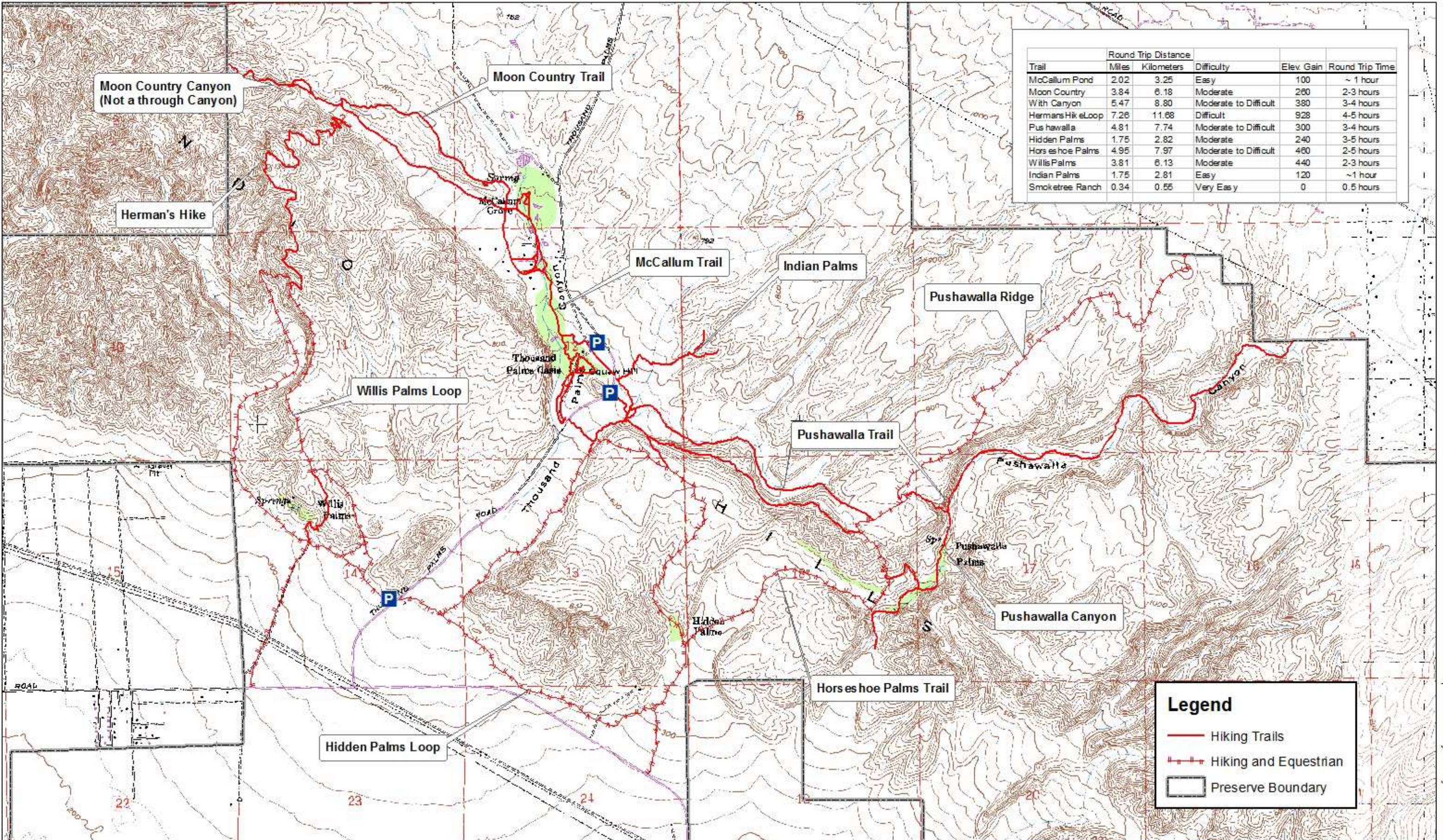


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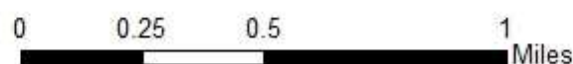
Trail	Round Trip Distance		Difficulty	Elev. Gain	Round Trip Time
	Miles	Kilometers			
McCallum Pond	2.02	3.25	Easy	100	~ 1 hour
Moon Country	3.84	6.18	Moderate	260	2-3 hours
With Canyon	5.47	8.80	Moderate to Difficult	380	3-4 hours
Hermans Hike Loop	7.26	11.68	Difficult	928	4-5 hours
Pushawalla	4.81	7.74	Moderate to Difficult	300	3-4 hours
Hidden Palms	1.75	2.82	Moderate	240	3-5 hours
Horseshoe Palms	4.95	7.97	Moderate to Difficult	460	2-5 hours
Willis Palms	3.81	6.13	Moderate	440	2-3 hours
Indian Palms	1.75	2.81	Easy	120	~1 hour
Smoketree Ranch	0.34	0.55	Very Easy	0	0.5 hours

