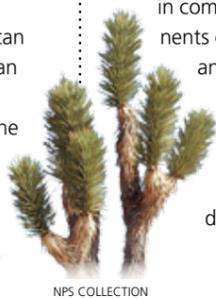
I'm also pleased to announce that food service is now offered at Kelso Depot, so be sure to stop by during your trip!

Many adventures await you at Mojave National Preserve. I encourage you to enhance your experience by taking short walks in various habitats. Suggested hikes are listed on page 7. For trip-planning advice or to learn more about park resources and management activities, rangers are on duty at all information centers. You may also visit us online or contact park staff by phone as indicated on the second page of this guide.

Dennis Schramm
Superintendent

3 Mojave's Roads

Just getting around Mojave National Preserve, the third largest unit of the National Park System in the contiguous United States, can be a trial for some. But it need not be. Plan ahead and prioritize; familiarize yourself with Mojave's paved and dirt roads and the major sites to see along the way. And remember—you won't see it all in one day (but you can always come back)...



NPS COLLECTION

4 Climate Change

What do springs, seeps, and Joshua trees have in common? They're critical components of the Mojave Desert ecosystem, and global climate change threatens them all. Mojave National Preserve is taking steps to monitor potential impacts and ensure a healthy and sustainable desert for future generations.

6 Campgrounds

Mojave National Preserve is a camper's paradise. Developed campgrounds, roadside camping, and backcountry camping offer opportunities for individuals and groups of diverse ages, interests, and skills. Careful planning and knowledge of camping rules and regulations will help ensure an enjoyable and safe experience for you, future visitors, and the fragile desert environment...

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National Park Service
U.S. Department of the Interior

Mojave National Preserve

Established in 1994, Mojave National Preserve encompasses 1.6 million acres ranging in elevation from 800' near Baker to 7,929' at Clark Mountain. Although most of the park lies in the Mojave Desert, the southeast section grades into the Sonoran Desert, and elements of the Great Basin Desert are found at higher elevations east of the Granite, Providence, and New York mountains.

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The National Park Service cares for the special places saved by the American people so that all may experience our heritage.

“Dry Heat:” Defining Desert Climate

AS WINTER TURNS TO SPRING, VISITORS seeking warmth in the desert might be surprised to encounter eager local residents, themselves anticipating a change to warmer times. While scorching summer temperatures are characteristic of most of the world's deserts—the Mojave is no exception—winters can be downright chilly. Indeed, academic definitions have little to do with heat.

Deserts are generally understood as *dry* places, where potential evaporation exceeds precipitation. But rainfall in the Mojave Desert varies by both time of year and elevation. Most rain falls between November and April. Zzyzx, elevation 930 feet, gets an average of only 3.37 inches of precipitation per year. At 4,200 feet in the Granite Mountains, the average is 8.5 inches.

As anyone who has visited Mojave National Preserve during July will testify, however, definitions can be a poor source of comfort. The desert is *hot* (the “World’s Tallest Thermometer” in nearby Baker, Calif. records summer temperatures exceeding 120°F). Fortunately, and much like precipitation, temperatures, too, vary across space and through time. At low elevations, temperatures above 100°F typically begin in May and can last into October. The mountains offer a considerably (and relatively) cooler “retreat,” averaging 90°F in July, the hottest month of the year.

Visitors should also expect bright, clear skies, seasonally strong winds, and wide fluctuations in day-night temperatures. At nightfall, Mojave’s clear skies allow the intense daytime heat to quickly radiate back towards the sky. As a result, summer temperature variations are routinely more than 30°F. Temperatures might even vary as much as 80°F in a single day.

Mojave Temperatures: Average High / Low

	Granite Mountain <i>Elevation 4,200 feet</i>	Zzyzx <i>Elevation 930 feet</i>
January	50°F / 36°F	61°F / 34°F
February	54°F / 38°F	69°F / 40°F
March	59°F / 41°F	74°F / 46°F
April	68°F / 48°F	83°F / 53°F
May	75°F / 54°F	93°F / 61°F
June	85°F / 63°F	103°F / 70°F
July	90°F / 67°F	109°F / 77°F
August	89°F / 66°F	107°F / 75°F
September	83°F / 61°F	100°F / 68°F
October	73°F / 52°F	77°F / 55°F
November	59°F / 41°F	73°F / 46°F
December	50°F / 34°F	62°F / 34°F
Average Annual Precipitation	8.5 inches	3.37 inches

In spring and summer, come to Mojave National Preserve prepared for any eventuality. Bring a variety of clothes that you can layer on and off as conditions change. Wear a hat and sunglasses, and use sunblocking lotion liberally. Even if you only plan to drive through the park, be sure to carry plenty of water—at least one gallon per person per day. Carry twice as much for more strenuous activity. It is easy to become dehydrated in arid desert environments.

Remember that dryness—not heat—defines the desert. So, should you find yourself wandering the Soda Lake playa on a 110°F day in July (*not* recommended), drenched in your own sweat, and guzzling quart after quart of water (you came prepared, after all), take comfort in the mantra: “At least it’s a dry heat.”

Michael Glore, Park Ranger

Essential Information

Dates and Hours of Operation

The preserve is always open. Information centers (see below) maintain regular hours of operation.

Fees and Reservations

There are no entrance fees. See page 6 for information about campground reservations and fees.

Information Centers

Three information centers provide orientation, information, and trip-planning advice. Park rangers are on duty. Western National Parks Association (WNPA) bookstores offer books, maps, and more.

Kelso Depot Visitor Center

Located 34 miles south of Baker, Calif. on Kelbaker Road. Open daily, 9 a.m.–5 p.m.

Hole-in-the-Wall Information Center

Located near Hole-in-the-Wall Campground. Winter hours (October–April): Wednesday through Sunday, 9 a.m.–4 p.m. Summer hours (May–September): Friday through Sunday, 9 a.m.–4 p.m.

Headquarters Information Center

Located at 2701 Barstow Road, Barstow, Calif. Open Monday through Friday, 8 a.m.–4:30 p.m.

Food: The Beanery @ Kelso

The concessioner-operated lunch room offers hot and cold beverages, soups, salads, sandwiches, and snacks. Located at Kelso Depot Visitor Center. Open Friday through Tuesday, 9 a.m.–5 p.m.

Water

Drinking water is available only at Kelso Depot Visitor Center, Hole-in-the-Wall Information Center, Hole-in-the-Wall and Black Canyon campgrounds, Mid-Hills Campground, and the campground at Providence Mountains State Recreation Area (Mitchell Caverns).

Gasoline

There are no gasoline stations within Mojave National Preserve. Gasoline can be purchased along I-40 at Needles, Fenner, and Ludlow, Calif., along I-15 at Baker, Calif., the Cima Road exit, and Primm, Nev., and along U.S. 95 at Searchlight, at the Nev. 163 junction south of Cal-Nev-Ari, Nev.

Lodging

There are no motels within Mojave National Preserve. Lodging might be available in Barstow, Nipton, Ludlow, Needles, Baker, and Twentynine Palms, Calif., and in Primm and Searchlight, Nev.

