

## Welcome to the Borrego Palm Canyon Nature Trail at Anza-Borrego Desert State Park®.

Walk one and one half miles to reach a lush oasis deep in the canyon. Allow at least two hours, and bring plenty of water.

All life in the desert revolves around water, as you will discover along this self-guided trail. If you're prepared for some rocky ground and little shade, you're ready to enjoy the subtle beauties of this desert trek. Please do your best to stay on the established trail.

### 1. DON'T TOUCH!

Lack of water is not a problem for these *beavertail* and *cholla* cacti. When it rains, the cacti absorb moisture and store it for later use. Beware the "polka dots" on the beavertail's pad. They contain dozens of tiny spines that are painful to the touch and difficult to remove.

### 2. LEAVES OR NO LEAVES?

This tall, spindly *ocotillo* plant's life revolves around rainstorms. After a rainfall, leaves will burst out within 24 hours. They'll be full grown in only five days!

The leaves photosynthesize sunlight to make food for the ocotillo. After a month of dry weather, the leaves may turn "autumn" colors and fall to the ground. Amazingly, after the next rainfall the whole cycle repeats.

### 3. READY FOR A FLASH FLOOD?

You're standing in a desert *wash*. Imagine a cloudburst on the mountain bringing a torrent of water through this temporary stream bed. Flash floods are common here, especially in July and August.

Clouds form over the Sea of Cortez and move north, creating a monsoon climate. When the wash is dry, it's a great place to look for wildlife clues like animal tracks and scat!

### 4. FOLLOW YOUR NOSE

To the *desert lavender* bush here. Gently rub the leaves to release even more of the fragrance. Blooming from October through May, the rich floral scent attracts hundreds of bees that will pollinate its flowers.

Look carefully at the leaves. When the soil is moist, the plant grows larger, thinner leaves that maximize photosynthesis. When the soil is very dry, the plant's leaves will be smaller, thicker, and hairy, to prevent moisture loss.

### 5. ROLLING ROCKS

Mighty *flash floods* carried these boulders down from the mountain and left them here. Now, the nooks and crannies make splendid habitat for desert wildlife.

Pack rats build nests of twigs, cactus, and small items that hikers misplace. Iguanas and side-blotched lizards do push-ups on the sun-baked stones' surface. Snakes find shelter in the winding crevices. Each of these animals is essential to the operation of this natural system.

### 6. IT'S ALIVE!

Who painted the rocks? Mother Nature painted them with an incredibly thin coating of microscopic bacteria colonies. These bacteria may represent some of the oldest living colonial life forms!

By absorbing manganese and iron from the atmosphere the bacteria grow blackish or reddish. To keep from drying out, they cement tiny particles of clay onto themselves, thus the brownish color. The *desert varnish* on these rocks probably took 10,000 years to form.

### 7. HEAR ANY BIRDS?

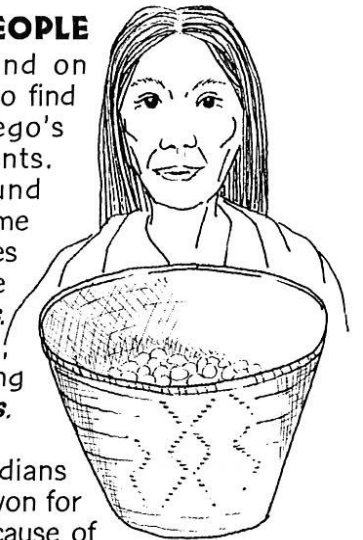
These *desert willows* create a home for birds like the California quail and the Costa's hummingbird. Not a true willow, this desert shrub thrives where its roots can reach water.

Sometimes the roots extend as much as sixty feet below the surface. In late spring or summer, watch for delicate, two-lipped, pink or white flowers.



### 8. HOME TO ANCIENT PEOPLE

Scramble around on these boulders to find signs of Borrego's earlier residents. Women ground seeds in the same place for centuries to create these holes or *morteros*. Near the holes, look for grinding slicks, or *metates*.



The Cahuilla Indians chose Palm Canyon for a village site because of the flowing stream. The canyon walls brought shade from the late afternoon sun, and shelter from winds.

### 9. ON "HOLEY" GROUND

Tarantulas, scorpions, lizards, and mice make many of the holes you're seeing on the ground.

One of the busiest underground residents is the *harvester ant*. When you see a crater with a hole in the middle, you've probably found its home.