Legend

- Hiking Trails
- Hiking and Equestrian
- Preserve Boundary

Base Map: USGS 7.5 Myoma, Cathedral City and West Berdoo Quads

Coachella Valley Preserve Trail System



Center for Natural Lands Management

Thousand Palms Office
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Map created by Gimny Short

SELF GUIDED

Trail Guide

1 Trail Description. The McCallum trail provides a two-mile round trip adventure through a palm oasis, across an earthquake fault zone, and through a desert wash, ending at the McCallum Oasis. The point of departure is the Thousand Palms Oasis, one of the largest groves of desert fan palms (*Washingtonia filifera*) in California. Some of the larger trees may be 150 years old, but most are younger.

2 Fan Palms. This palm is the only native palm in California and is found only in areas where water is at or near the surface. Not all oases have visible water sources, but palm roots rarely reach down more than 8-12 feet. These palms can reach a height of up to 60 feet, with leaves over 6 feet wide. The California fan palm retains the dead fronds (leaves) if not disturbed, forming a skirt or petticoat of dead leaves. Many of the fronds you see lying on the ground have been blown off in windstorms. In the late spring the trees produce small fruits that are eaten by many birds and other animals. This was an important traditional food source for the Cahuilla people as well.

3 Riparian Forest. Because of the presence of water, water-loving plants thrive here, providing an important source of food and water for wildlife. Plant species here, including arroyo willow, salt grass, three-square bulrush, cattails and common reed, provide important food and cover for desert wildlife.

4 The Desert Wash. Upon leaving the forest a new biome is encountered: a desert wash. Plants in this area require more water than those on the desert floor, but not as much as plants in the riparian zone. Some examples of plants found here include arrowweed, golden bush, inkweed, and desert smoke tree. Smoke tree seeds must be "scarified" in a flood in order to sprout.

5 San Andreas Fault. This may be the most famous and visible earthquake fault of its kind in the world. It stretches 700 miles from the border with Mexico to just north of San Francisco, where it plunges into the Pacific Ocean. The San Andreas is not a single fault, but a linear zone of faulting. Near the oasis of Biskra Palms, the fault breaks into the Banning and Mission Creek faults. (This trail runs on and parallel to the Mission Creek fault.) Note that the bluff to the west has a mixture of sand, gravel and rock layers that are exposed and tilted. This is an exposed area of ancient alluvial fan that was sheared off and thrust up by the squeezing action of these parallel fault branches. The Indio Hills were formed by similar processes.

6 Arrowweed. The trail goes through a thick stand of fragrant arrowweed, a species found in desert washes. It has a delicate pink blossom in the spring. Cahuilla men used the straight stems to make arrows.

7 Desert Reptiles. There may be as many as 25 different species of reptiles found in this area. They range in size from the four-inch banded gecko to the five-foot long gopher snake. Only four of these species are potentially dangerous to people: all rattlesnakes. The speckled rattlesnake and the sidewinder are the most common, and less common are the red and western diamondbacks. These snakes are rarely seen in the open, but if you do spot one give it a wide berth. More likely to be seen are the large, whitish desert iguana, the whiptail lizard, (with a tail longer than its body), and the zebra-tailed lizard (with a tail that it holds over its back like a scorpion).

8 Non-native Vegetation. Tamarisk trees are often used as windbreaks, marking old homesteads and homes on the desert floor. These trees were originally imported from the Mediterranean region. On the left side of the trail there is another non-native plant, the tall, spiny ocotillo plant that bursts into flower after a spring rain. This was introduced as a landscape plant for a homestead, and persisted (unlike the homeowner) following the record flash flood of 1977.

9 Desert Climate. The mountain ranges act as a barrier to moisture-laden ocean air, creating a "rain shadow" desert. As the wet air from the coast moves up over the mountains, it cools. Cooler air does not hold as much moisture as warm air, so it falls as rain in the mountains. When the air reaches the Valley floor, very little moisture remains. Occasionally strong winter storms come through the San Geronio Pass, and during the summer and early fall, tropical storms may have enough force to move into the valley from the Gulf of California. The normal annual rainfall for this area is 4-5 inches, but in some years there can be twice that much, and in others there will be practically none. The mountains to the north are the Little San Bernardino's. To the west, hidden by the Indio Hills, are the San Bernardino's and the San Jacinto's. To the south the southern edge of the Santa Rosas can be seen.

10 Desert Mammals. The most commonly seen desert mammals here are cottontails, jackrabbits, and antelope ground squirrels. Most others are nocturnal. There are small rodents that spend their evenings gathering seeds, predators such as the coyote, the gray fox, and the bobcat that spend the night hunting. Several species of bat hunt over the desert and drink from the pond. During the day most mammals retreat to their burrows or the shade of the palms to escape the heat and the blazing sun and to conserve moisture.