Bicycles

Bicycles are allowed in parking areas, on paved roads, and on existing, open dirt roads. Bicycles are not allowed in Wilderness Areas or for cross-country travel.

Pets

Though not allowed inside information centers, pets are welcome elsewhere. They must be leashed and never left unattended. Dogs used during hunting activities must be under the owner’s control at all times. Pet excrement must be collected and disposed of in garbage receptacles.

Permits

Permits are required for all organized events, group events (more than 15 individuals or 7 vehicles), and commercial activities such as filming. Fees apply. Proof of insurance and posting of a bond might also be required. Call 760-252-6107 or visit www.nps.gov/moja for more information.

Hunting and Firearms

Hunting is permitted in accordance with state regulations. All hunting activities require a license; additional permits and tags might apply. Visit the California Department of Fish & Game website at <http://www.dfg.ca.gov/> for more information.

Target shooting or “plinking” is prohibited. All firearms transported within the preserve must be unloaded, cased, and broken down, except during lawful hunting activities. No shooting is permitted within ½ mile of developed areas, including campgrounds, information centers, Kelso Dunes, Fort Piute, Sweeney Granite Mountains Desert Research Center, and the Desert Studies Center at Zzyzx.

Collecting and Vandalism

Disturbing, defacing, or collecting plants, animals, rocks, historic or archeological objects is prohibited. Leave these resources as you find them for everyone to enjoy. Metal detectors are not allowed.

Private Property

Private inholdings are found throughout the preserve. Please respect the rights of our neighbors. It is your responsibility to obtain permission before hunting, hiking, or entering private property.

Cattle and Fences

Most grazing within Mojave National Preserve occurs on public land. This land is open to you to explore, but please don’t disturb cattle, fences, or water tanks. Leave gates as you find them.

Firewood & Campfires

Wood is scarce in the desert. Cutting or collecting any wood, including downed wood, is prohibited. All firewood, including kindling, must be brought in. Firewood might be available for purchase at Baker, Fenner, or Nipton, Calif., or at Providence Mountains State Recreation Area (Mitchell Caverns). Campfires are allowed in campground fire rings and other established sites. To minimize your impact, use a firepan and pack out the ashes. Please do not leave fires smoldering or unattended.

Exploring Mojave

Scenic Cima Road connects I-15 with Cima, Calif., traversing the world's largest concentration of Joshua trees.

Avenues to Adventure

Mojave National Preserve is vast. At 1.6 million acres, it is the third-largest unit of the National Park System in the contiguous United States. While much of Mojave's wild and historic splendor is available only to those who travel its trails and unmaintained roads, the primary roads of the preserve offer endless opportunities for exploration (see map on page 8).

Kelbaker Road

A 56-mile paved road stretching from I-15 at Baker, Calif. in the north to I-40 east of Ludlow, Calif. in the south, Kelbaker Road winds past cinder cones, lava flows, Kelso Depot, Kelso Dunes, and the Granite Mountains.

Cinder Cones & Lava Flows

No signs or services.

About 14 miles southeast of Baker, Kelbaker Road traverses a 25,600-acre area of lava flows and volcanic cinder cones thought to range in age from 10,000 to 7 million years old. In 1973, the area was designated as Cinder Cones National Natural Landmark due to its scenic beauty and exceptional geological value. Aiken Mine Road (19 miles southeast of Baker, Calif.) offers an interesting side trip through the heart of the area and access to a lava tube. **High clearance and four-wheel drive recommended.**

Kelso Depot Visitor Center

Information, exhibits, orientation film, art gallery, bookstore, food (The Beanery @ Kelso), restrooms, water, picnic area.

Located 34 miles southeast of Baker, Kelso Depot began operation in 1924 and served as train station, restaurant, and employee housing on the Los Angeles and Salt Lake route of the Union Pacific Railroad. Now Mojave National Preserve's principal information center and museum, extensive exhibits describe the cultural and natural history of the preserve. Historically furnished rooms offer a glimpse into Kelso's past.

Kelso Dunes

Self-guiding trail, vault toilets, no water.

About 42 miles southeast of Baker (8 miles south of Kelso Depot), then 3 miles west on a graded dirt road. Nearly 700 feet high and covering a 45-square-mile area, the Kelso Dunes were created over the course of 25,000 years by winds carrying sand grains from the dried Soda Lake and Mojave River Sink located to the northwest. The Providence and Granite mountains served as barriers that trapped the blowing sand. The dunes produce a "booming" or "singing" sound when sand with the right moisture content slides down the steep slopes. Try it for yourself—run down a dune slope (but don't trample vegetation!) to initiate the sound.

Granite Mountains

No signs or services.

An imposing jumble of granite marks the south entrance to the preserve, 50 miles southeast of Baker on Kelbaker Road. Portions of the Granite Mountains lie within the University of California's Desert Research Center; please respect the signs that mark the boundary. **High clearance and four-wheel drive recommended.**

Clark Mountain

No signs or services.

The only portion of Mojave National Preserve north of I-15, Clark Mountain is also its highest point, at 7,929 feet. A relict white fir grove near the top is one of only three in the Mojave Desert. Check detailed maps or ask a ranger for access information. **High clearance and four-wheel drive recommended.**

Cima Road

About 26 miles east of Baker, Calif., the paved Cima Road connects I-15 with Cima, Calif., 16 miles to the southeast.

Cima Dome & Joshua Tree Forest

Self-guiding trail, no water.

The near-perfect symmetry of Cima Dome rises 1,500 feet above the surrounding desert and provides ideal habitat for the world's largest concentration of Joshua trees. Although the top of the dome is located west of Cima Road near the Teutonia Peak Trailhead, this unusual geologic feature is best seen from a distance. Try the view looking northwest from Cedar Canyon Road, 2.5 miles east of Kelso Cima Road.

Cedar Canyon & Black Canyon Roads

Mostly unpaved, the 20-mile Cedar Canyon Road connects Kelso Cima Road in the west with Ivanpah Road in the east, paralleling (and sometimes joining) the historic Mojave Road. Black Canyon Road (unpaved north of Hole-in-the-Wall) connects Cedar Canyon Road with Essex Road, 20 miles to the south.

Rock Springs

Wayside exhibits, no services.

A well-known waterhole for early travelers, Rock Springs is located 5.2 miles east of Black Canyon Road on Cedar Canyon Road, then ¼ mile south on a sandy, unmarked road (**four-wheel drive recommended**). Camp Rock Springs, a military redoubt established in 1866, was one of the most isolated and comfortless army posts in the West.

Mid Hills

Campground, trailhead, vault toilets, water. Not recommended for RVs.

About 2 miles west of Black Canyon Road at the north end of Wild Horse Canyon Road, Mid Hills supports pinyon-juniper woodland habitat. The effects of a fire that swept through the area in June 2005 are evident, although several campsites in the popular campground still contain shady stands of pinyon pine and juniper.

Hole-in-the-Wall

Information center, bookstore, campgrounds, picnic area, trailhead, restroom, water, telephone.

Just north of the junction of Black Canyon and the south end of Wild Horse Canyon Roads, rhyolite cliffs riddled with holes and hollows are the backdrop for Hole-in-the-Wall.

