



Santa Rosa Plateau Ecological Reserve.



Flowering plants at Santa Rosa Plateau ER.



Raised platform

# Santa Rosa Plateau:

Picture walking through a living museum with room upon room of disappearing habitats captured like still life images: an oak bowing and stretching in the wind, a shallow glassy pond beaming with wildflowers from end to end. Now,

*By Colleen Flannery*

tear down the walls of the museum's rooms, give it the sky as its ceiling and take away the frames of the paintings. Thousands of acres of wild land stretch out before you as the museum comes alive.

The Department of Fish and Game (DFG) Santa Rosa Plateau Ecological Reserve (SRPER) in southwestern Riverside County could be seen as a living museum of sensitive Southern California habitats. A museum of *tenajas* (deep, granite-lined pools) and woodlands of rare, rugged Engelmann oaks, of vernal pools and native grasslands, SRPER offers a glimpse at a

California few have seen in centuries. While the fast-growing city of Riverside sprawls sleeplessly, seasons pass on SRPER as they always have: winter's wet season fills the vernal pools, then spring rings them with yellow and purple wildflowers. Summer and fall turn the grasslands gold.

"You have this golden hue across the grasslands," said Carole Bell, SRPER's resource manager. "It's amazing how it changes from one season to the next."

Forces other than seasons act upon SRPER. A partnership between the DFG, The Nature Conservancy, Metropolitan Water District, the County of Riverside's Regional Parks and Open Space District, and the U.S. Fish and Wildlife Service has ushered Santa Rosa Plateau from a winter-grazing cattle range to a 21<sup>st</sup>-century reserve. At one of the most heavily visited ecological reserves managed by DFG, thousands of hikers, joggers, painters, photographers, horseback riders, and schoolchildren get a glimpse at how

Southern California looked before 150 years of development transformed the landscape.

"It's a vision to me of what California looked like before the people moved in," said Dee Sudduth, senior biologist and manager of southern lands in the DFG's Eastern Sierra-Inland Deserts Region, where the reserve is located.

Visitors may feel what Sudduth called "stepping back in time" at SRPER's cultural sites. The 36 miles of nature trails winding through the reserve take visitors past ancient granite mortar holes where Native Americans ground acorns into a floury meal. After grinding the acorns with heavy rock pestles, Native Americans leached tannic acid from the meal with water from nearby *tenajas*, before consuming it. Their natural harvest also included waterfowl: circles of stones acted as duck blinds where native Native American hunters lay in wait for migrating waterbirds they could shoot with bow-and-arrow or knock from the



leads through a vernal pool to trail. DFG photos by Robert Waldron.



Chocolate lillies. Photo © Mary Anne Pentis

# A living museum

sky with throwing sticks. Some of those early blinds remain on the reserve today.

The first permanent structures on SRPER were small adobe houses built for the ranch hands of wealthy Mexican *jefes*. The ranch owners likely didn't even visit the land they owned in faraway California, but the Machado family's 19<sup>th</sup> century buildings still stand on SRPER today. Later, the Vail family bought the *ranchero*, which became a land grant ranch in the 1840s, and used it as a seasonal cattle range, driving the animals downhill to a feedlot during the summer months. According to Bell, this ranching approach probably saved the native bunchgrass communities from damage and was more likely intentional than serendipitous. By grazing responsibly, they insured that the range would remain healthy and able to sustain their stock over the long term. Though it would be hard to say whether they were concerned about native grasses per se, the management approach did help with their preservation.

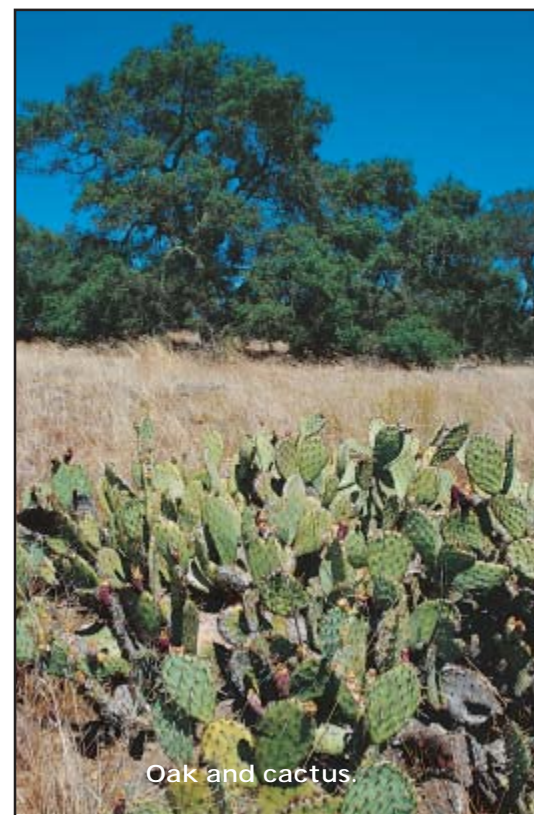
"The Vail family was very careful about what they did on the Plateau," Bell said.

## What lives in the living museum?

Santa Rosa Plateau's animals at times seem like artifacts in their own right. Sitting like a pair of miners waiting at the train station for their mail-order brides, the last two protected red-legged frogs in the reserve's vernal pools are both males. In an effort to restore the population, Bell is arranging with the United States Fish and Wildlife Service and the Los Angeles Zoo to help Mexican officials import a few Baja California female red-legged frogs to live at the reserve.