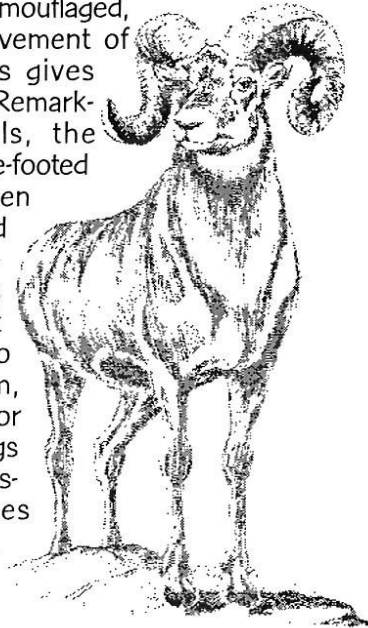
On warm, sunny days, the ants march out to collect seeds from nearby wildflowers and bushes. They're brought to the nest and hulled. Then the chaff is brought up and discarded, building the crater. Without these ant "gardeners," the seeds would not get spread across the desert.

# PALM CANYON TRAIL

## 10. THE HILLS HAVE EYES

You're probably being watched by the *Peninsular bighorn sheep*. These grazers are an endangered species because humans have destroyed much of their habitat. The park is doing everything it can to help these mammals survive into the next century.

Supremely camouflaged, only the movement of white rumps gives them away. Remarkable animals, the sheep are sure-footed and have keen hearing and eyesight. Humans on this trail don't seem to bother them, but the sight or scent of dogs (wild or domestic) stresses them greatly.



## 11. SURE SIGN OF WATER

Here is your first glimpse of the Borrego Palm Canyon oasis, only 1/2 mile ahead. Where there are California fan palms, there is water.

Many groves of these palms grow along earthquake faults, where geological forces have created conditions that allow water to seep toward the surface. Coyotes help plant the groves. They eat the seeds at one oasis, then later when they go to drink, often leave the fertilized seeds behind at another spot.

## 12. SPINE-TINGLERS

Two spiny desert plants are *catclaw*, on your left, and *honey mesquite*, on your right. The most obvious difference is that the catclaw spines are curved while the mesquite are straight. Can you detect any other differences?

By the way, you've just passed a trail junction. The trail joining ours is the "Alternate Trail." This sunny trail reaches the parking lot near the Campfire Center.

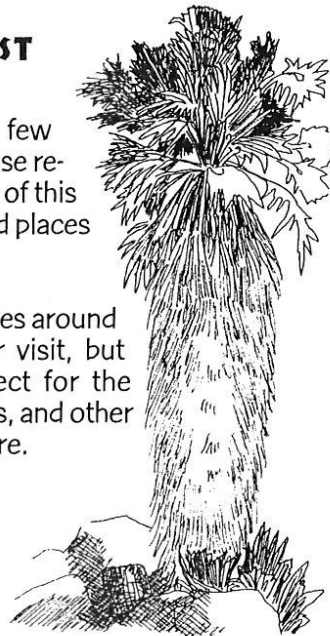
## 13. STONE STEPS

While most of the rocks you stepped over were placed there by water, these stones were likely placed by the Civilian Conservation Corps. During the 1930s the Corps helped develop the park we enjoy today. The CCCs were skilled stoneworkers. You can still see several other stone structures they built in the campground.

## 14. ALMOST THERE...

The *oasis* is just a few minutes ahead. Please remember, the future of this oasis and other wild places is in your hands.

All desert life revolves around water. Enjoy your visit, but please show respect for the plants, birds, insects, and other wildlife that live here.



## 15. NATIVE SHADE

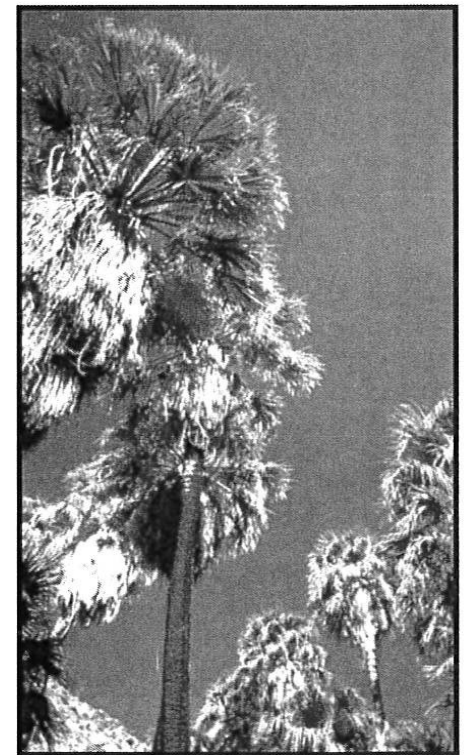
The *California fan palm* (*Washingtonia filifera*) is the only palm tree native to California. Sold in many garden shops, it's rare to find one in the wild.

Notice the skirt of palm fronds. The frond skirt protects the bark from water loss and insect predators. Unfortunately, many of these trees have lost their skirts! Fires started by careless hikers are a threat to these water-loving trees.

Please Note: the palm grove is closed to allow for recovery of the palms and other vegetation. Please stay out of the grove, and let the palms come back!



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The Palm Canyon Nature Trail is a three-mile round trip walk featuring a native palm oasis.