Piute Spring

About 7.4 miles west of U.S. 95 on the unmarked and unpaved Mojave Road, then 3.1 miles west on an extremely rough unmarked dirt road. **High clearance and four-wheel drive recommended.**

Fort Piute and Piute Spring

Trails, wayside exhibits, no signs or services.

Willows, cottonwoods, and rushes thrive along a half-mile section of Piute Creek. Fort Piute (still visible) was one in a string of military outposts built along the Mojave Road. Please don't climb on the foundations or remove anything.

Dirt Road Driving

Prepare Your Vehicle

Ensure that your vehicle is in good condition: check tires, oil, and gas gauge.

For emergencies, carry tools, tire jack, towrope, extra water, and fluids for your vehicle.

Know the Rules of the Road

All vehicles operating within Mojave National Preserve must be street-legal in accordance with California DMV requirements, including current registration and tags, lights and turn signals, and valid insurance. California "Green Sticker" and "Red Sticker" programs are not recognized within the preserve.

Off-pavement travel is allowed only on existing, open dirt roads. Do not travel cross-country or create new routes. This rule is strictly enforced; violators will receive citations. Driving in washes is not permitted. Watch for and respect Wilderness Boundary signs; motorized vehicles and bicycles are not allowed in designated Wilderness Areas.

Check Road Conditions

Road conditions vary widely. Dirt roads might be rough, sandy, or muddy, rendering them impassable, and the unprepared motorist could be trapped many miles from help. Watch for cattle, burros, and other wildlife on roadways.

Not all roads are shown on all maps; traces and illegal shortcuts add to the confusion. Carry a good map, and ask a park ranger for current road conditions.

Zzyzx Road

Six miles southwest of Baker on I-15, Zzyzx Road leads 5 miles south into the preserve along the western shore of Soda Dry Lake.

Zzyzx/Soda Springs

Self-guiding trail, wayside exhibits, vault toilets, non-potable water, picnic area.

Historically known as Soda Springs and later renamed Zzyzx (pronounced ZYE-zix), this oasis is home to the California State University Desert Studies Center. The buildings and pond were developed in the 1940s by Curtis Springer, who operated a health resort at the site. Zzyzx is open to the public—stroll around Lake Tuendae and along the shore of Soda Dry Lake. Please do not disturb participants when classes are in session.

Nipton, Ivanpah & Lanfair Roads

Eleven miles south of Primm, Nev., Nipton Road begins at I-15 and passes through Nipton, Calif., 11 miles east. Ivanpah Road (only the 10 northernmost miles paved) heads southeast of Nipton Road, through the Ivanpah and Lanfair valleys, eventually connecting with the paved Lanfair Road and the Fenner Valley. Together stretching 46 miles, Ivanpah and Lanfair roads connect the northern preserve boundary (bordering Nipton Road) with the southern near Goffs, Calif.

Hotel Nipton

Privately operated hotel, store, campground, & more; for information call 760-856-2335 or email at stay@nipton.com.

Built in 1910, this charming hotel reflects the railroad, ranching, and mining history of the small community at Nipton.

Caruthers Canyon

Primitive camping, hiking, no signs or services.

About 5.5 miles west of Ivanpah Road on New York Mountains Road, then 2.7 miles north on an unsigned road, Caruthers Canyon is located in the rugged New York Mountains. Surrounded by mountains rising over 7,500 feet, a botanical "island" of chaparral plants remains from wetter times of the past. **High clearance and four-wheel drive recommended.**

Sand & Mud Driving Tips

- Be sure to carry plenty of drinking water and emergency supplies.

- Engage four-wheel drive before entering deep sand or mud.

- Don't gun the engine—this will spin the tires, dig you in deeper, and could bury your vehicle to the frame. Smooth, easy power is better than too much power; use low gearing and just enough throttle to maintain forward movement.

- If you detect a loss of traction, turn the steering wheel rapidly from side-to-side—this might help to generate traction.

- If your vehicle gets stuck, place solid materials (such as floor mats) under the tires to provide traction.

- If you're really stuck, it's best to stay with your vehicle. A stationary, stranded vehicle is much easier to locate than a person traveling on foot. Avoid strenuous activity during the heat of the day; stay in the shade of your vehicle.

Lanfair Valley

No signs or services.

South of the New York Mountains along Ivanpah and Lanfair roads, this high valley shelters an impressive Joshua tree forest and was an early ranching and homesteading center. From 1893 until 1923, the Nevada Southern Railway ran up the valley from Goffs, providing services to homesteaders and ranchers in the valley and to miners in the mountains beyond. While little evidence remains of homesteads that once dotted the valley, tracts of private property still exist. Please respect the rights of landowners.

Nature and Science

Protect Desert Tortoises

The threatened desert tortoise is a marvel of desert adaptation. Its continued survival, however, is largely dependent on responsible human behavior.

Admire from Afar

Do not harass or approach a tortoise too closely. When no water is available, tortoises absorb water from their bladders. If frightened, they might release their bladders and lose this vital water supply.

Mindful Motoring

Stay on established roads. Vehicles can crush burrows, killing tortoises and eggs.

Check beneath your vehicle before driving away. On hot days, tortoises enjoy the shade that cars provide.

Observe posted speed limits, and be especially watchful during and after rainstorms. Tortoises often enter roadways to drink from puddles.

Pet Smarts

Do not release captive tortoises. They might carry diseases that can be transmitted to wild tortoises. Instead, turn them over to a licensed tortoise-rescue center. For information, call 760-252-6101.



Soda Dry Lake: the vast, dessicated playa of a once great Ice Age lake (Lake Mojave), as seen near Zzyzx, Calif.

Springs: Water, Water Everywhere?

Yes, deserts are dry places (see “Dry Heat” on page 2), but the Mojave is hardly devoid of water. After all, water is essential to life, and the great diversity of wildlife in Mojave National Preserve suggests that there’s a substantial and accessible supply of it somewhere. But where?

Beneath the Mojave Desert is a vast system of groundwater stored in *aquifers*—underground layers of unconsolidated, porous, or fractured rock capable of containing a usable amount of water. The depth at which an aquifer becomes saturated is called the *water table*. Historically, and perhaps most familiarly, the water table of these basin aquifers are often accessed for municipal, agricultural, and industrial use by the construction and operation of wells. By contrast, a natural spring or seep occurs where the water table exceeds or breaches the ground from beneath; water naturally discharges onto the surface. In general, if the water “flows,” it’s called a spring. If it “oozes” or simply forms a wet area, it’s a seep.

Most springs and seeps in Mojave National Preserve are located along the southwest–northeast trending spine of mountains that includes the Granite, Providence, New York, and Castle mountains. They discharge from aptly named *perched aquifers*, which occur above the regional water table often on a valley wall or hillside, and are primarily “filled” or *recharged* by rain and snow melt. Because recharge comes from local precipitation, the number of springs and seeps might vary throughout the year, as well as from year to year. The wettest time of year is normally late fall through late spring. Late spring through early summer usually brings the least rainfall and the flow at natural springs steadily decreases during this time. While summer monsoons occasionally create wet conditions, their unpredictability can mean that late summer through mid-fall is the time of year with the least available surface water at Mojave springs and seeps. If a monsoon-less summer is followed by winter drought, ephemeral springs might begin to dry up.

