



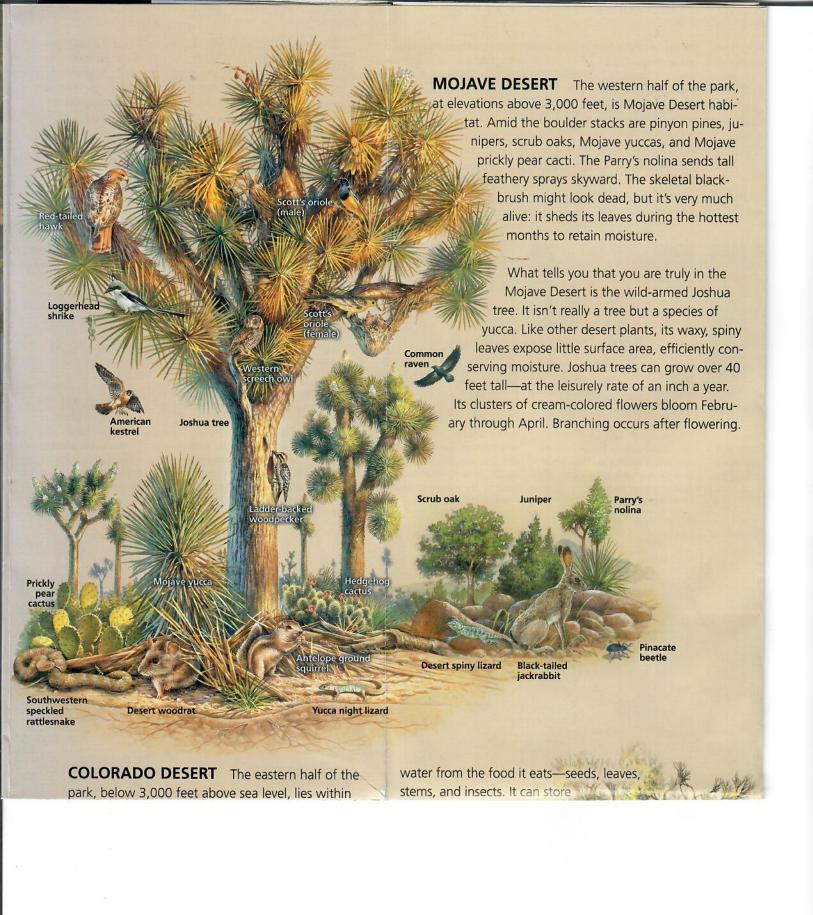
VARIED YET VULNERABLE

The desert has much to teach us about the marvels of adaptation. Relentless sun, little water, and summer temperatures over 100°F can make a forbidding world for non-desert dwellers. Yet hundreds of species conserve moisture and beat the heat in fascinating ways.

Hardy as these plants and animals are, their world is fragile. In the 1930s Minerva Hoyt, a community activist and desertlover, recognized the threats from humans. She saw beauty in the spiny plants and slithery creatures where others did not. She persuaded President Franklin D. Roosevelt to proclaim Joshua Tree National Monument in 1936. In 1994, as part of the California Desert Protection Act, Congress renamed the area Joshua Tree National Park. Thanks to the efforts of Hoyt and others, this park protects 792,510 acres—more than 80 percent of it managed as wilderness—where the Mojave and Colorado deserts converge.

THE TRANSITION ZONE Deserts don't have firm boundaries, and much of the park lies in the overlap between the Colorado and Mojave deserts. This transition zone has a wealth of biological diversity and is home to species characteristic of each desert ecosystem. Below are some residents:





the Colorado Desert. This habitat of the lower Colorado River valley is part of the much larger Sonoran Desert, which spans southern Arizona and northwestern Mexico. Creosote dominates this sunbaked bowl, punctuated here and there by spidery ocotillo, green-barked palo verde, and patches of jumping cholla cactus. Jumping cholla is also called teddy bear cholla, but don't try to cuddle it! Intermittent water in washes and bajadas sustains smoke trees and ironwoods.

Wildflowers abound. Red-orange blossoms of the chuparosa attract hummingbirds, for which the plant is named, as well as the tiny checkerspot butterfly. Annuals like the desert sand verbena survive drought by living only in spring and going to seed when conditions harshen. Seeds can lie dormant for several years until conditions are again favorable. Animals here display many forms of adaptation. The kangaroo rat obtains

food for weeks in its cheek
pouch. Its large hind
feet are adapted for
hopping over desert sand, which
it does
throughout
the night. A
kit fox, equally
well-adapted
to desert travel,
may follow in
close pursuit.

Smoketree

Brittlebush

Western diamondback rattlesnake

Pencil cholla

Kangaroo rat

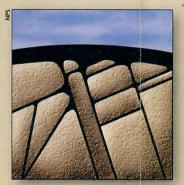
Dune primrose

Sand verbena

WHO PILED UP ALL THOSE ROCKS?

Roads and trails lead you through a jumble of stacked boulders where you can use your imagination to see unlikely shapes.

The rock piles began underground eons ago as a result of volcanic activity. Magma—in this case a molten form of the rock called monzogranite—rose from deep within the Earth. As it rose, it intruded the overlying rock, the Pinto gneiss formation.



As the granite cooled and crystalized underground, cracks (joints) formed horizontally and vertically (left). The granite continued to uplift, where it came in contact with groundwater. Chemical weathering caused by groundwater worked on the angular granite blocks (right), widening cracks and rounding edges. Eventually the surface soil eroded, leaving heaps of monzogranite scattered across the land like careless piles of toy blocks (far right).