11 McCallum Pond. This beautiful pond is formed by a natural earthquake seep, water seeping up along one of the several faults contributing to the San Andreas fault zone. It

is currently home to a number of native aquatic insects and is used by all the native animals that live here. You might see a small lobster or crab-like animal creeping along the bottom: this is the red swamp crayfish (*Procambarius clarkii*), an introduced species that has displaced most of the other native species from this pond. This includes our native treefrogs, toads and the endangered Desert Pupfish (*Cyprinodon macularius*), a minnow-like fish that now occurs naturally in only two creeks that feed into the Salton Sea. This crayfish is the primary reason that the desert pupfish is not currently in this pond.

12 Palms and Fire. This area of the grove is called "The Citadel". The palm fronds that provide the picturesque cover for this sitting area are extremely flammable and this is the reason for the strict prohibitions on any fires or smoking. A fire may or may not destroy the palm, but would destroy the skirt which provides shelter for many species of animals. The Cahuilla people would sometimes burn parts of the grove to enhance the fruit harvest. The management objective for this area now is to protect the native species and their habitat.

13 Sand Dunes and Shadows. Wind creates sand dunes and sand shadows (piles of sand on the sides of hills). Fast moving winds pick up and carry fine sand for long distances. As it loses its velocity and encounters obstacles such as small hills or even plants, the wind deposits the sand and a dune or shadow begins to form. Sand dunes are home to the Coachella Valley fringe-toed lizard which seeks refuge from predators by burrowing under sand using its shovel-like snout. The fringes of scales along the toes enable it to move easily across the loose sand. Because the dunes are critical habitat for this endangered lizard, there is a strict prohibition against walking on the sand dunes. Not only would walking on the dunes affect the lizard directly, but would destroy the structure and beauty of the dunes. Visitor's need to stay on the main trail.

14 Wildlife in the Palms. Within the refuge of the palm fronds many animals make their homes: black widow spiders, snakes, lizards, and many rodents. The tops of the trees also make great homes for a variety of birds, and you might spot our resident great horned owls peering out from the branches. The rare yellow bat roosts nestled in the skirt of the palms.

15 Desert Wonders. Once considered an infinite wasteland, deserts are now recognized for the abundance and diversity of the life that they support. In this desert valley alone, there are over 500 species of native plants, 200 species of birds and over 30 species of mammals, ranging in size from bats to bighorn sheep, and new species are still being discovered. Deserts are as unique as redwood forests and mountain ranges, and are fragile and easily destroyed. From here you can see a rare desert oasis, with cottonwood trees and willow tucked in among the palms. These two deciduous trees can live here because of the abundance of water.

16 Mesquite Hummock. Mesquite bushes can be seen on a small hill to the west. The hill is a sand dune that has been colonized and stabilized by the mesquite. Mesquite hummocks provide habitat for many desert animals including the round-tailed ground squirrel. Some species, especially the Phainopepla (a distinctive crested bird) eat the berries of the mistletoe that grow on the mesquite.

The bean pods of the mesquite were an important food source for native peoples. The pods could be eaten fresh while green, or dried and ground into flour for future use.

From this trail marker, visitors may follow the trail back to the Visitor's Center, or turn left after Marker # 5 and go directly to the parking lot.

Trail Rules: There are over 25 miles of hiking trails on the Preserve. Please enjoy hiking, picnics, photography, birdwatching and our Spring wildflower bloom. This desert preserve offers spectacular views, wide canyons and deep silence. We ask that you follow a few basic rules:

- Please don't hike off trail. Stay on marked and signed trails. Stay off coyote trails. Just because you see footprints doesn't make it a trail. Once a trail is started it can last for centuries.
- Please, pack it in, pack it out. Bring out your bottles and other trash.
- No geocaches are allowed on the Preserve.
- Use of mechanical drones or unmanned aircraft is not allowed.
- Horses are allowed on parts of Willis Palms, Hidden Palms and Pushwalla Ridge Trails. Please, no off-trail equestrian use. Horses are not allowed in any of the oases.
- Dogs and other pets are not allowed on the Preserve. There are good dog-friendly trails in La Quinta and Palm Desert. Mission Creek and Whitewater Preserve also allow dogs on leashes.
- Please no fire: no smoking, no campfires, no barbecues as the oases are very flammable.
- Please stay off the dunes and out of the water: these are important habitats for endangered species.
- Leave things where you find them. Take pictures, not souvenirs. This is a wildlife refuge, so everything from rocks to flowers belong to the creatures that call this home.
- ALWAYS bring plenty of water. It is much easier to dehydrate in a desert than in more humid climes. Use the 1/2 way rule: always turn around when your water is 1/2 gone.

Center for Natural Lands Management

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