To form a “snapshot” of the water supply during what is normally the driest time of year, Mojave National Preserve performs surveys of springs and seeps each fall. From 2002 to 2004 most springs were inventoried and located using global positioning systems (GPS) technology. To date, over 240 sites associated with naturally occurring springs and seeps have been

identified though more are still occasionally found. In particularly wet years, such as 2005, water was found seeping from places with minimal or no water in previous, drier years.

While unlikely to be affected by groundwater pumping from local basin aquifers, Mojave’s springs and seeps are sensitive to variable precipitation and can go dry in a multiyear drought. The implications for the Mojave Desert ecosystem in a time of global climate change could not be clearer, as these springs and seeps are the only natural water sources in a 1.6 million acre preserve for 321 bird and 50 mammal species.

Boris Poff, Hydrologist

To learn more about springs and seeps in Mojave National Preserve, the annual Spring Snapshot Survey, or to volunteer for this important research, visit us online at: www.nps.gov/moja/naturescience/springs.htm.



Spring Snapshot:
Pool near Garvanza Spring

Spring Snapshot:
Rock Spring

Climate Change and Joshua Trees

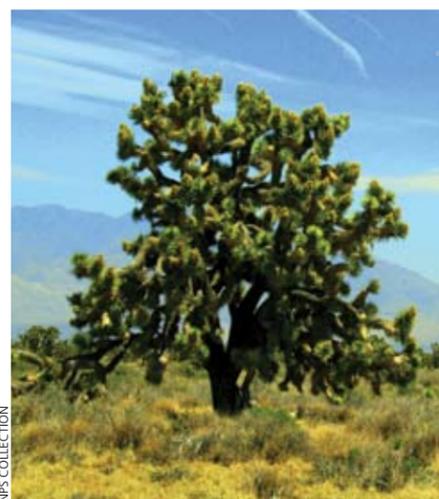
HIKING THE TEUTONIA PEAK TRAIL ON Cima Dome, you enter the world’s largest and densest Joshua tree forest. As you make your way up the gently sloping, sandy path, the forest seems to come alive: the clear, descending trill of a canyon wren echoes from granite boulders; a blacktail jackrabbit hops across the trail; a ladder-backed woodpecker hammers tirelessly atop a large Joshua tree.

It might surprise you to encounter this much life in the desert, but many animals depend on Joshua trees for food, shelter, and reproduction. Ecologists refer to Joshua trees as a “foundation species”—one that exerts an important influence over the rest of the web of life. Brilliantly colored Scott’s orioles hang their basket-like nests to the underside of Joshua tree leaves. During dry spells, rodents like the antelope ground squirrel and desert wood rat suck moisture from this veritable desert canteen. Without Joshua trees, these animals might perish, diminishing the dining choices of coyotes, hawks, and owls further up the food chain. The Mojave Desert ecosystem would be much less diverse.



Yucca brevifolia ssp. *brevifolia*

The Joshua trees of Mojave National Preserve are a different subspecies (*Yucca brevifolia* ssp. *jaegeriana*) than their well-known relatives further south in Joshua Tree National Park (*Yucca brevifolia* ssp. *brevifolia*). The two plants are slightly different—the *brevifolia* in Joshua Tree grows taller, while the Mojave subspecies is typically smaller,



Yucca brevifolia ssp. *jaegeriana*

more compact, and has more branches. By whatever scientific name, however, the Joshua tree is considered the signature plant and symbol of the Mojave Desert.

But will these desert sentinels be here in the future? Although it’s not exactly understood how climate change will affect the California

desert, many scientists foresee less-predictable rainfall patterns and increased temperatures. That means increased stress for plants and animals that already have to cope with extreme temperatures and scant precipitation.

During photosynthesis, the process by which plants create food from solar radiation, plants lose water to the air through transpiration—a type of evaporation from their leaves. The higher the air temperature, the more water is lost by the plant through transpiration. When the amount of transpired water becomes greater than the amount absorbed by the root system, the plant is in stress. At a certain point, the water loss becomes so great that the plant reaches permanent wilting point and subsequent death.

In short, climate change threatens to destroy the reproductive capabilities of Joshua trees

Continued on next page...

Faces and Places

The Mojave Road

This country, as a whole, seemed a vast volcanic desert—of mountains, canyons, and mesas—and what it was ever made for, except to excite wonder and astonishment, is a mystery to the passing traveler... Water was found only at distances of ten and twenty miles apart...

—J.F. Rusling describing his 1866 trip on the Mojave Road in *Across America*

Originally a foot trail used by Mojave and other people of the Colorado River basin to transport goods for trade with coastal tribes, the Mojave Road later served the cause of westward expansion: military forts were established along the route to protect key water sources and provide assistance for travelers. Today it is a popular four-wheel drive road.

The Mojave Road enters the preserve near Piute Spring on the eastern boundary and at Soda Dry Lake near Zzyzx on the west. Some sections are rough and sandy; four-wheel drive is recommended. Much of the road might become slick, muddy, and impassable after rains. Be sure to inquire about road conditions, especially if you plan to cross Soda Lake.

The Mojave Road Guide by Dennis G. Casebier provides in-depth history and mile-by-mile descriptions of the route. Get your copy at any information center.



Historical marker at Kelso Cima Road junction.

The rose-colored granite and feldspar sands of Kelso Dunes complement another spectacular sunset over Mojave National Preserve.

Park Ranger's Pick: Michael Glore on Wilderness



Formerly of Alaska, park ranger Michael Glore and his family now live near the wilderness around Cima Dome.

BEFORE MOVING TO THE MOJAVE, I WAS a park ranger at Alaska's Katmai National Park & Preserve, five million roadless acres of spruce trees, brown bears, spawning salmon, and volcanoes. Here, I thought, was an unequaled example of "the Wild." When I signed on to Mojave National Preserve in Southern California, I felt resigned to the fact that I was leaving true wilderness behind.

I was wrong. I soon learned that nearly half of the 1.6 million-acre Mojave National Preserve is an incredibly diverse wilderness, ranging from the vast, desiccated playa of

Soda Dry Lake near Zzyzx to the limestone crags and ancient white fir trees of Clark Mountain. Mojave Wilderness is *congressionally designated* wilderness: In 1964, by a nearly unanimous vote, the United States Congress enacted landmark legislation—the Wilderness Act—to "secure for the American people of present and future generations the benefits of an enduring resource of wilderness."

So what? What is the significance of the Wilderness Act?

For me, as a federal employee and park ranger, it means that Mojave Wilderness must be administered in a manner consistent with the guidance provided by the Wilderness Act: as "an area where the earth and its community of life are untrammelled by man..." Permanent roads, structures, and commercial services are prohibited. I tell visitors, however, that "untrammelled by man" doesn't mean that people should stay out of wilderness areas. Just the opposite: wilderness is meant to be visited, explored, and *experienced*. You can hike, camp, watch wildlife, photograph, ride horses, or even hunt. You just can't use cars, trucks, or other motorized equipment to do so.