"The frogs from Baja are genetically very similar to our red-legged frogs," she said, adding that she hoped the new frogs would add genetic diversity to the seemingly stagnant gene pool of SRPER frogs.

Red-legged frogs are just one of 43 sensitive species on SRPER. Endangered



Oak and cactus.

plants like the San Diego button-celery and California Orcutt grass, both vernal pool species, are low growing, while the Englemann oak, a species of concern, stretches skyward. Tiny fairy shrimp swim in the vernal pools, while southwestern pond turtles themselves on the rocky edge. Overhead, species of concern like the northern harrier (marsh hawk), sharp-shinned hawk, ferruginous

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*"It's a vision to me of what California looked like before the people moved in."*

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and Cooper's hawks, and golden eagles wheel in the sun. Mammals like mountain lions, bobcats and badgers are seen fairly frequently. As part of a research project, special night-vision cameras were set to go off when triggered by a large mammal. Bell recalls the cameras once captured a pair of adult mountain lions gliding through the darkness together.

As sensitive as the species themselves are the natural communities they call home. This living museum has five especially sensitive habitat types: native grasslands, oak woodlands, coastal sage scrub, vernal pools and tenajas.

Native grasslands "often appear as wind-driven waves across the hillsides," according to DFG senior biologist John Anderson, who once supervised the region's lands. Here, DFG's top priority is the removal of exotic grass species so native bunchgrasses can thrive. Controlled burns reduce the exotics while preserving trees and structures. Without competition from the exotics for sunlight, water and nutrients, the native grasses prosper: purple needlegrass, malpais blue grass, deergrass and wildflowers.

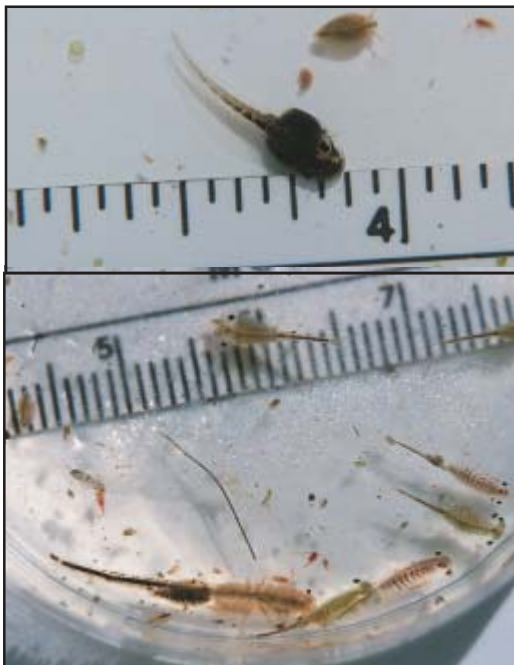
"This is arguably the best example of bunchgrass prairie in the state," said Rob Hicks, Parks Interpreter for Riverside County.

Tenajas and vernal pools become more like they were 200 years ago when exotic animal species like bullfrogs are eradicated. Bullfrogs compete with red-legged frogs for space and even eat the sensitive species. To prevent SRPER's more than 40,000 visitors from harming the delicate pools, SRPER staff and volunteers built a boardwalk for close-up viewing of the vernal pools.

"This is one of the only spaces where people can hike out on a boardwalk that goes literally into vernal pool habitat," said Interpreter Hicks. With boards planted safely beneath your feet, peer into the tiny



Santa Rosa Plateau ER vernal pool, a seasonal wetland that is home to



Above spadefoot tadpole. Below Santa Rosa Plateau fairy shrimp.



many rare and unusual species.

Photo © Mary Anne Pentis

webs of life spun by the spring rain or watch migrating birds settle on these islands of water.

Coastal sage scrub on SRPER belies its location with its name. SRPER is actually several miles from the Pacific Ocean, but coastal breezes still bring cool, moist air to the reserve.

"It's much more pleasurable here than it is in the valley (below)," said Hicks.

A fluttering flash above means you're under the flight plan of a California thrasher or wren. Flitting among the California sagebrush, black sage and California buckwheat, these birds live in the coastal scrub. So does the *brush rabbit*, a species of concern in California.

After hiking through the dry coastal scrub and grasslands, are you ready for a rest in the shade of ancient oaks? Head for the Englemann oak and coastal live oak woodlands. Englemann oaks, listed as species of special concern by the state, once dropped their acorns for native Californians to eat. Now acorn woodpeckers harvest the nuts to hide in holes they peck in oaks with their sharp, black bills. Red-shouldered and red-tailed hawks and white-tailed kites perch in the gnarled branches of oaks, which hug the sides of SRPER with their deep, water-seeking roots.

### Building on the Future

There are tiny fairy shrimp floating in an ethereal world, bristly Orcutt grass no taller than your ankle, and wildflowers that seek moisture on a parched late-spring grassland. Refuge managers share the wonders of vernal pools with eager and interested visitors.

Aware of their stewardship role on SRPER, managers and interpreters tell the conservation story daily. Hicks, for example, leads tours for thousands of school children throughout the season, cultivating the roots of future conservationists - and SRPER volunteers. A grant from SRPER partner Metropolitan Water District will enable 6,000 third graders from seven schools in urban Riverside to tour the living museum hidden from the urban matrix of southern California.

"It's through experiencing these places that people are renewed and inspired," Hicks said. 🐻

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*Dee Sudduth of DFG's Region 6, Carole Bell of The Nature Conservancy, and Rob Hicks of Riverside County Parks and Open Space District contributed to this article.*



Button celery. Photos © Mary Anne Pentis Orcutt's broadiaaea.