As a private citizen and frequent visitor to America's public lands, however, wilderness has perhaps the most meaning. Cut off from other human beings and the sights and sounds of modern society, deliberate and thoughtful *action* becomes the primary means of communicating with the world around you. My "wild" experiences are somehow intangible, fleeting, and, admittedly, hard to describe, but that mysterious uncertainty keeps me returning to wilderness.

Conservationist John Muir believed that "wilderness is a necessity." I agree: it has become an indispensable part of my life. But while it

Getting There: Mojave Wilderness

With 806,212 acres of designated wilderness in Mojave National Preserve, "wild" opportunities abound. Careful planning is critical: familiarize yourself with the Backcountry Guidelines & Regulations on page 6, and recognize that additional regulations apply. For more info., talk with a park ranger or visit our website at: www.nps.gov/moja/planyourvist/wilderness.htm.

Wilderness boundaries are marked by flexible brown posts and are shown on the National Geographic Trails Illustrated map for Mojave National Preserve, available at all information centers.

might be necessary, the existence of wilderness is not sufficient in itself. It requires action on our behalf. I think that's what naturalist and philosopher Henry David Thoreau meant when he claimed that, "in wildness is the preservation of the world." Note that he wrote about *wildness* (a state of being), not *wilderness* (a place). "Wildness" can happen almost anywhere. After all, by drawing lines on a map and placing signage around a landscape, can we really encapsulate "the Wild?" Some would argue that just the opposite occurs. But read between the signs: There truly is something special about designated wilderness that provides unique and unparalleled *opportunities* for "wild" *experiences*.

Mysterious, hard to define, life-affirming: wilderness is all these things. But perhaps most extraordinary of all is that in 1964 a government—the United States government—made available to every man, woman, and child, today and in the future, protected areas in which to experience something greater and more powerful than themselves: a humbling sense of vulnerability; a feeling of serenity growing with each passing moment; a sense of understanding and belonging to a shared natural heritage. If we could all have these experiences, the world would indeed be a better place.

So get out and into Mojave Wilderness. There's plenty of it around. What will it mean to *you*?



Climate Change and Joshua Trees

(continued from page 4)

from the southern half of their range, potentially eliminating them from Joshua Tree National Park, for example, in the next 100 years. Some Joshua trees in Mojave National Preserve, however, are predicted to survive, perhaps due to a more northerly latitude and slightly higher elevation. Regardless, scientists, public land managers, and concerned citizens alike are hopeful that Joshua trees will continue to play a vital role throughout the fragile Mojave Desert ecosystem.

But they're not taking any chances.

In February 2009, the National Parks Conservation Association, Mojave National Preserve, Joshua Tree National Park, Defenders of Wildlife, the Morongo Basin Cultural Arts Council, The Living Desert, Copper Mountain College, The Mojave Desert Land

Trust, and The Wildlands Conservancy co-hosted the free, annual Climate Change and the California Desert Conference in Joshua Tree, Calif. Participants and featured guest speakers explored the many ways in which climate change will affect the Mojave Desert, including the declining range of Joshua trees. With this information and a renewed sense of cooperation and urgency, conference attendees are better equipped to make decisions—in the workplace and at home—that safeguard our shared natural heritage.

Seth Shteir, National Parks Conservation Association

To learn more about how you can help protect national parklands for future generations, visit the National Parks Conservation Association (NPCA) online at: www.npca.org.



The Beanery: Kelso's social center since 1924.

The Beanery @ Kelso

After a nearly two-decade-long hiatus, the Kelso Depot lunch room—"The Beanery"—is back in business. Enjoy a cup of hot coffee, cold ice cream, fresh deli sandwich, or the latest gossip in this historic setting, painstakingly restored to its 1924 appearance.

Location

Kelso Depot Visitor Center: 34 miles south of Baker, Calif. on Kelbaker Road

Hours of Operation

Friday through Tuesday, 9 a.m.–5 p.m.

Contact

760-252-6165

Camping & Backcountry Travel

Backcountry Guidelines & Regulations

Backcountry travel and camping—backpacking, roadside camping, and horsepacking—require careful planning in order to ensure a safe and rewarding experience. Visitors should adhere to National Park Service regulations and are further encouraged to follow Leave No Trace guidelines to minimize their impact on the fragile desert environment. Additional regulations apply for roadside camping (see below) and horsepacking (talk with a park ranger or visit us online for more information: www.nps.gov/moja).

Leave No Trace principles are rooted in scientific studies and common sense. The message is framed under seven Leave No Trace Principles presented below with accompanying regulations and guidelines specific to Mojave National Preserve:

1. Plan Ahead and Prepare

- There is no permit or registration system for backcountry camping at Mojave National Preserve; be sure to notify others of your travel itinerary.
- Few established trails exist; carry a good map and familiarize yourself with desert travel and survival skills before beginning your trip.

2. Travel and Camp on Durable Surfaces

- Reuse existing campsites (required for roadside camping—see below).
- Do not make camp in a dry wash—flash floods develop quickly in the desert.
- Camping is limited to a maximum of 14 consecutive days per visit/stay and 30 total days per year.
- Campsites must be more than 200 yards from any water source.
- Camping is not permitted: within 1/4 mile of any paved road; within 1/2 mile of Fort Piute or Kelso Depot; within 1 mile north (i.e., the crest of the dunes) or 1/4 mile south of the Kelso Dunes access road. (Exceptions may apply for roadside camping—see below.)

3. Dispose of Waste Properly

- Store all food and garbage in a manner that will prevent access by wildlife. Carry plastic bags and pack out all trash.
- Bury human waste in catholes 6-8 inches deep, at least 200 feet from water, camp, and trails. Pack out all toilet paper and hygiene products.
- Pet excrement must be collected and disposed of in garbage receptacles.

4. Leave What You Find

- Disturbing, defacing, or collecting plants, animals, rocks, and historic or archeological objects is prohibited. As part of our national heritage, these resources should be left as they are found for all to enjoy. Metal detectors are not allowed.

5. Minimize Campfire Impacts

- Campfires are allowed in established fire rings only, or with use of a portable firepan (be sure to pack out ashes). Do not leave fires smoldering or unattended.
- Cutting or collecting any wood, including downed wood, is prohibited. All firewood must be brought into the preserve.

6. Respect Wildlife

7. Be Considerate of Other Visitors

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Friends and family enjoy the spectacular setting of Hole-in-the-Wall Campground.

Campgrounds

Hole-in-the-Wall Campground

Facilities: pit toilets, trash receptacles, potable water, fire rings, picnic tables, dump station; no utility hookups.

Fees: \$12 per site per night, \$6 for America the Beautiful Senior/Access Pass holders.

Reservations: not accepted; campsites available on a first-come, first-served basis.

At 4,400 feet in elevation, Hole-in-the-Wall Campground is surrounded by sculptured volcanic rock walls and makes a great basecamp for hikers (see p.7) and for exploring nearby Mitchell Caverns in the Providence Mountains State Recreation Area. Thirty-five campsites accommodate RVs and tents; two walk-in sites are also available.

Mid Hills Campground

Facilities: pit toilets, trash receptacles, potable water, fire rings, picnic tables; no dump station or utility hookups.

Fees: \$12 per site per night, \$6 for America the Beautiful Senior/Access Pass holders.

Reservations: not accepted; campsites available on a first-come, first-served basis.

The Hackberry Fire swept through the Mid Hills area in June 2005, burning much of the vegetation. About half of the 26 campsites were left unharmed, however—they remain surrounded by pinyon pine and juniper trees. At 5,600 feet in elevation, Mid Hills is much cooler than the desert floor below. The access road is unpaved and is not recommended for motorhomes or trailers.

Black Canyon Equestrian & Group Campground

Facilities: corrals, pit toilets, trash receptacles, potable water, fire ring, grill, picnic shelter with tables.

Fees: \$25 per group per night.

Reservations: required; call 760-928-2572 or 760-252-6104

Located across the road from Hole-in-the-Wall Information Center. Horses and riders are welcome at Mojave National Preserve! Permits required for large groups (see p.2 for permit information).

Nearby Camping Areas

Providence Mountains State Recreation Area (Mitchell Caverns)

16 miles north of I-40 on Essex Road, has six campsites with tables and fire rings available on a first-come basis for \$12 per night. See page 7 for more information.

Afton Canyon

25 miles southwest of Baker on I-15, has a BLM campground with tables and fire rings for \$6 per night.

Commercial camping is also available at Baker, Barstow, Needles, and Nipton, Calif.

Roadside Camping

Roadside vehicle camping is permitted in areas that have been traditionally used for this purpose. By reusing existing sites, you help protect the desert from further damage. Sites with existing rock fire rings should be considered disturbed and suitable for roadside camping. Many roadside camping sites cannot accommodate multiple vehicles; please don't enlarge them. Do not camp along paved roads or in day-use areas, and stay at least 200 yards from all water sources.

The National Park Service encourages roadside campers to use the following, selected sites:

Near Kelbaker Road: Rainy Day Mine Site

15.2 miles southeast of Baker on Kelbaker Road, then 0.3 miles northeast on the unsigned and very sandy road to the Rainy Day Mine. Four-wheel drive recommended; no RVs.

Granite Pass

6.1 miles north of I-40 on Kelbaker Road, just north of Granite Pass, then west on one of several access roads. Campsites are located just north of the granite spires. High clearance vehicle recommended; no RVs.

Kelso Dunes Mine

4 miles west of Kelbaker Road on the unpaved Kelso Dunes Road. One campsite is located south of the road, 1/4 mile past the marked trailhead. Several others are available 3/4 mile beyond, near a clump of trees. Except at these sites, roadside camping is prohibited along Kelso Dunes Road (including at the trailhead).

Near Cima Road: Sunrise Rock

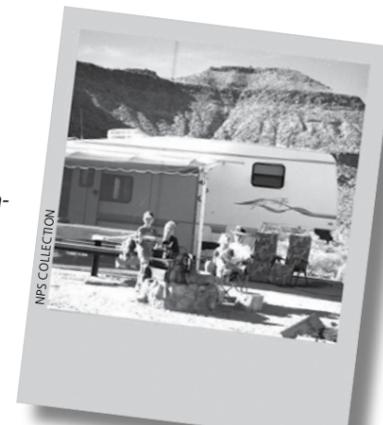
12 miles south of I-15 on the east side of Cima Road. Trailhead for Teutonia Peak Trail is nearby on the opposite side of Cima Road.

Near Black Canyon Road: Black Canyon Road (East)

4 miles south of Hole-in-the-Wall Information Center on the east side of Black Canyon Road, above a wash and near a hill with views of the Providence Mountains. Another site is located about 4 miles further south, near rock piles.

Near Ivanpah and Cedar Canyon Roads: Caruthers Canyon

5.5 miles west of Ivanpah Road on New York Mountains Road, then 1.5 to 2.7 miles north to campsites. High clearance and four-wheel drive recommended; no RVs.

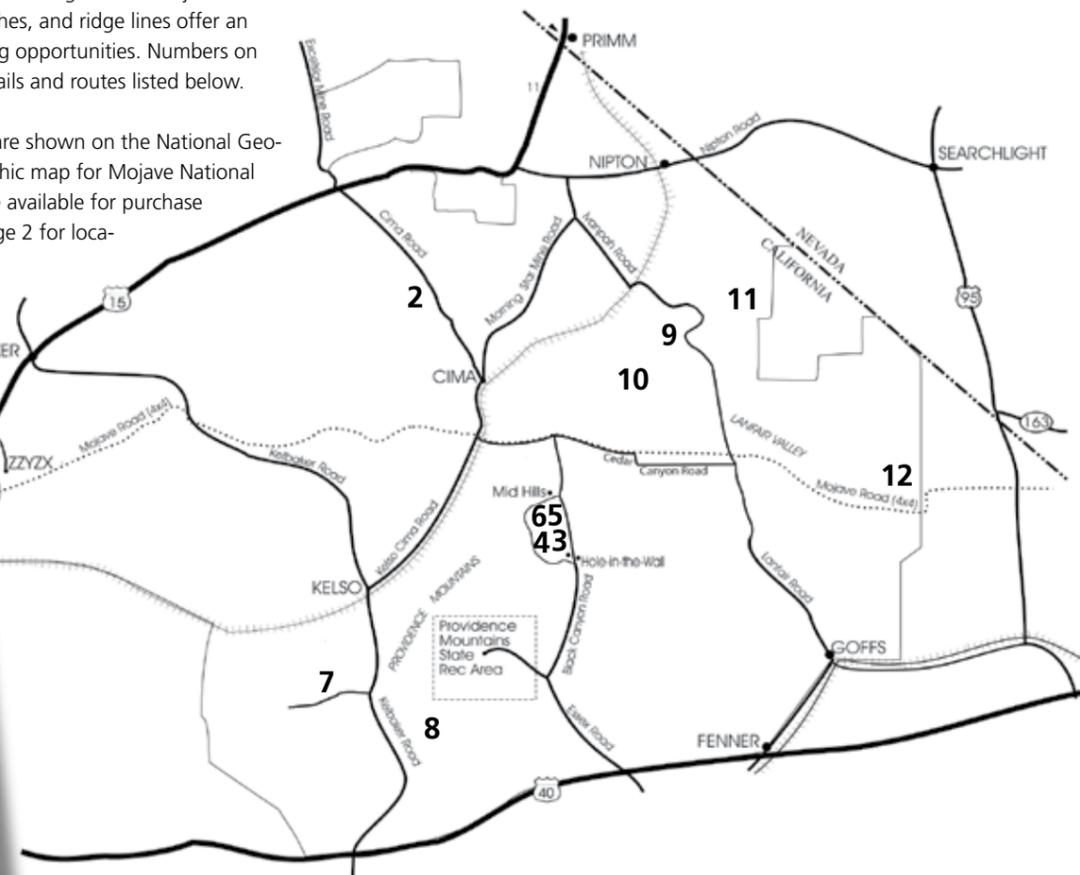
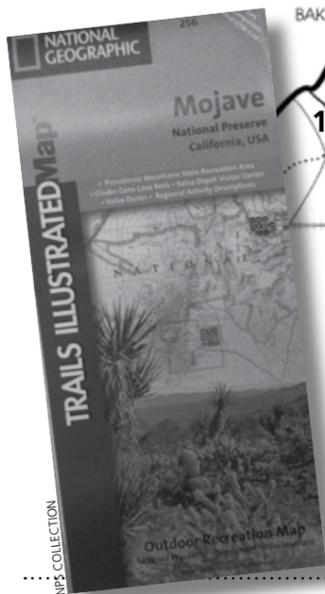


Hiking

Hikers at Mojave National Preserve can enjoy a variety of challenges, with sweeping views, solitude, and over 800,000 acres of designated Wilderness.

Although there are few established hiking trails in Mojave National Preserve, abandoned dirt roads, washes, and ridge lines offer an abundance of cross-country hiking opportunities. Numbers on map show general locations of trails and routes listed below.

All trails and routes listed below are shown on the National Geographic Trails Illustrated topographic map for Mojave National Preserve. This and other maps are available for purchase at all information centers (see page 2 for locations and other info.).



Developed Trails

1) Lake Tuendae Nature Trail

Trailhead: Zzyzx parking area, 5 miles south of I-15 on Zzyzx Road.

Enjoy an easy, self-guided, ¼-mile stroll around Lake Tuendae. Wayside exhibits along the trail reveal the rich cultural and natural history of this oasis on the preserve's western boundary.

2) Teutonia Peak Trail

Trailhead: 12 miles south of I-15, or 5 miles north of Cima, Calif. on Cima Road.

Explore the world's densest Joshua tree forest en route to a rocky peak with expansive views of Cima Dome and beyond. 4 miles round-trip.

3) Hole-in-the-Wall Nature Trail

Trailhead: Hole-in-the-Wall Information Center and Campground, 20 miles north of I-40 on Essex and Black Canyon roads.

Learn to identify desert plants on this easy, ½-mile round-trip hike. Trailheads at Hole-in-the-Wall Information Center and Campground.

4) Rings Loop Trail

Trailhead: Hole-in-the-Wall Information Center parking area, 20 miles north of I-40 on Essex and Black Canyon roads.

Discover how Hole-in-the-Wall got its name as you ascend narrow Banshee Canyon with the help of metal rings mounted in the rock. The 1½-mile round-trip hike connects to the Mid Hills to Hole-in-the-Wall Trail (see below).

5) Mid Hills to Hole-in-the-Wall Trail

Trailheads: Entrance to Mid Hills Campground, and about 1 mile west of Black Canyon Road on the south end of Wild Horse Canyon Road.

Hike 8 miles, one-way, through a maze of washes decorated with barrel and cholla cacti, then through the Hackberry Fire burned area. Total elevation gain is 1,200 feet. Watch carefully for trail route markers.

6) Barber Peak Loop Trail

Trailhead: Parking area for walk-in tent sites at Hole-in-the-Wall Campground.

The preserve's newest trail, this 6-mile loop encircles Barber Peak just west of Hole-in-the-Wall Campground, passes the Opalite Cliffs, and returns to Hole-in-the-Wall via Banshee Canyon.

7) Kelso Dunes

Start: 3 miles west of Kelbaker Road on the well-graded, but unpaved Kelso Dunes Road.

Hikers at sunrise and sunset are treated to both cooler temperatures and the rose-colored glow of the dunes. The roughly 3-mile round-trip hike might take several hours as you slog through the sand, then slide down the slopes.

Recommended Routes

Warning: the routes described below are not established trails; trailheads might be unidentifiable or nonexistent. Check a detailed map or guidebook—available at all information centers—and consult a park ranger for route information.

8) Quail Basin

Start: 12.5 miles north of I-40 on Kelbaker Road, then 1 mile east on an unmarked dirt road. Park at junction with closed dirt road heading south. High clearance and four-wheel drive recommended.

Follow the route to the south to a road that loops around a small valley. After walking the loop, return via the same route. The 6.5-mile round-trip route leads past jumbled rocks into a small valley of Mojave yucca and juniper surrounded by granite outcroppings.

9) Keystone Canyon

Start: 18 miles south of Nipton Road on Ivanpah Road, then 2.5 miles west on an unmarked dirt road. Bear left at the first fork, right at the

second, then continue to a parking area. Four-wheel drive recommended.

Hike the deteriorating road into Keystone Canyon, ascending the New York Mountains. Continue cross-country to the top of the ridge for spectacular views. Hike is 3 miles one way.

10) Caruthers Canyon

Start: Primitive campsites in Caruthers Canyon, 5.5 miles west of Ivanpah Road on New York Mountains Road, then 2.7 miles north on unsigned road. High clearance and four-wheel drive recommended.

Hike 3 miles one way through a rocky basin to an abandoned gold-mining area. Do not enter mine shafts or climb on abandoned structures; they are unstable and extremely dangerous.

11) Castle Peaks Corridor

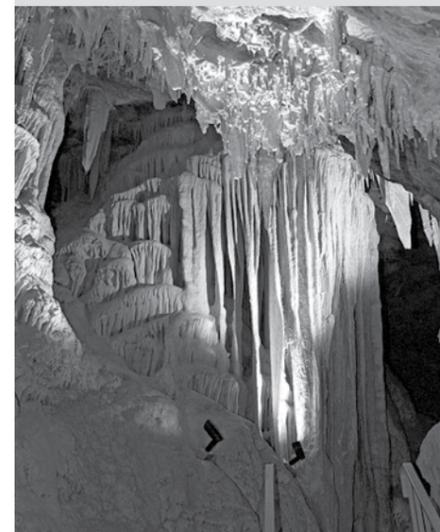
Start: 4.9 miles east of Ivanpah Road on signed Hart Mine Road; left at fork, then 0.9 miles, left at fork, then 3.4 miles, crossing an earthen berm; left at fork, then 1 mile more to where road ends. High clearance and four-wheel drive recommended.

For excellent views of the Castle Peak spires, walk 4 miles one way up the closed road to the ridgetop and beyond into a small canyon.

12) Piute Creek

Start: 9.5 miles east of the junction of Lanfair Valley and Cedar Canyon roads on a dirt utility road, then 0.5 miles north. High clearance and four-wheel drive recommended.

Hike 6.5 miles round-trip through colorful Piute Gorge and explore the ruins of Fort Piute, built and manned in the 1860s to protect mail and travelers on the Mojave Road. A perennial stream near the fort, rare in the Mojave, supports riparian plants and animals. Return to your vehicle via an unused trace of the Mojave Road.



Mitchell Caverns: A State Park within a National Preserve

Stalactites, stalagmites, helictites, shields, and draperies are but a few of the formations that decorate the interior of Mitchell Caverns at Providence Mountains State Recreation Area. Located just south of Hole-in-the-Wall on Essex Road, this 5,900-acre state park offers cave tours, camping, and hiking in the spectacular Providence Mountains.

Tours

Guided tours of Mitchell Caverns require a 1½-mile walk and last about 1½ hours. The temperature inside the cave is a comfortable 65°F, so dress accordingly and wear sturdy shoes. Tour schedules are as follows:

Winter (Labor Day-Memorial Day)

Weekdays: 1:30 p.m.

Weekends: 10 a.m., 1:30 p.m., & 3 p.m.

Summer (Memorial Day-Labor Day)

Daily: 1:30 p.m.

Fees are \$5 for adults, \$2 for children under 16; children under six years old get in free. Tours are limited to 25 people. Reservations (not accepted for individuals or small groups) are required for groups of 10 or more and can be made by calling at least three weeks in advance.

Camping and Hiking

At 4,300 feet in elevation, the campground offers superb views of the surrounding desert. Six campsites with tables and fire rings are available on a first-come, first-served basis for \$12 per night. Water and flush toilets are provided.

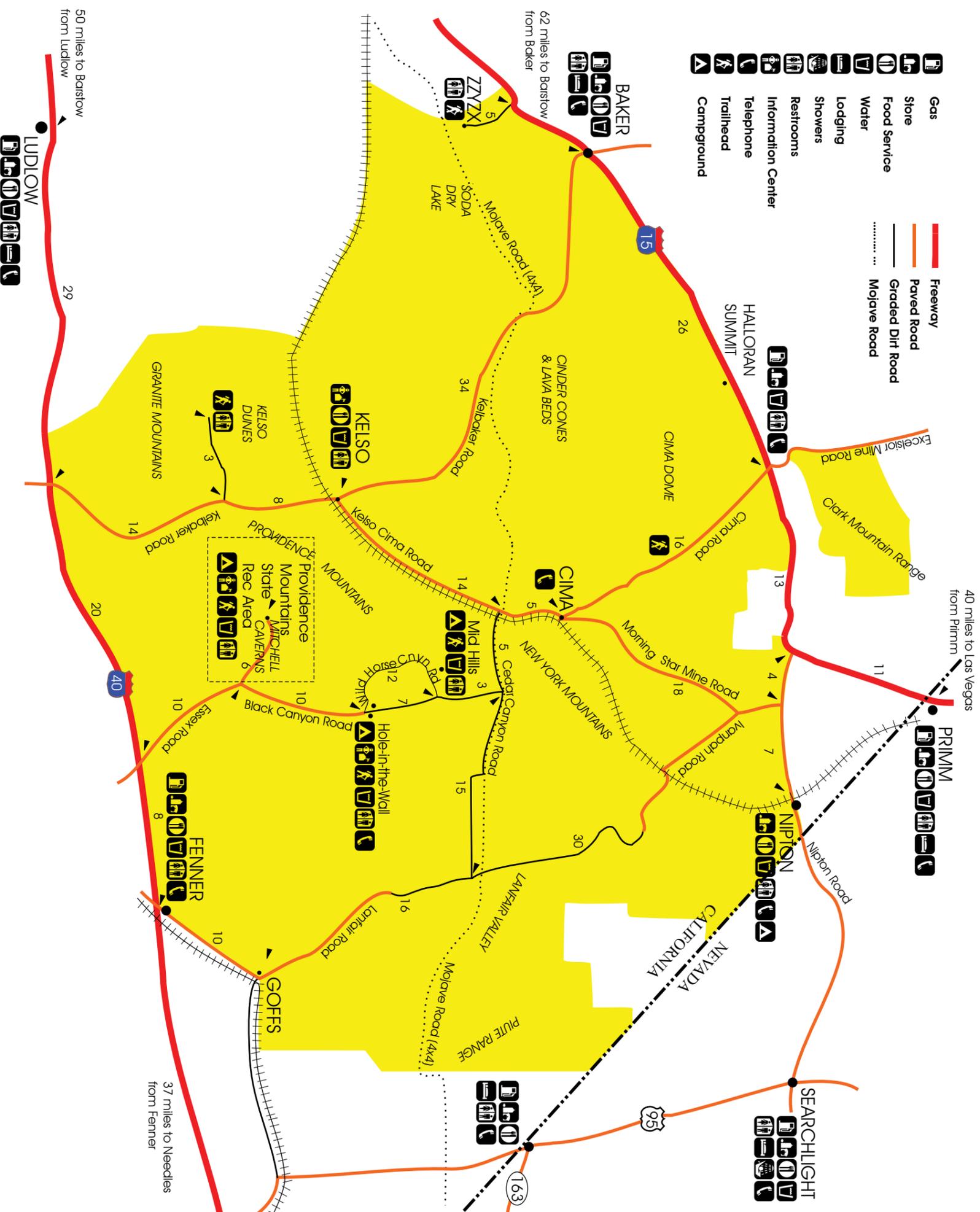
Three short trails—the Mary Beale Nature Trail (0.5 miles round-trip), Nina Mora trail (0.5 miles round-trip), and Crystal Spring Trail (2 miles round-trip)—offer an introduction to the area's history, geology, and flora while providing outstanding views. Cross-country hikers can reach the peaks of the Providence Mountains. Groups planning to hike cross-country require a free permit from the visitor center.

For reservations and information, call 760-928-2586.



- Gas
- Store
- Food Service
- Water
- Lodging
- Showers
- Restrooms
- Information Center
- Telephone
- Trailhead
- Campground

- Freeway
- Paved Road
- Graded Dirt Road
- Mojave Road



Telephone Directory

Emergency 911

Federal Interagency Communications Center 909-383-5651
San Bernardino County Sheriff - Baker 760-733-4448
San Bernardino County Sheriff - Needles 760-326-9200

Mojave National Preserve

Barstow Headquarters Office 760-252-6100
Kelso Depot Visitor Center 760-252-6108
The Brannery @ Kelso (lunch room) 760-252-6165
Hole-in-the-Wall Fire Center 760-928-2573
Hole-in-the-Wall Information Center 760-252-6104 or 760-928-2572

Nearby Parklands

Anza Borrego Desert State Park 760-767-4205
Bureau of Land Mgmt. - Barstow Field Office 760-252-6000
Bureau of Land Mgmt. - Needles Field Office 760-326-7000
Calico Ghost Town 760-254-2122
Death Valley National Park 760-786-2331
Joshua Tree National Park 760-367-5500
Lake Mead National Recreation Area 702-293-8990
Providence Mountains State Recreation Area 760-928-2586

Website Directory

National Park Service

Mojave National Preserve www.nps.gov/moja
Death Valley National Park www.nps.gov/dvna
Joshua Tree National Park www.nps.gov/jotr
Lake Mead National Recreation Area www.nps.gov/lame

Providence Mountains State Recreation Area http://www.parks.ca.gov/?page_id=615
Western National Parks Association (bookstore) www.wnpa.org
CSU Desert Studies Center (Zzyzx) <http://biology.fullerton.edu/dsc/>
Bureau of Land Management www.blm.gov
Sweeney Granite Mtns. Desert Research Ctr. <http://nrs.ucop.edu/Sweeney-Granite.htm>
DesertUSA wildflower reports www.desertusa.com/wildflower/wildupdates
Desert Tortoise data and information www.deserttortoise.gov
Desert Discovery Center www.discoverytrails.org/welcome1.html
Wilderness information www.wilderness.net
California Desert www.californiadesert.gov
Leave No Trace www.lnt.org
US Federal government jobs www.usajobs.opm.gov



WESTERN NATIONAL PARKS ASSOCIATION

